AQUA ENGINEERING

Project Memorandum

To	Laura Oliver, Deputy Recorder
From	Shay Stark, Contract City Planner
Date	October 30, 2019
CC	
Subject	C & L Estates Subdivision Preliminary Plan – Planning Commission Memo

An application has been submitted to Elk Ridge City for the C & L Estates Subdivision (Project). The following documents have been taken into consideration with this review:

The C & L Subdivision Preliminary Plan submittal including:

A. C & L Estates Subdivision, provided by Atlas Engineering, dated: September 2019; (Sheet #) Cover and Index (1), Preliminary Plan Sheet (2), Erosion Control Plan (3), Utility Plan Sheet (4A), Utility Plan Sheet (4A), Re-vegetation/Retention Plan (5), Detail (6), Detail (7).

Background

Zoning: R-1-15,000

Project Total Acreage: 3.47 acres

Total Number of Single-Family Residential Lots: 8 lots for a gross density of 2.31 dwellings per acre.

The proposed subdivision is located on the southeast side of the round-about and is bordered by Goosenest Drive, Elk Ridge Drive, Star Lane, and Olympic Lane.

As this area has been previously developed the streets and utilities for the most part are already in place. Elk Ridge Drive requires additional utilities and additional curb and gutter to finish off the street. Sidewalk is required throughout the proposed subdivision.

Consideration

Attached, under the cover titled Supporting Documentation is a staff review memo. There are many comments that are still left open as the City is considering several possible improvements in Elk Ridge Drive that have bearing on the proposed subdivision and the applicant cannot address associated improvements until given direction from the City.

As this is the first opportunity for the Planning Commission and City Council will have to consider this subdivision it was felt that this would be an appropriate time to discuss the items requiring additional guidance. It is also important to note that the outstanding items are

engineering issues that are typically addressed in the construction drawings submitted with the Final Plat application. It is not expected that the outcome of these issues will affect the number of lots or the configuration of lots or traffic flow. The applicant is locked in with the configuration of the existing streets and zoning of the parcel.

The applicant has addressed all of the preliminary plan requirements and met the code requirements.

The improvements being considered by the City that have direct bearing on this application include:

1. Additional stormwater infrastructure or modification of the existing stormwater facilities to address drainage issues. These improvements may include:
    a. The replacement of curb and gutter having inadequate carrying capacity with new curb and gutter meeting the current City standard.
    b. Installation of missing gaps in the curb and gutter.
    c. A new drainage basin located in the City owned triangle north of the roundabout. This was the intended use of the parcel when it was dedicated to the City.
    d. A stormwater line connecting several of the sumps in Elk Ridge Drive to act as an overflow in high intensity storms. The line would carry the stormwater to the new drainage basin.
    e. Catch boxes located just above the round-about with contouring of the street surface and gutter directing flow into the boxes which would then be piped to the new drainage basin via an existing culvert under the round-about.
2. Recontouring and resurfacing Elk Ridge Drive to restore the crown and better direct the flow of stormwater.
3. The construction of a dedicated 12" culinary water distribution line to allow remaining services to be removed from the pump line.

The discussion of these issues is ongoing, and the final outcome may be a combination of several of the potential improvements discussed or may be something altogether different. The applicant needs direction as to what they will be required to improve as part of the subdivision. It is recognized that this will not come at Planning Commission but will be addressed through a discussion of the proposed improvements with City Council.

Any specific improvements that are to be provided by the developer or completed in partnership or will be completed by the City and require coordination will be described in a Development Agreement that will be drafted upon finalization of the plans at the Final Plat stage.

Recommendation

Recognizing that there are some outstanding engineering issues that will require attention as part of the construction drawings provided with final plat, the Preliminary Plan application for the C & L Estates Subdivision meets the code requirements for a preliminary plan application, current zoning and city standards and thus is recommended for approval.

-END-

Attachments:

Supporting Documentation

C & L ESTATES SUBDIVISION

PRELIMINARY PLAN

SUPPORTING DOCUMENTATION

AQUA ENGINEERING

Project Memorandum

To	Laura Oliver, Deputy Recorder
From	Shay Stark, Contract City Planner
Date	~~August 13, 2019~~ 2nd Review October 30, 2019
CC	
Subject	C & L Estates Subdivision Preliminary Plan – 2nd Review

An application has been submitted to Elk Ridge City for the C & L Estates Subdivision (Project). Following a TRC, the applicant has submitted a revised set of drawings based upon the comments of the first review and TRC. The comments from the 2nd review have been added to the first review comments to provide continuity in the review record. 2nd review comments are found in blue. The following documents have been taken into consideration with this review:

The C & L Subdivision Preliminary Plan submittal including:

A. C & L Estates Subdivision, provided by Atlas Engineering, dated: September 2019; (Sheet #) Cover and Index (1), Preliminary Plan Sheet (2), Erosion Control Plan (3), Utility Plan Sheet (4A), Utility Plan Sheet (4A), Re-vegetation/Retention Plan (5), Detail (6), Detail (7).

Project Overview

Zoning: R-1-15,000

Project Total Acreage: 3.47 acres

Total Number of Single-Family Residential Lots: 8 lots for a gross density of 2.31 dwellings per acre.

The City is considering several possible improvements in Elk Ridge Drive that have bearing on the proposed subdivision. Those improvements might include:

1. Additional stormwater infrastructure or modification of the existing to address drainage issues.
2. Recontouring and resurfacing Elk Ridge Drive to restore the crown and better direct the flow of stormwater.
3. The construction of a dedicated 12" culinary water distribution line to allow remaining services to be removed from the pump line.

Many of the review comments provided address these issues but do not provide guidance because the City has not had a chance to discuss the issues as they pertain to this subdivision.

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The Preliminary Plan approval process vests the applicant with an approved density, possible configuration and maximum number of lots. The issues being considered with respect to Elk Ridge Drive are associated with the construction package in final plat and should not change the lot number or configuration. Discussion of these issues is necessary for the applicant to know how to move forward with design once Preliminary approval is granted. Because of this a recommendation has been given to hold off on making any additional changes to the drawings until additional guidance has been given by the City Council through the public meetings considering the Preliminary Plan.

Submission and Checklist Compliance Complete

- Check with Laura for any issues. Is the submittal complete?
- Have "Will Serve" letters been provided?
- Please note any specific requirements service providers detail on the "Will Serve" letters.

Technical Review Comments

Preliminary Plan Drawings:

General:

Easements: Complete

- Are there any areas where special easements may be required?

Zoning: Complete

- Lots seem to meet zoning requirements.

Preliminary Plan: Complete

- (Sheet 2) Run a closure report to verify closure.
- (Sheet 2) Dimension and label setbacks and PUE's or provide reference to detail with this information.
- (Sheet 2) Add dimensional units (ex. (x') foot marking) to curve table dimensions.
- (Sheet 2) Expand Acreage units for dedications parcels "A" & "B" to four decimal places to capture the acreage amounts.

Streets: Complete

- (Sheet 6) Update street cross section detail to match the cross section used for the Parkview Corner Subdivision (see attached).

