



CITY OF WEST LAKE HILLS, TEXAS
NOTICE OF ZONING & PLANNING COMMISSION (ZAPCO) REGULAR MEETING
Wednesday, July 19, 2023 at 6:30 PM

Notice is hereby given that the Zoning and Planning Commission (ZAPCO) of the City of West Lake Hills, Texas, will hold a Regular Meeting on the 19th day of July, 2023 at 6:30 p.m., in the Council Chamber, Municipal Building, 911 Westlake Drive, West Lake Hills, Texas, at which time the following items will be discussed, to-wit:

1. Call to Order. Chairman Robert Meisel.
2. Citizen Communications The Commission welcomes public comments at this point on any issue. If the issue is listed on the agenda, the speaker may choose to comment during the Public Comment period or when the specific agenda item is taken up by the Commission later in the meeting. The Commission cannot respond to or discuss matters not listed on the agenda. The Commission may provide factual information, refer the item to a staff member, or request the item be added to a future meeting agenda. Speakers shall limit their comments to five (5) minutes each.
3. Consent Agenda The following items are considered to be self-explanatory by the Commission and will be enacted with one motion. There will be no separate discussion of these item/s unless a Commission Member or citizen so requests.

- Approval of the June 21, 2023 Zoning and Planning Commission Meeting Minutes

4. Land Use **1425 Redbud Trail** - Discuss and make a recommendation on a proposed variance for 28.2% impervious cover where the maximum impervious coverage allowed is 25% (Section 22.03.278 of the West Lake Hills Code). Applicant: Nick Mehl, Element 5 Architecture
5. Land Use
Discuss and make a recommendation on proposed amendments to the Drainage and Erosion Control Manual (DECM 2.4 Stormwater Mitigation).
6. Announcements Update from staff on items forwarded to BOA and City Council from the previous meeting.

7. Adjournment. Chairman Robert Meisel.

Robert Meisel, Chairman
By Mark Littrell, Zoning & Planning
Secretary

Certificate

I certify that the above Notice of the July 19, 2023 Zoning & Planning Commission Meeting was posted on the bulletin board at the Municipal Building, 911 Westlake Drive, West Lake Hills, Texas on July 14, 2023 at 5:00 pm. and will remain posted continuously until said meeting is convened.

By Mark Littrell, Zoning & Planning Secretary

The City of West Lake Hills is committed to compliance with the Americans with Disabilities Act. Reasonable accommodations and equal access to communications will be provided upon request.

All items on the agenda are for discussion and/or action. ZAPCO reserves the right to adjourn into executive session at any time during the course of this meeting to discuss any of the matters listed above, as authorized by Texas Government Code Sections 551.071 (Consultation with Attorney), 551.072 (Deliberations about Real Property), 551.073 (Deliberations about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), and 551.086 (Economic Development).

CITY OF WEST LAKE HILLS, TEXAS
MINUTES OF A ZONING & PLANNING COMMISSION (ZAPCO) REGULAR MEETING
Wednesday, June 21, 2023 at 6:30 PM

1. Call to Order. Chairman Robert Meisel.

With a quorum present, Chairman Robert Meisel called the meeting to order at 6:30 p.m.

ZAPCO MEMBERS PRESENT:

**Chairman Robert Meisel
Vice-Chairman Jim Pledger
Laurie Maccini
Karen Bartoletti
Julia Webber
Patrick Stewart**

CITY STAFF PRESENT:

**Director of BDS Jennifer Bills
ZAPCO Secretary Mark Littrell
Asst. City Attorney Nicole Warren**

Chairman Meisel changes the order of Agenda Items taking Item 5 and Item 6 together relating to 301 Yaupon Valley Road.

5. Land Use 301 Yaupon Valley Road - Discuss and make a recommendation on proposed variances for the removal of two (2) trees with trunk diameters of 14 inches or greater, a double trunk 6"/14" ash juniper and an 18" ash juniper (Section 22.03.304 of the West Lake Hills Code). Applicant Mark Hawkins.

- Tree #29 - 18 inch ash juniper
- Tree #33/34 - 6"/14" ash juniper

Staff Briefing

Director Jennifer Bills gives the staff report on both items.

Staff Recommendation on Step 5 - Approval.

Staff Recommendation on Step 6 - Approval.

Commissioner Webber: The 8' retaining wall, is that measured above the planting bed or from the base of the planting bed?

Director Bills: From the base.

Presentation by Applicant

Mark Hawkins and his wife Laura are the property owners since December 2, 2021. My dear neighbor Kay is here. She's been here for more than 35 years. I have David Kettler as a representative; we have Davin Fillpot who is helping us. Since we've moved in we have inherited some non-conforming conditions from

the previous home builder. We are trying to remedy the situation. We're trying to do the right thing.

Public Hearing

Kay Abikhaled lives at 297 Yaupon Valley which is next door to Mark and Laura. They have been next door for a year and I can say I'm so blessed to have such wonderful neighbors and I am here to give moral support.

Davin Fillpot lives at 404 Redbud Trail and I'm here to assist the Hawkins family and answer any questions related to the application. They are here to mediate and rectify the non-conforming conditions. Fixing those conditions are triggering those variances. I'm here to help answer any questions.

Chairman Meisel closes the Public Hearing and reconvenes the meeting.

Discussion/Recommendation

Chairman Meisel: Is there a building permit in the works?

Mark: Correcting drainage.

Commissioner Webber: The graphics are very helpful.

Chairman Meisel: The water and ice can be a real hazard.

Commissioner Maccini: When replacing the trees, there is a variety. No ligustrums. I really appreciate your being pro-active.

Motion for Recommended Approval made by Commissioner Maccini on both Item 5 and Item 6 with a Second by Commissioner Webber.

Motion for Recommended Approval carried unanimously by a vote of 5 ayes to 0 nays.

6. **Land Use 301 Yaupon Valley Road** - Discuss and make a recommendation on proposed variances for the height of a retaining wall in the front setback greater than 18" (Section 22.03.170 f) and a retaining wall exceeding six (6) feet in height above natural grade (Section 22.03.170 g), to allow a not to exceed 8 foot and 2.5-foot-tall retaining walls within the front yard setback. Applicant: Mark Hawkins

ITEM 6 WAS ADDRESSED WITH THE PREVIOUS ITEM.

Motion for Recommended Approval made by Commissioner Maccini on both Item 5 and Item 6 with a Second by Commissioner Webber.

Motion for Recommended Approval carried unanimously by a vote of 5 ayes to 0 nays.

2. Consent Agenda The following items are considered to be self-explanatory by the Commission and will be enacted with one motion. There will be no separate discussion of these item/s unless a Commission Member or citizen so requests.

- Approval of the May 17, 2023 Zoning and Planning Commission Meeting Minutes

Chairman Meisel: Please note in the minutes that ZAPCO recommends Denial or Approval. We don't approve or deny anything.

Motion for Approval made by Vice-Chairman Pledger with a Second by Commissioner Stewart.

Motion for Approval carried unanimously by a vote of 5 ayes to 0 nays.

3. Land Use 434 Brady Lane - Discuss and make a recommendation on proposed variances for the removal of two (2) trees with trunk diameters of 14 inches or greater, a double trunk 14"/19" live oak and an 18" live oak (Section 22.03.304 of the West Lake Hills Code).
Applicant: Monte Janssen, J5 Homes, LLC.

- Tree # 323 - Double trunk 14"/19" Live Oak; and
- Tree # 325 - 18" Live Oak.

Staff Briefing

Director Bills gives the Staff Report.

Staff Recommendation: Denial due to the fact it is design driven. You could build a smaller house on the footprint.

Commissioner Maccini: Were there more plans submitted?

Director Bills: This is all that was submitted with the variance. They have submitted plans that have had one round of reviews but they haven't been approved yet.

Commissioner Webber: I wanted to clarify what the zoning rules if they wanted to keep the existing house could they remodel and keep the existing footprint?

Director: So if they wanted to remodel the existing house and not change the existing footprint they can do that. If they want to add on they could keep the existing footprints as long as the addition meets the current setbacks.

Commissioner Maccini: The new home is at what percentage?

Director Bills: It's around 35%. New plans have been submitted but not approved.

Commissioner Maccini: It's higher because it's a smaller lot.

Chairman Meisel: They are increasing the house by 50%.

Presentation by Applicant

Monte Janssen is the owner. The two trees are by the deck. Based on the setbacks, we don't have room. The current house does not meet code. (Pictures are passed out at the dais). A new project is impossible with these trees.

Public Hearing

Mary Williams lives at 3 Sugar Creek. (Pictures were added to slide show). I'm concerned about the slope. Those are large trees. If they are removed we would see the house. These houses have been here since the 60's. We built within the footprint for our home. They provide privacy.

Chairman Meisel closes the Public Hearing and reconvenes the meeting.

Discussion/Recommendation

Commissioner Stewart: Has there been an arborist assessment?

Monte: I don't have anything.

Commissioner Webber: Was the existing home a AD Stanger?

Monte: Yes. We will plant for privacy.

Commissioner Webber: The new trees, they aren't listed.

Director Bills: Tree replacement is required.

Commissioner Webber: They are large and you taking out 9 trees, replacement is not going to be easy. I'm curious about the new planting. Additional drawings would be helpful.

Commissioner Maccini: Design driven is my concern. There are more creative ways to build.

Motion for Recommend Denial made by Commissioner Webber with a Second by Vice-Chairman Pledger.

Motion for Recommend Denial carried unanimously by a vote of 5 ayes to 0 nays.

4. **Land Use 1002 Live Oak Ridge Road** - Discuss and make a recommendation on a release of easement for a 100-foot LCRA easement on a recorded plat (Section 36.01.017 of the West Lake Hills Code). Applicant Matthew Bentley and Sallie Bentley

Staff Briefing

Director Bills gives the Staff Report.

Staff Recommendation: Approval.

Commissioner Stewart: Any plans for building?

Director Bills: A pool.

Presentation by Applicant

Matthew and Susan Bentley are the owners since 2021. This is our forever home. We will be putting in a pool.

Public Hearing

Chairman Meisel closes the Public Hearing and reconvenes the meeting.

Discussion/Recommendation

Commissioner Maccini: No future variances for a pool?

Matthew: No.

Motion for Recommended Approval made by Vice-Chairman Pledger with a Second by Commissioner Bartoletti.

Motion for Recommended Approval carried unanimously by a vote of 5 ayes to 0 nays.

7. Adjournment. Chairman Robert Meisel.

Chairman Meisel adjourns the meeting at 7:20 p.m.

Respectfully submitted,

ROBERT MEISEL, CHAIRMAN

ATTEST:

ZAPCO Secretary Mark Littrell

These minutes were approved on _____, 2023.



City of West Lake Hills

Zoning and Planning Commission

AGENDA REPORT

Meeting Date:	July 19, 2023	Item Number:	3
Department:	Building & Development Services		
Prepared By:	Jennifer C. Bills	Cost / Budget:	None
Exhibits:	See Attached	Source of Funds:	N/A

Subject

1425 Redbud Trl: Discuss and make a recommendation on a proposed variance for 28.2% impervious cover where the maximum impervious coverage allowed is 25% (Section 22.03.278 of the West Lake Hills Code).

Applicant: Nick Mehl, Element 5 Architecture

Recommendation

Staff recommends approval of the variance request with the following conditions:

1. Water Quality Controls compliant with Chapter 6 of the Drainage & Erosion Control Manual and Texas Commission Environmental Quality (TCEQ) will be provided where required.
2. The outfall of the existing drainpipe discharging to the Yaupon Valley Rd right-of-way on the northeast property line will be improved to remediate any erosion.

This item will be forwarded to the August 9, 2023 Board of Adjustment meeting for consideration.

Discussion

Property Information, Zoning & Site Characteristics:

Owner: Andrew and Jinny Reif

Legal Description: RB Connelly Subdivision Lot 3

Lot Size: 0.56 acres (24,393.6 sq. ft.)

Zoning: R-1 One-Family

The properties surrounding the subject property are zoned R-1

Background & Analysis:

The applicant is requesting to maintain the existing an impervious cover of 28.2% (Attachment 1). The property owner has submitted a residential addition and remodel permit application. The plans show modifications to the site with demolition of existing structures and an addition to the house (Attachment 2). Per Section 38.04.061 Nonconforming uses of land and structures, when a structure or portion of a structure is removed it loses the nonconforming status and should come into compliance with the current code. The variance requested would allow the property owner to modify the existing site and structure, while keeping an impervious cover greater than 25%.

The design engineer has provided a drainage plan and drainage study (Attachment 3) that shows that there will be no adverse impact from maintaining the existing level up to 28.2% and would improve the existing drainage on the site (Attachment 4). Additionally, the applicant will address the drainpipe on the northeast property line

that discharges into Yaupon Valley Road right-of-way in the drainage plan to incorporate permanent erosion control improvements.

This property previously received a variance on January 11, 2023 to allow encroachments in the front setback facing Redbud Trail for the roof overhang.

Variance Criteria Review:

When applying for a variance, the applicant has provided the following evidence:

1. *The strict or literal enforcement of the terms of this chapter, because of special conditions, will result in unnecessary hardship to the applicant.*
Impervious coverage % for the property for 15+ years (as Google Maps images aren't available prior to Oct 2007) is 28.2%. Reducing the existing impervious cover percentage would be an unnecessary hardship because the property was purchased to remodel on the existing impervious cover footprint.
2. *There will not be unreasonable disruption of the natural terrain or unreasonable destruction of existing flora.*
The impervious cover for the planned project remodel is virtually on the same footprint as the existing impervious cover. Therefore, the existing natural terrain and existing flora will not be disrupted if the request is granted.
3. *There is no reasonable alternative to the requisite variance that will alleviate the difficulty or hardship complained of.*
There is no reasonable alternative because reducing the impervious cover percentage would mean removing existing features/structures that have existed on the lot for 15+ years and were an integral part of the decision to purchase the property to remodel.
4. *The variance will not be greater than the minimum required to alleviate the difficulty or hardship complained of.*
The variance request to impervious cover percentage would not change the existing impervious cover percentage so it is not greater than the minimum required to alleviate the hardship.
5. *The variance does not violate the intent of the Zoning Ordinance or goals of the Comprehensive Plan.*
The City's Comprehensive Plan is not violated as the existing impervious coverage will not increase and the design of the project is to utilize the existing footprint.
6. *The variance will not adversely affect neighboring properties or interfere with the enjoyment of these properties by their owners.*
There is no new impact to neighboring properties as the project is a remodel with no increase to existing impervious cover designed on the current footprint.

