Polk County Zoning Commission Monday, January 25, 2021 Staff Report



#### **Timber Valley Estates – Preliminary Plat**

**Applicant:** Lundstrom, LLC (Property Owner) and Strahan Construction (Developer)

represented by Bob Gibson with Civil Design Advantage

**Request:** Preliminary Plat Approval of a Major Subdivision Plat

**Legal Description:** Part of the NW¼ NE ¼ of Section 32 in Crocker Township, Polk County,

Iowa, containing 32 Acres

**General Location:** Located approximately 350-feet northeast of the NW 37<sup>th</sup> Street and NW

75<sup>th</sup> Place intersection. (*Attachment 'A'*)

**Existing Zoning:** "RR" Rural Residential District

**Surrounding Zoning:** 

North: "RR" Rural Residential District
East: "RR" Rural Residential District
South: "RR" Rural Residential District

West: "RR" Rural Residential District and "OS" Open Space District

**Waiver Request:** 1. *Maximum cul-de-sac length greater than 600-feet.* 

**2.** Flag lot size exceeding 1-acre in areas with public sanitary sewer.

#### **GENERAL COMMENTS:**

This preliminary plat (*Attachment 'B'*) proposes to create 19 single-family residential lots and three (3) outlots on a 32-acre parcel zoned "RR" Rural Residential District utilizing the Cluster Development option. The subject property is located approximately 350-feet northeast of the NW 37<sup>th</sup> Street and NW 75<sup>th</sup> Place intersection. The City of Ankeny corporate limits are approximately ½ mile to the east and the City of Johnston corporate limits are approximately ½ mile to the west. The property is currently vacant with a majority of the property covered in woodlands and a large area of floodplain surrounding Rock Creek within northern and western portions of the parcel. The subject property has approximately 800 feet of frontage along NW 37<sup>th</sup> Street, a paved collector roadway maintained by Polk County. The proposed plat includes

one (1) access with two (2) proposed cul-de-sac street extensions. Lot A is an east west cul-de-sac street extension and extends 1,188-feet from NW 37<sup>th</sup> Street. The majority of the lots (14) have frontage along Street Lot A. Street Lot B is the second cul-de-sac extension, located at a north central point along Lot A, and extends south to north with a length of 1,150-feet from NW 37<sup>th</sup> Street and provides frontage to five (5) lots. The maximum cul-de-sac length is 600-feet as required by the Subdivision Ordinance. The developer has confirmed through response to review comments that the profile grade for the streets will meet the maximum street grade of 6%.

The proposed 19 single-family residential lots generally have widths between 110 and 271 feet and areas ranging from 21,274 square feet to 107,781 square feet (2.47 acres). The minimum lot size is 20,000 square feet and the minimum lot width requirement is 100-feet for standard lots within the Cluster Development option. The average size of the proposed lots is approximately 30,000 square feet with most of the lots being much larger than the minimum allowable lot size minimizing impact and providing greater protection of natural resources. The Cluster Development option requires 25% permanent open space to be maintained on the subject property. The proposal provides 42% open space within Outlots 'X', 'Y' and 'Z'. Flag lots shall not exceed one (1) acre in size in areas with public sanitary sewer as required by the Subdivision Ordinance. Both Lots 10 and 11 exceed the one (1) acre standard with Lot 10 proposed as 1.71-acres in size and Lot 11 proposed as 2.47-acres in size.

The site has a significant variation in topography with a high point of 906 feet within the southeast corner of the site and a low point of 810 feet along the stream of Rock Creek in the north and northwest portions of the site. The topography of the site introduces unique challenges in providing streets and utility services. An existing WRA Polk County trunk sanitary sewer line and associated 30-foot wide sanitary sewer easement diagonally bisects the subject property. The proposal requires approval from the WRA for fill depths and locations of crossing the trunk sanitary sewer for the proposed streets.

Staff is working with the Engineer on review comments and will address compliance with the Polk County Stormwater Control Ordinance. Outlots 'Y' and 'Z' include Rock Creek and the existing FEMA floodway and 100-year floodplain on the property. A mapped wetland as determined by the National Wetland inventory is also located within the northeast corner of Outlot 'Z'. Woodland Protection easements are identified throughout the development to provide protection for existing young and mature woodlands. Woodland mitigation is also proposed due to the significant grading of the property. The proposal identifies 13.9-acres of mature woodlands on site with a 30% impact (4.6-acres) and 1.1-acres of mitigation provided. There are 7.6-acres of young woodlands on site with a 64.6% (4.7-acres) impact and .9-acres of mitigation provided. Staff is continuing to work with the Engineer on review comments to ensure compliance with mitigation requirements for the removal of woodlands on this site. The subject property has steep slopes and significant grading is proposed due to topographical challenges. A safe slope setback line is identified for Lots 1-16 for significant slopes on the property. Any construction within the safe slope setback shall require foundation design by a professional structural engineer and slope stabilization review and design by a professional

geotechnical engineer. A geotechnical report has been submitted and is currently under review by the Polk County Engineering Division.

Water service will be provided by Des Moines Water Works. The developer is required to construct a northerly extension from the 8" DMWW water main located along the south side of NW 75<sup>th</sup> Place. A 12" water main extension is proposed along the east side of NW 37<sup>th</sup> Street to serve this development. The developer is required to coordinate the design and installation with Des Moines Water Works. An existing WRA Polk County sanitary trunk sanitary sewer will provide sanitary sewer services to the proposed lots via 8" mains constructed from the existing 42" trunk sewer. All lots except lots 10 and 11 have an available outlet to an adjacent public storm sewer within the right-of-way for sump discharge. Lots 10 and 11 will have sump lines that outlet to the rear yards with maintenance of the private sump lines to be provided by the Homeowner's Association. Storm water detention is provided through Private Overland Flowage and Detention Easements located within existing natural low points on the property and designated on Outlot 'Y' and Outlot 'Z'. The development will be provided with standard hydrant spacing for fire protection.

#### **STAFF REVIEW:**

Staff has reviewed this plat for compliance with the Polk County Zoning and Subdivision Ordinances as a major subdivision plat submittal. Lot density, dimensions, frontage, access, and potential waivers have been reviewed. Pending approval, re-submittals will be needed to address staff comments. At this stage, the Commission's action would affirm, deny, or amend the overall plat layout and the requested waivers. The current layout would require waivers from the maximum cul-de-sac length of 600-feet and from the flag lot size exceeding one (1) acre in areas with public sanitary sewer.