- Sidewalks are 6" thick.
- (Sheet 4) There are two callout #2's on Elk Ridge Drive. One should be callout #3 and directed to the sidewalk.
- Incorporate applicable City and APWA details in the drawing set. Make sure to include details that are referenced in each detail.
- Match the existing sidewalks around the roundabout.

Water: Complete except as noted in the attached drawings with review comments. Waiting for additional guidance from City to finalize with Final Plat construction drawings.

- Per state law the water lines supplying the subdivision will need to be modeled to verify that the system has capacity to serve the subdivision. Once the lots are added to the water model and new flows are calculated, a determination will be made if there are any improvements to the water system that will be necessary due to impacts of the proposed project. AQUA Engineering is working modeling this line in detail and will provide a capacity analysis.

- (Sheet 4) Water laterals stubbed into the properties should be located in pairs at five feet to each side of the property line. Please note the dimension on the drawing.

- (Sheet 4) Note size of water laterals.

- (Sheet 4) Elk Ridge Drive culinary water. The existing water line is the pump line and the City is removing all connections from this line. A new 8" line will be required from the Goosenest roundabout up Elk Ridge Drive for water service. It is recommended that this line be upsized to 12" as it will eventually become part of the main distribution line for development north of Goosenest. The distribution line from the tank to the PRV in Goosenest is one component that will need to be in place to get the necessary flow for the development associated with the Haskell Dry Land Annexation.

- (Sheet 4) There are two water lines in Goosenest. One is the pump line which is shown on the drawing and the other is the new distribution line that the lots in Harrison Heights are tied to. Connections on Goosenest need to be tied into the line serving the lots in Harrison Heights. The engineer should have these drawings.

- (Sheet 4) The Skyhawk Well pump line is also not shown on these drawings. AQUA will provide this information (see attached).

- Is Public Works okay with the locations of water service connections?

- Does the Fire Chief have comments?

- For final plat drawings incorporate the applicable Elk Ridge approved culinary water details (city lateral and trench detail and APWA T-patch detail) in the drawing set. Make sure to include additional details that are referenced in each detail.

Sanitary Sewer: Complete except as noted in the attached drawings with review comments. Waiting for additional guidance from City to finalize with Final Plat construction drawings.

- Per state law the sewer lines supplying the subdivision will need to be modeled to verify that the system has capacity to serve the subdivision. Once the lots are added to the sewer model and new flows are calculated, a determination will be made if there are any improvements to the sewer system that will be necessary due to impacts of the proposed project. AQUA Engineering is working modeling this line in detail and will provide a capacity analysis.

- Sewer lines are existing on all lot frontage.

- (Sheet 4) Provide sump in place of storm bricks.

- (Sheet 4) Note size of sewer laterals.

- (Sheet 4) Will a double or triple catch basin be necessary to catch storm water flow? Provide calculations.

- (Sheet 4) Is Public Works okay with the locations of sewer service connections?

- For final plat drawings incorporate applicable City and APWA sewer details (city lateral and trench detail and APWA T-patch detail) in the drawing set. Make sure to include additional details that are referenced in each detail.

Storm Water: Complete except as noted in the attached drawings with review comments. Waiting for additional guidance from City to finalize with Final Plat construction drawings.

- Provide a preliminary storm water report. Provide a preliminary storm water report for overall project with pre-development and post development calculations to verify that adequate retention capability will be provided with proposed improvements. Provide an exhibit showing the potential contributing area and locations of existing and proposed storm water facilities within the contributing area to support the calculations. Provide hydraulic calculations for any pipes, inlet and outlet structures utilized to collect and transport water for the subdivision.

- Snouts are required at the boxes feeding sumps or detention basins. Please add a note that states: The contractor shall size the depth of the catch basin boxes to meet the sup depth requirements of the specific model of snout being used.

- Provide safety grates on all stormwater inlets and outlets.

- Provide a 1/10 drop in stormwater manholes.

- For final plat drawings incorporate applicable City and APWA stormwater details in the drawing set. Make sure to include additional details that are referenced in each detail.

- Was there a preliminary stormwater report completed for this project at concept? Provide a preliminary storm water report for overall project with pre-development and post development calculations to verify that adequate retention capability will be provided with proposed improvements. Provide an exhibit showing the potential contributing area and locations of existing and proposed storm water facilities within the contributing area to support the calculations.

- Retention/detention ponds shall remain privately owned and maintained. This can either be through incorporation into lots or held by an HOA. It is advisable to increase the number of private retention facilities to avoid burdening a single lot owner with all of the storm water burden. It is also preferable to route run-on and site generated run-off through basins to the greatest extent possible.

- The maximum depth allowed for any private retention/detention basin is 3 feet.

Utilities: Ongoing with Final Plat

- On the northwest corner there are existing power and communications boxes. It looks like they are located where the sidewalk will be constructed. These utility boxes will need to be relocated.

Erosion Control: Complete

- (Sheet 3) Note #9 states: Cut/Fill slopes will revegetate naturally with seed from adjacent native grasses. Reseeding will not be required. Will the City require reseeding of disturbed areas?

- Provide erosion control details.

Postal: Ongoing with Final Plat

- Where will the CBU('s) be located? Is it a single location or will there be multiple locations? Will a pullout be required?

Phasing: Complete

- This development will occur as a Single Phase.

Development Agreement: Continued Discussion to be finalized with Final Plat approval.

- At the preliminary application issues are discussed that may require clarification in a Development Agreement. The Agreement will be drawn up and considered as part of the Final Plat approval process.

- Are there any exceptions to the city code or offsite improvements that need to be clarified in a Development Agreement?

-END-

Attachments:

~~Parkview Corner Final Plan Sheet 2~~

~~Sky Halwk Well Plan and Profile Sheet C-4~~

C&L Estates Preliminary Plan 2nd submital drawings with Review Comments

C & L ESTATES

A RESIDENTIAL SUBDIVISION
ELK RIDGE, UTAH
PRELIMINARY PLAN SET
SEPTEMBER 2019

Preliminary Plan Second Submittal Review Comments.

October 30, 2019

There are a few issues associated with the water line and storm drainage and street improvements on Elk Ridge Drive that are up in the air as the City is considering how best to address these issues. The comments that are provided include some informational comments for City Officials so they can consider how the improvements required with this subdivision fit into the big picture improvements being considered on Elk Ridge Drive.

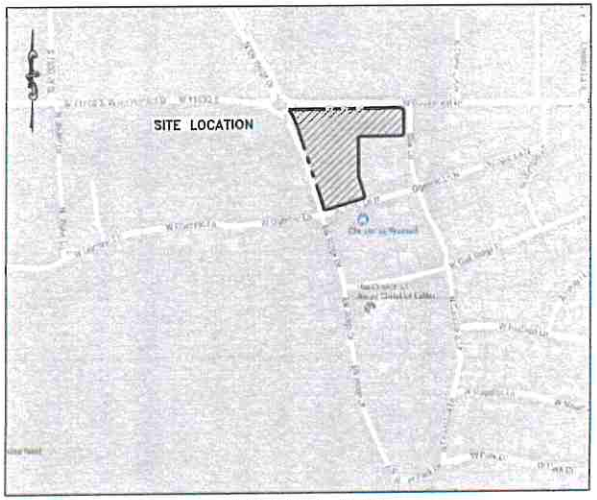
It is recommended that none of the review comments and associated changes are made to this set of drawings as part of the Preliminary Plan consideration until the City Council has provided guidance as part of the preliminary approval.