Outdoor Lighting

Outdoor lighting is not proposed with this variance request. Any outdoor lighting will need to comply with the City's Code.

Compliance with Adopted International Building Code

The property and future construction will have to comply with all applicable City codes.

Subdivision

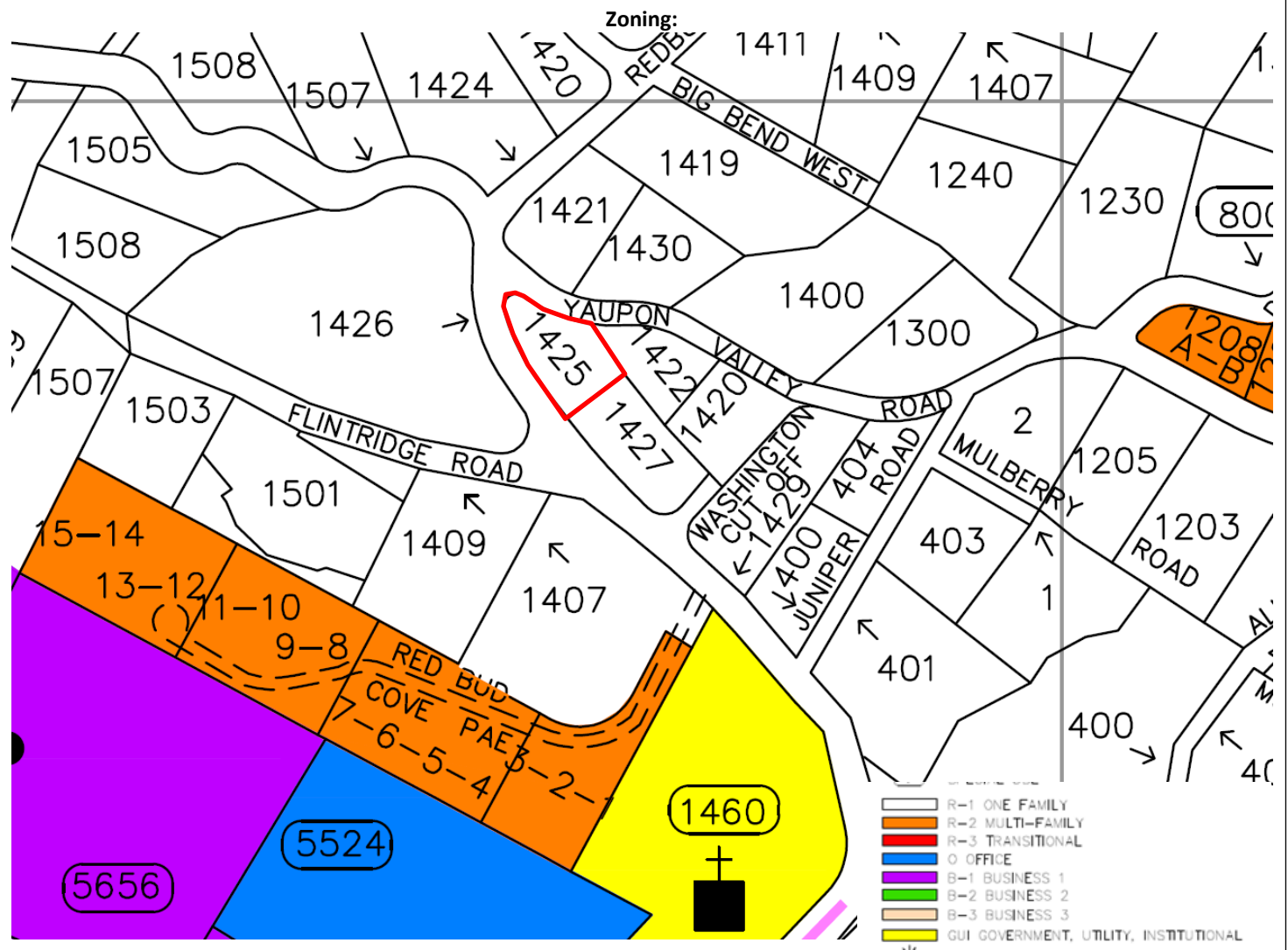
There is no change to the subdivision proposed with this application.

Comprehensive Planning Analysis

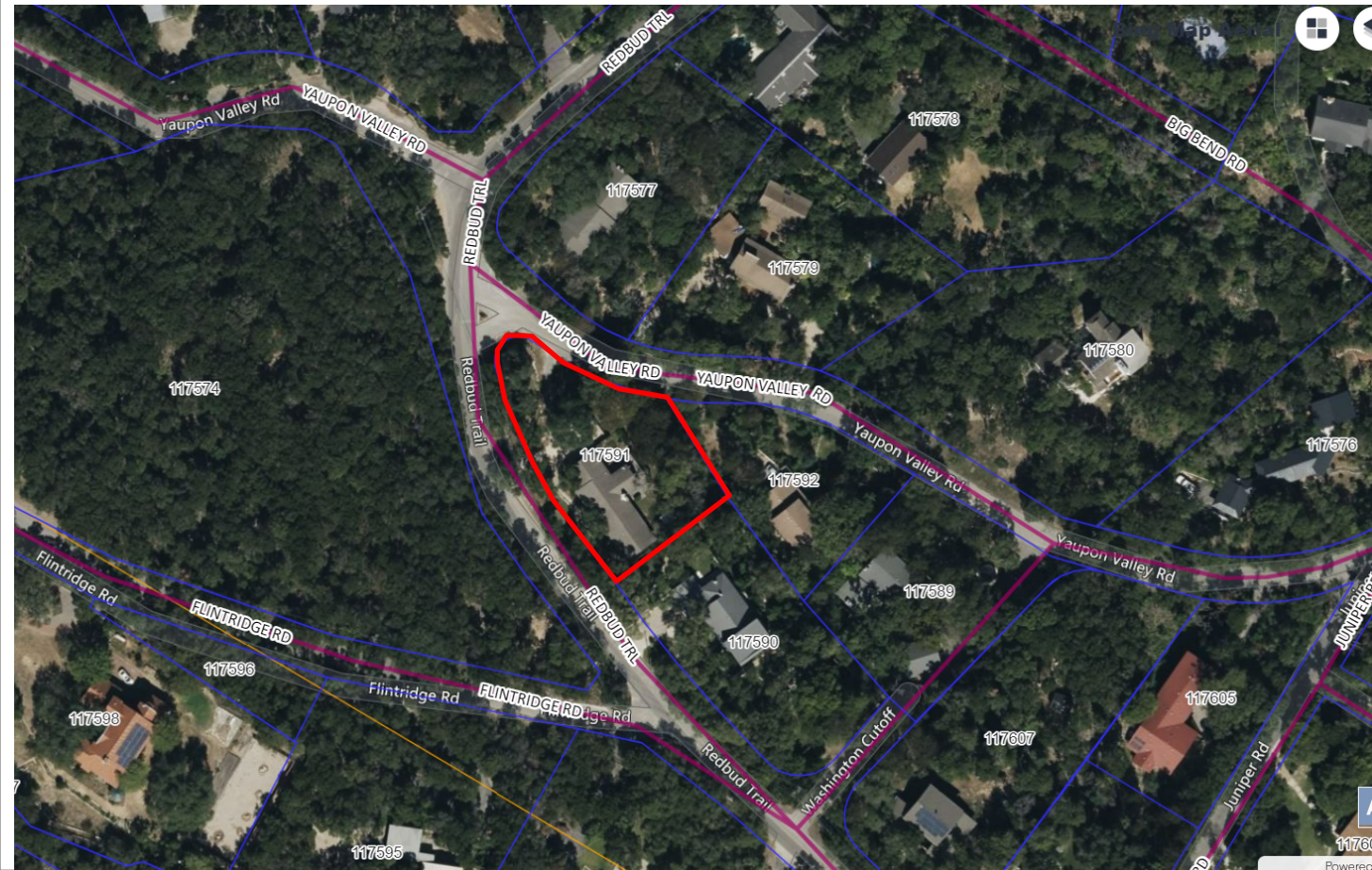
The existing and future land use is in conformance with the City of West Lake Hills Master Plan.

Links to Relevant Code:

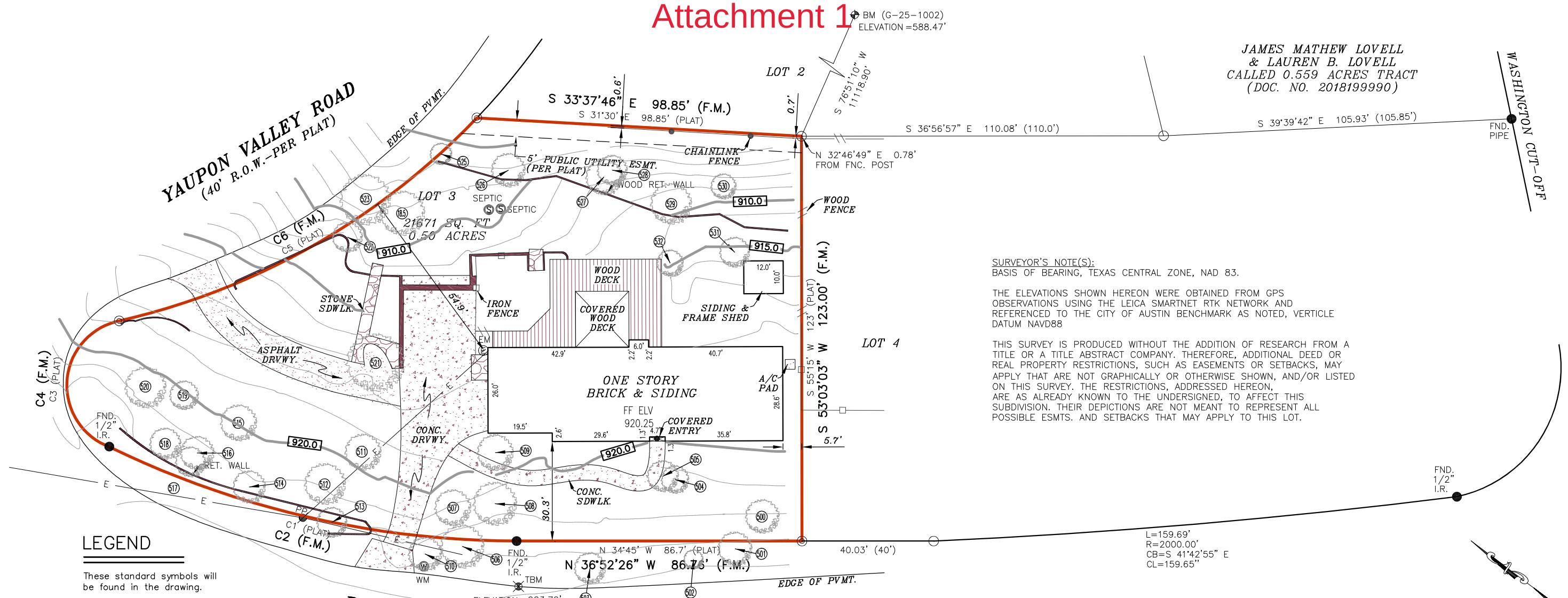
- [Section 22.03.278 - Lot coverage](#)
- [Section 22.03.281 - Schedule of regulations – Maximum Impervious Cover](#)
- [Section 38.04.061 - Nonconforming uses of land and structures](#)
- [Section 38.05.031 - Variances](#)
- [Section 22.03.511 - Criteria and process required for granting variance](#)



Aerial:



Attachment 1



JAMES MATHEW LOVELL
& LAUREN B. LOVELL
CALLED 0.559 ACRES TRACT
(DOC. NO. 2018199990)

SURVEYOR'S NOTE(S):
BASIS OF BEARING, TEXAS CENTRAL ZONE, NAD 83.

THE ELEVATIONS SHOWN HEREON WERE OBTAINED FROM GPS
OBSERVATIONS USING THE LEICA SMARTNET RTK NETWORK AND
REFERENCED TO THE CITY OF AUSTIN BENCHMARK AS NOTED, VERTICLE
DATUM NAVD88

THIS SURVEY IS PRODUCED WITHOUT THE ADDITION OF RESEARCH FROM A
TITLE OR A TITLE ABSTRACT COMPANY. THEREFORE, ADDITIONAL DEED OR
REAL PROPERTY RESTRICTIONS, SUCH AS EASEMENTS OR SETBACKS, MAY
APPLY THAT ARE NOT GRAPHICALLY OR OTHERWISE SHOWN, AND/OR LISTED
ON THIS SURVEY. THE RESTRICTIONS, ADDRESSED HEREON,
ARE AS ALREADY KNOWN TO THE UNDERSIGNED, TO AFFECT THIS
SUBDIVISION. THEIR DEPICTIONS ARE NOT MEANT TO REPRESENT ALL
POSSIBLE ESMTS. AND SETBACKS THAT MAY APPLY TO THIS LOT.

LEGEND

These standard symbols will
be found in the drawing.

