



January 22, 2013

Mr. Peter Spir  
City of West Linn  
22500 Salamo Road  
West Linn, OR 97068

**Falcon Place (SUB 12-01)  
Submission for Completeness**

Dear Peter,

3J Consulting acts on behalf of OLC 14, LLC. and JT Smith Companies in preparing this letter to address the incompleteness notification released by your office on December 13, 2012 relating to the Falcon Place Subdivision. This letter has been prepared to both address each of the items listed within the City's incompleteness determination and to describe the changes which have occurred to the preliminary plans and submission materials.

The key changes to the site plan and land use submission are as follows:

1. The site plan has been revised to allow for the retention of an additional two significant trees. In order to accomplish this task, the private access drive to lots 2 through 4 has been moved to within 5 feet of the western property line in order to allow for a reduction in the intensity of the proposed lot grading. Additionally, the primary driveway to lots 2 through 4 now includes a split "eyelet" design which is intended to allow for the preservation of a large Douglas Fir tree near the entrance of the site.
2. The grading plan for the site has been modified to include several retaining walls in areas adjacent to stands of existing significant trees. This modification has allowed for the reduction of grading activities within the dripline area plus 10 feet areas associated with significant trees on the site. Within a few areas, encroachment into the full plus 10 foot dripline areas has been proposed however, these encroachments will be supervised by the project team's arborist.
3. A significant revision to the protective tree easement area has been shown on the tentative tree plan and site plan. The area of the site proposed to be encumbered with protective easements is shown at 20.8 percent of the site.
4. The proposed site plan has been modified to show a stormwater management system located along Bland Circle in the Southeastern corner of the site. The proposed system has been described within the attached stormwater management memorandum.
5. A letter addressing the proposed roadway geometry and access spacing has been provided in support of the proposed design.

In addition to the key changes listed above, we have prepared the following table addressing each of the comments issued by staff:

Code Reference	Comment	Design Change, Plan Modification or Description of Resolution
<b>Planning Comments</b>		
85.160(D)(4)	No legal description on tentative plan	A legal description has been added to the tentative plat.
85.160(D)(5)	No name of owner, developer, and engineer on tentative plan	Name of owner, developer, and engineer have been added to the tentative plat.
85.160(E)(1)	Clearly show width of existing street and ROW	Widths of ROW and existing streets have been shown on the tentative plat and site plan.
85.160(E)(2)	Required contours on tentative plan	Contours have been shown on the tentative plat and on the grading plans and utility plans.
85.160(E)(7)	Highlight sanitary sewer and water line information	The proposed utility plan has been revised to better illustrate sewer and water lines
85.160(E)(8)	Show Zoning both on and off-site.	Zoning designations have been added to the tentative plat for both the subject property and the adjoining properties.
85.160(E)(9)	Show existing structures on adjoining properties	Structures have been shown on adjoining properties on the existing conditions plan and the tentative plat.
85.160(F)(2)	No erosion control details for construction of driveway where it ties into Bland Circle	The proposed Erosion Control/Grading Plan has been revised to show the proposed construction entrance.
85.160(F)(3)	Consistency with the TSP: Match the City's road section along Bland Circle.	The street design for Bland Circle has been revised to match the City's TSP. The section proposed includes: two 12 foot travel lanes. Beyond the travel lane to the north, the Applicant has proposed a rounded bump-out or partial cul-de-sac bulb. beyond the pavement along the northern side of the bulb, a five foot sidewalk and a six foot planter strip have been provided. This section has been modified along the western side of the proposed driveway to create a curb-tight sidewalk without a planter to facilitate the preservation of existing trees and the placement of retaining walls.
85.160(F)(7)	No street tree plan provided.	A tree mitigation planting plan has been provided showing proposed street trees.
85.170(A)(3)	No legal description provided.	A legal description has been added to the tentative plat.
85.170(A)(8)	Need map and table with slope breakdowns per 55.110(B)(3)	A map and table showing the slope analysis has been provided, per 55.110(B)(3) (See Sheet C1.3)
85.170(B)(1)	Center line profiles with extensions shall be provided beyond the limits of the proposed subdivision to the point where grades meet, showing the finished grade of streets and the	Centerline profiles for the proposed public street and private driveway have been provided within the revised plan set. These drawings are shown on sheet C2.2 of the plan set.



