Laurel Hill Valley Citizens

August 14, 2015

Mr. Erik Berg-Johansen
Planning
City of Eugene
99 West 10th Ave.
Eugene OR 97401

Re: Z-15-005 - Laurel Hill Valley Citizen's Association Response

Dear Mr. Berg-Johansen:

This document comprises the input of the response committee of Laurel Hill Valley Citizens to the zone change application submitted by the Schirmer-Satre Group on behalf of Environ-Metal, the developers of the previously proposed Laurel Ridge PUD.

History

This zone change application seeks to address the shortcomings of the applicant's previous proposal in which it was proposed that the PUD property was not required to include Parks and Open Space (POS) zoning. The applicant's position was based on the fact that the Laurel Hill Valley Neighborhood Refinement Plan does not show PRO zoning on the parcel, and the applicant maintained that the earlier Refinement Plan superceded the later Metro Plan because the latter is not parcel-specific and lacks accuracy.

Laurel Hill Valley Citizens and the City disagreed with this position, demonstrating that the Metro Plan clearly shows POS designation in the southern and eastern portions of the 121.68-acre Laurel Ridge PUD property. The applicant lost at every level to the Court of Appeals. The LUBA decision (p.21) included the following language, which was subsequently upheld by the Court of Appeals:

> "Because the Metro Plan Diagram is now digitized, and the depicted plan boundaries are sharper than in previous versions, the problem may not be as difficult to solve as petitioners fear. It may be possible to scale up the digital versions of the map, overlay it with property lines from a digital database, and determine the precise plan designation boundaries on the subject property with reasonable accuracy. If for some reason this is not possible, the city and petitioner will have to do the best they can with the tools at their disposal".

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It is somewhat ironic that Sheet SA-7.0 (p.150 of *Application Materials (PDT) 7-1-13 (01)* - on the City's website) of the former application shows exactly this overlay, resulting in an area of POS designation of approximately 40 acres (see reproduction on next page).

Current Application

Rather than re-submit contemporaneous applications for zone change and Tentative PUD, the latter of which requires knowledge of the extent of the POS on the parcel, applicant has now decided to first apply for the zone change to resolve the POS issue.

Ostensibly because the adopted version of the Metro Plan Diagram specifically states:

VALID AT 11x17 SCALE ONLY

rather than using the enlargement of the Metro Plan Diagram with the overlaid tax lot map which LCOG had previously supplied, the applicant chose to "do the best they can with the tools at their disposal" as LUBA had described the alternative process.

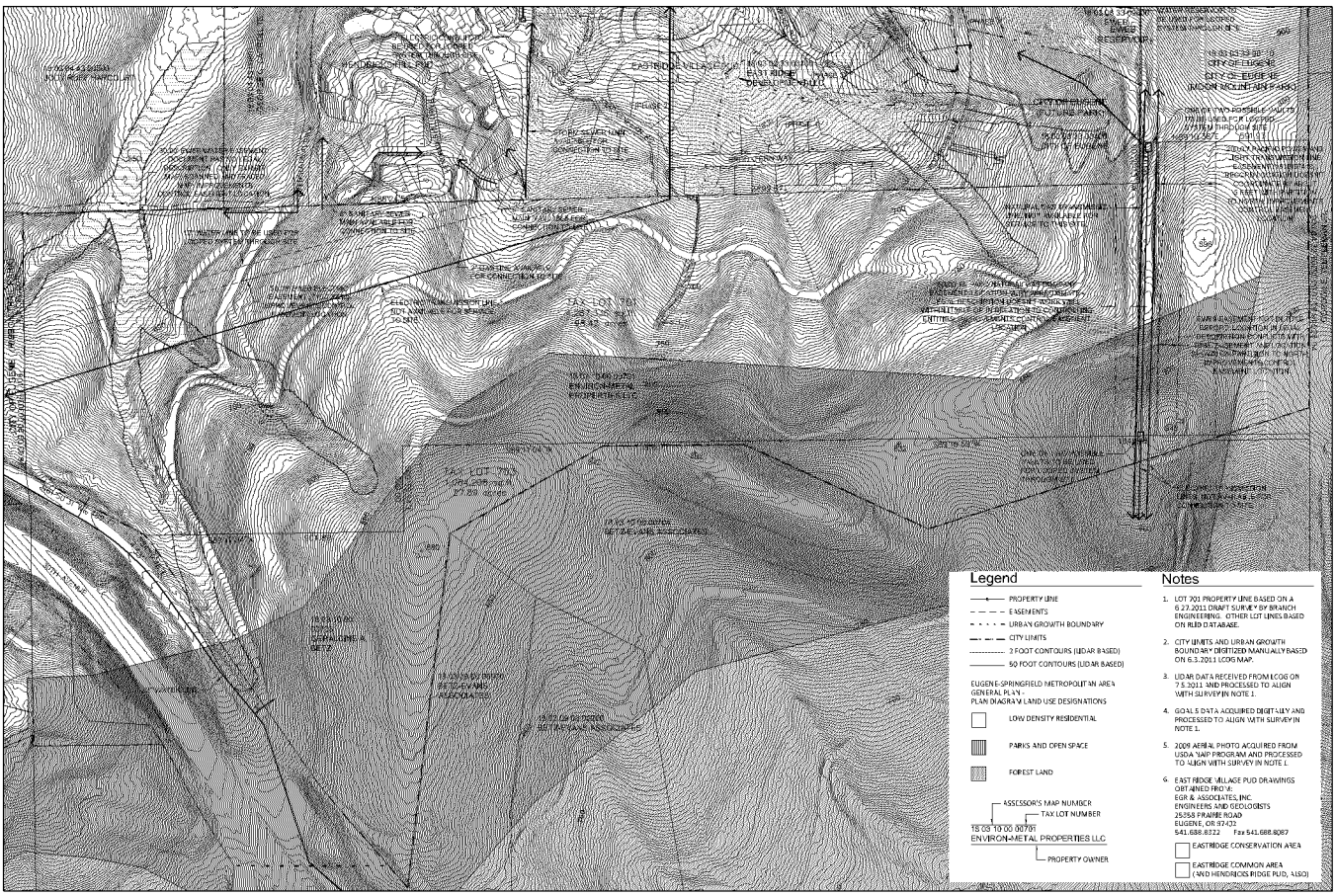
However, as close examination of the applicant's new method shows, their refusal to use the process prescribed by LUBA, which they had employed during the previous application process to produce sheet SA-7.0, is simply because they do not like the results. Using the method preferred by LUBA indicates that approximately 40 acres are designated POS on the Laurel Ridge parcels. The applicant's involved method, described in the following paragraphs, results in approximately 20 acres.

<u>This essentially 50% reduction in area of POS is possible only because the applicant employs sleight of hand.</u>

The Applicant's Method

The Applicant's methodology for overlaying the Metro Plan Diagram onto the subject property is described in their Exhibit F on pages 81 and 82 of their application as shown in the City's online record (*Z-15-005 Application Materials 5-29-2015*).

Of importance to the applicant's manipulation of the process is that they imply that their options of items to use to register the Metro Plan Diagram to the parcels on the tax lot maps are limited to 3: The 30th-Avenue R-o-W centerline, the UGB, and the north arrow. They further limit these three items by indicating that the UGB was changed to a metes and bounds line after the Metro Plan was adopted by the City in 2004, at which time changes from the Metro Plan Diagram likely occurred. Therefore, the applicant professes to have only two referents with which to achieve registration of the overlay: 30th Avenue and the north arrow.



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SITE ANALYSIS: LAND USE AND INFRASTRUCTURE

LAURELRIDGE PUD
MAP 18-03-10-00, LOT 701
SEE MAP WITH ASP AND SPRINGFIELD VIC. PLANNING DIVISION

0 50 100 200

REGISTERED LANDSCAPE ARCHITECT OREGON

Revisions		
#	Date	Description

Project Number
Drawn By
Checked
Date
Phase

SHEET NO.
SA7.0

Schirmer-Satre describe the process of the overlay as follows:

"Located the Subject Property on the Diagram.

- ☐ Obtained a drawing of the legal centerline of the 30th Avenue Right-of-Way from the project's surveyor. Obtained updated edition of previously generated and field verified boundary survey of the subject property with the 30th Avenue centerline added to the survey drawing.

- ☐ Generated a Zone Change "base sheet" utilizing the updated survey at a scale of 1" = 200'. The base sheet contains the subject property boundary survey, the 30th Avenue right-of-way centerline and the eligible "referents" of 30th Avenue and the north arrow. Printed this as Sheet No. ZC-2 - Zone Change - Subject Property.