- BOUNDARY LINE
- EASEMENT LINE
- CHAINLINK FENCE
- WOOD FENCE
- METAL FENCE
- OVERHEAD ELECTRIC
- INDEX CONTOUR LINES
- NORMAL CONTOUR LINES
- SET IRON ROD
- CALCULATED POINT
- FOUND IRON ROD
- BENCHMARK
- TEMPORARY BENCHMARK
- WATER METER
- ELECTRIC METER
- POWER POLE
- SEPTIC TANK
- TREES AS LABELED
- (PLAT) RECORDED ON PLAT
- (F.M.) FIELD MEASURED

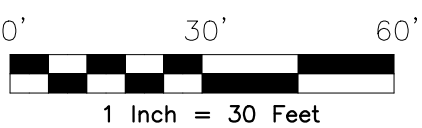
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	--	128.49'	127.4'	N 21°44' W	--
C2	285.00'	128.17'	127.09'	N 23°51'26" W	25°46'00"
C3	--	--	38.4'	N 60°17' E	--
C4	20.00'	51.48'	38.40'	N 57°37'40" E	147°28'47"
C5	216.86'	125.9'	125.00'	S 64°20' E	--
C6	216.86'	126.80'	125.00'	S 66°26'41" E	33°30'03"

TREE LABEL#	DIAMETER	DESCRIPTION
500	14"	CEDAR
501	14"	CEDAR
502	8"	OAK
503	13"	OAK
504	11.5"	OAK
505	13.5"	OAK
506	18"	CEDAR
507	15"	CEDAR
508	18"	CEDAR
509	15"	CEDAR
510	14"	OAK
511	15"	CEDAR
512	17"	CEDAR
513	12.5"	CEDAR
514	13.5"	OAK
515	15"	OAK
516	14"	CEDAR
517	12.5"	CEDAR
518	13	OAK
519	12"	CEDAR
520	17"	OAK
521	24"	OAK
522	12.5"	CEDAR
523	21"	HACKBERRY
524	18.5"	ELM
525	9"	ELM
526	14"	ELM
527	15"	ELM
528	12.5"	ELM
529	17"	ELM
530	10.5"	ELM
531	12.5"	ELM
532	11"	OAK

At date of this survey, the property is in FEMA designated
100 Year ZONE X as verified by FEMA map Panel No:
48453C 0440 J effective date of JANUARY 22, 2020
Exact designations can only be determined by a Elevation
Certificate. This information is subject to change as a
result of future FEMA map revisions and/or amendments.

The survey is hereby accepted with the
discrepancies, conflicts, or shortages in area or
boundary lines, encroachments, protrusions, or
overlapping of Improvements shown.

GRAPHIC SCALE



I, AARON MICAH REYNOLDS, a Registered Professional Land Surveyor in the State of Texas,
do hereby certify to _____
and _____
that the above map is true and correct according to an actual field survey, made by me on the
ground or under my supervision, of the property shown hereon. I further certify that all easements and
rights-of-way of which I have been advised are shown hereon and that, except as shown, there are no
visible encroachments, no visible overlapping of improvements and no apparent discrepancies or conflicts
in the boundary lines, and no visible physical evidence of easements or rights-of-way as of the date
of the field survey. I further certify that this survey meets or exceeds the minimum standards
established by the Texas Board of Professional Land Surveying (Section 663.18).
Borrower/Owner: JINNY REIF & REIF ANDREW
Address: 1425 RED BUD TRAIL, WEST LAKE HILLS, TX 78746 GF No. 2122917-BAL
Legal Description of the Land: LOT 3, R. B. CONNELLY SUBDIVISION, ACCORDING TO THE
MAP OR PLAT THEREOF, RECORDED IN VOLUME 14, PAGE 8, PLAT RECORDS, TRAVIS
COUNTY, TEXAS.

SUBJECT TO RESTRICTIVE COVENANTS AND/OR EASEMENTS RECORDED IN:
VOLUME 14, PAGE 8, PLAT RECORDS, TRAVIS COUNTY, TEXAS
DOCUMENT NO. 2002052728, OFFICIAL PUBLIC RECORDS, TRAVIS COUNTY, TEXAS

PROPERTY PHOTOGRAPH:



"TOPOGRAPHY/TREE" SURVEY

JOB NO.:	2203087591	NO.	REVISION	DATE
DATE:	07/22/21	1.	ADDED TOPOGRAPHY/TREE	03/16/22
DRAWN BY:	MN/UB	(REFER JOB NO. 2107080984)		
APPROVED BY:	AMR			



Aaron M. Reynolds
AARON MICAH REYNOLDS, R.P.L.S.
Registered Professional Land Surveyor
Registration No. 6644

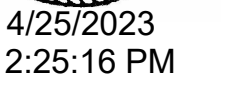


P.O. BOX 160369
SAN ANTONIO, TEXAS 78280
PHONE: (210) 572 - 1995
WEB: WWW.AMERISURVEYORS.COM



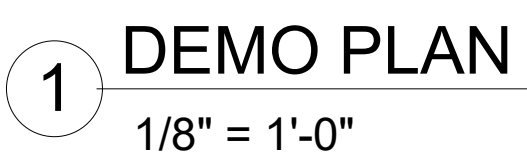
212 Chicon Street
Ste. 101
Austin, TX 78702
(2) 473. 8228 Voice

www.element5architecture.com

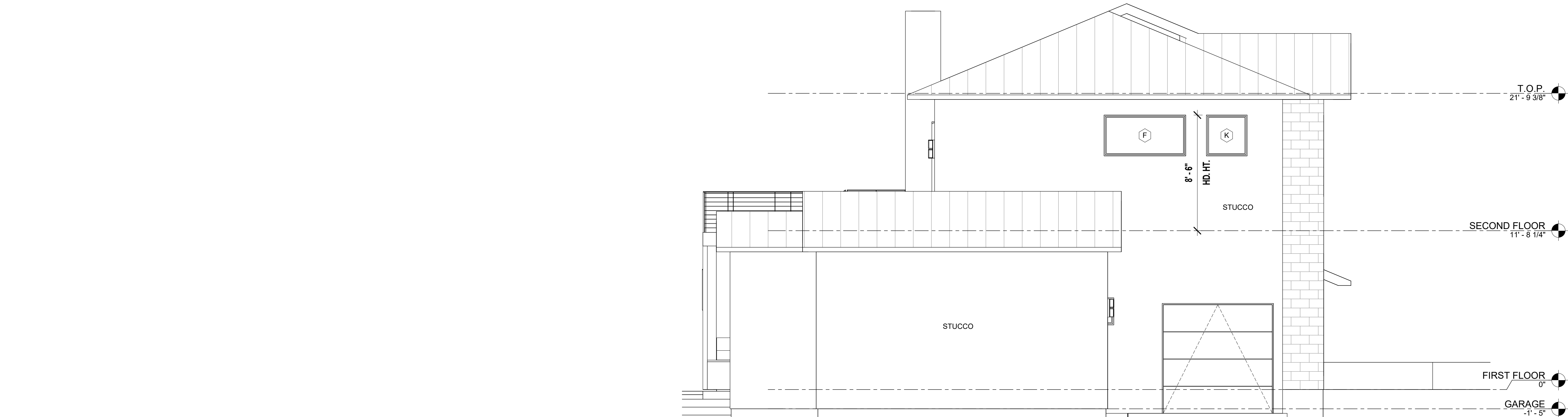


425 REDBUD TRL
AUSTIN TX 78746

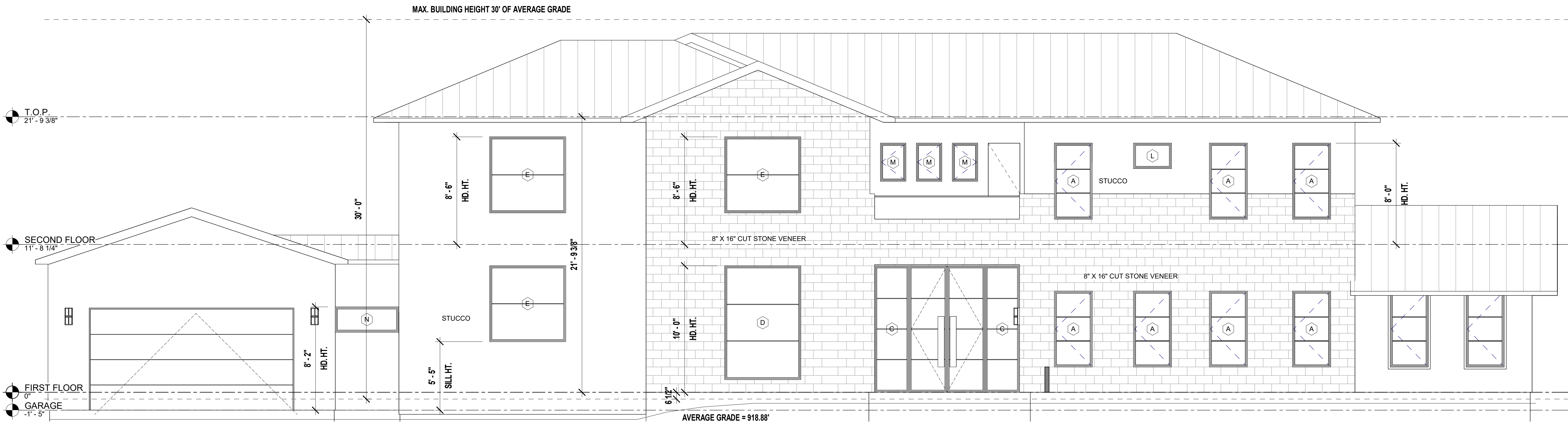
COPYRIGHT 2019, E5A.
ALL RIGHTS RESERVED



C:\Users\maria\Documents\REIF\REF opt1 ROOF CHANGE with lowered existing roof 222.1.rvt 4/25/2023 12:25:41 PM



2 WEST ELEVATION
1/4" = 1'-0"



1 SOUTH ELEVATION
1/4" = 1'-0"



ELEMENT 5
ARCHITECTURE

RESIDENTIAL & HOSPITALITY
ARCHITECTURE & PLANNING

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4/25/2023
12:25:41 PM

REIF
RESIDENCE

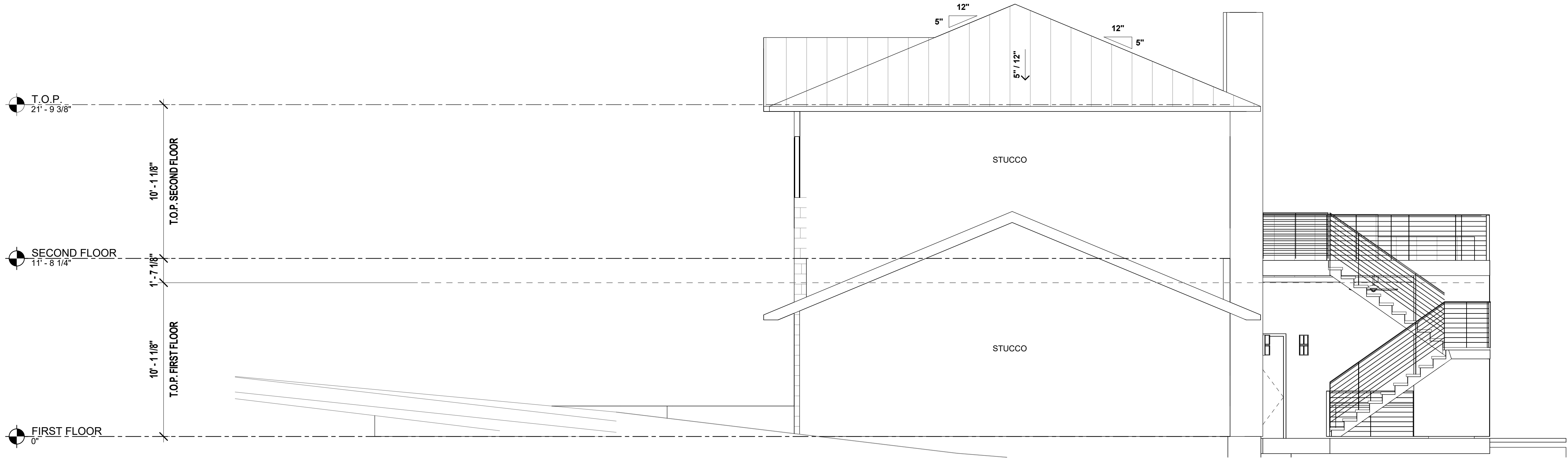
1425 REDBUD TRL
AUSTIN TX 78746

EXTERIOR
ELEVATIONS

A3.0

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C:\Users\maria\Documents\REF\REF opt1 ROOF CHANGE with lowered existing roof 222.1.rvt 4/25/2023 12:25:43 PM



2 EAST ELEVATION
1/4" = 1'-0"



1 NORTH ELEVATION
1/4" = 1'-0"



ELEMENT 5
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ARCHITECTURE & PLANNING