-SHEET INDEX-

SHEET	SHEET NAME
1	COVER
2	PRELIMINARY PLAN SHEET
3	EROSION CONTROL PLAN SHEET
4A	UTILITY PLAN SHEET
4B	UTILITY PLAN SHEET
5	RE-VEGETATION/RETENTION PLAN
6	DETAIL SHEET
7	DETAIL SHEET

LEGEND
APPLIES TO ALL SHEETS

- SET SUBDIVISION MONUMENT
- FOUND BRASS CAP
- FOUND ALUMINUM CAP
- FOUND 5/8" IRON PIN
- FOUND 1/2" IRON PIN
- SET 5/8" IRON PIN
- SET 1/2" IRON PIN
- CALCULATED POINT, NOT SET
- EXISTING POWER POLE
- PROPOSED STREET LIGHT
- PROPOSED FIRE HYDRANT
- PROPOSED SIGN
- PROPOSED STREET SIGN
- PROPERTY BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY LINE
- LOT LINE
- SECTION LINE
- EASEMENT
- EXISTING DEED LINE
- EOP — EDGE OF PAVEMENT
- OHP — EXISTING OVER HEAD POWER
- X — EXISTING FENCE LINE
- EXISTING DITCH
- SS — EXISTING SANITARY SEWER W/MANHOLE
- PROPOSED ADS STORM DRAIN W/MH
- 8"SS — PROPOSED PVC SDR-35 SEWER W/MH
- CUL — PROPOSED PVC CLASS-200 CULINARY WATERLINE



VICINITY MAP
-NTS-

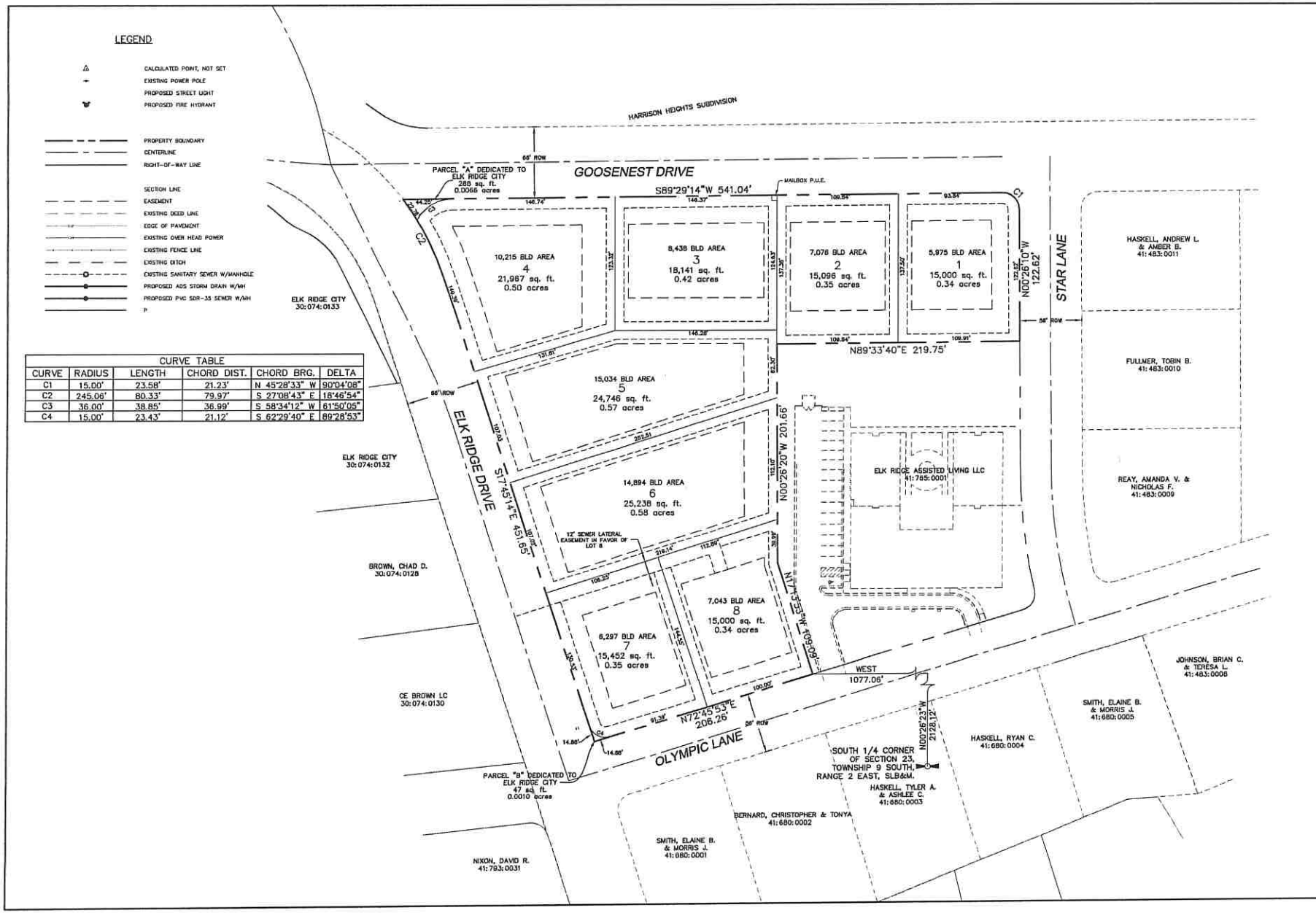
REGISTERED PROFESSIONAL ENGINEER
SCOTT D. PETERSON
No. 362274
9/20/19
STATE OF UTAH

DATA TABLE
ZONE CLASSIFICATION=C-1
PROPOSED ZONING=R-1-15000
TOTAL ACREAGE=3.47 ACRES
TOTAL # OF LOTS=8
UNITS/ACRE=2.30
ACREAGE OPEN SPACE=0.0 ACRES
ACREAGE IN ROADS=.01 ACRES
ACREAGE IN LOTS=3.46 ACRES

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LEE HASKELL
901 GOOSENEST DR.
ELK RIDGE, UTAH
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SURVEYOR
BARRY PRETTYMAN
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CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIST.	CHORD BRG.	DELTA
C1	15.00'	23.58'	21.23'	N 45°28'33" W	90°04'08"
C2	245.06'	80.33'	79.97'	S 27°08'43" E	18°46'54"
C3	36.00'	38.85'	36.99'	S 58°34'12" W	61°50'05"
C4	15.00'	23.43'	21.12'	S 62°29'40" E	89°28'53"