- ☐ As suggested by LUBA, enlarged the Metro Plan Diagram to the same scale as the property boundary survey (1" = 200') and printed the Diagram (that portion in the vicinity of the subject property) on the base sheet containing the subject property's boundary survey, 30th Avenue and the north arrow.

- ☐ Fit the location of the Metro Plan Diagram on the subject property by utilizing the Metro Plan Diagram referents. Kept north oriented north, while aligning the Metro Plan Diagram's single black line representation of 30th Avenue with the surveyor-located 30th Avenue centerline. Printed the Metro Plan Diagram alone as Sheet No. ZC-3 - Zone Change - Adopted Metro Plan Diagram. Printed the Metro Plan Diagram on top of the Subject Property as Sheet No. ZC-4."

Using this method, Schirmer-Satre obtain a total area of 20.47 acres of POS designation. This is approximately half the area which has been reported to us by others, including the City of Eugene's Parks and Open Space staff who indicated in a meeting held in 2014 for precisely this purpose that their analysis showed that the Metro Plan Diagram indicated approximately 40 acres of POS zoning designation on the Laurel Ridge PUD tax lots.

The Devil is in the Details - Even with North Arrows

Given the significant difference of approximately 20 acres of POS designation on Laurel Ridge between the map version and methodology developed by Schirmer-Satre and the version developed by LCOG and the City, the question looms as to the causes of this discrepancy. Both maps cannot be "right". Given the fact that Schirmer-Satre felt the need to limit their method to only two "referents", one of which (the North Arrow) is not even in the pertinent section of the map, it appears that a likely problem is located in that methodology of registering the tax lot to the Metro Plan Diagram.

Schirmer-Satre emphasizes that for their methodology, they obtained a hard copy of the original Metro Plan Diagram adopted by the City of Eugene in 2004. A copy of this diagram is included in the application as Exhibit C. However, the fact that the boundary lines on the site maps accompanying the application (Exhibit G) are perfectly crisp indicates that it is likely that Schirmer-Satre used the digital version of the Metro Plan Diagram available from LCOG, which is comprised of GIS "layers". According to LCOG's disclaimer statement on the diagram, this version would have also been used to create the hard copy in Exhibit C.

The location of points along the zoning boundaries in the digital version is computed as vectors from a point of origin. Given that all of LCOG's mapping data is provided by Lane County, the mapping is (by law) depicted in the Oregon State Plane Coordinate System (1983). This is one of numerous cartographic systems which could be used to project map features from the roughly spherical surface of the earth onto a flat surface.

The Oregon State Plane Coordinate System's central meridian is located in Central Oregon. The map on the next page illustrates the effect this projection has on azimuths of lines in different areas of the state. The central meridian, dividing the state into an eastern and western half, points to "True North" (the rotational North Pole of the Earth). However, with increasing distance eastward and westward from the meridian, lines actually pointing to True North are subject to increasing rotation toward the meridian at their northern end and no longer run straight up and down on the projection. Similarly, east-west lines tend to be rotated to remain perpendicular to the N-S lines.

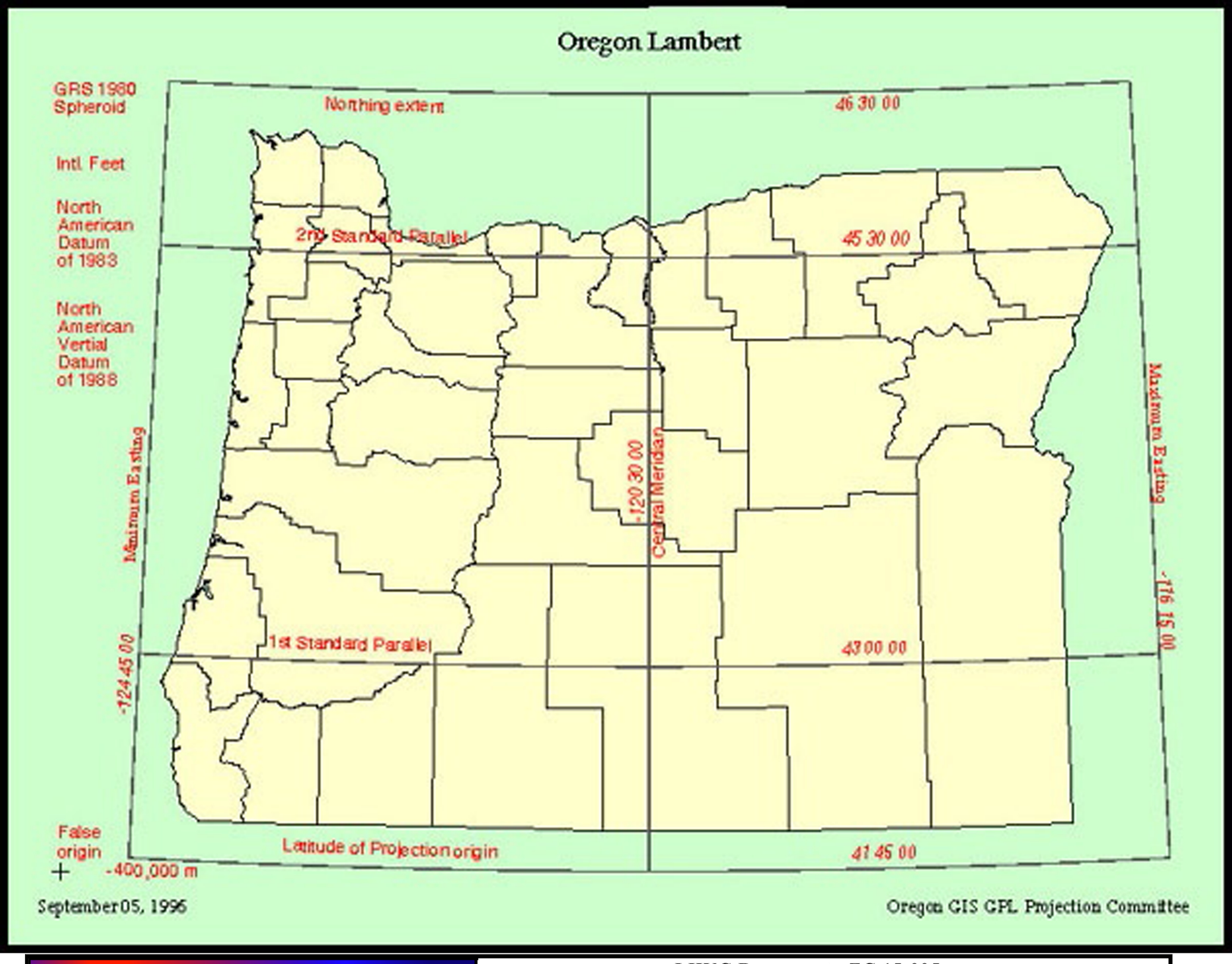
In the Eugene area, which is located approximately 125 miles west of the meridian, the rotation imparted by the projection is right around 2 degrees (clockwise). As a result, lines running True North - South are depicted rotated 2° clockwise relative to "Grid North" of the State Plane Coordinate System, which is "straight up" on the map.

Consequently, as a result of this cartographic projection convention, the entire Metro Plan Diagram, as adopted by the City of Eugene in 2004, appears to be rotated clockwise by 2 degrees. On the original diagram, as presented in Exhibit C by the applicant (and following this page), the North Arrow (pointing to True North) is rotated correspondingly.

However, on the version of the Metro Plan currently displayed at the link to LCOG from the City's website (http://www.lcog.org/DocumentCenter/View/144), the north arrow is pointing straight up. This version was in place at the time Schirmer-Satre submitted their application in May of 2015.

When this was noted in the wake of the submission of the Zone Change application, LHVC made an inquiry with LCOG's Senior GIS Specialist Bill Clingman as to the fact that the Metro Plan Diagram appeared to be rotated 2 degrees from True North. Mr. Clingman researched the issue, and determined that a change had recently occurred in the ESRI GIS software which LCOG and many other governmental agencies utilize. According to professional blogs, GIS specialists had noted and complained about the change. They had also determined that alignment of the map's north arrow with True North now requires significant work-arounds such as using an image file to replace the previously self-calculating north arrow.

Why and how does this matter for the issue of determining the area of POR zoning on the Laurel Ridge PUD property? It matters only because Schirmer-Satre chose the north arrow on the diagram as one of two "referents". This seemingly minor rotation results in a significant decrease of the area of POS zoning designation on the property.



GeoScience, Inc.