The Developer is requesting two (2) waivers. The waivers are for the cul-de-sac length increase from 600 feet to 1,150 feet (Lot B) and 1,188 feet (Lot A) and for the flag lot size exceeding one (1) acre in areas with public sanitary sewer. The developer has responded to staff comments and is working toward compliance with all of the review comments. The number of lots was reduced from 20 to 19 lots between the first and second submittal of the preliminary plat. Adjustments continue to be made to limit impact on the floodplain and provide appropriate buffers and protection easements. The proposal includes two (2) flag lots being greater than one (1) acre in size including Lot 10 at 1.71-acres and Lot 11 at 2.47-acres. Both of these lots are shown with Woodland Protection Easements and appear to offer additional undisturbed woodland protection with the larger lot size. The number of lots proposed for the subdivision is within the allowed 24 dwellings in a residential district to be served by a single cul-de-sac. In review of the adjacent developments to the south and the east, it appears that there are multiple cul-de-sac extensions that exceed 600-feet and are closer to 1,000-feet in length. The subject property has topographic limitations as well as limited access along the frontage of the property and in relationship to existing floodplain locations on the property.

If the developer can continue to work towards meeting the review comments and Ordinance requirements applicable to the proposal then the waivers can be supported by Staff. The staff review took into careful consideration the constraints for future development in this area,

including existing topography, woodlands, and FEMA Flood Zone along Rock Creek. These constraints limit the ability to make significant future street connections. The unique nature of the subject property, which includes steep terrain and significant topographical and environmental challenges along with the limited access to the existing public street, supports the requested waivers from these requirements.

The property lies within the two-mile review authority of the City of Ankeny and the City of Johnston. The City of Johnston has an exemption for reviewing plats east of the Des Moines River/Saylorville Lake and therefore will not review this plat. The City of Ankeny has indicated that this property is located outside of their planning boundary identified in the Ankeny Plan 2040 Comprehensive Plan therefore, the City of Ankeny waives its extraterritorial review for this area.

#### **RECOMMENDATION:**

Staff recommends approval of the Preliminary Plat of Timber Valley Estates subject to the approval of the required subdivision waivers for the cul-de-sac length increase from 600 feet to 1,150 feet (Lot B) and 1,188 feet (Lot A) and the waiver for the flag lot size being greater than one (1) acre in areas with sanitary sewer for lots 10 and 11.

#### <u>Timber Valley Estates</u> Preliminary Plat

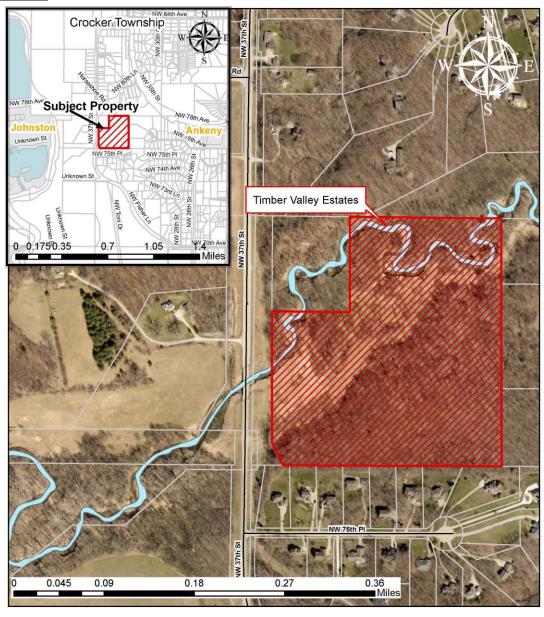
**PLAT INFORMATION:** This major preliminary subdivision plat proposes 19 single-family lots, two (2) outlots and two (2) cul-de-sac street extensions on approximately 32 acres zoned "RR" Rural Residential District. The subject property is located approximately 350-feet northeast of the NW 37<sup>th</sup> Street and NW 75<sup>th</sup> Place intersection, located within Section 32 of Crocker Township.

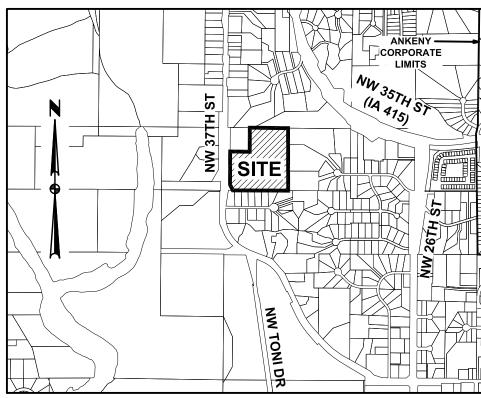
TOWNSHIP: Crocker SEWER: Polk County Sanitary Sewer WATER: DMWW

**OWNER:** Lundstrom, LLC **DEVELOPER:** Strahan Construction

**SURVEYOR/ENGINEER:** Civil Design Advantage, LLC

Vicinity Map:





**POLK COUNTY IOWA** 

### **OWNER**

LUNDSTROM LLC STEVEN D LUNDSTROM 1924 NW 70TH AVE ANKENY, IA 50023

#### **DEVELOPER**

STRAHAN CONSTRUCTION LUKE STRAHAN 477 SW CAMDEN DRIVE ANKENY, IA 50023 515-238-7414

#### **ENGINEER / SURVEYOR**

CIVIL DESIGN ADVANTAGE, LLC 3405 S.E. CROSSROADS DRIVE, SUITE G GRIMES, IOWA 50111 PH: 515-369-4400 CONTACT: BOB GIBSON

## **ZONING**

EXISTING: POLK COUNTY RR - RURAL RESIDENTIAL DISTRICT

## **BULK REGULATIONS**

CLUSTER OPTION

MINIMUM LOT WIDTH: MINIMUM LOT SIZE: FRONT YARD SETBACK: SIDE YARD SETBACK: REAR YARD SETBACK

TOTAL SITE AREA: 1,393,920 SF (32.0 AC) MINIMUM REQUIRED COMMON OPEN SPACE: 348,480 SF (25%) COMMON OPEN SPACE PROVIDED: 594,158 SF (42%) (OUTLOTS 'X' AND 'Y')

20,000 SF

## **UTILITY PROVIDERS**

DES MOINES WATER WORKS WASTE WATER: POLK COUNTY MIDAMERICAN ENERGY MIDAMERICAN ENERGY

#### SHEET INDEX

COVER SHEET SHEET 2-3: DIMENSION PLAN SHEET 4-5: GRADING/UTILITY PLAN WOODLANDS IMPACT SHEET 6: WOODLANDS MITIGATION PLAN

### SUBMITTAL DATES

1ST SUBMITTAL: 2ND SUBMITTAL:

12/01/2020 01/14/2021

### PRELIMINARY PLAT DESCRIPTION

(TRUSTEE WARRANTY DEED: BOOK 9876, PAGE 229)

THE NORTHWEST QUARTER (NW 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 32, TOWNSHIP 80 NORTH, RANGE 24 WEST OF THE 5TH P.M., POLK COUNTY, IOWA, EXCEPT THÉ WEST 503 FEET OF THE NORTH 500 FÉET THEREOF, AND EXCEPT THE WEST 30 FEET OF THE SOUTH 175 FEET THEREOF, AND EXCEPT ROADS.

PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS OF RECORD.

PROPERTY CONTAINS 32.0 ACRES MORE OR LESS.