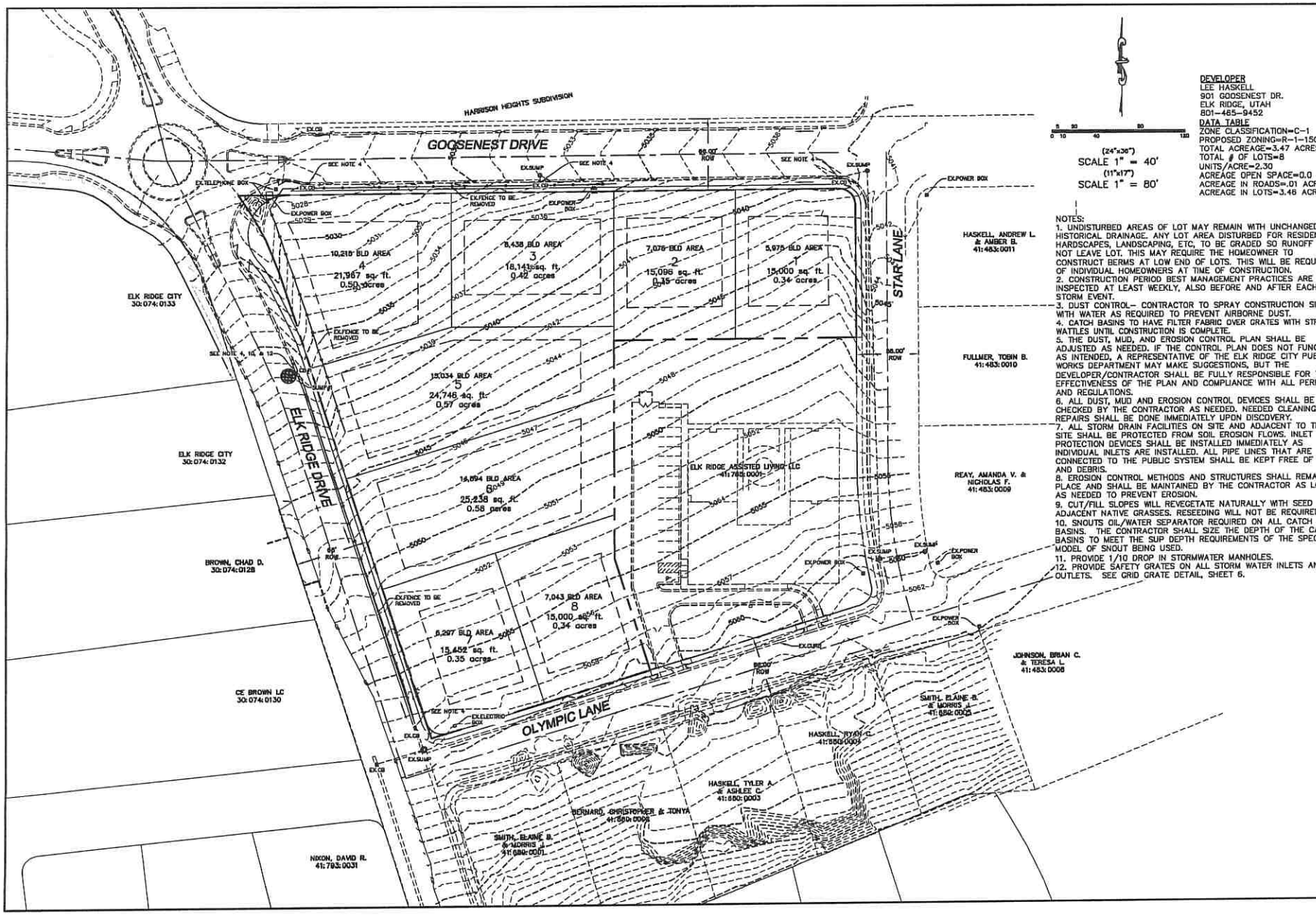
SHEET NO. 2

PRELIMINARY PLAN SHEET
SEPTEMBER 2019

ELK RIDGE, UTAH
COUNTY, UTAH

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(24"x36")
SCALE 1" = 40'
(11"x17")
SCALE 1" = 80'

DEVELOPER
LEE HASKELL
901 GOOSENEST DR.
ELK RIDGE, UTAH
801-465-9452

DATA TABLE
ZONE CLASSIFICATION=C-1
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NOTES:
1. UNDISTURBED AREAS OF LOT MAY REMAIN WITH UNCHANGED HISTORICAL DRAINAGE. ANY LOT AREA DISTURBED FOR RESIDENCE, HARDSCAPES, LANDSCAPING, ETC, TO BE GRADED SO RUNOFF DOES NOT LEAVE LOT. THIS MAY REQUIRE THE HOMEOWNER TO CONSTRUCT BERMS AT LOW END OF LOTS. THIS WILL BE REQUIRED OF INDIVIDUAL HOMEOWNERS AT TIME OF CONSTRUCTION.
2. CONSTRUCTION PERIOD BEST MANAGEMENT PRACTICES ARE TO BE INSPECTED AT LEAST WEEKLY, ALSO BEFORE AND AFTER EACH STORM EVENT.
3. DUST CONTROL- CONTRACTOR TO SPRAY CONSTRUCTION SITE WITH WATER AS REQUIRED TO PREVENT AIRBORNE DUST.
4. CATCH BASINS TO HAVE FILTER FABRIC OVER GRATES WITH STRAW WATTLES UNTIL CONSTRUCTION IS COMPLETE.
5. THE DUST, MUD, AND EROSION CONTROL PLAN SHALL BE ADJUSTED AS NEEDED. IF THE CONTROL PLAN DOES NOT FUNCTION AS INTENDED, A REPRESENTATIVE OF THE ELK RIDGE CITY PUBLIC WORKS DEPARTMENT MAY MAKE SUGGESTIONS, BUT THE DEVELOPER/CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE EFFECTIVENESS OF THE PLAN AND COMPLIANCE WITH ALL PERMITS AND REGULATIONS.
6. ALL DUST, MUD AND EROSION CONTROL DEVICES SHALL BE CHECKED BY THE CONTRACTOR AS NEEDED. NEEDED CLEANING AND REPAIRS SHALL BE DONE IMMEDIATELY UPON DISCOVERY.
7. ALL STORM DRAIN FACILITIES ON SITE AND ADJACENT TO THE SITE SHALL BE PROTECTED FROM SOIL EROSION FLOWS. INLET PROTECTION DEVICES SHALL BE INSTALLED IMMEDIATELY AS INDIVIDUAL INLETS ARE INSTALLED. ALL PIPE LINES THAT ARE CONNECTED TO THE PUBLIC SYSTEM SHALL BE KEPT FREE OF DIRT AND DEBRIS.
8. EROSION CONTROL METHODS AND STRUCTURES SHALL REMAIN IN PLACE AND SHALL BE MAINTAINED BY THE CONTRACTOR AS LONG AS NEEDED TO PREVENT EROSION.
9. CUT/FILL SLOPES WILL REVEGETATE NATURALLY WITH SEED FROM ADJACENT NATIVE GRASSES. RESEEDING WILL NOT BE REQUIRED.
10. SNOUTS OIL/WATER SEPARATOR REQUIRED ON ALL CATCH BASINS. THE CONTRACTOR SHALL SIZE THE DEPTH OF THE CATCH BASINS TO MEET THE SUP DEPTH REQUIREMENTS OF THE SPECIFIC MODEL OF SNOUT BEING USED.
11. PROVIDE 1/10 DROP IN STORMWATER MANHOLES.
12. PROVIDE SAFETY GRATES ON ALL STORM WATER INLETS AND OUTLETS. SEE GRID GRATE DETAIL, SHEET 6.