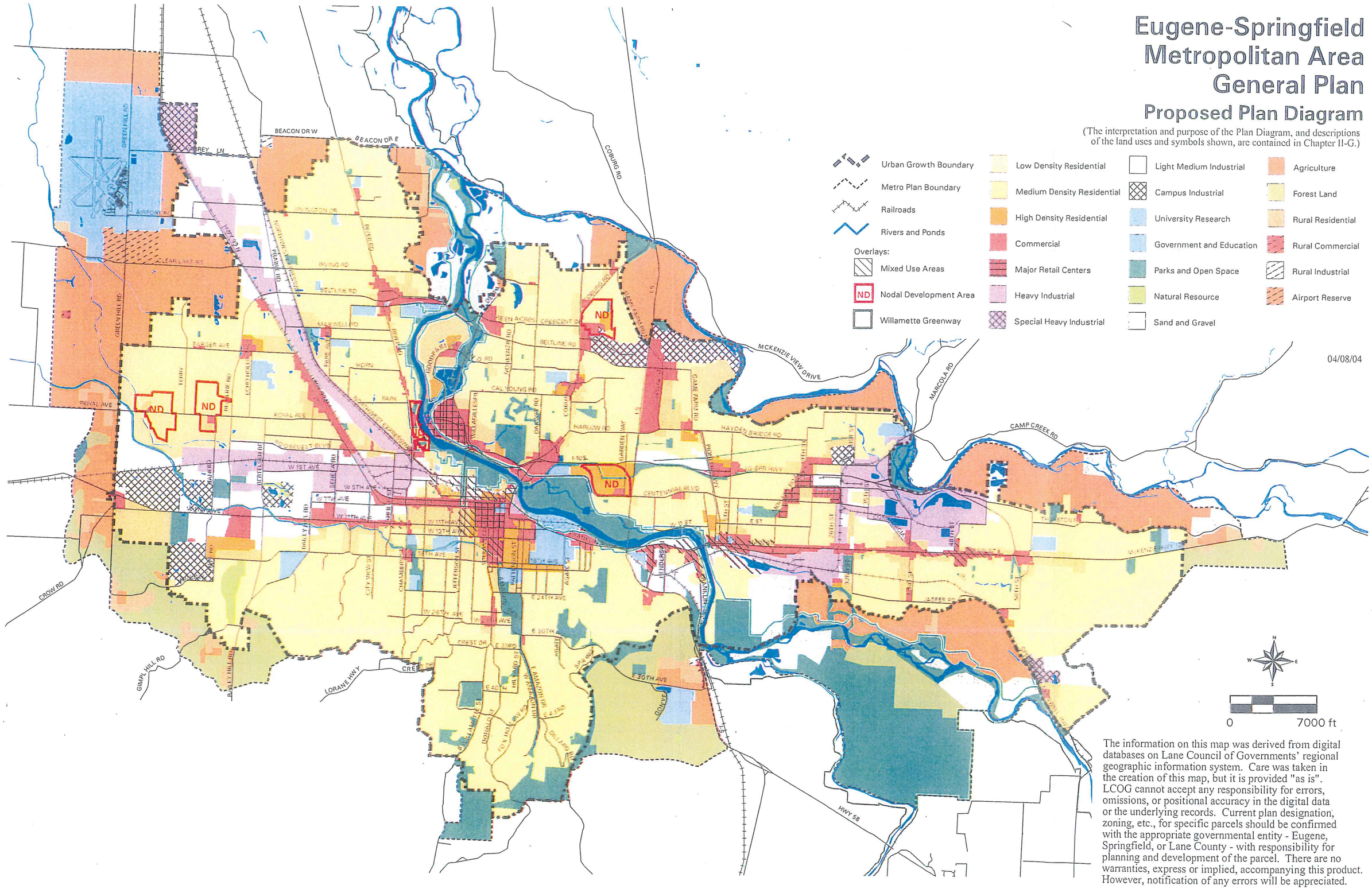
LHVC Response to ZC 15-005
Illustration of Oregon State Plane Coordinate System
Note Rotation of Lines with Distance from Central Meridian

EXHIBIT C

Eugene-Springfield Metropolitan Area General Plan

Proposed Plan Diagram

(The interpretation and purpose of the Plan Diagram, and descriptions of the land uses and symbols shown, are contained in Chapter II-G.)



The information on this map was derived from digital databases on Lane Council of Governments' regional geographic information system. Care was taken in the creation of this map, but it is provided "as is". LCOG cannot accept any responsibility for errors, omissions, or positional accuracy in the digital data or the underlying records. Current plan designation, zoning, etc., for specific parcels should be confirmed with the appropriate governmental entity - Eugene, Springfield, or Lane County - with responsibility for planning and development of the parcel. There are no warranties, express or implied, accompanying this product. However, notification of any errors will be appreciated.

The Laurel Ridge PUD property extends 4,491.6 feet east to west. Over that distance, a 2-degree rotation results in a horizontal deflection of 156.85 feet. However, this becomes an issue only if the Metro Plan Diagram is rotated to be aligned with Grid North of the State Plane Coordinate System while the tax lot map is aligned with True North. This is indeed the case:

According to the notations on the tax lot map (and the applicant's maps), the almost 3,900-foot long western segment of the north property line of the Laurel Ridge property runs N 88°24'56" E. If the tax lot on the Zone Change application maps were rotated 2 degrees to match the Metro Plan Diagram, the orientation of this line should be the equivalent of 90°24'56" clockwise from a straight-up position, or just past the 3-o'clock mark on a watch. However, the north property boundary of the Laurel Ridge property is shown on Schirmer-Satre maps in a direction which implies that True North is straight up - it is shown significantly shy of the 3-o'clock position on a watch. Similarly, along with the tax lots, the City Limits and UGB layers of the applicant's maps are oriented to True North, and, it is assumed that the 30th Avenue R-o-W centerline is oriented to the same datum (see also applicant's Sheet ZC-2, next page).

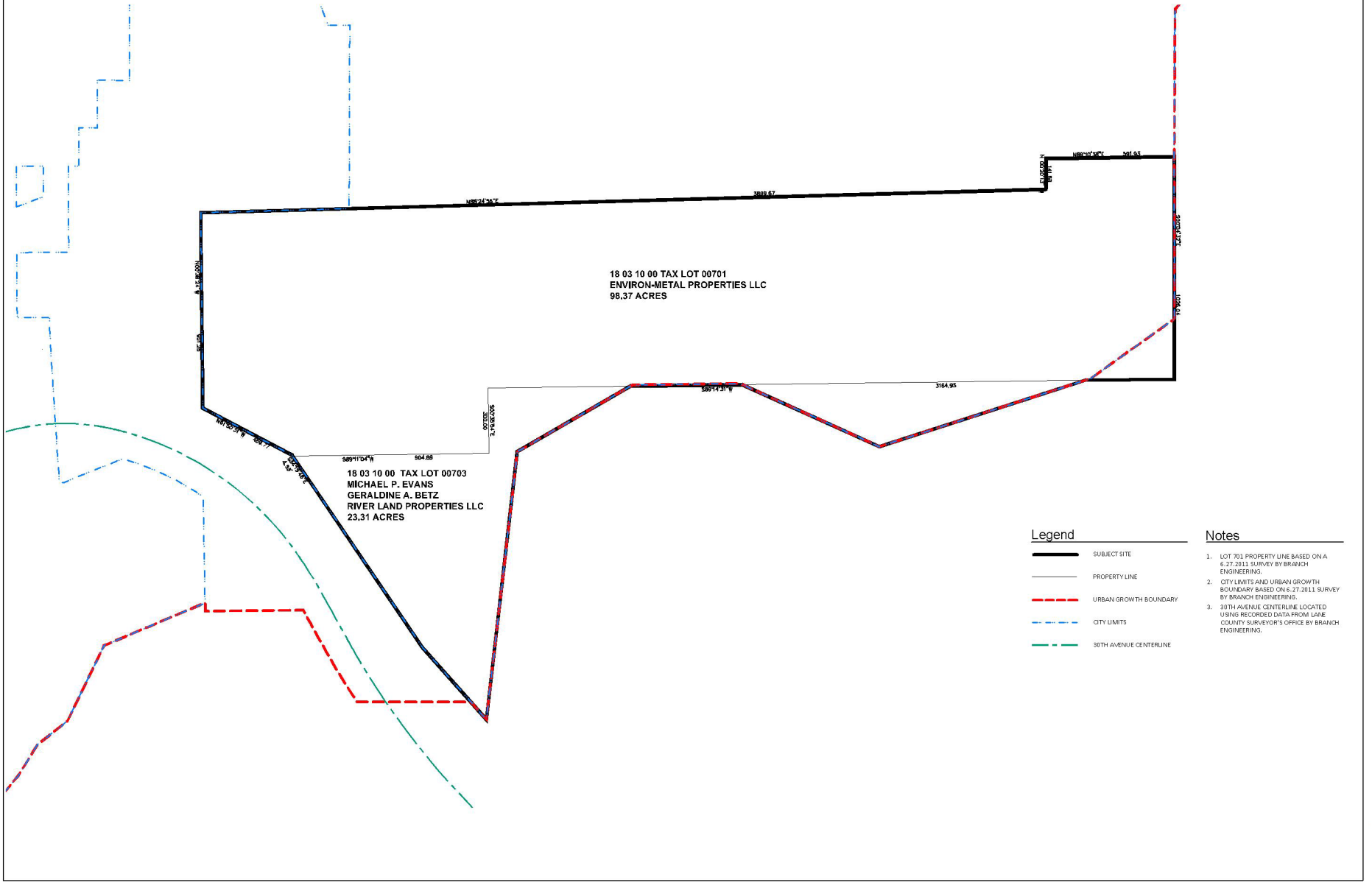
However, the applicant did not rotate the Layers of the Metro Plan Diagram shown on their Sheet ZC-3 to coincide with True North. The applicant retains the 2-degree rotation imparted by the State Plane Coordinate System projection on their site maps only for selected layers of the Metro Plan, including the crucial Zoning Designations.