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4/25/2023
12:25:43 PM

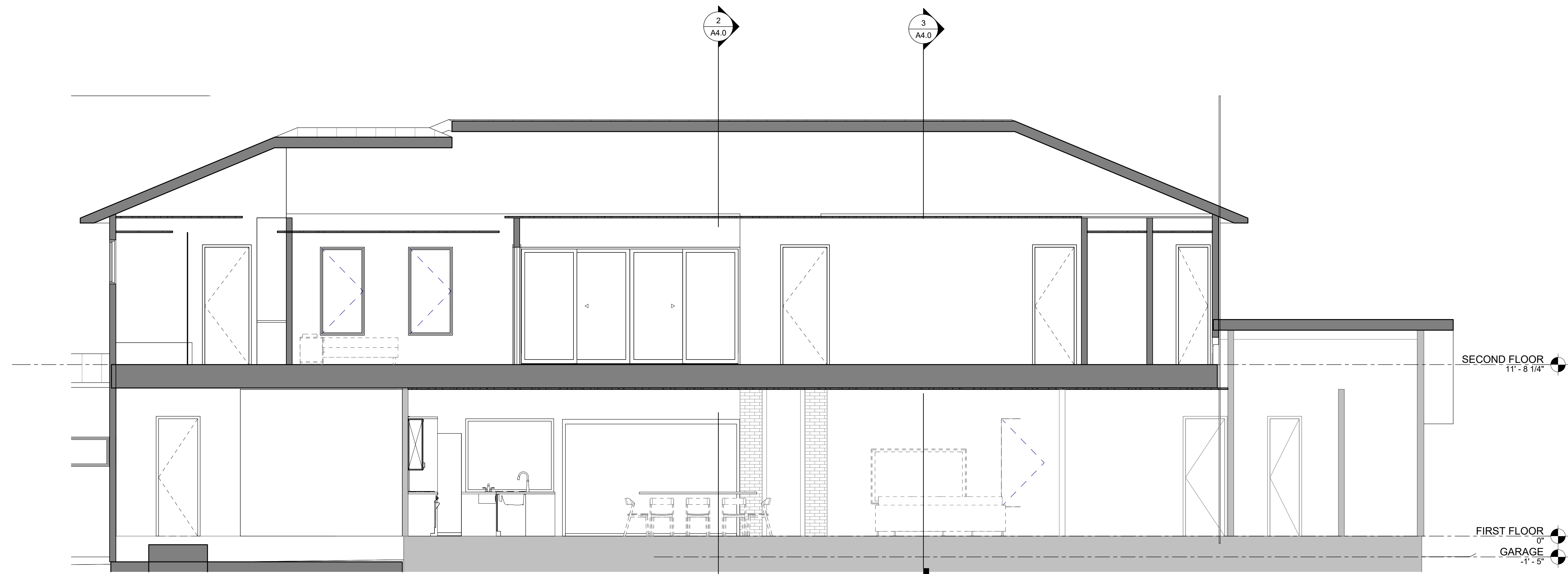
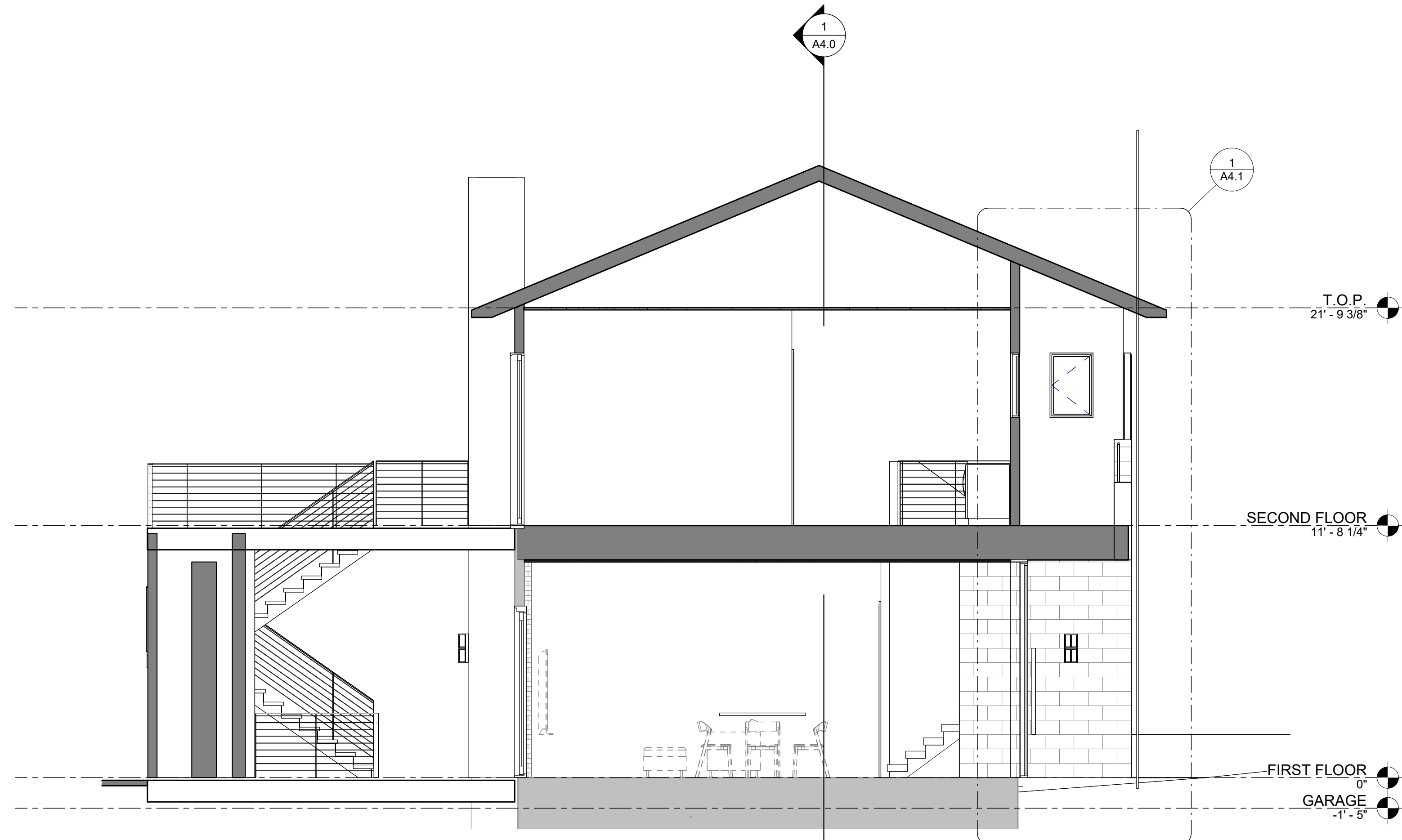
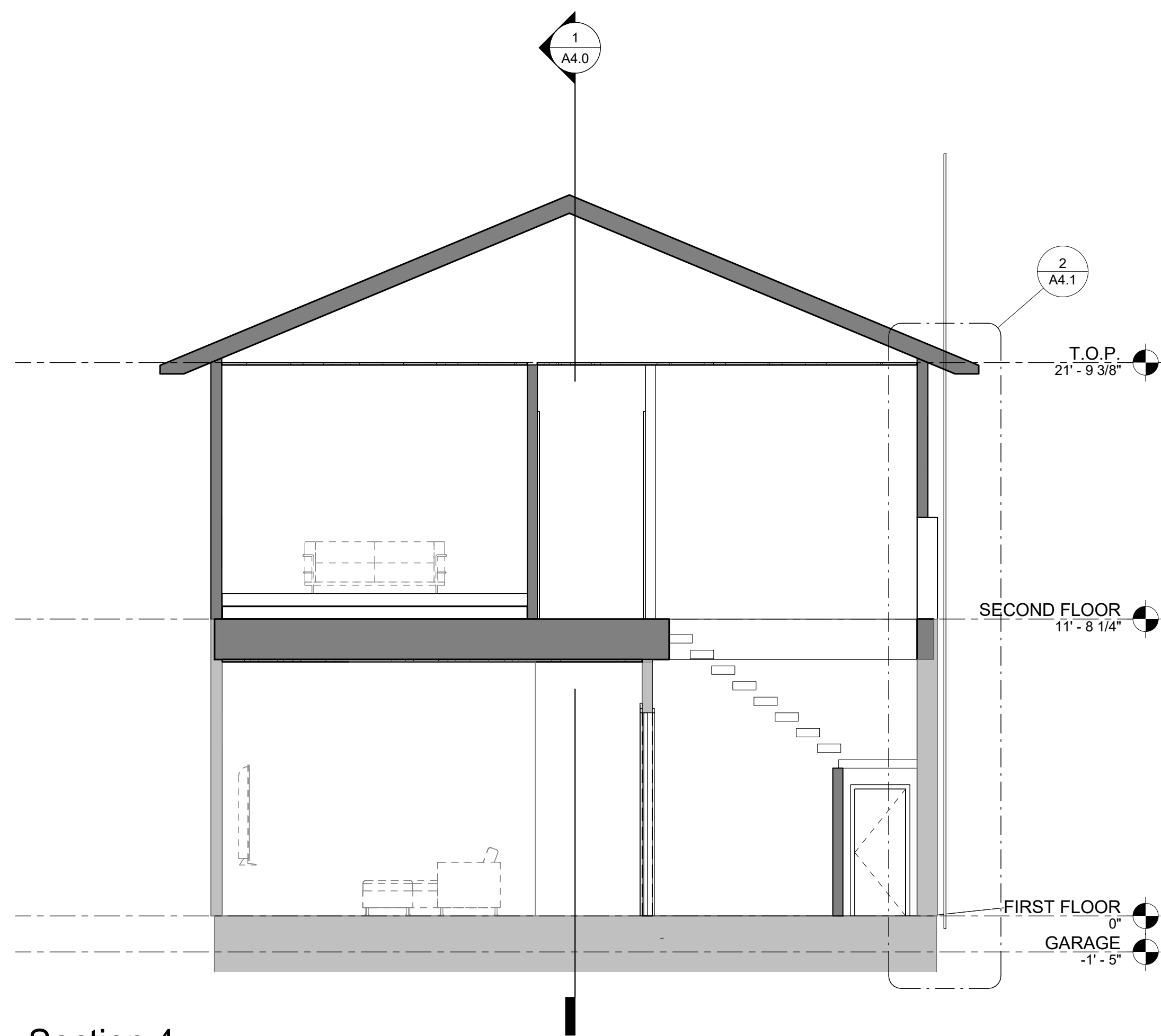
REIF
RESIDENCE

1425 REDBUD TRL
AUSTIN TX 78746

EXTERIOR
ELEVATIONS

A3.1

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[illegible]RESIDENTIAL & HOSPITALITY
ARCHITECTURE & PLANNING

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Austin, TX 78702
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4/25/2023
12:25:45 PM

**REIF
RESIDENCE**

1425 REDBUD TRL
AUSTIN TX 78746

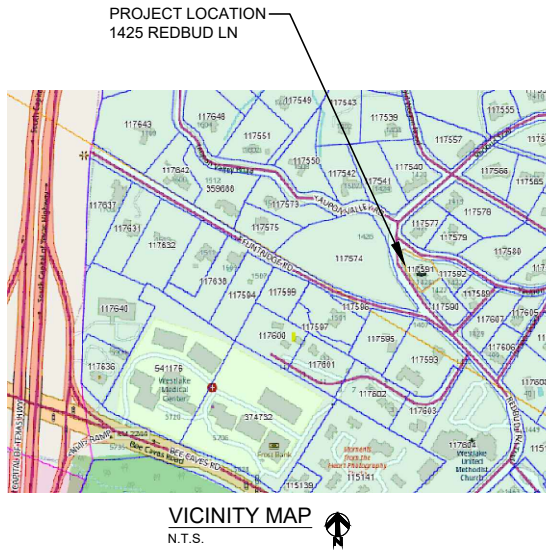
BUILDING SECTIONS

A4.0

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Attachment 3

RESIDENTIAL DRAINAGE PLAN FOR 1425 REDBUD TRAIL AUSTIN, TX 78746



SHEET INDEX:

SHEET 1: COVER SHEET
SHEET 2: NOTES
SHEET 3: EXISTING CONDITIONS
SHEET 4: EXISTING DRAINAGE AREA MAPS
SHEET 5: PROPOSED DRAINAGE AREA MAPS
SHEET 6: SITE PLAN
SHEET 7: GRADING PLAN
SHEET 8: EROSION CONTROL PLAN

OWNERS CERTIFICATION

AS OWNER OF THIS PROPERTY, I INTEND TO DEVELOP AND MAINTAIN THIS PROPERTY AS DESCRIBED BY THIS PLAN

JINNY & ANDY REIF 05/17/2023
NAME OF OWNER DATE
PHONE NO: (512) 947-3789

ENGINEER'S CERTIFICATION

STATE OF TEXAS
COUNTY OF TRAVIS
I, JAY CAMPBELL, PE, DO HEREBY CERTIFY THAT THE PUBLIC WORKS AND DRAINAGE IMPROVEMENTS
DESCRIBED HEREIN HAVE BEEN DESIGNED IN COMPLIANCE WITH THE CITY OF WEST LAKE HILLS
CODE OF ORDINANCES, THE CITY MASTER PLAN AND CITY POLICY.
JAY CAMPBELL, PE, CFM, CPESC 02/20/2023
NAME OF PROFESSIONAL ENGINEER DATE

CITY ACCEPTANCE BLOCK

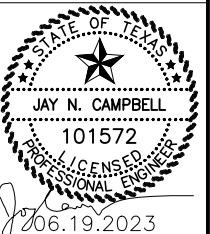
ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAIN WITH THE ENGINEER WHO PREPARED THEM IN ACCEPTING THESE PLANS, THE CITY OF WEST LAKE HILLS MUST RELY UPON THE ADEQUACY OF WORK OF THE DESIGN ENGINEER.

ACCEPTED FOR CONSTRUCTION:

CITY ADMINISTRATOR DATE

NOTES:

- a. THIS PROJECT IS A TYPE III DEVELOPMENT
- b. WE CERTIFY THAT ALL EASEMENTS ARE SHOWN ON THIS PLAN.
- c. NO CONCENTRATED STORMWATER FLOWS WILL LEAVE THIS LOT ONTO ADJACENT PROPERTIES, UNLESS THEY DISCHARGE DIRECTLY INTO AN APPROVED CHANNEL THAT IS WITHIN A DRAINAGE EASEMENT.
- d. NO FENCES OR STRUCTURES ARE ALLOWED ACROSS ANY DRAINAGE EASEMENT.
- e. THE DRAINAGE DESIGNER IS RESPONSIBLE FOR THE ADEQUACY OF THESE PLAN. IN ACCEPTING THESE PLANS, THE CITY OF WEST LAKE HILLS AND ALL REVIEWERS RELY UPON THE ADEQUACY OF THE DESIGN BY THE DRAINAGE ENGINEER.
- f. PER TPDES GENERAL PERMIT NO. 150000, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS.
- g. THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR CLEANING AND REMOVING ALL SEDIMENT THAT IS WASHED FROM THE SITE IN DEDICATED STREETS, ALLEYS, WATERWAYS, OR OTHER PROPERTIES.
- h. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE WLH DRAINAGE AND EROSION CONTROL DESIGN MNAUAL SEC 7.1(I).
- i. THIS PROJECT IS NOT LOCATED WITHIN A FLOOD HAZARD AREA PER THE EFFECTIVE FEMA FIRM PANEL 48453C0445K EFF. 1/22/2020.
- j. THE SUBJECT PROPERTY, **1425 REDBUD TRAIL** S LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE. NOTE THAT WATER QUALITY BMPs ARE INCLUDED WITH PROPOSED IMPROVEMENTS AND THAT REDUCE THE EFFECTIVE IMPERVIOUS COVER BELOW 20% W/PROPOSED RAINWATER HARVEST SYSTEM). THIS PROJECT IS IN CONFORMANCE WITH TCEQ PERMITTING PER 30 TAC 213.