SHEET NO. 3

EROSION CONTROL
SEPTEMBER 2019

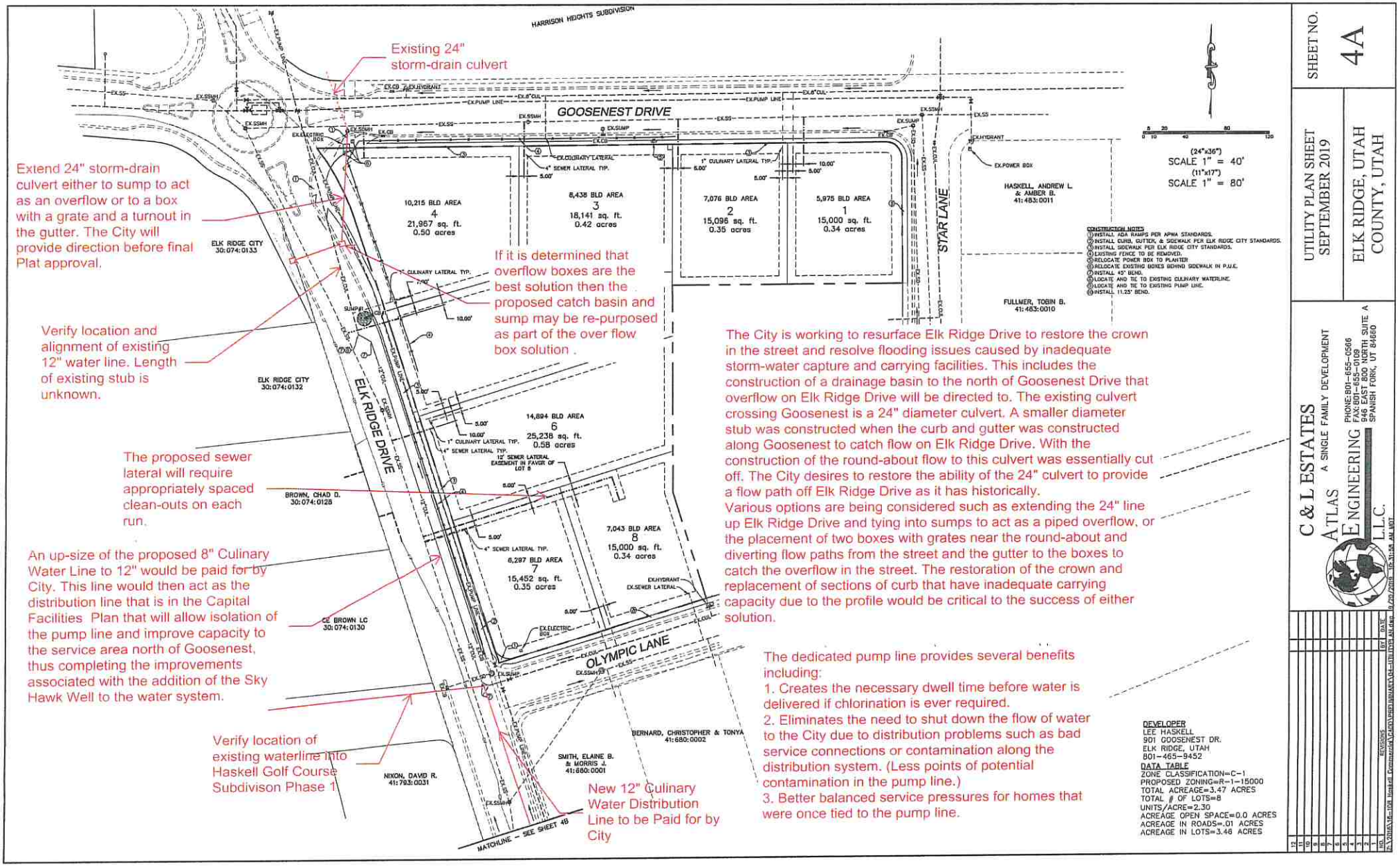
ELK RIDGE, UTAH
COUNTY, UTAH

C & L ESTATES
A SINGLE FAMILY DEVELOPMENT

ATLAS ENGINEERING L.L.C.
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946 EAST 800 NORTH SUITE A
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801-465-9452

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SHEET NO. 4A

UTILITY PLAN SHEET
SEPTEMBER 2019

ELK RIDGE, UTAH
COUNTY, UTAH

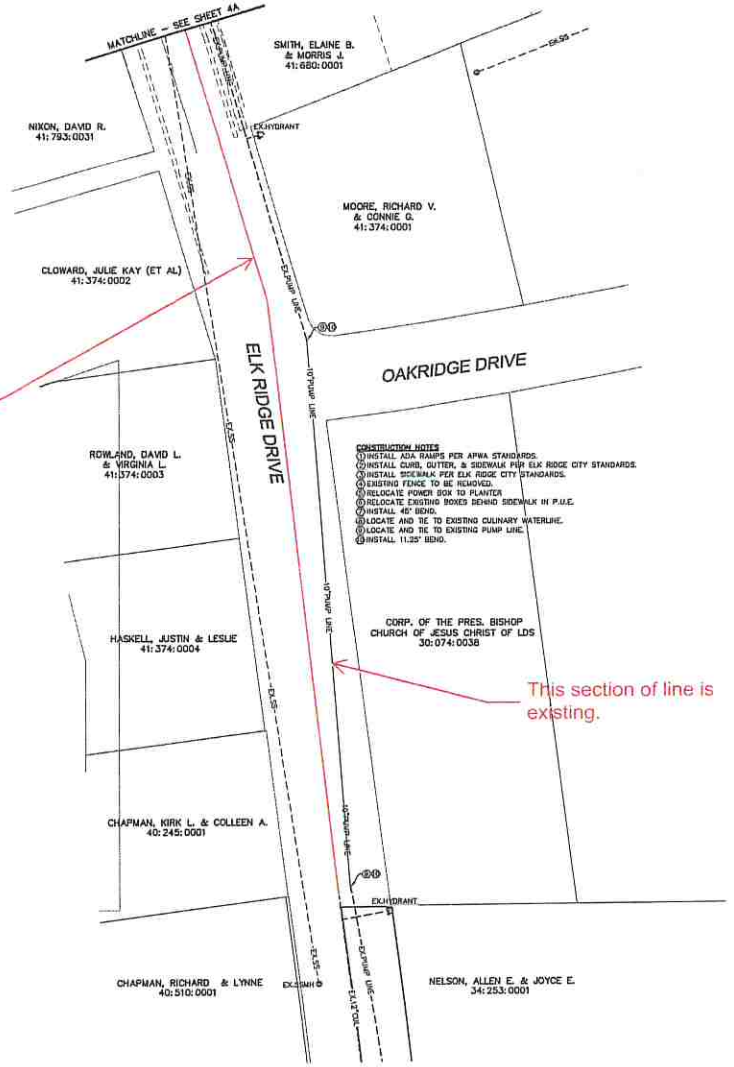
C & L ESTATES
A SINGLE FAMILY DEVELOPMENT

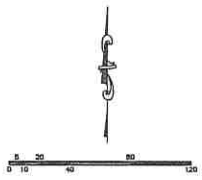
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New 12" distribution line to be paid for by the City. The new line would also include relocation of the remaining services off the existing pump line to the new line and relocation of fire hydrants off the pump line to the new line. The services and hydrants requiring relocation need to be determined by the City. There may be services on Elk Ridge Drive and Goosenest Drive that require relocation.