As a result, given that the applicant "pins" the Laurel Ridge property at the western end of the map by registration with 30th Avenue, the eastern portion of the site rotates a significant distance northward relative to the zoning map, thereby reducing the width and area of the POS zoning designation. The total reduction in POS achieved by the applicant versus the previously presented LCOG map is right around 8 acres

On the other hand, although the rotation issue is responsible for a significant portion of the 20-acre discrepancy in mapping, other registration issues have to account for the rest of the difference.

Other Shenanigans

As is clear from the applicant's maps, the registration of the centerline as obtained by the surveyor from Lane County is less than perfect. Whereas the overlay of the centerline (shown in light blue-green on the applicant's maps) onto the black line of the Metro Plan Diagram appears to fit relatively well in the section of the road running NW-SE, the applicant's registration falls apart at the western edge of their map. In the westernmost portion of the map, west of the Spring Boulevard interchange, the applicant's 30th-Avenue R-o-W centerline is located 124 feet north of the center of the black line denoting the location of the road on the Metro Plan Diagram (see enlargement on next page).



LANDSCAPE ARCHITECTS
SCHIRMER SATRE GROUP

SCHIRMER SATRE GROUP
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SCHIRMER SATRE GROUP PROPOSES THE ZONE CHANGE OF THE SUBJECT PROPERTY FROM "RR" RURAL RESIDENTIAL TO "R1" RESIDENTIAL. THE PROPOSED CHANGE IS CONSISTENT WITH THE EUGENE-SPRINGFIELD GENERAL PLAN (GP) AND THE EUGENE-SPRINGFIELD URBAN GROWTH BOUNDARY (UGB) TO ALLOW FOR THE DEVELOPMENT OF THE SUBJECT PROPERTY WITH SINGLE FAMILY DWELLINGS. THE PROPOSED ZONE CHANGE IS ALSO CONSISTENT WITH THE EUGENE-SPRINGFIELD GP AND UGB, AND THE EUGENE-SPRINGFIELD GP AND UGB ARE CONSISTENT WITH THE STATEWIDE PLANNING GOALS.

REGISTERED LANDSCAPE ARCHITECT
RICHARD A. SATRE
OREGON
84
NOT FOR CONSTRUCTION

ZONE CHANGE: SUBJECT PROPERTY

LAURELRIDGE
MAP 18-03-10-00, LOTS 701 & 703

NEAR 30TH AVENUE AND SPRING BLVD. EUGENE OREGON

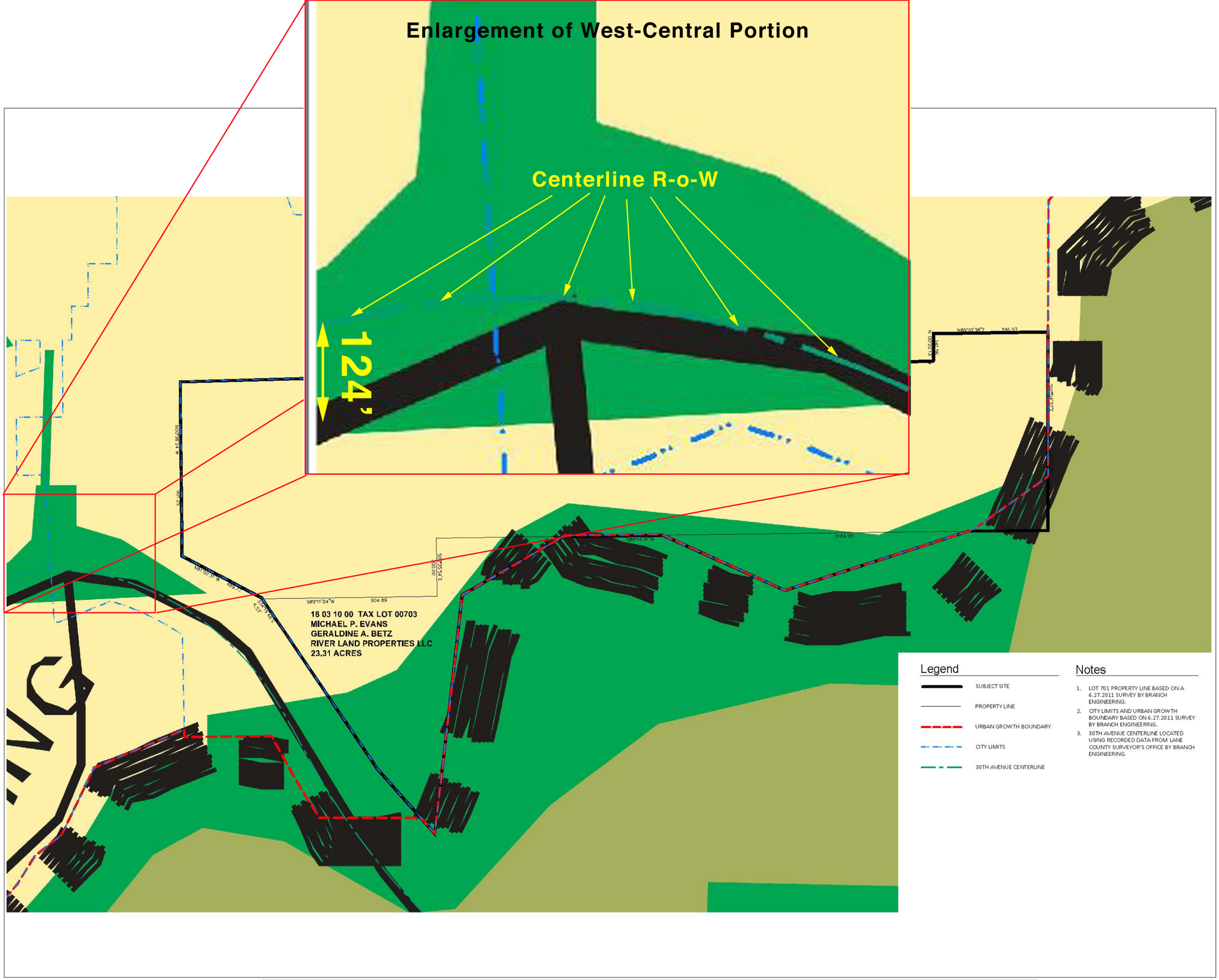
Scale: 1" = 200'
0 50 100 200

Revisions

#	Date	Description

Project Number	1158
Drawn By	JEB
Checked	RMS
Date	5-15-2015
Phase	ZONE CHANGE

ZC-2



LANDSCAPE ARCHITECTS
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REGISTERED LANDSCAPE ARCHITECT
84
RICHARD SCHIRMER SATRE
OREGON
NOT FOR CONSTRUCTION

ZONE CHANGE: METRO PLAN DIAGRAM ON SUBJECT PROP.

LAURELRIDGE
MAP 18-03-10-00, LOTS 701 & 703
NEAR 30TH AVENUE AND SPRING BLVD., EUGENE OREGON

Scale 1" = 200'

Revisions

#	Date	Description

Project Number	1104
Drawn By	JSB
Checked	RMS
Date	5-15-2015
Phase	ZONE CHANGE

ZC-4

GeoScience, Inc.

LHVC Response to ZC 15-005

Discrepancy Between Applicant's 30th-Ave. R-o-W Centerline and Metro Plan Road

Enlarged Portion is shown 400% Plan Size.