SHEET 1

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION METHODS FOR SITE GRADING, PAVING, SITEWORK, AND DRAINAGE SHALL BE IN ACCORDANCE WITH THE CURRENT CITY OF AUSTIN STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED. ALL WORK SHALL BE IN ACCORDANCE WITH THE BUILDING CODES, ORDINANCES, SAFETY CODES, AND RULES AND PROCEDURES OF THE CITY OF WEST LAKE HILLS.
2. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF WEST LAKE HILLS MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
3. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
4. BLASTING OR BURNING SHALL NOT BE PERMITTED ON THIS PROJECT.
5. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER IMMEDIATELY. THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR REVISING THE PLANS AS APPROPRIATE AND SUBMITTING A REVISION TO THE CITY.
6. CONTRACTOR WILL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT, AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT, OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER, ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE.
7. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL OR OTHER PUBLIC INFRASTRUCTURE DAMAGED OR REMOVED WILL BE BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE PROJECT.
8. AFTER THE CONSTRUCTION PERMIT HAS BEEN ISSUED AND PRIOR TO THE BEGINNING CONSTRUCTION, THE OWNER OR HIS REPRESENTATIVE SHALL SCHEDULE A PRE CONSTRUCTION CONFERENCE BETWEEN THE CITY OF WEST LAKE HILLS, DESIGN ENGINEER, CONTRACTOR(S), OTHER UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES. THE CITY OF WEST LAKE HILLS SHALL BE CONTACTED TO SET UP THE MEETING AT LEAST 48 HOURS PRIOR TO THE PROPOSED MEETING TIME.
9. ANY CHANGES OR REVISIONS TO THESE APPROVED PLANS MUST BE SUBMITTED BY THE DESIGN ENGINEER AND APPROVED BY THE CITY OF WEST LAKE HILLS PRIOR TO CONSTRUCTION OF THE REVISION.
10. AVAILABLE BENCHMARKS THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

TRENCH SAFETY NOTES

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR.
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4 FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF WEST LAKE HILLS.

STREET AND DRAINAGE NOTES

1. ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE APPLICANT'S EXPENSE. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE CITY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOUR NOTICE PRIOR TO ANY TESTING.
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 85% MAXIMUM DENSITY TO WITHIN 3 INCHES OF THE TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 3 INCHES IN THE GREATEST DIMENSION. THE REMAINING 3 INCHES SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. ALL RCP SHALL BE MINIMUM CLASS III.
4. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY _____. THE PAVING SECTIONS WERE DESIGNED BY _____ IN ACCORDANCE WITH THE CURRENT CITY OF WEST LAKE HILLS DESIGN CRITERIA. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

STREET	STATION	FLEX. BASE THICK	HMAC THICK	LIME STAB. THICK

5. LOTS IN THIS SUBDIVISION ARE LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE AND SUBJECT TO THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY EDWARDS RULES. NO BUILDING PERMIT WILL BE ISSUED BY THE CITY OF WEST LAKE HILLS UNTIL THE REQUIREMENTS OF THE EDWARDS RULES ARE FULLY COMPLIED WITH. THE APPLICANT FOR A BUILDING PERMIT IS RESPONSIBLE FOR FURNISHING THE CITY WRITTEN COMPLIANCE TO THE EDWARDS AQUIFER RULES FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. (IF APPLICABLE)
6. THE FEMA MAPS FOR THE CITY OF WEST LAKE HILLS, TEXAS, INDICATE THAT THE PROPERTY SHOWN HEREON DOES/DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY FIRM PANEL 48453C0445K, DATED 1/22/2020."
7. FLOOD WARNING: THE DEGREE OF FLOOD PROTECTION REQUIRED BY THE CITY OF WEST LAKE HILLS FLOOD DAMAGE PREVENTION ORDINANCE IS CONSIDERED REASONABLE FOR REGULATORY PURPOSES AND IS BASED ON SCIENTIFIC AND ENGINEERING CONSIDERATIONS. ON RARE OCCASIONS, GREATER FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN MADE OR NATURAL CAUSES. ACCEPTANCE OF THIS PLAN BY THE CITY COUNCIL DOES NOT IMPLY THAT LAND OUTSIDE THE AREAS OF SPECIAL FLOOD HAZARDS OR USES PERMITTED WITHIN SUCH AREAS WILL BE FREE FROM FLOODING OR FLOOD DAMAGES. NOR SHALL ACCEPTANCE OF THIS PLAN CREATE LIABILITY ON THE PART OF THE CITY OF WEST LAKE HILLS OR ANY OFFICIAL OR EMPLOYEE THEREOF FOR ANY FLOOD DAMAGES THAT RESULT FROM RELIANCE ON THE INFORMATION CONTAINED WITHIN THIS PLAN OR ANY ADMINISTRATION DECISION LAWFULLY MADE HEREUNDER.

TRAFFIC MARKING NOTES

1. BARRICADES BUILT TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
2. ANY METHODS, STREET MARKINGS, AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS, OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION.
3. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS, AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

EROSION CONTROL NOTES

1. EVERY LOT IN THIS SUBDIVISION IS SUBJECT TO THE CITY OF WEST LAKE HILLS' SITE CLEARANCE PROCEDURES. NO SITE CLEARANCE, EXCAVATION, GRADING OR LANDFILL SHALL COMMENCE UNLESS A PERMIT SHALL HAVE FIRST BEEN ISSUED FOR SUCH WORK IN ACCORDANCE WITH THE PROVISIONS OF APPLICABLE ORDINANCES. IMPERVIOUS COVER SHALL NOT EXCEED THE MAXIMUM PERCENTAGE PERMITTED UNDER CITY ORDINANCE.
2. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION). THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CURRENT CITY WEST LAKE HILLS DRAINAGE AND EROSION CONTROL MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. NO EROSION CONTROLS SHALL BE PLACED BEYOND THE PROPERTY LINES OF THE SITE UNLESS WRITTEN PERMISSION HAS BEEN OBTAINED FROM ADJACENT PROPERTY OWNERS.
3. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES, OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
4. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE ENGINEER. MAJOR REVISIONS
- MUST BE APPROVED BY THE CITY. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE CITY INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER ANY RAINFALL EVENT TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.

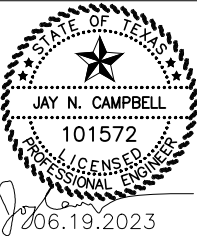
6. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE CITY INSPECTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE CITY INSPECTOR.
7. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
8. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.7.1(L).
9. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

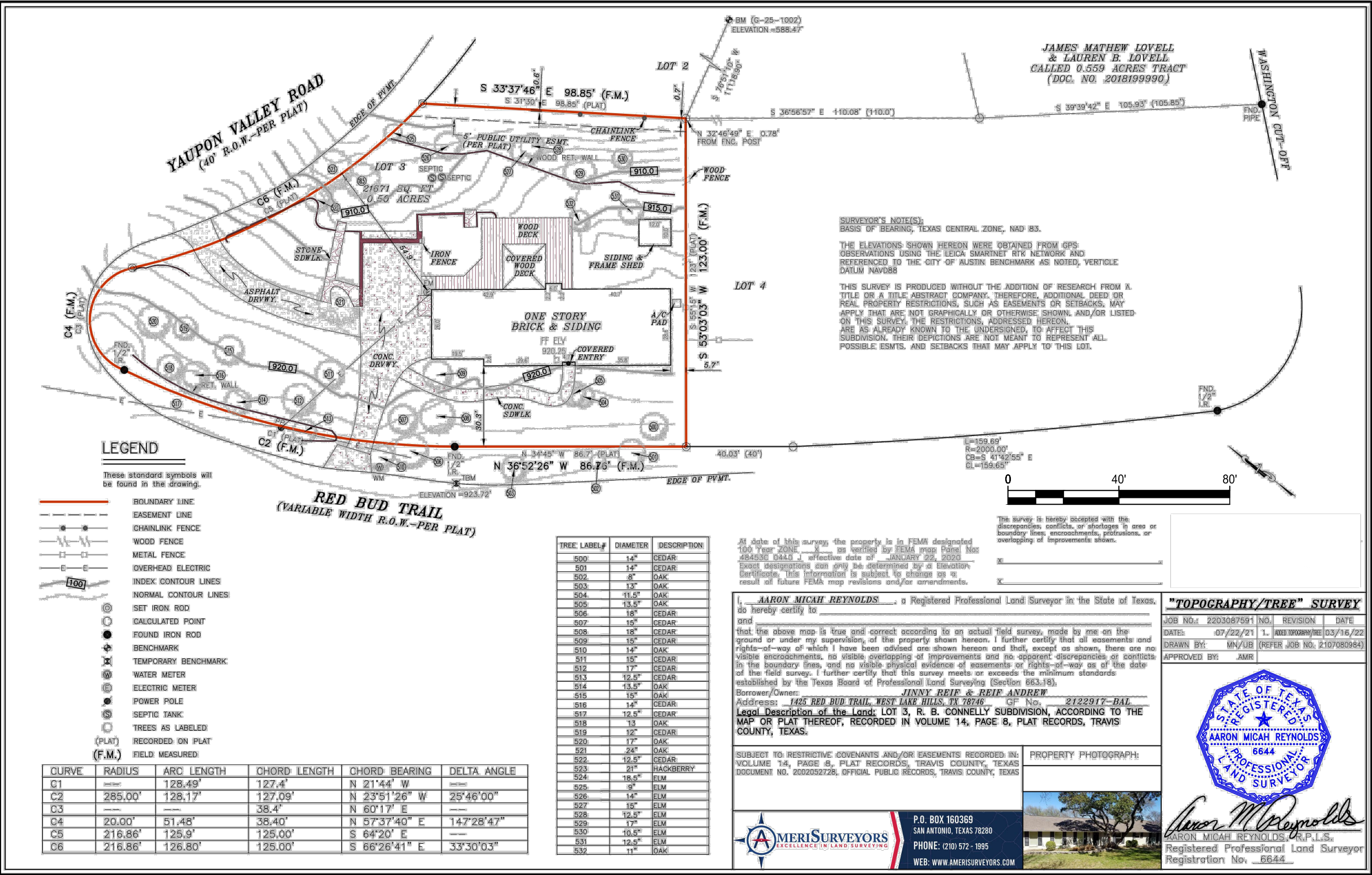
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NO.	DATE	REVISION

CONSTRUCTION NOTES

1425 REDBUD TRAIL
DRAINAGE PLANS





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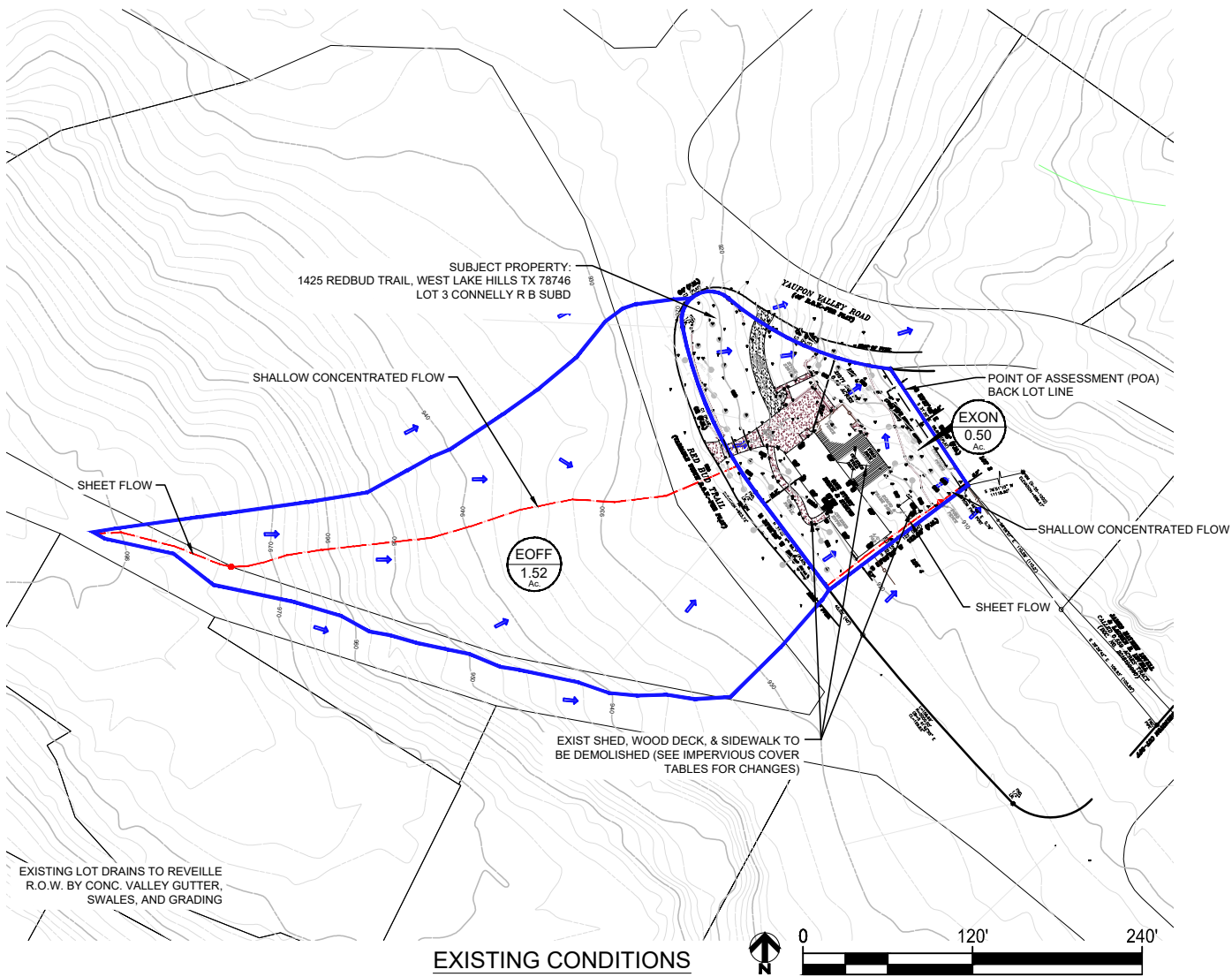
NO.	DATE	REVISION

EXISTING CONDITIONS

1425 REDBUD TRAIL
DRAINAGE PLANS

STATE OF TEXAS
JAY N. CAMPBELL
101572
PROFESSIONAL ENGINEER
06.19.2023

SHEET 3



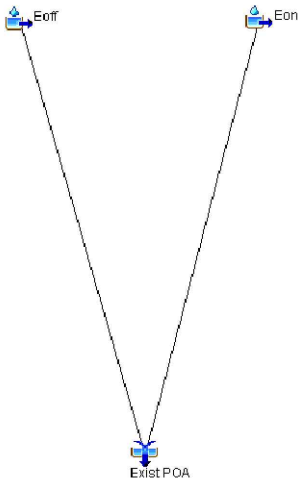
Curve Number Calculations					
	Area	Impervious Cover (IC)	IC	CN for HSG Rating D	% HSG of Drainage Area
	[acres]	%	[acres]		%
EOFF	1.52	25.0%	0.38	84	100.0%
EON	0.50	28.2%	0.14	84	100.0%