DEVELOPER
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ELK RIDGE, UTAH
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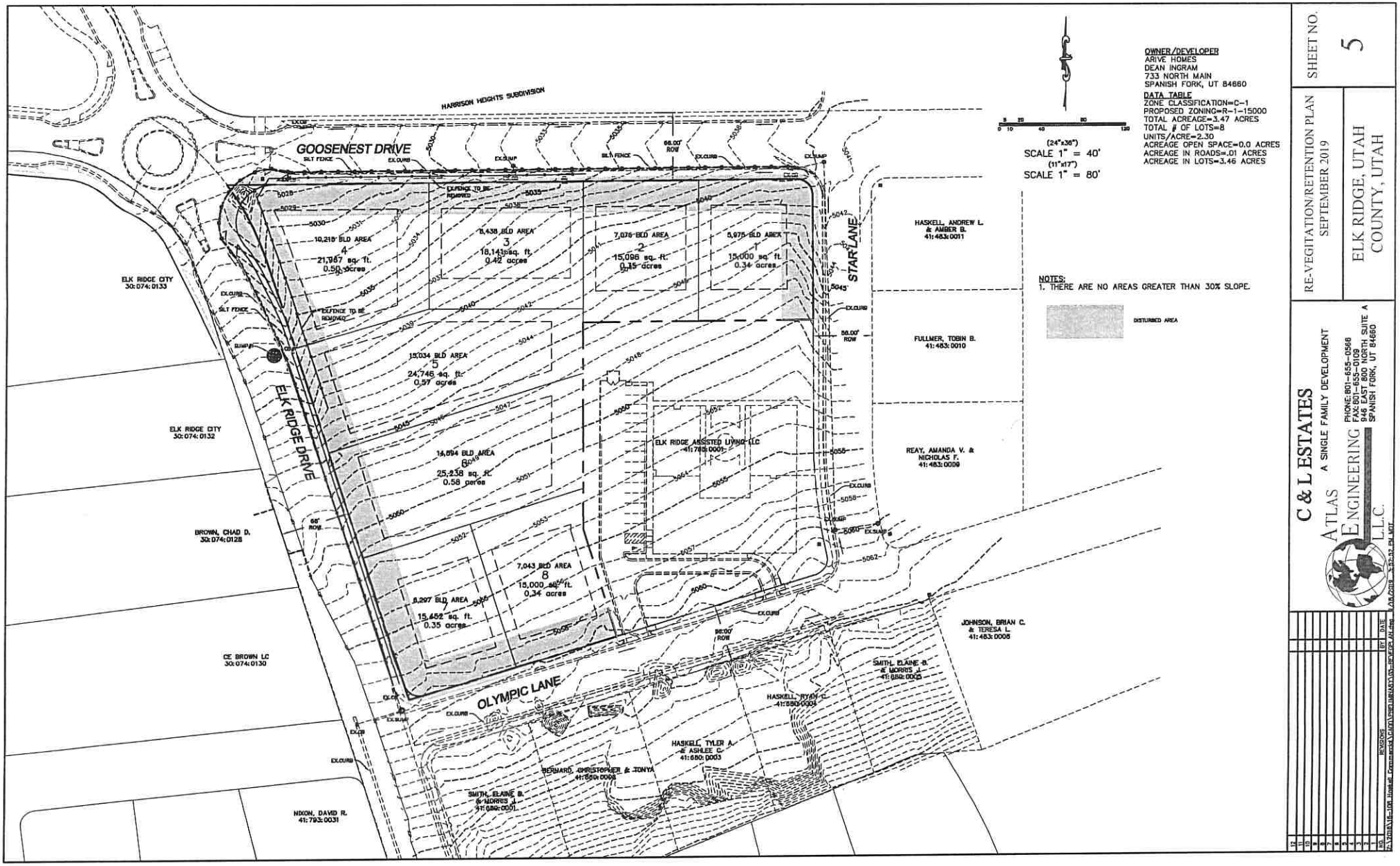
UTILITY PLAN SHEET
SEPTEMBER 2019

ELK RIDGE, UTAH
COUNTY, UTAH

C & L ESTATES
A SINGLE FAMILY DEVELOPMENT

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REVISIONS | BY | DATE



OWNER/DEVELOPER
ARIVE HOMES
DEAN INGRAM
733 NORTH MAIN
SPANISH FORK, UT 84660

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NOTES:
1. THERE ARE NO AREAS GREATER THAN 30% SLOPE.

SHEET NO. 5

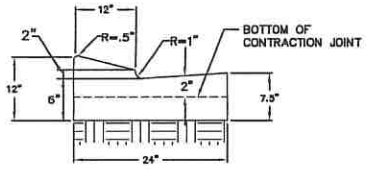
RE-VEGITATION/RETENTION PLAN
SEPTEMBER 2019

ELK RIDGE, UTAH
COUNTY, UTAH

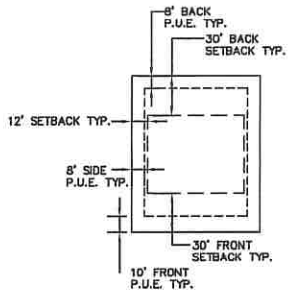
C & L ESTATES
A SINGLE FAMILY DEVELOPMENT

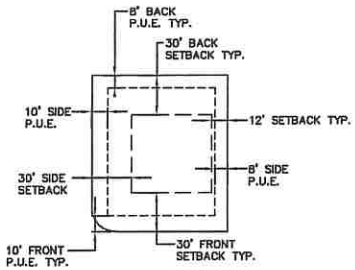
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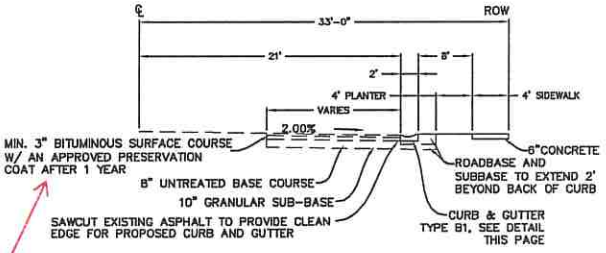
TYPE B-CURB DETAIL
–NTS–





INTERIOR LOT CORNER LOT

DETAIL - TYPICAL BUILDING SETBACK AND EASEMENT



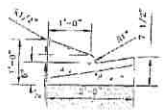
*BASED ON THE REPORT, ONCE TOPSOIL IS STRIPPED, MOST OF THE NATIVE SOILS ARE SUITABLE TO BE USED AS SUB–BASE WHEN PROPERLY SCARIFIED AND COMPACTED. HOWEVER, LEAN CLAYS WERE ENCOUNTERED AT THE WEST SIDE OF THE PROJECT. LEAN CLAYS ARE NOT SUITABLE FOR SUB–BASE AND SHOULD BE REMOVED AND REPLACED WITH SUITABLE SUB–BASE MATERIAL PRIOR TO PLACING UNTREATED BASE COURSE.