As shown in the figure on the following page, this offset is caused by the fact that in the western portion of the diagram, the applicant has moved the tax lot, city limits, UGB, and road centerline layers 179 feet to the northwest (N 58°W) relative to the equivalent position on the maps as supplied by LCOG. In the eastern portion, the offset direction is more northerly due to the effect of the 2-degree rotation. The following figures show a sequence of overlays of different transparency (0% - 50% -100%) of versions of the Tax-Lot-Layer-on-Metro-Plan-Diagram obtained from LCOG vs. the applicant's version on their sheet ZC-4.

In light of these obvious differences, the question that must be answered which map version is correct, or, more precisely, more correct. Even if the rotation issue is ignored, the Schirmer-Satre version of the tax lot overlay onto the Metro Plan Diagram is clearly significantly different (by 179 feet) from that used by LCOG and the City. However, simply the fact that LCOG's version has been used for some time now does not necessarily imply that it represents the "best" or "correct" way of overlaying the tax lot layer onto the Metro Plan diagram.

Mr. Clingman at LCOG was again contacted in order to shed light onto this question. His email response covering the issue is attached. In short, the relationship of the tax lot maps to the State Plane Coordinate system is most precisely defined in the GIS system because property boundaries are the most precisely surveyed. Similarly the City Limits layer of the GIS system can be aligned with the tax lot layer and State Plane Coordinate System relatively well because annexations are typically performed based on surveyed boundaries. However, where not defined by surveyed boundaries, the UGB has a less precise alignment to the tax lot layer than the City Limits. Similarly, the Metro Plan Zoning Designation layer, where boundaries are not defined by surveys, but by lines drawn on paper, is less precisely aligned to the tax lot map and State Plane Coordinate System than other layers.

The question then is how much "slop" is present in the relationship between the Metro Plan Diagram and the tax lot layer?

Schirmer-Satre uses a very small "snippet" of the Metro Plan diagram in isolation, in order to perform the alignment using only two referents (30th Avenue R-o-W centerline and north arrow). LCOG uses the entire diagram.

According to the tax lot map (Lane Co Map 18030900), in the vicinity of the Laurel Ridge property, the width of the right-of-way for 30th Avenue varies from 240 to more than 300 feet (there are even wider R-o-Ws in the area of the Spring Boulevard interchange). This is, comparatively, a very large right-of-way and poorly defines the actual location of the road. As a result, use of this referent imparts a very large measure of "slop" into the alignment of the diagram with the tax lot layer. In addition, in this area, the road surface itself is located close to the western boundary of the R-o-W as the eastern portion of the R-o-W is taken up by road embankments. Aligning the centerline of the R-o-W with the center of the road moves the R-o-W centerline significantly farther west than it is located in reality.

Applicant's City Limits

LCOG City Limits

City Limits Offset and Not Rotated

Applicant's Parcel N-Boundary

Note Lack of 2-Degree Clockwise Rotation of Applicant's Property Lines

18 03 10 00 TAX LOT 00701
ENVIRON-METAL PROPERTIES LLC
98.37 ACRES

LCOG Parcel N-Boundary

179' Offset

18 03 10 00 TAX LOT 00703
MICHAEL P. EVANS
GERALDINE A. BETZ
RIVER LAND PROPERTIES LLC
23.31 ACRES

Applicant's Boundary

LCOG Boundary

Legend

- SUBJECT SITE
- PROPERTY LINE
- URBAN GROWTH BOUNDARY
- CITY LIMITS
- 30TH AVENUE CENTERLINE

Notes

1. LOT 701 PROPERTY LINE BASED ON A 6.27.2011 SURVEY BY BRANCH ENGINEERING.
2. CITY LIMITS AND URBAN GROWTH BOUNDARY BASED ON 6.27.2011 SURVEY BY BRANCH ENGINEERING.
3. 30TH AVENUE CENTERLINE LOCATED USING RECORDED DATA FROM LANE COUNTY SURVEYOR'S OFFICE BY BRANCH ENGINEERING.

Applicant's Legend

Registration performed using Metro Plan Designation Boundary Corners

Unofficial Map of Metro Plan Designations

This map was created on the date shown for Gunnar Schlieder. The map displays comprehensive plan designation data as reflected in the Regional Land Information Database, but is not the actual adopted Plan Diagram.

The information on this map was derived from digital databases on Lane Council of Governments' regional geographic information system. Care was taken in the creation of this map, but it is provided "as is". LCOG cannot accept any responsibility for errors, omissions, or positional accuracy in the digital data or the underlying records. Current plan designations for specific parcels should be confirmed with the appropriate governmental entity - Eugene, Springfield, or Lane County - with responsibility for planning and development of the parcel. There are no warranties, express or implied, accompanying this product.

Tax lots
City Limits
Eugene UGB

L, Low Density Residential
P, Parks and Open Space
A, Agriculture
F, Forest Land
R, Rural Residential