Impervious Cover Calculations Pre-Development Conditions	
Category	Existing Area (sf)
Total Lot Area	21670.63
House	2518.00
Wood Deck (50%)	506.50
Hardscape	2819.00
Retaining Walls	130.00
Shed	120.00
AC Pad	9.00

Total Existing IC = 6102.5 sf
% IC for Existing = 28.16%

Impervious Cover Calculations Pre-Development Conditions				
Basin	Area (Acres)	Area (sm)	Estimated IC (%)	Estimated IC (Acres)
EOFF	1.52	0.002375	25.0%	0.380
EON	0.50	0.000777	28.2%	0.140

EXISTING IMPERVIOUS COVER



Time Of Concentration - Pre-Development Conditions																			
Basin ID	Sheet Flow					Shallow Concentrated Flow					Channel Flow								Total
	Length	Mannings "n"	Slope	Velocity	Tc	Length	Mannings "n"	Slope	Velocity	Tc	Length	Mannings "n"	Slope	Bottom Width	Side Slopes	Depth of Flow	Velocity	Tc	Tc
	[ft]		[%]	[fps]	[min]	[ft]		[%]	[fps]	[min]	[ft]		[%]	[ft]	[ft/ft]	[ft]	[fps]	[min]	[min]
EOFF	100.0	0.15	6.0%	0.30	5.55	367.7	0.15	14.3%	6.10	1.01									10.00
EON	100.0	0.15	12.5%	0.40	4.14	22.6	0.15	21.7%	7.51	0.05									6.00

LEGEND

RUNOFF FLOW DIRECTION

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION

FLOW TRANSITION

EXISTING MINOR CONTOUR

EXISTING MAJOR CONTOUR

Pre-Development HMS Peak Flow Results				
Basin ID	Peak Flow	Peak Flow	Peak Flow	Peak Flow
	(cfs)	(cfs)	(cfs)	(cfs)
EOFF	5.862	9.999	12.747	17.192
EON	1.940	3.289	4.185	5.636
EXIST POA SUM	7.802	13.288	16.932	22.828

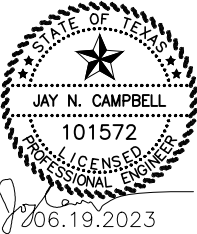
HEC-HMS MODELING RESULTS

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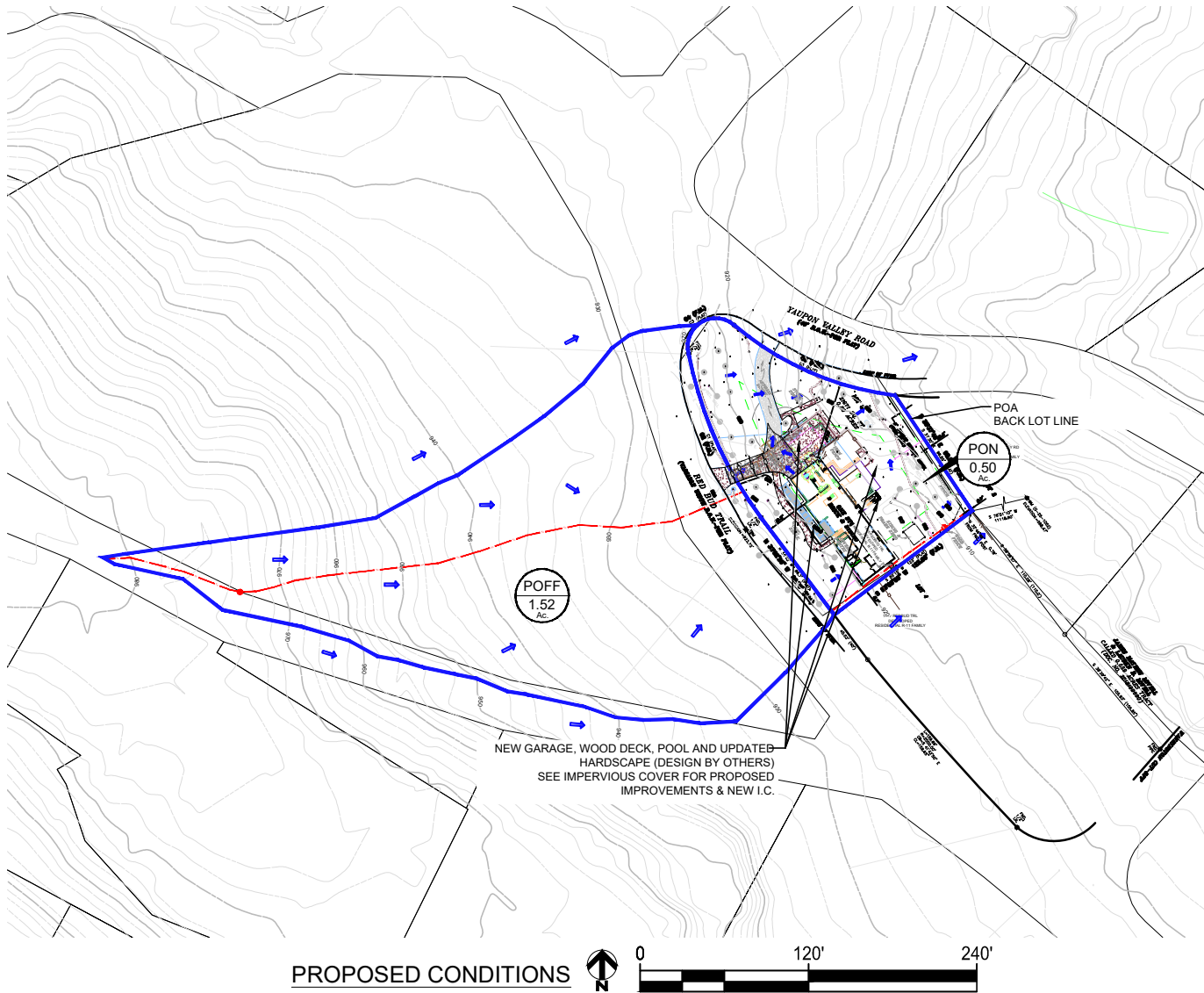
NO.	DATE	REVISION

EXISTING DRAINAGE MAP

1425 REDBUD TRAIL
DRAINAGE PLANS



SHEET 4



Impervious Cover Calculations Post-Development Conditions	
Category	Existing Area (sf)
Total Lot Area	
House	2518.00
New Garage & Connect	622.00
New Wood Deck (50%)	766.00
Updated Hardscape	1632.00
Retaining Walls	130.00
AC Pad	18.00
Pool	360.00

Total Proposed IC = 6046.00 sf
% IC for Proposed = 27.90%

Impervious Cover Calculations Post-Development Conditions				
Basin	Area (Acres)	Area (sm)	Estimated IC (%)	Estimated IC (Acres)
POFF	1.52	0.002375	25.0%	0.380
PON	0.50	0.000777	27.9%	0.139

PROPOSED IMPERVIOUS COVER

Curve Number Calculations					
	Area	Impervious Cover (IC)	IC	CN for HSG Rating D	% HSG of Drainage Area
	[acres]	%	[acres]		%
POFF	1.52	25.0%	0.38	84	100.0%
PON	0.50	27.9%	0.14	84	100.0%

Time Of Concentration - Post-Development Conditions																			
Basin ID	Sheet Flow					Shallow Concentrated Flow					Channel Flow								Total Tl
	Length [ft]	Mannings "n"	Slope [%]	Velocity [fps]	Tc [min]	Length [ft]	Mannings "n"	Slope [%]	Velocity [fps]	Tc [min]	Length [ft]	Mannings "n"	Slope [%]	Bottom Width [ft]	Side Slopes [ft/ft]	Depth of Flow [ft]	Velocity [fps]	Tc [min]	
POFF	100.0	0.15	6.0%	0.30	5.55	367.7	0.15	14.3%	6.10	1.01								10.00	6.00
PON	100.0	0.150	12.5%	0.40	4.14	22.6	0.15	21.7%	7.51	0.05								10.00	6.00

Post-Development HMS Peak Flow Results				
PondID	Peak Flow (2 yr) (cfs)	Peak Flow (10 year) (cfs)	Peak Flow (25 yr) (cfs)	Peak Flow (100 yr) (cfs)
POFF	5.862	9.999	12.670	17.192
PON	1.938	3.288	4.184	5.635
PROP POA SUM	7.800	13.286	16.931	22.827

Overall Peak Flows for Existing & Proposed Conditions				
Basin ID	Peak Flow (2 yr) (cfs)	Peak Flow (10 year) (cfs)	Peak Flow (25 yr) (cfs)	Peak Flow (100 yr) (cfs)
EXIST POA SUM	7.802	13.288	16.932	22.828
PROP POA SUM	7.800	13.286	16.931	22.827

HEC-HMS MODELING RESULTS

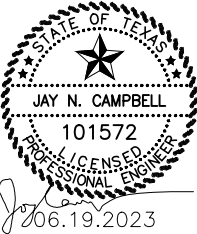
- LEGEND**
- RUNOFF FLOW DIRECTION
 - DRAINAGE AREA BOUNDARY
 - TIME OF CONCENTRATION
 - FLOW TRANSITION
 - EXISTING MINOR CONTOUR
 - EXISTING MAJOR CONTOUR
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR

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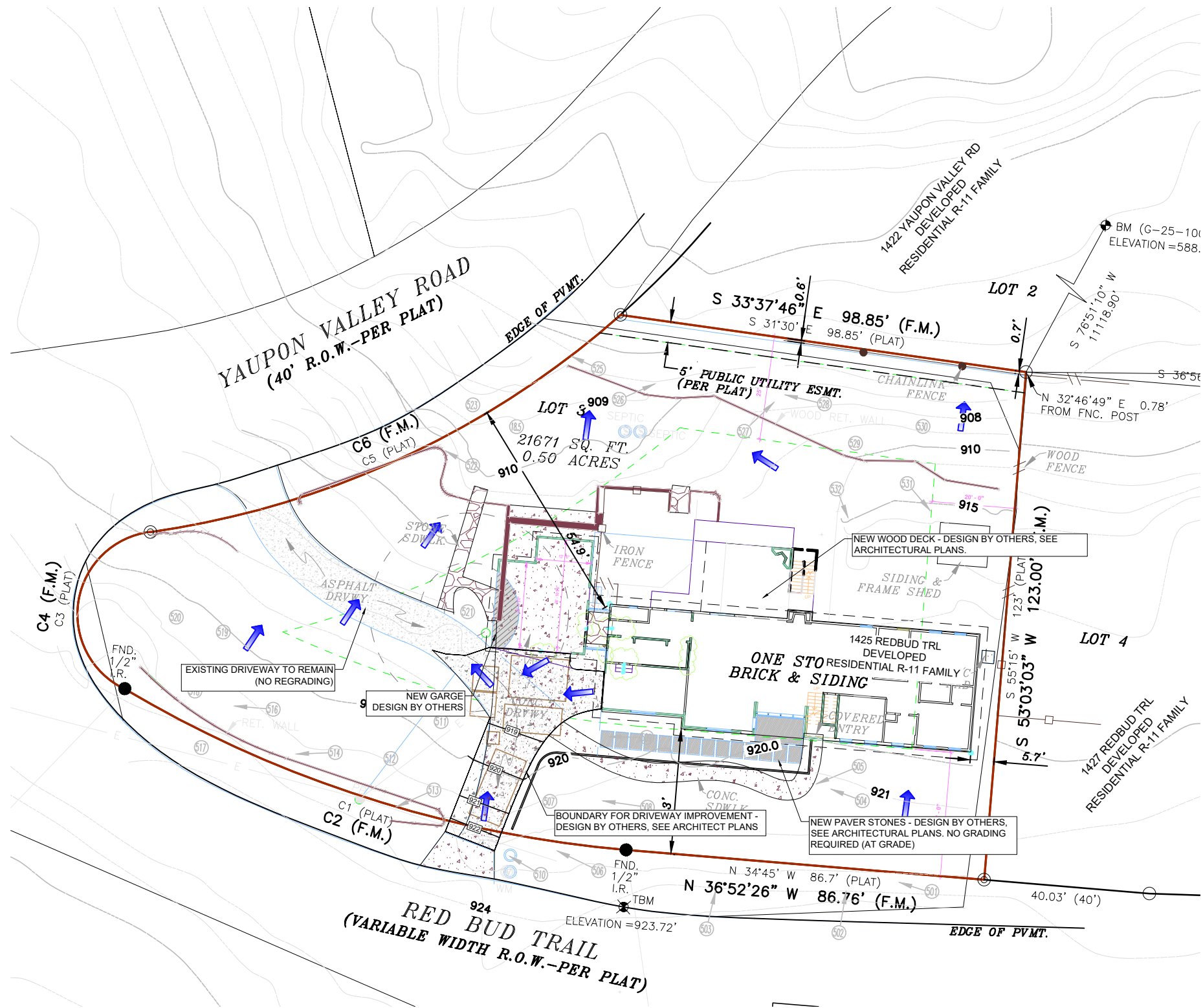
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PROPOSED DRAINAGE MAP

1425 REDBUD TRAIL
DRAINAGE PLANS



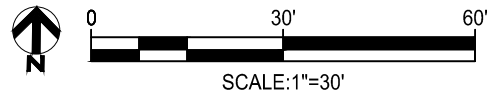
SHEET 5



LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EASEMENT BOUNDARY
- PROPERTY BOUNDARY