## NOTES

NOT TO SCALE

1.00

- MAILBOXES WITHIN THE R.O.W. SHALL BE OF BREAKAWAY DESIGN.
- ANY SUBSURFACE DRAINAGE FACILITIES THAT ARE DISTURBED MUST BE RESTORED OR REROUTED BY THE PROPERTY OWNER.
- 3. POST DEVELOPMENT RUNOFF SHALL NOT ADVERSELY AFFECT DOWNSTREAM DRAINAGE FACILITIES OR PROPERTY OWNERS. 4. THE HOMEOWNER'S ASSOCIATION WILL BE RESPONSIBLE FOR THE MAINTENANCE OF DRAINAGE SWALES LOCATED WITHIN ALL PRIVATE OVERLAND
- FLOWAGE EASEMENTS.
- 5. OUTLOTS 'Y' AND 'Z' WILL BE OWNED BY A HOMEOWNER'S ASSOCIATION AND WILL BE USED FOR COMMON OPEN SPACE, OVERLAND FLOWAGE, AND STORM WATER DETENTION.
- 6. THE HOMEOWNER'S ASSOCIATION SHALL MAINTAIN THE PRIVATE STORM WATER DETENTION BASINS AND OUTLET PIPES WITHIN THE PRIVATE OVERLAND FLOWAGE AND DETENTION EASEMENTS ON LOTS 17, 18, OUTLOT 'Y' AND OUTLOT 'Z'. AN ACCESS EASEMENT TO THE PRIVATE STORM WATER DETENTION BASIN ON LOT 17, 18 AND OUTLOT 'Y' IS PROVIDED ON LOTS 11, 16 AND 17. 7. IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO APPLY FOR AND OBTAIN ANY STORM WATER DISCHARGE PERMITS FROM THE IOWA DNR.
- 8. THE GRADING CONTRACTOR WILL BE REQUIRED TO PROVIDE A 4—YEAR MAINTENANCE BOND FOR EROSION CONTROL. AN IDNR NPDES PERMIT WILL BE REQUIRED PRIOR TO GRADING OPERATIONS.
- 9. ALL SERVICES TO UTILITIES LOCATED ON THE OPPOSITE SIDE OF THE ROADWAY MUST BE BORED UNDER THE ROAD AT THE LOT OWNER'S EXPENSE. 10. ACCESS TO EACH LOT IS RESTRICTED TO THE SUBDIVISION ROADS.
- 11. SANITARY SEWER SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE IOWA SUDAS SPECIFICATIONS.
- 12. WATER SERVICE SOURCE WILL BE DES MOINES WATER WORKS. 13. STREET LOTS A & B SHALL BE DEEDED TO POLK COUNTY FOR ROADWAY PURPOSES AT SUCH TIME THE ROADWAY HAS BEEN APPROVED AND
- ACCEPTED INTO THE POLK COUNTY SECONDARY ROAD SYSTEM BY THE POLK COUNTY BOARD OF SUPERVISORS.
- 14. SUMP LINES FOR LOTS 10 AND 11 WILL OUTLET TO THE REAR YARDS. ALL OTHER OTS WILL BE CONNECTED TO THE STORM SEWER. PRIVATE SUMP LINES SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- 15. EFFECTIVE DATE OF FLOOD PLAIN IS FEBRUARY 1, 2019 AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP FOR POLK COUNTY, IOWA, MAP
- 16. POLK COUNTY DOES NOT REQUIRE OR ISSUE PERMITS FOR SIDEWALKS AND DOES NOT ACCEPT LIABILITY AND/OR RESPONSIBILITY FOR CONSTRUCTION, PLACEMENT, REPAIR, OR MAINTENANCE OF ANY STREET SIDEWALK INSTALLED IN THE PLAT BY ANY HOMEOWNER.
- 17. STREETLIGHTS AND SIDEWALKS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS IF ANNEXED INTO THE CITY OF ANKENY. 18. THIS PLAT IS BEING PREPARED UTILIZING THE CLUSTER DEVELOPMENT OPTION UNDER THE RURAL RESIDENTIAL DISTRICT REQUIRING A MINIMUM OF
- 7.95 ACRES (25%) OF OPEN SPACE. THIS REQUIRED OPEN SPACE IS LOCATE WITHIN OUTLOTS X, Y & Z AND SHALL BE MAINTAINED AS PERMANENT UNBUILDABLE OPEN SPACE BY THE HOMEOWNERS ASSOCIATION.
- 19. MAINTENANCE OF ALL DRAINAGE EASEMENTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. 20. CULVERTS TO BE USED FOR CROSSING DRAINAGE EASEMENTS SHALL BE DESIGNED BY A LICENSED ENGINEER.

TYPICAL SECTION - 26' P.C.C. ROADWAY WITH 60' ROW

4.0% 📥

FORM GRADE (FG)

2.0'

-(FUTURE 4" SIDEWALK)

TYPICAL 8" WATER

√6" INTEGRAL

L-1 JOINT-

- 21. FUTURE DEVELOPMENT OF THE PROPERTY IS SUBJECT TO ARTICLE 7, SECTION 4,"NATURAL RESOURCE PROTECTION, WOODLANDS" OF THE POLK COUNTY ZONING ORDINANCE, WHICH PRESERVES WOODED AREAS OF THE PROPERTY.
- 22. YOUNG WOODLANDS AREAS SHALL BE PROTECTED OR MITIGATED AT A MINIMUM OF 50% AND MATURE WOODLANDS AREAS AT A MINIMUM OF 75%. 23. ANY TREE REMOVALS AND NATIVE SLOPE MODIFICATION ON SLOPES GREATER THAN 5:10R WITHIN THE SAFE SLOPE BUILDING SETBACK LINE SHALL
- REQUIRE ADDITIONAL GEOTECHNICAL INVESTIGATION BY A LICENSED GEOTECHNICAL ENGINEER. NO FILL FROM HOMEOWNER/HOMEBUILDERS SHALL BE ALLOWED WITHIN THE TREE LINE OR ON SLOPES STEEPER THAN 5:1 WITHOUT ADDITIONAL GEOTECHNICAL INVESTIGATION. 24. THE SAFE SLOPE BUILDING SETBACK WAS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. TOP OF SLOPE IS ESTABLISHED AS GENERALLY THAT POINT WHERE THE GRADED SLOPE IS 3:1. THE SETBACK IS ESTABLISED AT 15 FEET FROM THAT POINT. WHERE THE EXISTING SLOPE ARE MAINTAINED, THE
- SETBACK IS ESTABLISHED AT GENERALLY THAT POINT WHERE THE SLOPE IS 5:1. 25. CONSTRUCTION WITHIN THE SAFE SLOPE SETBACK SHALL REQUIRE FOUNDATION DESIGN BY A PROFESSIONAL STRUCTURAL ENGINEER AND SLOPE STABILIZATION REVIEW AND DESIGN BY A PROFESSIONAL GEOTECHNICAL ENGINEER.