0 100 200 300 400 Feet

N

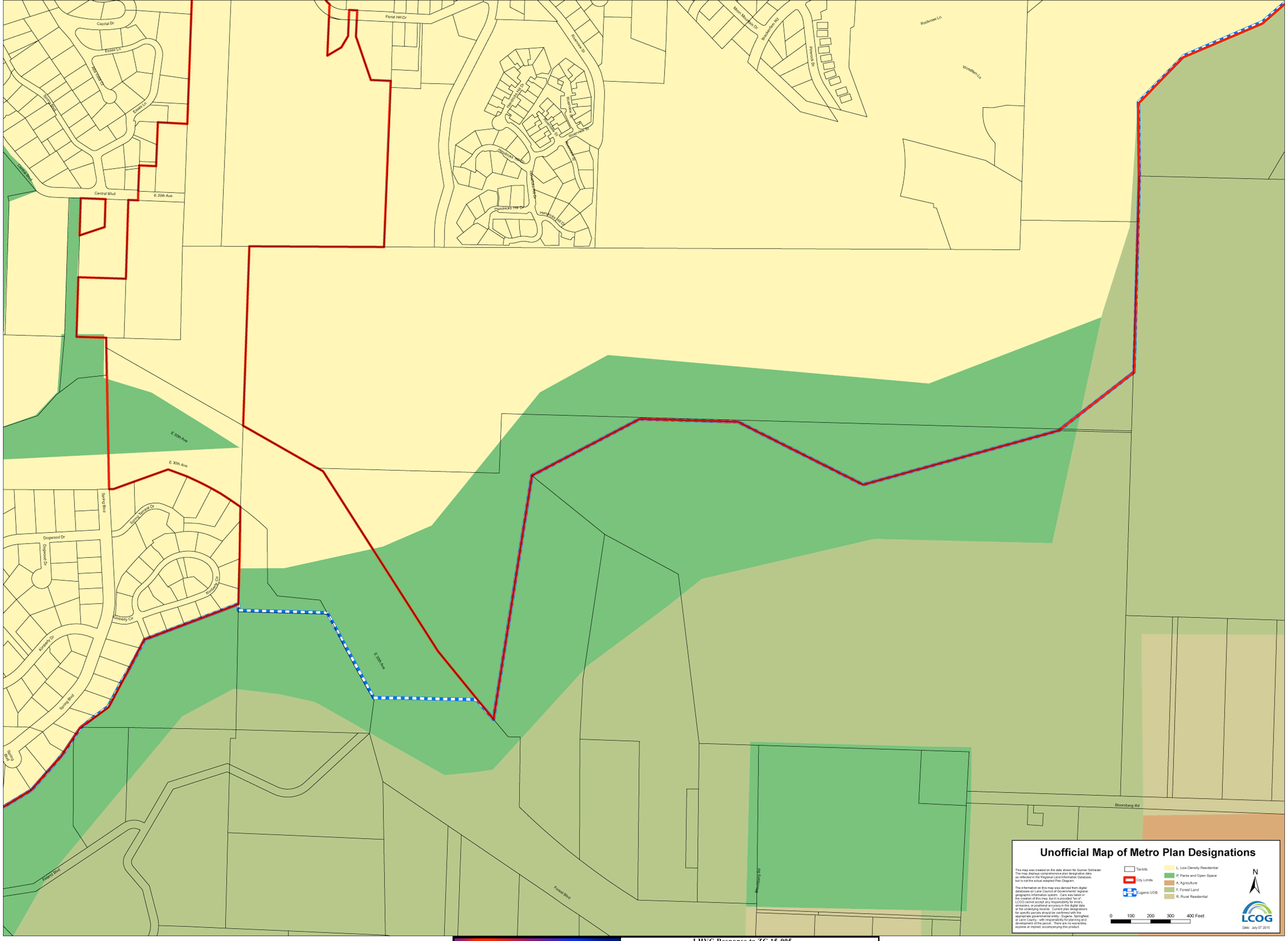
LCOG

Date: July 07 2015

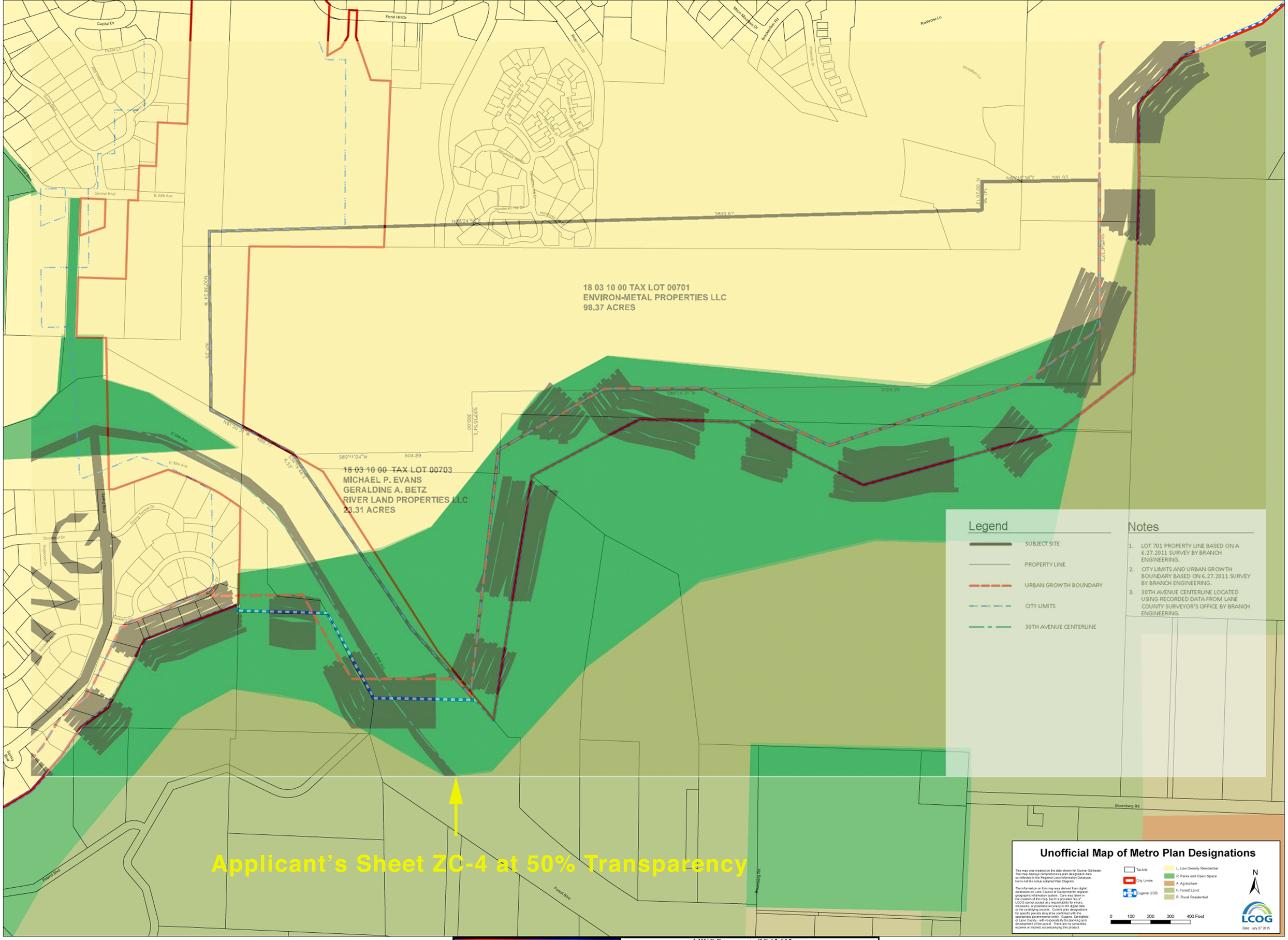
LCOG Legend

GeoScience, Inc.

LHVC Response to ZC 15-005
Annotated Overlay of Applicant's Sheet ZC-4 on LCOG-Supplied Metro Plan
Applicant's Sheet ZC-4 Shown at 50% Transparency



GeoScience, Inc.	LHVC Response to ZC 15-005
	LCOG Supplied Overlay of Metro Plan Designations on TL Map
	Obtained from LCOG on July 7, 2015

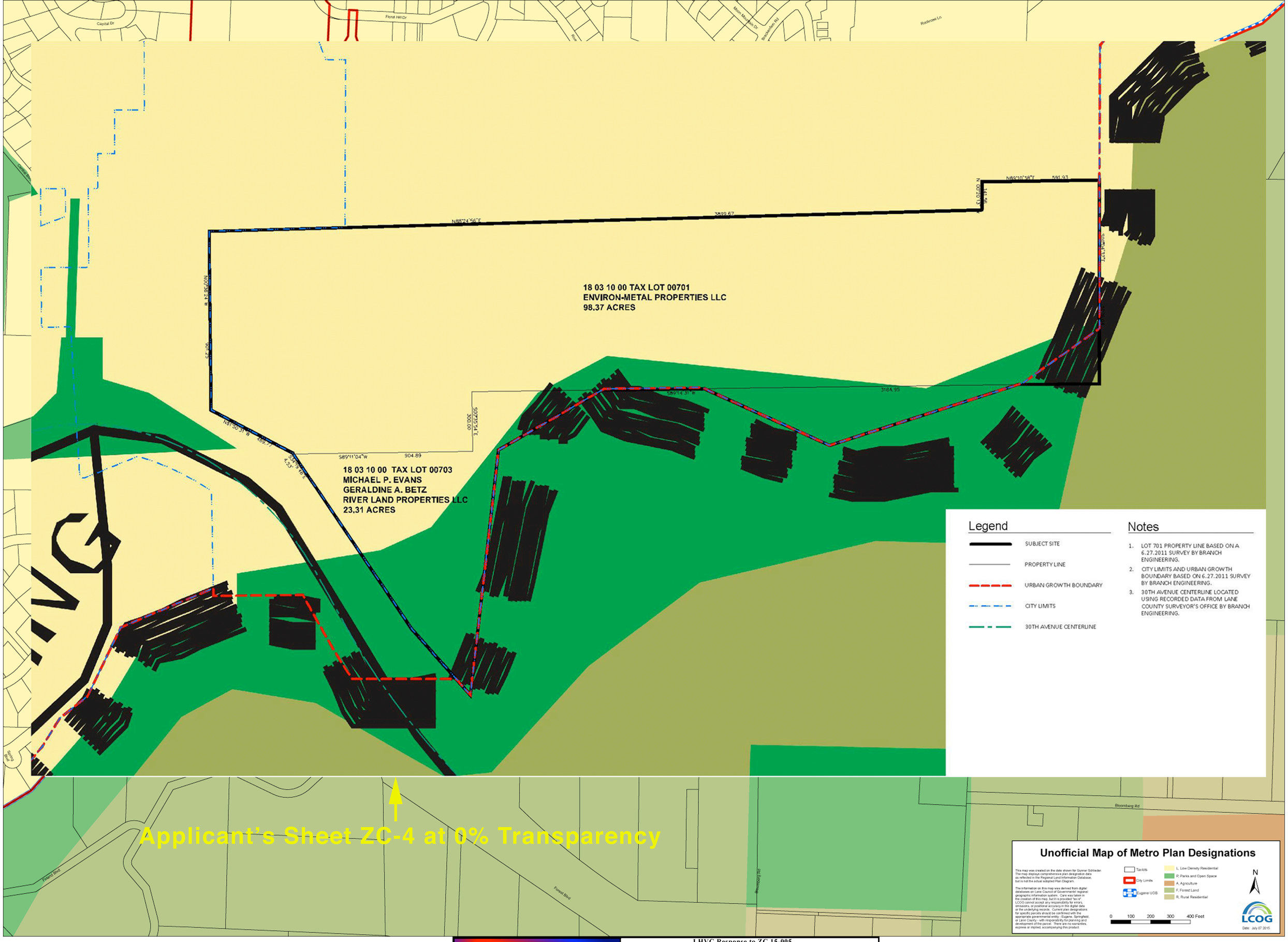


GeoScience, Inc.

LHVC Response to ZC 15-005

LCOG Supplied Overlay of Metro Plan Designations on TL Map

Applicant's Sheet ZC-4 Shown at 50% Transparency



GeoScience, Inc.