	extent of construction	
48.060(G)	Adequate line of site pursuant to engineering standards should be afforded at each driveway. Provide a line of sight at functional intersection of the Falcon Place and Bland Circle	The tentative site plan has been revised to show a site vision triangle at the functional intersection of Falcon Place and Bland Circle.
48.020(C)	Identify the access point to lot 1 on the plans.	The driveway access to lot 1 has been shown on the tentative site plan.
48.060(B)	The maximum permissible curb cut is 36 feet.	The proposed curb cut, including wings, has been revised from 40 feet to 36 feet. This is shown on the A legal description has been added to the tentative site plan.
85.160(E)(5)	The applicant need to modify Sheet C.1.2 to show the official map of significant trees	At the time of initial submittal, the official list of significant trees was not available. Sheet C.1.2 has been revised to reflect the current significant tree designations.
85.170(J)(9)	Up to 20% of the site may be required to be set aside to protect significant trees. Also, the proposed protected areas do not appear to extend to the "dripline plus 10 feet".	The tentative site plan has been revised significantly to retain several significant trees. A series of protective easements have been expanded on the site to cover a total of 20.8% of the site area. Where possible the entire driplines plus 10 feet of the significant tree clusters have been contained within the protective easements. Where encroachments into the dripline plus 10 foot areas have been proposed, these encroachments have been minimized to the greatest extent possible through the placement of retaining walls.
85.200(E)(4)	Grading shall be the minimum necessary to meet roadway standards and to create appropriate building sites (appropriate not being defined), considering maximum allowed driveway grades. Staff believes that additional trees could be retained through a revised grading plan.	The proposed grading plan has been revised significantly to adjust grades for both the proposed driveways and building areas on site. Where necessary for the preservation of existing trees, driveway grades have been maximized.
85.200(B)(3)	Provide some discussion about how a home will be constructed on Lot 1.	Lot 1 will use a garage under design which will allow for a reduction in the need for severe lot grading.
<b>Engineering Comments</b>		
Street Improvements	Extend sidewalk and curb to property line.	The tentative site plan has been revised to extend curb and sidewalks to the property boundary.
	Provide Cross Sections for Bland Circle and the proposed driveway including street structural sections.	The revised plan set contains street sections for Bland Circle, the private driveway, including structural sections.
	Shade the area where the public improvement is set to occur.	The public improvement area has been shaded on the tentative site plan.



	Access Driveway is limited to 36 feet.	The revised plans have been modified to propose no more than a 36 foot driveway curb cut. This revision is shown on the tentative site plan.
	Move streetlight to accommodate ADA requirement.	No revisions have been proposed to the location of the street light due to conflicts which would arise from the retaining walls proposed on the site. The applicant has proposed a curb-tight sidewalk with a retaining wall almost immediately behind the sidewalk. The street light has been located immediately behind the proposed retaining wall.
	Provide a dimensioned plan for all geometrical measurements and a curb radii table.	The tentative site plan has been amended to show all requested dimensions.
	Show street trees	The Applicant has submitted a proposed mitigation plan showing street trees along Bland Circle.
	Provide note indicating all existing overhead utilities to be place underground	The requested note has been added to the proposed utility plan.
Storm Drainage Improvements	Modify Storm drainage report to how street stormwater will be collected, treated and detained.	A revised stormwater drainage memo has been provided showing the methods for collection, treatment and detention of stormwater.
	Modify site plan in accordance with stormwater report to provide a public stormwater facility along the southwest corner of the site.	The site plan has been revised to provide a stormwater management facility along the project's frontage of Bland Circle.
	Show the preliminary location of each lot's stormwater management facility.	The site plan has been modified to show each lot's proposed stormwater facility.
	Stormwater main line along the private driveway should be public and at least 12".	A public stormwater main line has been shown within the private drive. The proposed private driveway now shows a public 12" line.
Sanitary Sewer Improvements	The sanitary sewer line along the private drive should be public and at least 8".	The proposed site utility plan has been modified to show an 8" public main line within the private drive.
Water Improvements	No public water main will be permitted along the private driveway	The site utility plan has been modified to show a series of private lateral lines travelling up the private drive to serve each home.
	Reconfigure water service connection per comment on Site Plan Sheet C.2.1	The site utility plan has been modified to incorporate all redline markups.
	Water meters should be located outside of the driveway approach and adjacent to the curb.	The proposed site utility plan has been modified to show water meters which are outside of the driveway approach.
	Private service lines should be placed within private water or private utility easements.	The proposed water system has been converted to private as it leaves the public system located within Bland Circle. The newly proposed lines will be provided with