60.00' R/W

26.00' B/B

7" P.C.C. PAVEMENT

12" SUBGRADE PREPARATION - TWO 6" LIFTS

6" INTEGRAL

TYPICAL STORM SEWER-

-FORM GRADE (FG)

TYPICAL 8" SANITARY SEWER-

(FUTURE 4" SIDEWALK)-

PREPARE SUBGRADE IN 2 - 6" LIFTS.

TYPICAL C JOINT SPACING IS 15'.

PROFILE GRADE

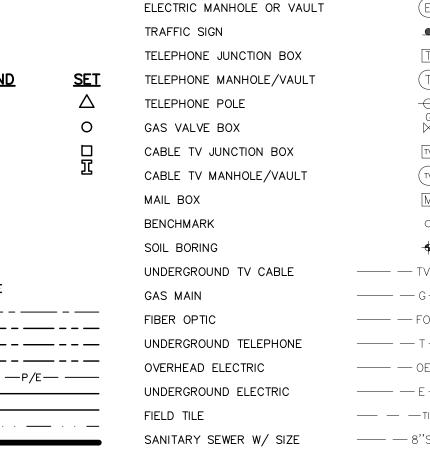
# LEGEND

#### **FEATURES**

PROPOSED	
GROUND SURFACE CONTOUR	
TYPE SW-501 STORM INTAKE	
TYPE SW-503 STORM INTAKE	
TYPE SW-505 STORM INTAKE	
TYPE SW-506 STORM INTAKE	
TYPE SW-513 STORM INTAKE	ST
TYPE SW-401 STORM MANHOLE	
TYPE SW-402 STORM MANHOLE	ST
TYPE SW-301 SANITARY MANHOLE	
STORM/SANITARY CLEANOUT	<b>o</b> <sup>c</sup>
WATER VALVE	H
FIRE HYDRANT ASSEMBLY	<b>₩</b> €
SIGN	•
DETECTABLE WARNING PANEL	0000
SANITARY SEWER WITH SIZE -	8"s
STORM SEWER WITH SIZE -	15"ST
WATERMAIN WITH SIZE -	8"W

SURVEY	<u>FOUND</u>	<u>SET</u>
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(UNLESS OTHERWISE NOTED)	•	•
ROW MARKER		冗
ROW RAIL	I	I
PLATTED DISTANCE	(P)	
MEASURED BEARING & DISTANCE	(M)	
RECORDED AS	(R)	
DEED DISTANCE	(D)	
CALCULATED DISTANCE	(C)	
CURVE ARC LENGTH	AL	
MINIMUM 100 YEAR FLOOD	MPE	
PROTECTION ELEVATION	MILE	
CENTERLINE		
SECTION LINE		
1/4 SECTION LINE		
1/4 1/4 SECTION LINE		
EASEMENT LINE	— — P/E-	
LOT LINE		
RIGHT OF WAY		
BUILDING SETBACK	<del>-</del> · · <del>-</del>	· · · —

ER VALVE BOX	×	
HYDRANT	Ø	
ER CURB STOP	CS ⋈	
L	WELL	
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ANCHOR	$\rightarrow$	
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ITY POLE W/ LIGHT	<b>∳</b> —≪	



ELECTRIC TRANSFORMER

**EXISTING** 

GROUND SURFACE CONTOUR

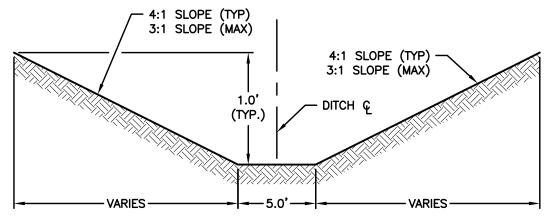
SANITARY MANHOLE

\_\_\_\_ \_ TV\_\_ \_ \_\_ —— FO— — — — — OF— — — —— — F — — — \_\_\_ \_ \_ TILE \_\_ \_ \_ \_\_\_\_\_ 8"S \_\_ \_\_\_ STORM SEWER W/ SIZE — — 15"ST — — — WATER MAIN W/ SIZE \_\_\_\_ 8"W\_\_ \_\_\_