LHVC Response to ZC 15-005

LCOG Supplied Overlay of Metro Plan Designations on TL Map

Applicant's Sheet ZC-4 Shown at 0% Transparency

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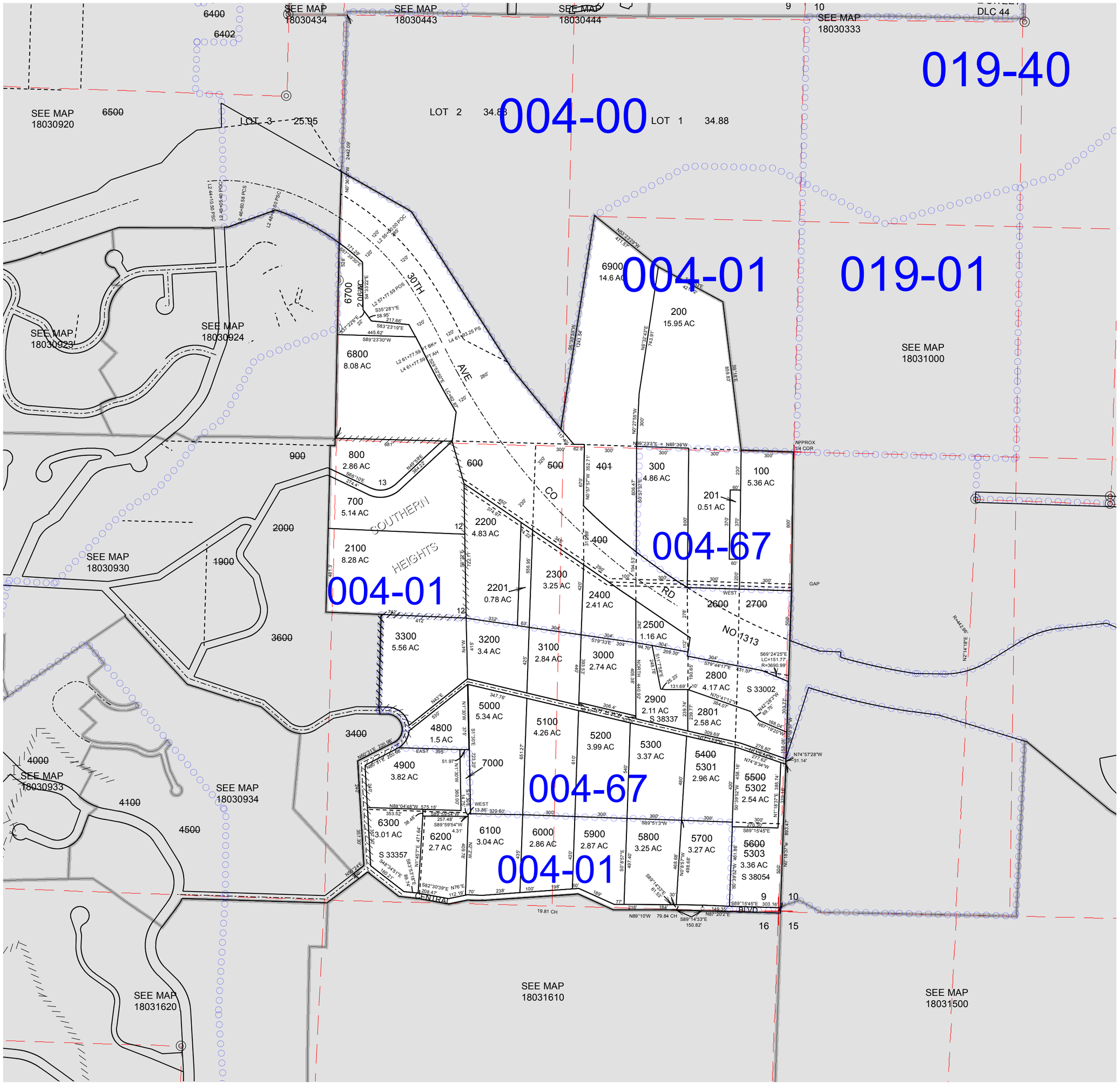
SECTION 9 T.18S. R.3W. W.M.
Lane County
1" = 400'

18030900
EUGENE

lcatdwc - 2011-08-11 17:19



CANCELLED
5300
1800
1801
1900
2000
2600
2700
3400
3500
3600
3800
3900
400
4000
4100
401
4500
500
5400
5500
5600
600
6400
6401
6402
6500
6600
900
1400

REVISIONS
04/08/2010 - LCAT155 - CONVERT MAP TO GIS
09/28/2010 - LCAT115 - CORR DIM TL'S 4900 & 5000
08/11/2011 - LCAT113 - CORR TL 2400 & 30TH AVE

On the other hand LCOG, in using the entire Metro Plan Diagram for alignment with the tax lot layer has numerous options for referents. One that is readily apparent is the Downtown street grid. In that area, right-of-way widths are 66 feet (Lane Co. Map 17033141, next page), which provide much tighter constraints on the street locations on the Metro Plan Diagram than the 300+' R-o-W of 30th Avenue.

In order to determine the magnitude of "slop" imparted by the use of Downtown Streets such as 7th, 8th, 11th, Willamette, Oak, High, Patterson etc. as a referents, we enlarged the 11 x 17 copy of the adopted Metro Plan Diagram supplied by the applicant as their Exhibit C until the black lines of the streets obtained measurable width. In the downtown area, the width is constant at 0.006 inches. Given the 1" = 7,000' scale on the diagram (which was verified), this means that the black lines on the Metro Plan Diagram represent 0.006 x 7,000 = 42 feet.

As a result, the potential variability of the relationship between the tax lot layer and the Metro Plan Diagram imparted by use of the Downtown Street Grid is 66 feet (width of R-o-W on TL map) minus 42 feet (width of streets on Metro Plan Diagram) or 24 feet!

Therefore, it appears that even without use of numerous other potential referents, LCOG's alignment of the entire Metro Plan diagram with the tax lot map and State Plane Coordinate System should be accurate to within 24 feet both N-S and E-W.

The 179-foot offset of the applicant's version of the overlay represents more than 7 times the amount of variability expected from the use of better and more referents not necessarily present within the snippet of the Metro Plan Diagram utilized by Schirmer-Satre.

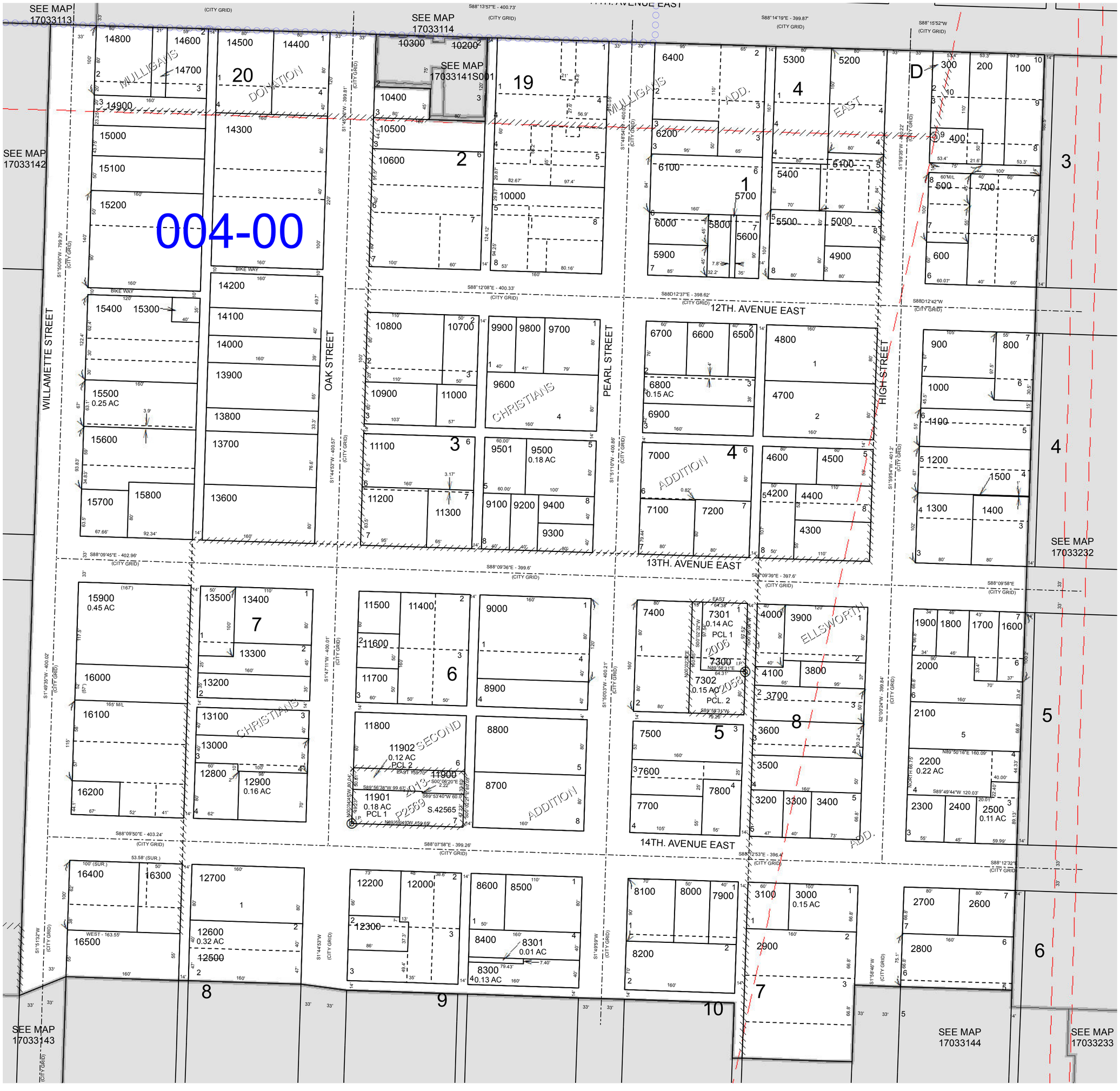
Therefore, given that the LCOG version of the overlay has an expected variance of 24 feet, the Schirmer-Satre version varying by 179 feet from the LCOG version does not fall within acceptable limits of variance and is "incorrect".