DETAIL - TYPICAL 66' ELK RIDGE DRIVE RIGHT-OF-WAY STREET SECTION
–NTS–

The City requires a 1" surface course overlay from crown to gutter on existing boundary streets where cuts and patches or additional pavement width are required. With the potential resurfacing of Elk Ridge Drive this will need to be discussed as construction drawings are created.

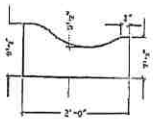
CURB AND GUTTER STANDARD

TYPE B



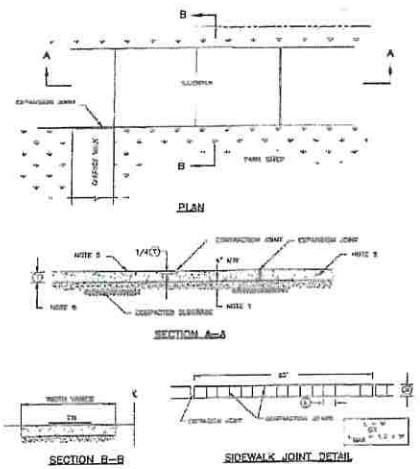
CONCRETE AREA = 1.408 SQ. FT.

RECONSTRUCTION OF ROLL CURB



Curb and gutter

1. UNTREATED BASE COURSE: Provide material specified in APW A Section 02050. Do not use gravel or sewer rock. Place per APWA Section 02322. Compact per APWA Section 02324 to a modified proctor density of 95 percent or greater. Maximum lift thickness is 8-inches before compaction.
2. CONCRETE: Class 4000 per APWA Section 03304. Place per APWA Section 02770. Cure per APWA Section 03390.
   A. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution, however, as spider cracks develop if air temperature exceeds 90 degrees F.
   B. Unless shown otherwise, provide 1/2-inch radius on concrete edges exposed to public view.
3. FINISH: Fine hair broom on longitudinal grades under 6% and rough hair broom on longitudinal grades over 6%.
4. DEPTH OF SIDEWALK (T):
   A. New construction: Nominal 6" in residential zones, 8" in non-residential zones.
   B. Removal and replacement construction: Match existing.

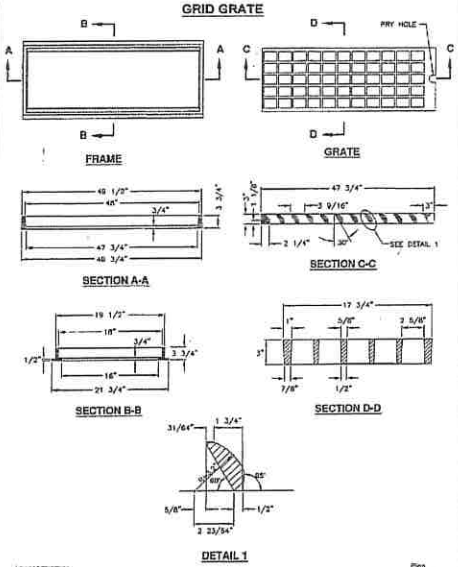


Concrete sidewalk

CONCRETE SIDEWALK STANDARD

1. UNTREATED BASE COURSE: Provide material specified in APW A Section 02050. Do not use gravel or sewer rock. Place per APWA Section 02322. Compact per APWA Section 02324 to a modified proctor density of 95 percent or greater. Maximum lift thickness is 8-inches before compaction.
2. CONCRETE: Class 4000 per APWA Section 03304. Place per APWA Section 02770. Cure per APWA Section 03390.
   A. If necessary, provide concrete that achieves design strength in less than 7 days. Use caution, however, as spider cracks develop if air temperature exceeds 90 degrees F.
   B. Unless shown otherwise, provide 1/2-inch radius on concrete edges exposed to public view.
3. FINISH: Fine hair broom on longitudinal grades under 6% and rough hair broom on longitudinal grades over 6%.
4. DEPTH OF SIDEWALK (T):
   A. New construction: Nominal 6" in residential zones, 8" in non-residential zones.
   B. Removal and replacement construction: Match existing.

GRID GRATE



APWA Utah Chapter

47 3/4" Grate end frame

Plan 309.2 June 2000

SHEET NO. 6

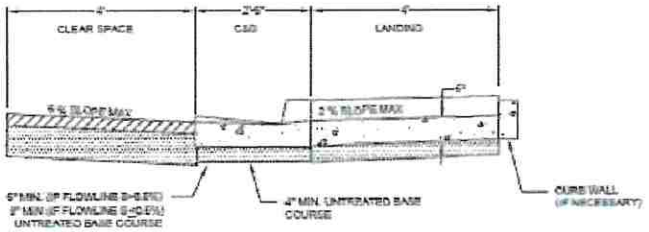
DETAIL SHEET
SEPTEMBER 2019

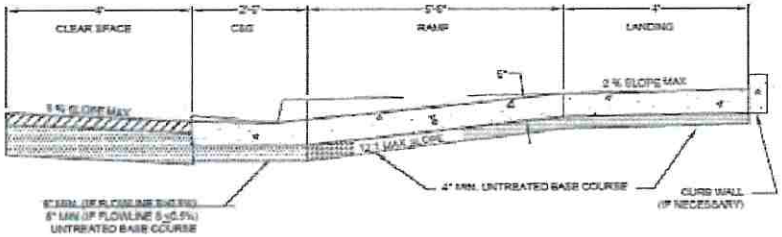
ELK RIDGE, UTAH
COUNTY, UTAH

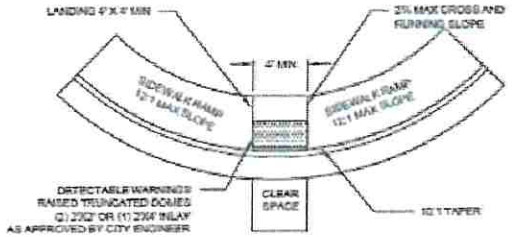
C & L ESTATES
A SINGLE FAMILY DEVELOPMENT

ATLAS ENGINEERING L.L.C.
PHONE: 801-655-0568
FAX: 801-655-0109
946 EAST 800 NORTH SUITE A
SPANISH FORK, UT 84660

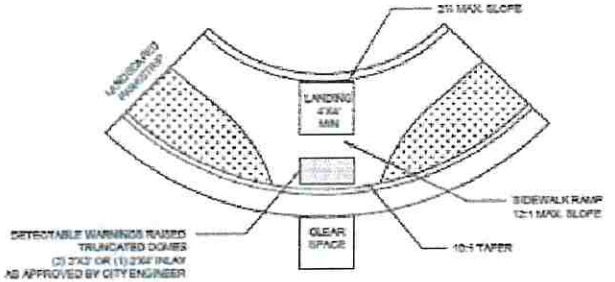
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ADA ACCESS RAMP WITHOUT A PARK STRIP