SITE PLAN

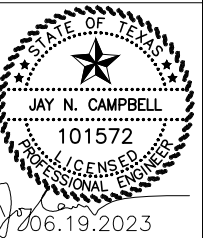


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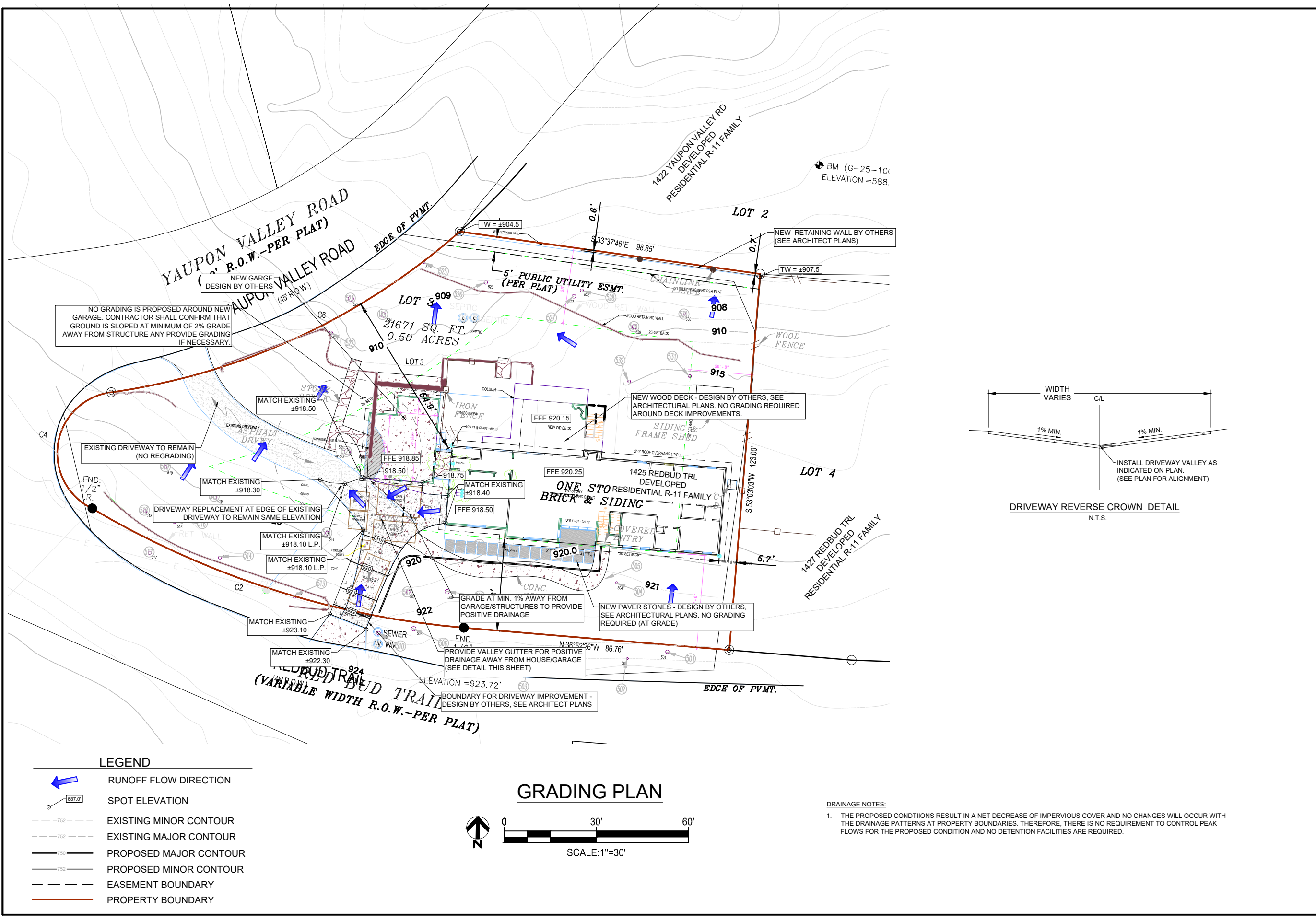
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SITE PLAN

1425 REDBUD TRAIL
DRAINAGE PLANS



SHEET 6



REVISION	
NO.	DATE

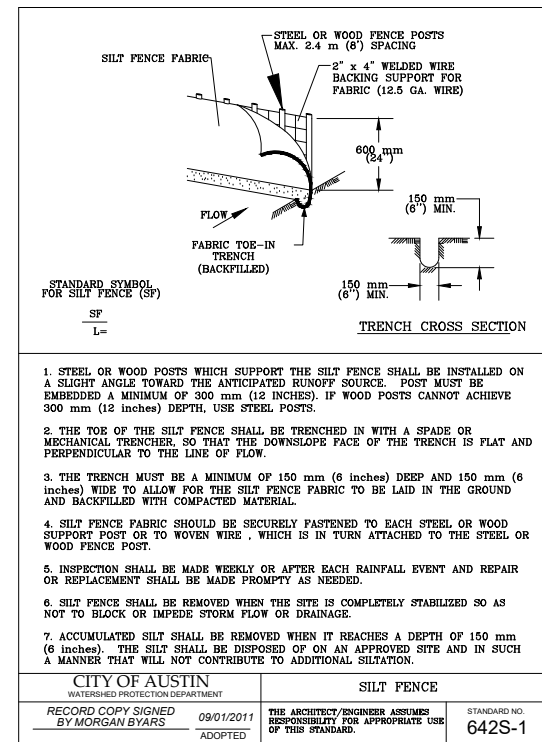
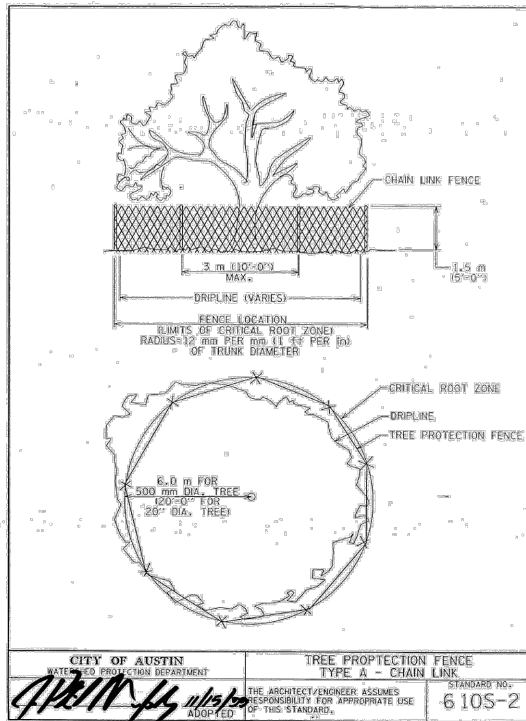
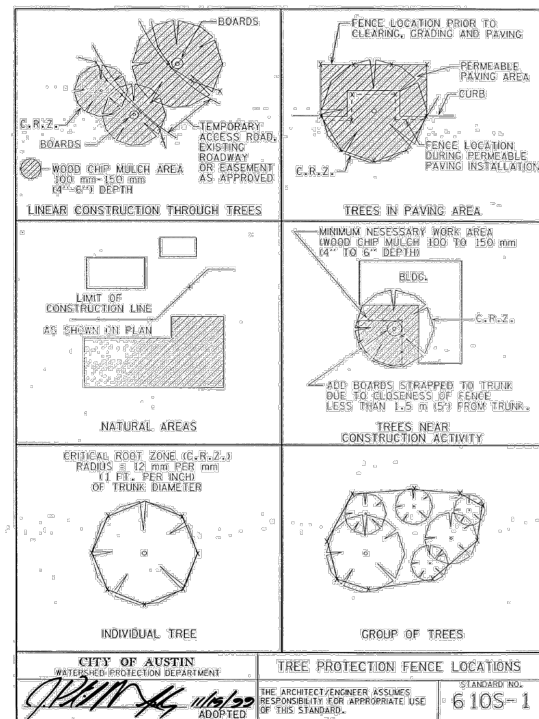
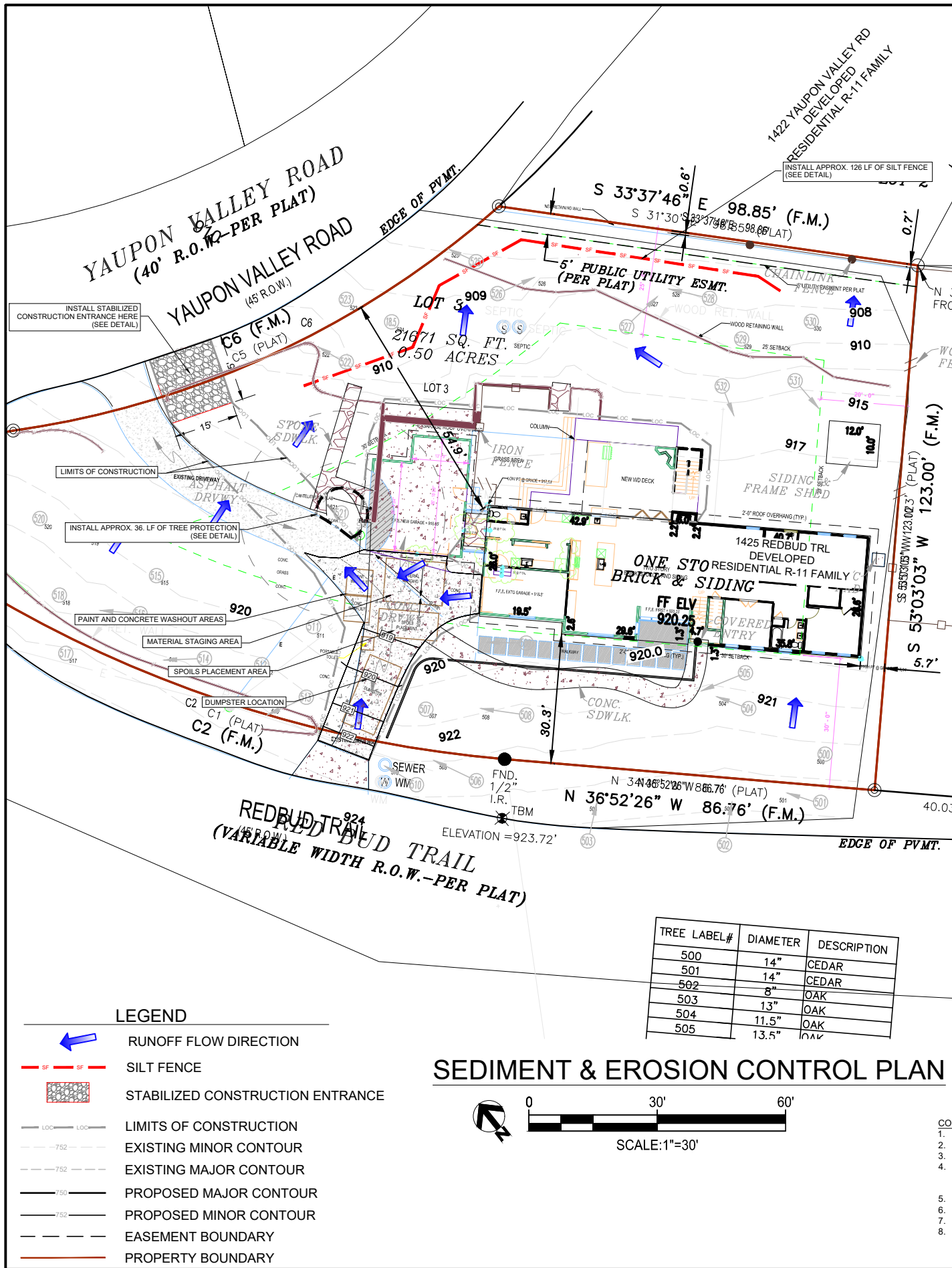
GRADING PLAN

1425 REDBUD TRAIL
DRAINAGE PLANS

JAY N. CAMPBELL
101572
PROFESSIONAL ENGINEER
06.19.2023

SHEET 7

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REVISION

NO. DATE

SOIL EROSION CONTROL PLAN

1425 REDBUD TRAIL

DRAINAGE PLANS

101572

JAY N. CAMPBELL

PROFESSIONAL ENGINEER

06.19.2023

SHEET 8

Attachment 4

C&E Engineering Solutions

Date: June 19, 2023

To: Appropriate Recipient at the City of West Lake Hills

RE: 1425 Redbud – Summary of drainage conditions for building permit.

The Drainage Engineer, Jay Campbell PE, was retained by the owner of 1425 Redbud Trail to assist with drainage approval for their building permit. The purpose of this letter is to provide an explanation of existing and proposed drainage conditions and demonstrate that the project will comply with West Lake Hills (WLH) permit requirements. The subject property is a developed lot zoned for residential use (R-11 Family). The owners have applied for a building permit with WLH for various site improvements. This project is classified as a Type III development per the WLH DECDM . The proposed conditions for this project result in a net decrease in impervious cover and therefore there are no drainage or water quality features required for this project.

The hydrologic analysis methods performed for the drainage analysis, as required by the City of West Lake Hills (WLH) standards. Calculations and methods that were used are in accordance with the current WLH Drainage and Soil Erosion Control Design Manual. The results of the hydrologic analysis demonstrate a decrease in the peak rate of runoff as expected due to the decrease in impervious cover for the proposed drainage condition. Please see the results provided in the table below, demonstrating the decrease in the peak rate of runoff for each required storm event analyzed.

Overall Peak Flows for Existing & Proposed Conditions				
Basin ID	Peak Flow (2 yr)	Peak Flow (10 year)	Peak Flow (25 yr)	Peak Flow (100 yr)
	(cfs)	(cfs)	(cfs)	(cfs)
EXIST POA SUM	7.802	13.288	16.932	22.828
PROP POA SUM	7.800	13.286	16.931	22.827

It should also be noted that the proposed retaining wall along the back property line will also provide an improved drainage condition by providing grading in the vicinity of the wall that will provide a less steep condition. This will also contribute to a reduced peak rate of flow and will provide safer conditions for recreational activities.

That's all for the summary of the drainage conditions. Additional information is provided with the drainage plans and a revised drainage report will be provided with the next submittal. The purpose of this letter is only intended to provide a summary of the drainage conditions to demonstrate an improved condition for the proposed improvements. Please contact me if there's any additional information needed or if there are any questions or concerns.

Regards,



Jay Campbell, PE, CFM, CPESC
(512) 431-7880
Jcampbell@ceengtx.com

Attachment 5 VARIANCE APPLICATION



Date Received: _____	Received By: _____
Amount Due \$ _____	Date Payment Received: _____
Admin Complete Date: _____	Permit No: _____

All applications and supporting documents should be submitted electronically to
<https://www.mgoconnect.org/cp/portal>

APPLICANT & PROPERTY INFORMATION

The agent is the official contact person for this project and the single point of contact. All correspondence and communication will be conducted with the agent. If no agent is listed, the owner will be considered the agent.