		private utility easements. These changes will be show on the final plat.
	Rewrite finding in Section F. WATER in the submittal to match any modifications to the site plan.	The Applicant has not submitted a revised narrative for the project along with this submission. Rather, the plans have been revised to reflect the City Engineer's comments, requiring private water service within private easements.
Easements	Public and private utility easement should be separated.	The required easements are shown on the tentative plat.
Traffic Report	Because the proposed geometry of the street system is not standard and because the access driveway does not meet the spacing requirement, provide an analysis of the proposed intersection from a Transportation Engineer. Any necessary recommendations for mitigations or measures to ensure safety should be included within the report.	A traffic analysis has been provided. The conclusions of the report indicate that while a non standard intersection has been proposed, critical safety measurements for site stopping distance are present. No recommendations for road alterations for safety or mitigations for traffic have been included within the report.
Fire Department Review	Please provide review and approval from the Fire Department.	The Applicant will submit final approval for the proposed access to the site from the Fire Department prior to presenting an application for final plat approval. Staff have indicated that this documentation is not required prior to the determination of completeness.

As described herein and as shown within the attached revised plans and submission materials, all of the missing information requested by staff has been provided. As described under ORS 227.178(2)(a), because the Applicant has submitted all of the missing information, we would request that this application be deemed complete upon receipt of this letter and the accompanying plans and materials.

As the review of this application for subdivision continues, we would invite you to contact us for any and all needed assistance or with any inquires. Please feel free to contact us directly at 503-545-1907 or at [andrew.tull@3j-consulting.com](mailto:andrew.tull@3j-consulting.com).

Sincerely,

Andrew Tull  
 Principal Planner  
 3J Consulting, Inc.

copy: Mr. John Wyland, JT Smith Companies  
 Mr. Jeff Smith, JT Smith Companies  
 Mr. Brian Feeney, 3J Consulting, Inc.  
 Mr. Mike Robinson, Perkins Coie



12093 - File

Attachments: 3 Full Size Revised Plan Sets  
3 11x17 Sized Revised Plan Sets  
3 Copies of 3J Stormwater Memorandum  
3 Traffic Impact Letters