FOR ASSESSMENT AND TAXATION ONLY

N.E.1/4 S.E.1/4 SEC. 31 T.17S. R.3W. W.M.
Lane County
1" = 100'

17033141
EUGENE

LCATCAB - 2013-05-06 08:17



CANCELLED
12500
7300
10200
10300
90001
90002
11900

REVISIONS
07/25/2011 - LCAT142 - CONVERT MAP TO GIS
05/03/2013 - LCAT115 - CANC TL 11900 INTO 2013-P2569

EUGENE
17033141

Conclusions

The applicant's overlay of the Tax Lots comprising the Laurel Ridge PUD property, the UGB, the City Limits, and the centerline of the R-o-W of 30th Avenue onto the Metro Plan Zoning Designations has been performed in an inappropriate manner.

The most egregious error is the fact that layers of the map consisting of the Tax Lots, UGB, City Limits and 30th Avenue have been aligned to True North while the Metro Plan Zoning Designation layer has been left aligned to Grid North of the State Plane Coordinate System, which imparts a 2-degree clockwise rotation to the Metro Plan.

However, an additional, very significant error has been imparted to the applicant's map by an inadvertent NW shift of 179 feet of the Tax Lots, UGB, City Limits and 30th Avenue layer relative to the Metro Plan Zoning Designations layer.

It is possible that the latter error results from the applicant's unconscionable insistence that only two usable referents are available on the Metro Plan Diagram for establishing the relationship with the tax lot map. The applicant claims that the only referents available to them are the North Arrow and the centerline of the Right-of-Way of 30th Avenue.

In the area in question, the R-o-W width of 30th Avenue varies from 240 to more than 300 feet. Along the NW-SE oriented portion of the road located immediately W of much of the PUD's western boundary, the actual road is located against the western side of the R-o-W. Therefore, aligning the centerline of the R-o-W with the black line on the Metro Plan Diagram (placed along the centerline of the actual road) moves the R-o-W centerline significantly west of its actual position.

LCOG's version of the overlay, on the other hand, utilizing the entire Metro Plan Diagram, can make use of numerous referents which provide much tighter control on the relationship between the well-surveyed tax lot map layer and the less well constrained Metro Plan Diagram. For instance, use of the streets close to Downtown Eugene allows constraint of the Metro Plan Diagram to within 24 feet in each direction.

Schirmer-Satre's 179-ft offset to the northwest from the LCOG version represents 7.5 times the "wiggle-room" that is imparted to LCOG's version by the Downtown streets. Therefore, when combined with the rotation error, and considering the entire Metro Plan Diagram, the applicant's snippet cannot have been placed in the correct context.

Recommendation

It is recommended to deny Zone Change Application 15-005 on the following grounds:

The application fails to meet the following Approval Criteria:

9.8865 (1) **The proposed change is consistent with the applicable provisions of the Metro Plan**...

As indicated in the decisions of every entity from the City of Eugene to the Court of Appeals, the Metro Plan Diagram is applicable to this zone change. The applicant's overlay of the tax lot onto the Metro Plan Diagram as presented in the site maps accompanying the application is erroneous in several ways. The layers have been rotated to different references (Oregon State Plane Coordinate System Grid North for the Metro Plan Zoning Designation Diagram and True North for everything else).

Moreover, in the western portion of the property, the applicant has inadvertently moved the tax lot layer 179 feet NW relative to the position where LCOG's maps indicate the tax lot should fall on the Metro Plan Diagram. In the eastern portion this offset is compounded by the rotation error. This offset is insupportable when tighter constraints are placed on the relationship between the Metro Plan Diagram by use of appropriate referents outside the immediate vicinity of the tax lot. The applicant has arbitrarily chosen to limit their referents to a single, curving line in the immediate vicinity of the tax lot and to the North Arrow (apparently without consideration of the fact that North can be relative in a cartographic sense).

Therefore, <u>the applicant's maps and application are not consistent with the provisions of the Metro Plan.</u>

If you have any questions regarding this matter, please do not hesitate to contact me at (541) 729-4271.

Respectfully submitted,

Gunnar Schlieder, Ph.D., CEG

Co-Chair, Laurel Hill Valley Citizens

CERTIFIED
OREGON
GUNNAR SCHLIEDER
E1139
ENGINEERING GEOLOGIST
Expires 12/31/2015

Att: Bill Clingman's response to inquiry regarding overlay of Metro Plan Diagram onto Tax lot layer of the GIS system.

CLINGMAN Bill W
Aug 12 at 1:08 PM

To

Gunnar Schlieder

All of our regionally-maintained GIS layers, including site address points, zoning, plan designations, taxlots, city limits, and many others, are projected into the same State Plane coordinate system, and all of them are intended to align with the other layers to a degree which meets the various business needs of the end users, such as planning, elections, assessment and taxation, etc. Historically, a taxlot layer has served as the "base" against which other layers have been spatially aligned, but all of these GIS layers have individual histories extending back to before they were first digitized.

Taxlots in Lane County were originally drawn by hand, ink on linen or ink on mylar, one map sheet at a time, many of which were later converted into CAD drawings, but still just one sheet at a time. The original digitized GIS taxlots were created and maintained by LCOG but were used only for planning purposes, while the official taxlots were still maintained, outside the GIS, by Lane County. That first unofficial GIS taxlot layer formed the original "base" against which other GIS layers were spatially aligned as they were converted from their hand-drawn forerunners, even though that taxlot layer was considered spatially accurate enough only for planning purposes.

Over time, the regional GIS layers have evolved in terms of spatial accuracy, maintenance responsibility, storage architecture, and coordinate system. For example, in 2004, the regional GIS layers were all shifted from the North American Datum of 1927 (NAD 27) to NAD 83. Because they were all subject to the same datum shift, their relative spatial alignment with each other was not affected, and the taxlot base was still considered spatially accurate enough only for planning purposes, and was not an official representation of the taxlots. In 2006, that original GIS taxlot layer, maintained (for planning purposes only) by LCOG, was replaced by a new, more spatially accurate, GIS taxlot layer maintained by Lane County as the official source of taxlot maps (replacing the old CAD and mylar drawings). Due to the increase in spatial accuracy, and the fact that the old taxlot layer was more inaccurate in some areas than in others, all of the other regional GIS layers needed to be "spatially adjusted" to align with the new taxlot layer. This work was done in part by LCOG and in part by other regional GIS partner agencies. The intent was to preserve the relative spatial relationships between these layers, but again, they are intended to align with each other to a degree which meets the business needs of the end users, which for the most part, do not require precise registration.

Over the entire history of the regional GIS, some layers have been more precisely aligned (or registered) to the taxlots than others. For example, annexations (from which City Limits are derived) are defined by legal (metes and bounds) descriptions, and care is taken to register them to the taxlot layer with some degree of precision. Most other layers, such as plan designations, including those shown on the Metro Plan Diagram, are not typically defined by metes and bounds descriptions, and have not been precisely registered to the taxlots. Prior to the advent of the regional GIS, the Metro Plan Diagram was also originally drawn by hand, and early versions of the Diagram have sometimes been referred to as "blob diagrams" due to their highly generalized depictions of the various plan designations. When the Metro Plan designations were first digitized, they were similarly generalized. Even now, after several iterations of adoption and amendment, it is worth noting that the only version of the Metro Plan Diagram that is considered official is the one produced at the 11 X 17 size and scale, on which the designations are depicted over a single-line representation of major streets and roads.