## TYPICAL SWALE SECTION

NOT TO SCALE

PLAT BOUNDARY





I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORME PAGES OR SHEETS COVERED BY THIS SEAL: SHEETS 1 - 7

1901.025

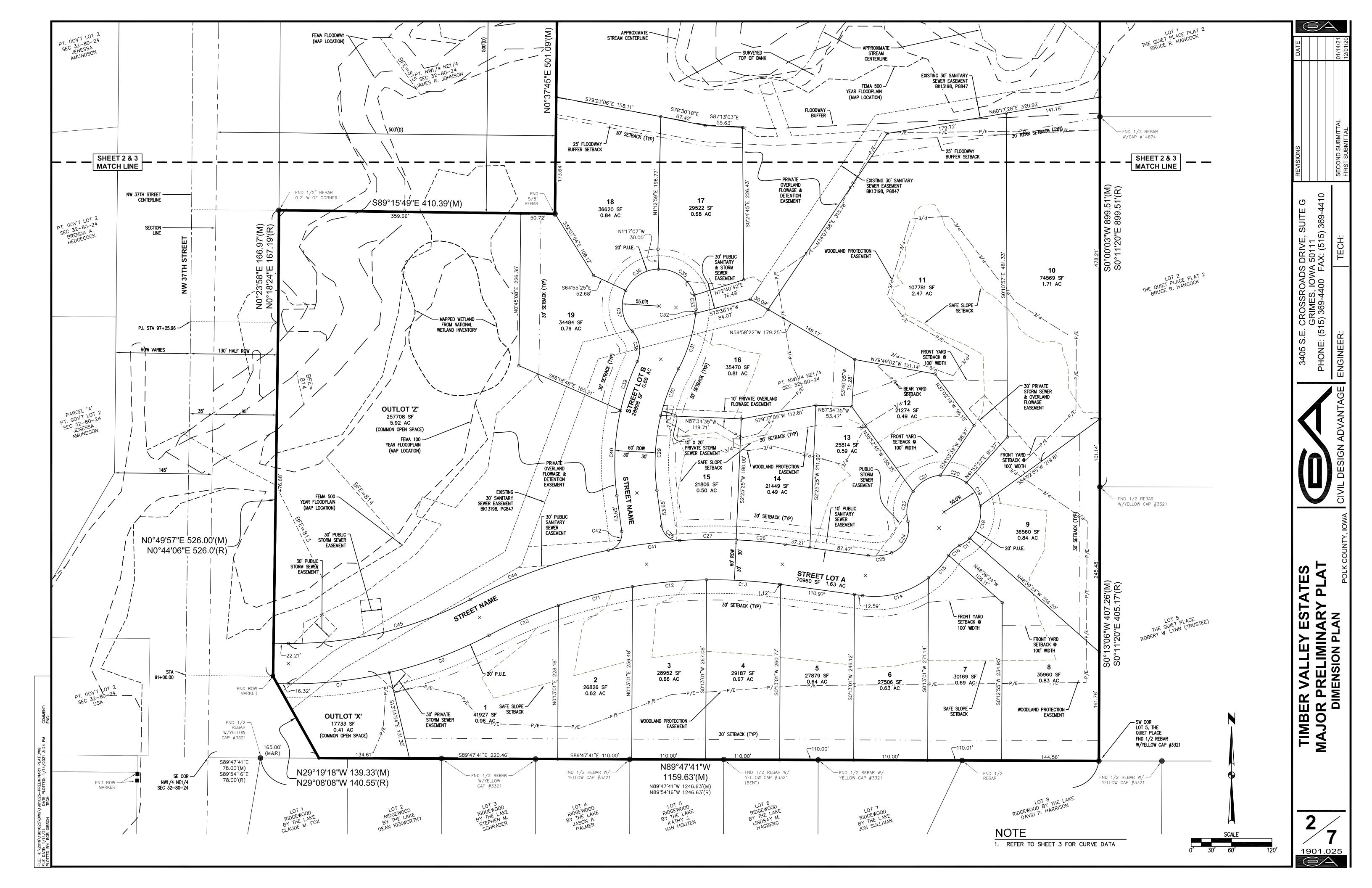
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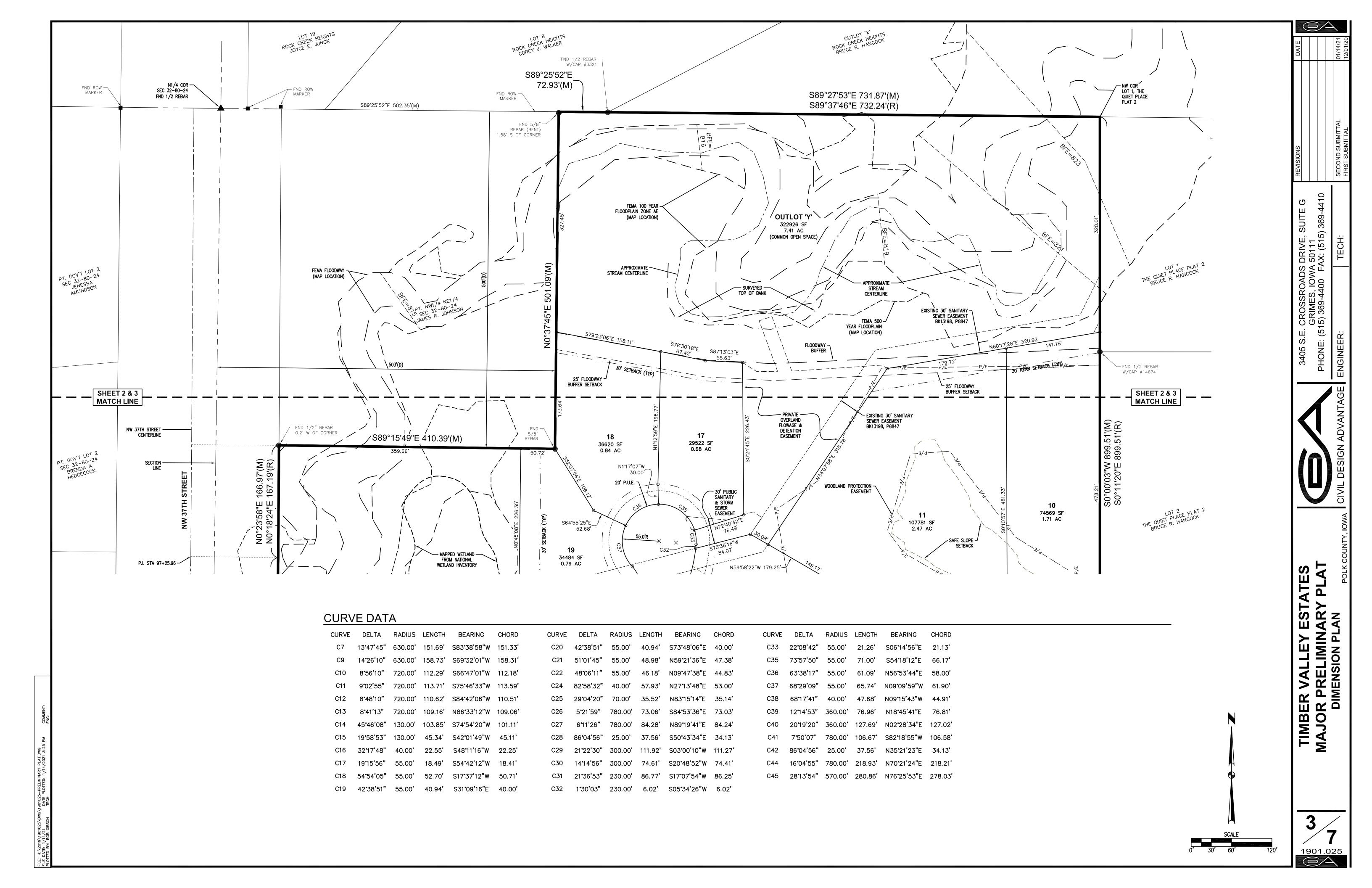
VALLEY ESTAPRELIMINARY