ADA ACCESS RAMP WITH A PARK STRIP

GENERAL NOTES

1. ALL CURB, GUTTER, SIDEWALK AND DRIVE APPROACHES SHALL BE DESIGNED AND STAKED BY A LICENSED ENGINEER OR LAND SURVEYOR AND SHALL SUBMIT A PLAN AND PROFILE DRAWING TO THE CITY ENGINEER FOR APPROVAL.
2. THE CITY ENGINEER WILL REQUIRE ALIGNMENT INSPECTION.
3. 24 HR. NOTICE WILL BE REQUIRED FOR ALL CONCRETE INSPECTIONS. THE INSPECTION MAY TAKE THE FOLLOWING:
   A) DENSITY TESTS
   B) SPRING VERIFICATION
   C) SLUMP TESTS
   D) AIR ENTRAINMENT TESTS
   E) EXPANSION JOINT PLACEMENT
   F) COMPRESSION CYLINDER TESTS
4. CONCRETE
   A) CONCRETE SHALL BE CLASS 4000 AS PER APWA SECTION 32 01 16
   B) CONCRETE SHALL BE 6.0 SACK MIX
   C) SLUMP SHALL BE LESS THAN 4"
   D) AIR ENTRAINMENT SHALL BE 5% +/- 1%
5. CURB AND GUTTER SHALL BE APWA STANDARD PLAN NO. 205 TYPE A.
6. SIDEWALK SHALL ADHERE TO APWA STANDARD PLAN NO. 231. SIDEWALK SHALL BE 4" THICK FOR ALL SIDEWALK IN RESIDENTIAL AREAS AND 6" IN COMMERCIAL. DRIVE APPROACHES SHALL BE 8" THICK FOR RESIDENTIAL AND 9" FOR COMMERCIAL, OR SPECIFIED BY PROJECT ENGINEER.
7. PLANTED DRIVE APPROACH SHALL BE APWA STANDARD PLAN NO. 225.
8. WATERWAY SHALL BE APWA STANDARD PLAN NO. 211.
9. REINFORCEMENT STEEL SHALL MEET REQUIREMENTS OF APWA SECTION 03 20 00.
10. SIDEWALK RAMP DETECTABLE WARNINGS SHALL BE TRUNCATED DOMES.
11. SIDEWALK RAMP DETECTABLE WARNINGS SHALL BE 24" WIDE AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
12. CONCRETE PLACED IN COLD WEATHER CONDITIONS WILL BE PLACED IN ACCORDANCE WITH ACI 306R REQUIREMENTS.

MAXIMUM SLOPES

	RUNNING SLOPE	CROSS SLOPE
LANDING	1:48 (2%)	1:48 (2%)
RAMP	1:12 (8.33%)	1:48 (2%)
CLEAR SPACE	1:20 (5%)	1:48 (2%)

The details on this sheet don't print out very clear.

The applicable State approved City standard water details will be required as part of the construction drawing package.

APWA trench and patching details will also be required.

SHEET NO. 7

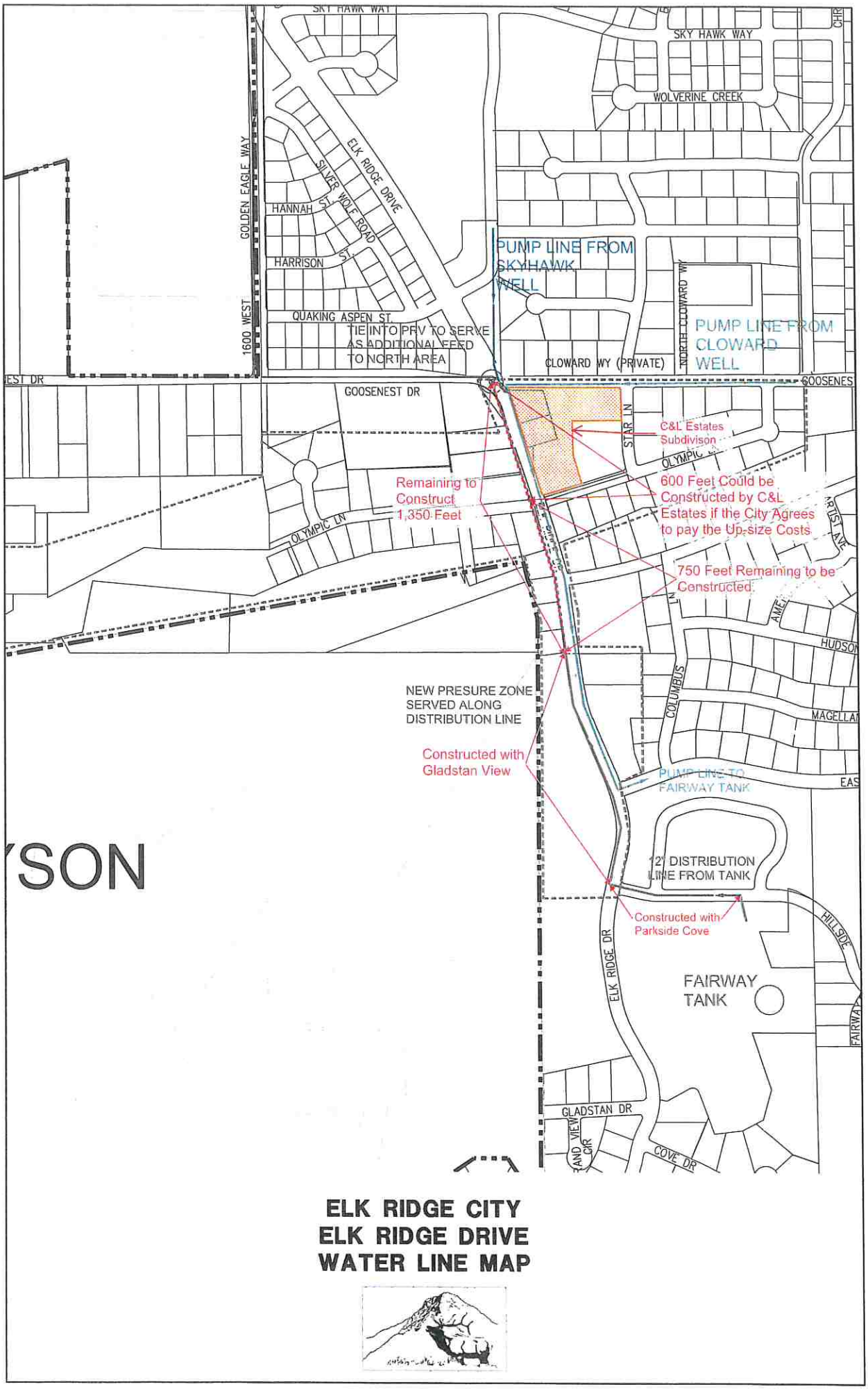
DETAIL SHEET
SEPTEMBER 2019

ELK RIDGE, UTAH
COUNTY, UTAH

C & L ESTATES
A SINGLE FAMILY DEVELOPMENT
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PHONE: 801-655-0566
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SPANISH FORK, UT 84660

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ELK RIDGE CITY
ELK RIDGE DRIVE
WATER LINE MAP