# LAND USE DOCUMENTS

FOR

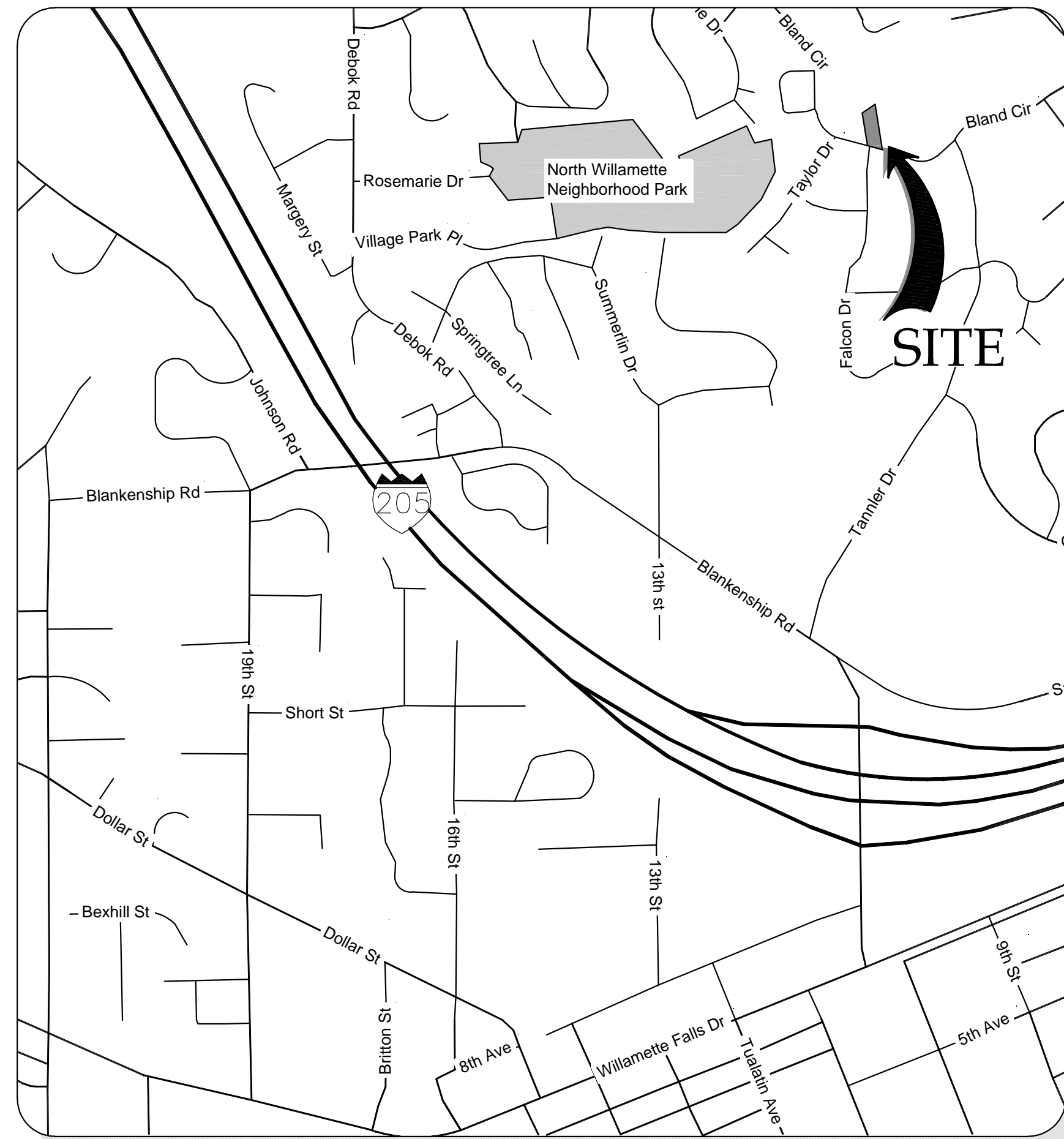
## FALCON PLACE SUBDIVISION

PREPARED FOR  
OLH 14, LLC

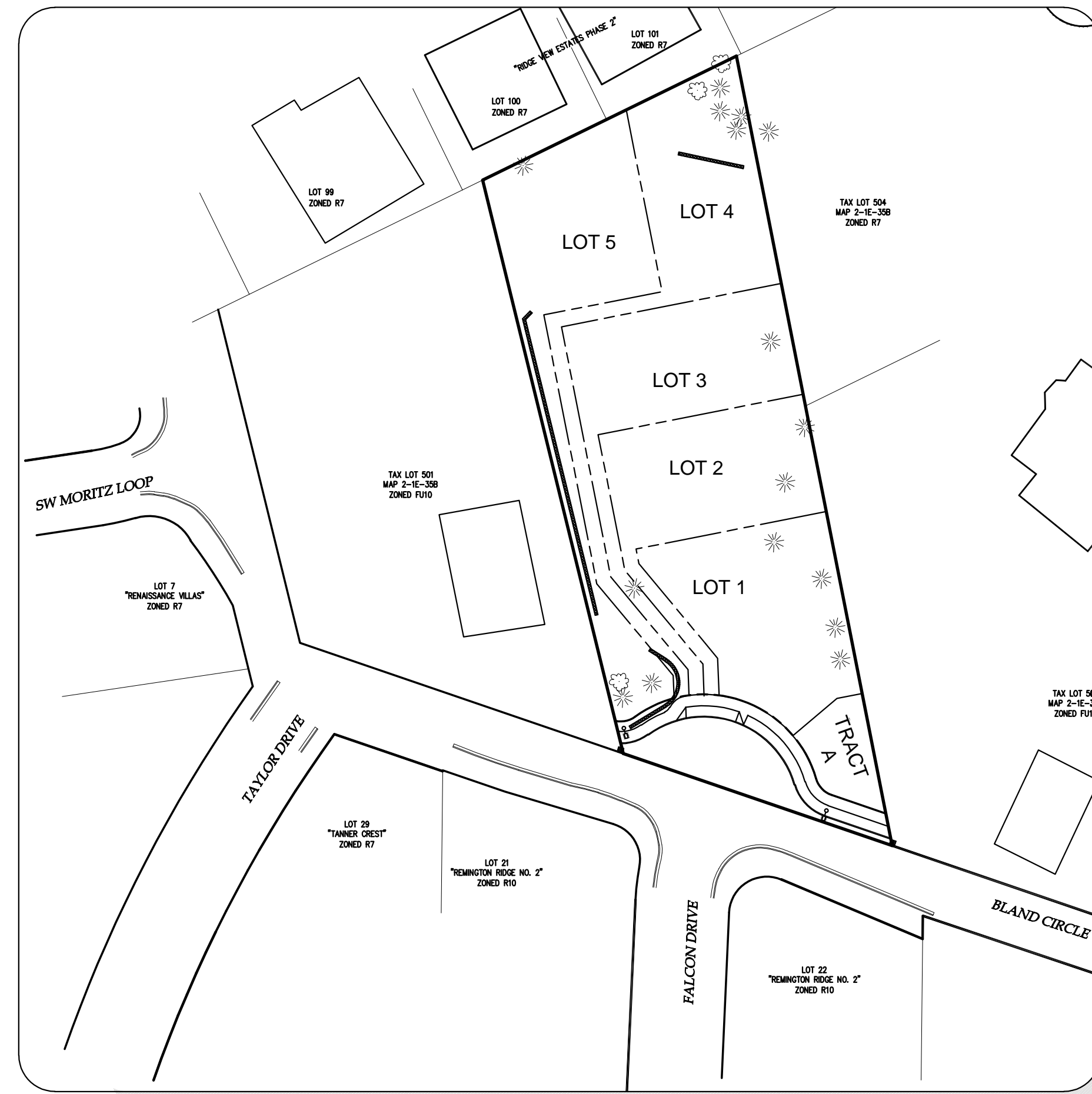
LAND USE 1/18/13

REVISION SUMMARY BY DATE

COVER SHEET  
**FALCON PLACE  
SUBDIVISION**  
OLH 14, LLC  
WEST LINN, OR



**VICINITY MAP**  
NOT TO SCALE



**SITE MAP**



Scale: 1 inch = 60 feet

A PORTION OF LOT 30, "BLAND ACRES"  
TAX LOT 502, IN THE NW 1/4 OF SECTION 35, T.2S., R.1E., W.M.  
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

**PROJECT TEAM**

**OWNER | APPLICANT**  
JT SMITH COMPANIES  
JOHN WYLAND  
5285 MEADOWS ROAD, SUITE #171  
LAKE OSWEGO, OR 97035

**CIVIL ENGINEER**  
3J CONSULTING, INC  
10445 SW CANYON ROAD, SUITE 245  
BEAVERTON, OR 97005  
CONTACT: BRIAN FEENEY, PE  
PHONE: 503-946-9365  
EMAIL: brian.feeneey@3j-consulting.com

**PLANNING**  
3J CONSULTING, INC  
10445 SW CANYON ROAD, SUITE 245  
BEAVERTON, OR 97005  
CONTACT: ANDREW TULL  
PHONE: 503-946-9365  
EMAIL: andrew.tull@3j-consulting.com

**LAND SURVEYING**  
COMPASS SURVEYING  
4107 SE INTERNATIONAL WAY, SUITE 705  
MILWAUKIE, OR 97222  
CONTACT: DON DEVLAEINCK, PLS  
PHONE: 503-653-9093

**SITE INFORMATION**

**SITE ADDRESS**  
23112 BLAND CIRCLE  