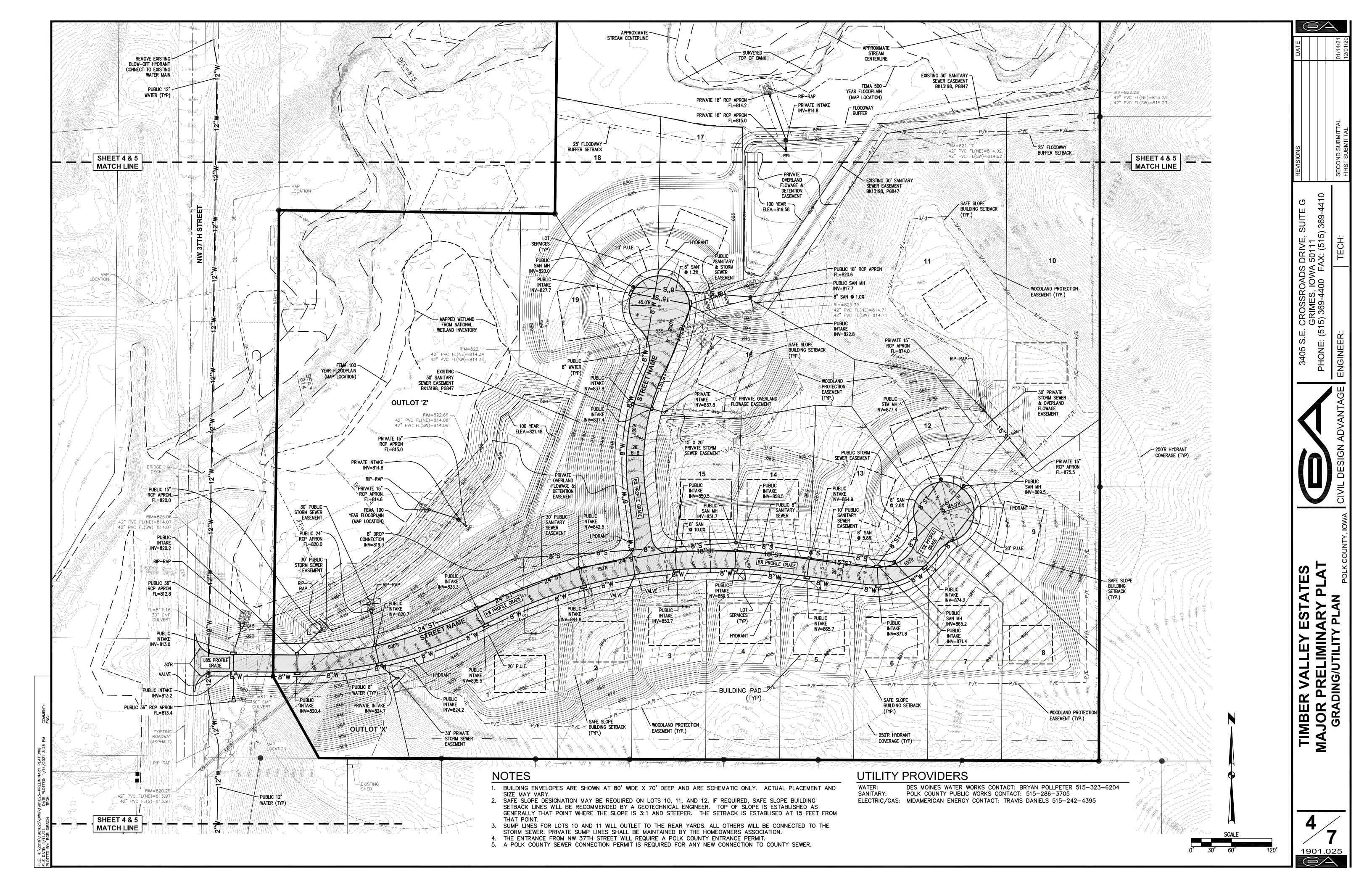
TIMBER

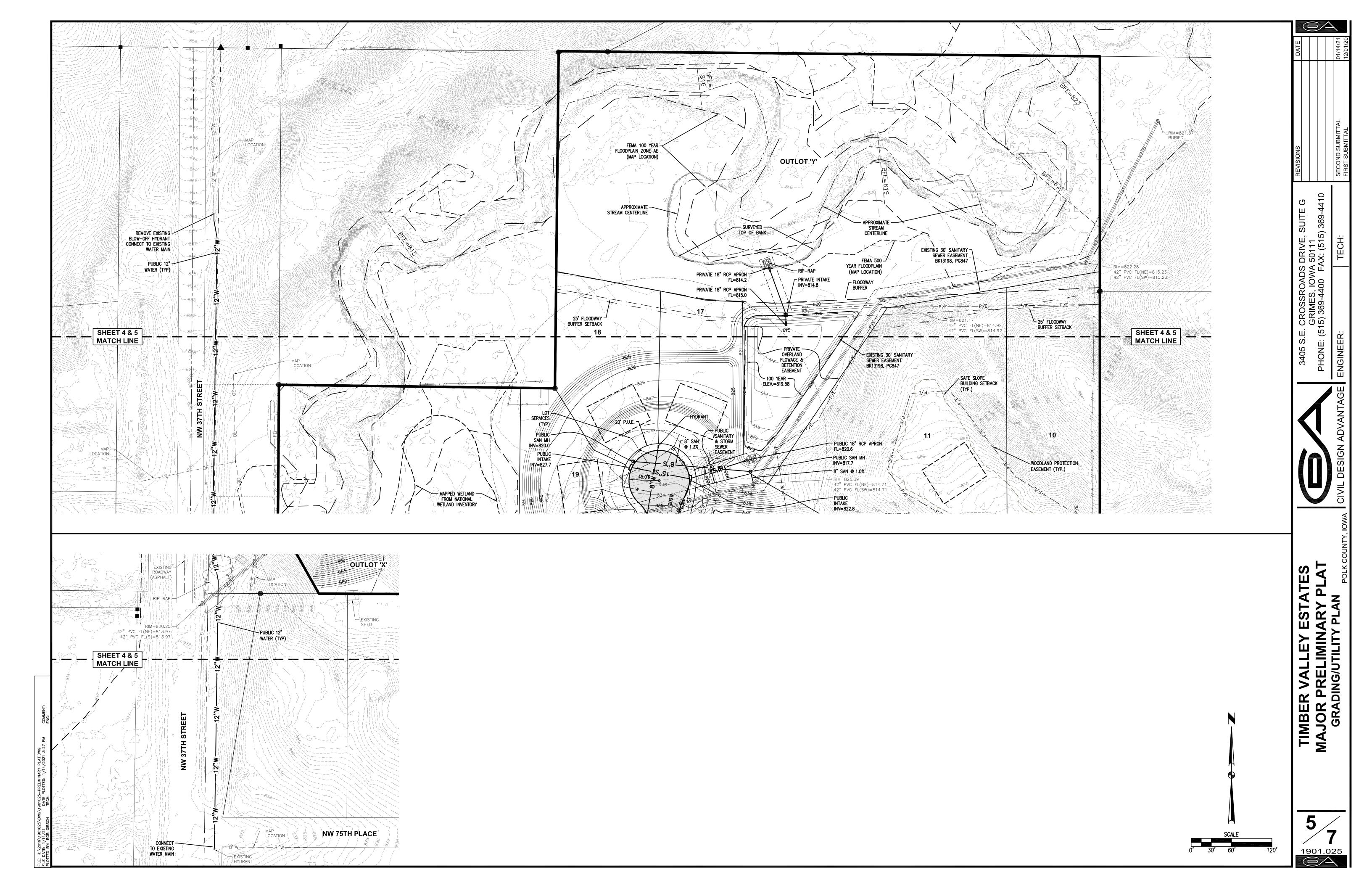
DRIVE, S 50111 VX: (515)