Property Owner: Andrew Reif Phone: 832-687-5049

Email: andyreif@gmail.com

Address: 1425 Redbud Trl City: West Lake Hills State: TX Zip: 78746

Agent*: Nick Mehl Phone: 512-947-3789

Email: nick@element5architecture.com

Address: 1212 Chicon St. #101 City: Austin State: TX Zip: 78702

Property Address: 1425 Redbud Trl City: West Lake Hills State: TX Zip: 78746

Property Information

Subdivision Name: Connelly R B SUBD

Block: _____ Lot: 3 TCAD Tax Parcel ID: 117591

Current Zoning Classification: R Total Lot Size (Acres): 0.49

**Please submit Power of Attorney form designating authorized agent.*

PROJECT INFORMATION

Please list all variances being applied for with this project and include Code Section references: (Please be detailed-for tree variances, must include tree #, size, species; setback variances-which setback and how far is requested encroachment; for height specify how much height being requested; etc.)

1. Requesting variance for a remodel project to Section 22.03.278 Lot Coverage requiring impervious cover in percentage

of lot area to be no more than 25%. This variance request is to keep the existing impervious coverage percentage for the lot area
at or below the current percentage which is 28.2%.

2. Regarding conformance with TCEQ Chapter 213 requirements, it is our understanding that the proposed improvements will provide

conformance without the addition of a rainwater harvest system. The house was built prior to 1999 and the existing condition is in conformance and grandfathered in and does not require permitting or rainwater harvesting. The proposed project results in a decrease in impervious cover compared to the current conditions and should not require mitigation. We will contact TCEQ to attempt to receive conformation of this and will provide the City with the feedback. If TCEQ does require mitigation for impervious cover over 20%, we will plan on providing it.



VARIANCE APPLICATION

Regarding the existing drain pipe that has been in place for 15+ years located near the side property line at Yaupon Valley R.O.W.,

3. _____
we plan to incorporate a soil erosion control plan for this pipe, to be included with our next resubmittal to the City. We will likely include bull rock riprap at the pipe discharge with geotextile fabric filter underlay.

4. _____

5. _____

6. _____

CONDITIONS REQUIRED FOR GRANTING A VARIANCE (SECTION 38.05.32):

No variance shall be granted unless the following conditions are fulfilled as provided by the applicant's statements:

1. The strict or literal enforcement of the terms of this chapter, because of special conditions, will result in unnecessary hardship to the applicant. Describe in detail any special conditions you believe will result in unnecessary hardship to you if the terms of this ordinance are strictly or literally enforced.

Impervious coverage % for the property for 15+ years (as Google Maps images aren't available prior to Oct 2007) is 28.2%. Reducing the existing impervious cover percentage would be an unnecessary hardship because the property was purchased to remodel on the existing impervious cover footprint.

2. There will not be unreasonable disruption of the natural terrain or unreasonable destruction of existing flora. Why do you think the natural terrain and existing flora will not be unreasonably disrupted or destroyed if the variance you are requesting is granted?

The impervious cover for the planned project remodel is virtually on the same footprint as the existing impervious cover. Therefore, the existing natural terrain and existing flora will not be disrupted if the request is granted.

3. There is no reasonable alternative to the requisite variance that will alleviate the difficulty or hardship complained of. What other alternatives have you considered? Why won't those other options alleviate



VARIANCE APPLICATION

the difficulty or hardship that you think exists?

There is no reasonable alternative because reducing the impervious cover percentage would mean removing existing features/structures that have existed on the lot for 15+ years and were an integral part of the decision to purchase the property to remodel.

4. The variance will not be greater than the minimum required to alleviate the difficulty or hardship complained of.

The variance request to impervious cover percentage would not change the existing impervious cover percentage so it is not greater than the minimum required to alleviate the hardship.

5. The variance may violate the intent of this chapter or the goals of the city's comprehensive plan. Why do you believe your variance does not violate the intent of the Zoning Ordinance or the goals of the City's Comprehensive Plan?

The City's Comprehensive Plan is not violated as the existing impervious coverage will not increase and the design of the project is to utilize the existing footprint.

6. The variance may have an adverse effect on neighborhood properties or interfere with the respective owners' enjoyment thereof. Why do you believe your variance will not adversely affect or interfere with the enjoyment of neighboring properties?

There is no new impact to neighboring properties as the project is a remodel with no increase to existing impervious cover designed on the current footprint.

AUTHORIZATION & ACKNOWLEDGEMENT

The above information is true to the best of my knowledge. I attest that the real property described is owned by me and all others as signed below. If the below is signed by the authorized agent of said property, the signature of the property owner must be included below or consent must be attached (Power of Attorney Form).

Signature

Nick Mehl

Digitally signed by Nick Mehl
Date: 2023.05.31 14:40:53 -05'00'

Date

5/31/2023

Printed Name

Nick Mehl



VARIANCE APPLICATION

APPLICATION CHECKLIST

Variance Application Checklist

- ☒ Completed, signed application
- ☐ Power of Attorney form, if applicable
- ☒ Proof of ownership of subject property
- ☒ Completed Variance Hardship Questionnaire
- ☐ Letter addressed to ZAPCO Chairperson explaining zoning change request and proposed use
- ☒ Property survey
- ☒ Proposed site plan with building setbacks clearly labeled
- ☒ Building elevations, if applicable
- ☒ Tree and topo survey, if applicable
- ☒ Preliminary plans for proposed project (pool plans, building plans, fence design, etc.)
- ☒ Photos of property showing existing conditions (for tree variances, include photos of proposed variance trees)
- ☐ Letters/emails of support from neighbors, if able to obtain
- ☒ Payment of application fees (*refer to Appendix A: Fee Schedule in the Code of Ordinances for current fees. Fees are due upfront with application.*)
- ☐ Other relevant information, as determined necessary by staff (for example, if variance is for cut/fill/retaining wall, you may be requested to provide a drainage report)

Variance Process and Information

- City staff will prepare public notification letters and will provide you a public notice sign to place on the property. You will be notified when the public notice sign is available to be picked-up.
- If you want to see example variance applications, please see the Agenda page on the City website at <https://www.westlakehills.org/> to view the latest ZAPCO, Council and BOA packets.
- All variance applications are first considered by the Zoning and Planning Commission (ZAPCO), which is an advisory commission only. Final action is then determined by either City Council or Board of Adjustment, depending on the type of variance being requested.
- Agenda packets are digital and posted on the website the Friday prior to the meeting by 5pm. Staff will send you a meeting reminder email after the agenda and packet are posted.
- **Applicants or a designated representative are required to attend/speak at each public hearing; otherwise you will risk postponement or denial for no-show. Applicants should keep remarks brief and the typical time allotment is 5 minutes for ZAPCO and 5 – 10 minutes for City Council/BOA.**
- Please note ZAPCO is an advisory commission only – final action must be taken by City Council or BOA, depending on the type of variance. If ZAPCO recommends denial, you can still move forward to City Council/BOA unless you decide to withdraw or postpone your variance request.
- If City Council/BOA denies your variance, you have to wait one year before you can reapply for the same variance.
- If approved by City Council/BOA, variances expire within one year of the approval date if a permit application has not been filed to perform the scope of work related to the variance.



VARIANCE APPLICATION

STAFF NOTES

For Completion by Staff Only

Date public notification letters mailed: _____

Date of ZAPCO Meeting: _____

ZAPCO Recommendation: _____

Date of City Council/BOA Meeting: _____

City Council/BOA

Action: _____

Notes:



City of West Lake Hills

Zoning and Planning Commission

AGENDA REPORT

Meeting Date:	July 19, 2023	Item Number:	4
Department:	Building & Development Services		
Prepared By:	Jennifer C. Bills	Cost / Budget:	None
Exhibits:	See Attached	Source of Funds:	N/A

Subject

Discuss and make a recommendation on proposed amendments to the Drainage and Erosion Control Manual (DECM 2.4 Stormwater Mitigation).

Recommendation

Staff recommends approval of the amendments to the Drainage and Erosion Control Manual.

This item will be forwarded to the July 26, 2023 City Council meeting for approval.

Discussion

Background & Analysis:

The purpose of the Drainage and Erosion Control Design Manual is to establish standard principles and practices for the planning, design, construction, maintenance, and management of stormwater drainage, erosion control, and water quality facilities within the City of West Lake Hills and its ETJ.

The City Engineer is performing a review of the Code of Ordinances drainage requirements and the Drainage and Erosion Control Manual for additional amendments in the fall. Due to reoccurring questions staff have received regarding drainage study requirements, specific amendments are being recommended ahead of the comprehensive update.

The proposed amendments to Section 2.4 Stormwater Mitigation better define when drainage should be studied from pre-developed conditions vs existing conditions. The proposed language provides clarification consistent with the current application of requirements for drainage review. This amendment does not change the requirements for which development category (Type I, II, III) must be submitted.

Proposed Amendment Language (Attachment 1):

A. Pre-Developed Conditions. Refers to the development condition within the watershed prior to any development. This should be used as the baseline for assessing the impact of all new development. **New development is defined as a project that is reconstructing or adding more than 50% of the existing impervious cover on the site.**

B. Existing Conditions. Refers to current development conditions in the watershed and on site. This shall be used as the baseline for assessing the impact of redevelopment projects. **Redevelopment is defined as a project that is reconstructing or adding less than or equal to 50% of the existing impervious cover on the site.**

Amendment Process:

Section 22.03.059 Drainage and erosion control manual

- (f) Amendments to the drainage and erosion control design manual may be recommended by city staff. Prior to approval by the city administrator, notification shall be given to the city council of all proposed amendments. The city council may approve the amendment without further discussion or request the amendment be brought to City Council for review. Before an amendment to the drainage and erosion control design manual may be approved by the city the proposed amendment shall be posted on the city website for fourteen (14) days with contact information for interested residents to correspond with the city.

Links to Relevant Code:

- [22.03.059: Drainage and erosion control manual](#)
- [Drainage and Erosion Control Manual](#)

2.3.4 FREEBOARD

Freeboard is the vertical distance between the design water surface and the elevation of the drainage facility, such as the top of channel, ditch, or detention pond. Freeboard is intended to provide a factor of safety and prevent the fluctuation of the water surface from overflowing the drainage facility. Freeboard requirements are shown in Table 2-4.

Table 2-4: Freeboard Requirements

Drainage Facility	Frequency	Minimum Freeboard
Street ROW	100-year	None
Channels and creek improvements	25-year	0.5 ft
Detention ponds (see note 1)	100-year	1.0 ft
Detention ponds (privately maintained for one single-family lot)	100-year	None
Bridges and culverts	25-year	See note 2

1 Detention ponds maintained by the City, regional detention ponds, or any other detention pond designed for detention of more than one privately maintained single-family lot.

2 Bridge and culverts shall be analyzed to verify any adverse hydraulic impacts are created.

2.4 Stormwater Mitigation

Mitigation through detention, retention, or some other technique must be designed, constructed, and maintained to reduce the post-development peak flow discharge rates to below that of pre-development/existing peak flow discharge rates for the two (2), ten (10), twenty-five (25), and one-hundred (100) year design storms.

Demonstration that no mitigation is in the best interest of the watershed shall be accomplished by showing no adverse impact due to any increased runoff from the proposed development for the design storms. The property owner, or his/her designee, shall meet with the City to discuss impacts and mitigation options prior to commencing the project.

For stormwater mitigation, the following development conditions shall be analyzed with each adverse impact analysis:

- A. Pre-Developed Conditions. Refers to the development condition within the watershed prior to any development. This should be used as the baseline for assessing the impact of all new development. **New development is defined as a project that is reconstructing or adding more than 50% of the existing impervious cover on the site.**
- B. Existing Conditions. Refers to current development conditions in the watershed and on site. This shall be used as the baseline for assessing the impact of redevelopment projects. **Redevelopment is defined as a project that is reconstructing or adding less than or equal to 50% of the existing impervious cover on the site.**
- C. Proposed Conditions. Refers to existing conditions modified with the proposed project development. This shall be used to assess adverse impact to other properties or drainage systems.
- D. Post-Developed Conditions. Refers to the proposed condition modified with mitigation. This shall be used to verify the sizing and method of mitigation for the proposed development.
- E. Ultimate Conditions. Refers to the development conditions in which all property within the watershed boundaries are developed per maximum zoning requirements.

2.5 Development in the Floodplain

It is the intent of the City Council that the requirements stated in the City Code Chapter 26 comply with federal requirements pertaining to the FEMA authority concerning flood hazards and the USACE jurisdiction over waters of the United States.

No person, individual, partnership, firm, or corporation shall deepen, widen, fill, reclaim, reroute or change the course or location of any existing ditch, channel, stream or drainage way without first obtaining a permit from the City and any other applicable agencies having jurisdiction, such as FEMA or the USACE. The City may require preparation and submission of a FEMA study for a proposed development if there are concerns regarding storm drainage on the subject property or upstream or downstream from the subject property. The costs of such study, application, and/or permit, if required, shall be borne by the developer.

2.6 Permanent Water Quality Controls

Development and redevelopment located over the Edwards Aquifer regulatory zones shall comply with the latest TCEQ published rules and technical design guidance for the Edwards Aquifer in accordance with 30 TAC Chapter 213 (Edwards Aquifer Rules). Permanent water quality BMPs for development outside of the Edwards Aquifer regulated zones shall be designed to provide adequate treatment of the water quality volume in the City's jurisdiction as defined in Chapter 6.

2.7 Maintenance of Drainage Facilities

All drainage facilities located in the street ROW except driveway culverts, shall be maintained by the appropriate jurisdiction. The property owner shall maintain all drainage facilities located on private property including driveway culverts. Authorized inspectors of the City shall have the right of entry on the land or premises where property owners are required to maintain drainage facilities or detention facilities, at reasonable times and after notifying the property owner, for the purpose of inspection of the maintenance.

2.7.1 MAINTENANCE ACCESS

Access shall be provided to all ponds and channel maintained by the City, regional drainage facilities, or any other drainage facility designed for drainage of more than one privately maintained single-family lot as follows: ponds and channels shall provide a maintenance access with a width of at least 12 feet and have a vertical grade no steeper than 6H:1V. Access shall be provided within dedicated ROW or within the drainage easement and shall be clearly identified on plans.

Maintenance schedules and descriptions of maintenance practices for privately maintained single-family residential ponds and channels shall be provided within the plans or as a separate document. Adequate access shall be provided for the maintenance description provided.