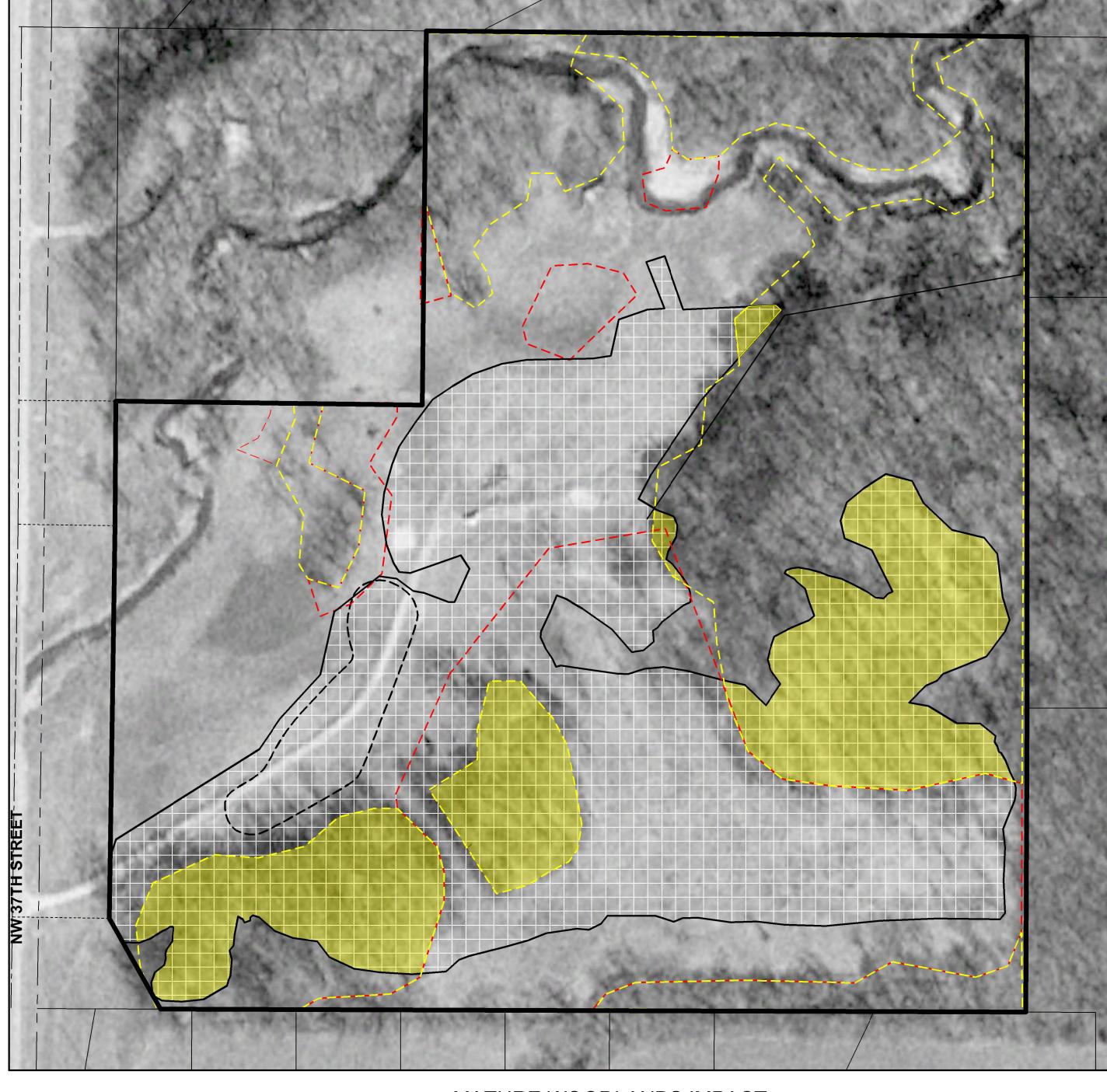
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YOUNG WOODLANDS IMPACT 4.8 ACRES (68%) 2018 AERIAL PHOTOGRAPHY

OVERALL IMPACTED AREA



IMPACTED YOUNG WOODLANDS

1990 TREES (MATURE WOODLANDS) 2018 TREES (YOUNG WOODLANDS)

MATURE WOODLANDS, BASED ON 1990 AERIAL PHOTOGRAPHY: MAX. ALLOWABLE IMPACT WITHOUT MITIGATION: MAX. ALLOWABLE IMPACT WITH MITIGATION:

7.6 ACRES YOUNG WOODLANDS, BASED ON 2018 AERIAL PHO/TOGRAPHY: 3.8 ACRES (50%) MAX. ALLOWABLE IMPACT WITHOUT MITIGATION: 5.7 ACRES (75%) MAX. ALLOWABLE IMPACT WITH MITIGATION:

13.9 ACRES 3.5 ACRES (25%)

6.9 ACRES (50%)

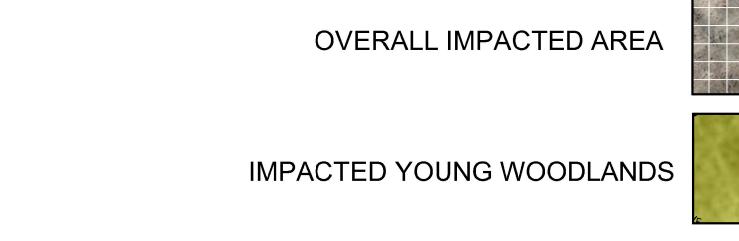
2.3 ACRES

4.6 ACRES (30%) MATURE WOODLANDS IMPACTED: EXCEEDS ALLOWABLE IMPACT WITHOUT MITIGATION BY 1.2 ACRES. MITIGATION REQUIRED: 1.1 ACRES

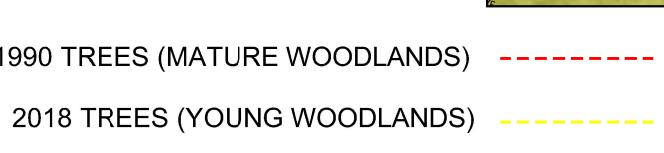
4.7 ACRES (64.5%) YOUNG WOODLANDS IMPACTED: EXCEEDS ALLOWABLE IMPACT WITHOUT MITIGATION BY 1.29 ACRES MITIGATION REQUIRED: .9 ACRES

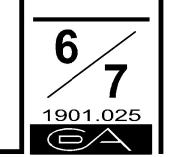
TOTAL MITIGATION AREA REQUIRED:

MATURE WOODLANDS IMPACT 4.6 ACRES (30%) 1990 AERIAL PHOTOGRAPHY

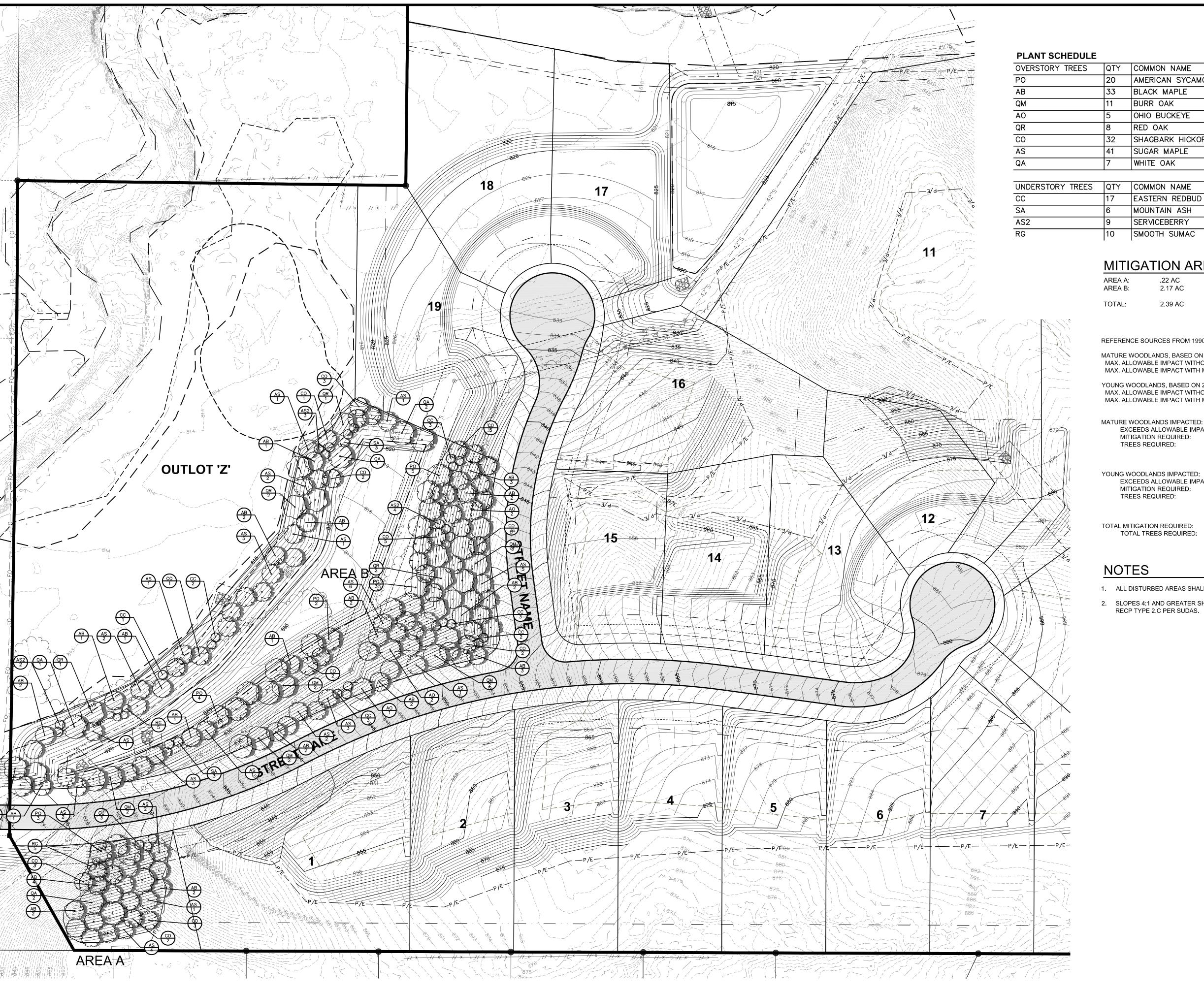


1990 TREES (MATURE WOODLANDS)





TIMBER VALLEY ESTATE
MAJOR PRELIMINARY PLA
WOODLANDS IMPACT



OVERSTORY TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
PO	20	AMERICAN SYCAMORE	PLATANUS OCCIDENTALIS	CONT. 5' HEIGHT
AB	33	BLACK MAPLE	ACER NIGRUM	CONT. 5' HEIGHT
QM	11	BURR OAK	QUERCUS MACROCARPA	B&B, 1.5" CALIPER
AO	5	OHIO BUCKEYE	AESCULUS GLABRA	B&B, 1.5" CALIPER
QR	8	RED OAK	QUERCUS RUBRA	B&B, 1.5" CALIPER
СО	32	SHAGBARK HICKORY	CARYA OVATA	CONT. 5' HEIGHT
AS	41	SUGAR MAPLE	ACER SACCHARUM	CONT. 5' HEIGHT
QA	7	WHITE OAK	QUERCUS ALBA	B&B, 1.5" CALIPER

UNDERSTORY TREES	QTY	COMMON NAME	BOTANICAL NAME	CONDITION AND SIZE
CC	17	EASTERN REDBUD	CERCIS CANADENSIS	CONT. 5' HEIGHT
SA	6	MOUNTAIN ASH	SORBUS AMERICANA	CONT. 5' HEIGHT
AS2	9	SERVICEBERRY	AMELANCHIER ALNIFOLIA	CONT. 5' HEIGHT
RG	10	SMOOTH SUMAC	RHUS GLABRA	CONT. 5' HEIGHT

## MITIGATION AREA

AREA A: AREA B:	2.17 AC
TOTAL ·	2 39 AC

#### REFERENCE SOURCES FROM 1990 AND 2018 AERIAL PHOTOGRAPHY

13.6 ACRES MATURE WOODLANDS, BASED ON 1990 AERIAL PHOTOGRAPHY: MAX. ALLOWABLE IMPACT WITHOUT MITIGATION: 3.4 ACRES (25%) 6.8 ACRES (50%) MAX. ALLOWABLE IMPACT WITH MITIGATION:

7.6 ACRES YOUNG WOODLANDS, BASED ON 2018 AERIAL PHOTOGRAPHY: MAX. ALLOWABLE IMPACT WITHOUT MITIGATION: 3.8 ACRES (50%) MAX. ALLOWABLE IMPACT WITH MITIGATION: 5.7 ACRES (75%)

#### MATURE WOODLANDS IMPACTED: 4.6 ACRES (30%) EXCEEDS ALLOWABLE IMPACT WITHOUT MITIGATION BY 1.1 ACRES.

MITIGATION REQUIRED:

1.1 ACRES 16 CANOPY TREES @ 1.5" CAL\* 66 CANOPY TREES @ 5' HIGH WHIP

22 UNDERSTORY TREES @ 5' HIGH WHIP

4.7 ACRES (64.5%) EXCEEDS ALLOWABLE IMPACT WITHOUT MITIGATION BY 1.29 ACRES.

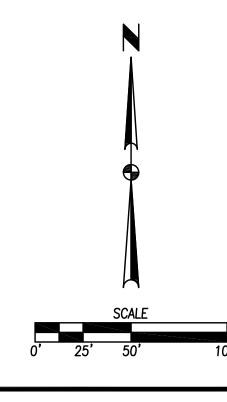
MITIGATION REQUIRED: .9 ACRES

15 CANOPY TREES @ 1.5" CAL\*
60 CANOPY TREES @ 5' HIGH WHIP
20 UNDERSTORY TREES @ 5' HIGH WHIP

2.0 ACRES 31 CANOPY TREES @ 1.5" CAL\*

126 CANOPY TREES @ 5' HIGH WHIP 42 UNDERSTORY TREES @ 5' HIGH WHIP

- 2. SLOPES 4:1 AND GREATER SHALL BE MULCHED WITH A TEMPORARY ROLLED EROSION CONTROL PRODUCT RECP TYPE 2.C PER SUDAS.



DRIVE, S 50111 AX: (515) ; E. CR. GF (515)

TIMBER VALLEY ESTATES
MAJOR PRELIMINARY PLAT
WOODLANDS MITIGATION PLAN

1901.025