WEST LINN, OR 97068

**TAX LOT(S)**  
251E35B 502

**JURISDICTION**  
CITY OF WEST LINN

**ZONING**  
R-7

**FLOOD HAZARD**  
MAP NUMBER: 41005C0257D  
ZONE X (UNSHADED)

**INDEX OF PLANS**

- C0.0 COVER SHEET
- C1.0 EXISTING CONDITIONS
- C1.1 DEMOLITION PLAN
- C1.2 TREE PROTECTION AND REMOVAL PLAN
- C1.3 SLOPE ANALYSIS PLAN
- C2.0 TENTATIVE SUBDIVISION PLAT
- C2.1 PROPOSED SITE PLAN
- C2.2 SITE DRIVEWAY PROFILE
- C2.3 GRADING & EROSION CONTROL PLAN
- C2.4 COMPOSITE UTILITY PLAN
- C2.5 STREET LIGHTING PLAN
- L1.0 TREE MITIGATION PLAN



3J JOB ID # | 12093  
LAND USE # | SUB-12-01  
TAX LOT # | 21E35B 502  
DESIGNED BY | JTE  
CHECKED BY | RBS

SHEET TITLE  
**COVER SHEET**

SHEET NUMBER

**C0.0**

**EXISTING CONDITIONS PLAN**

THIS PLAN IS INTENDED FOR USE AS AN EXISTING CONDITIONS PLAN SHOWING THE CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN WAS DEVELOPED FROM THE TOPOGRAPHIC SURVEY, AERIAL PHOTOS, AND SITE OBSERVATIONS BY THE ENGINEER. NOT ALL SURFACE FEATURES OR UTILITIES MAY BE SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION TO DETERMINE WORK SPECIFIC DETAILS. TOPOGRAPHIC INFORMATION PROVIDED BY COMPASS ENGINEERING DATED AUGUST, 2012.

**LEGEND**

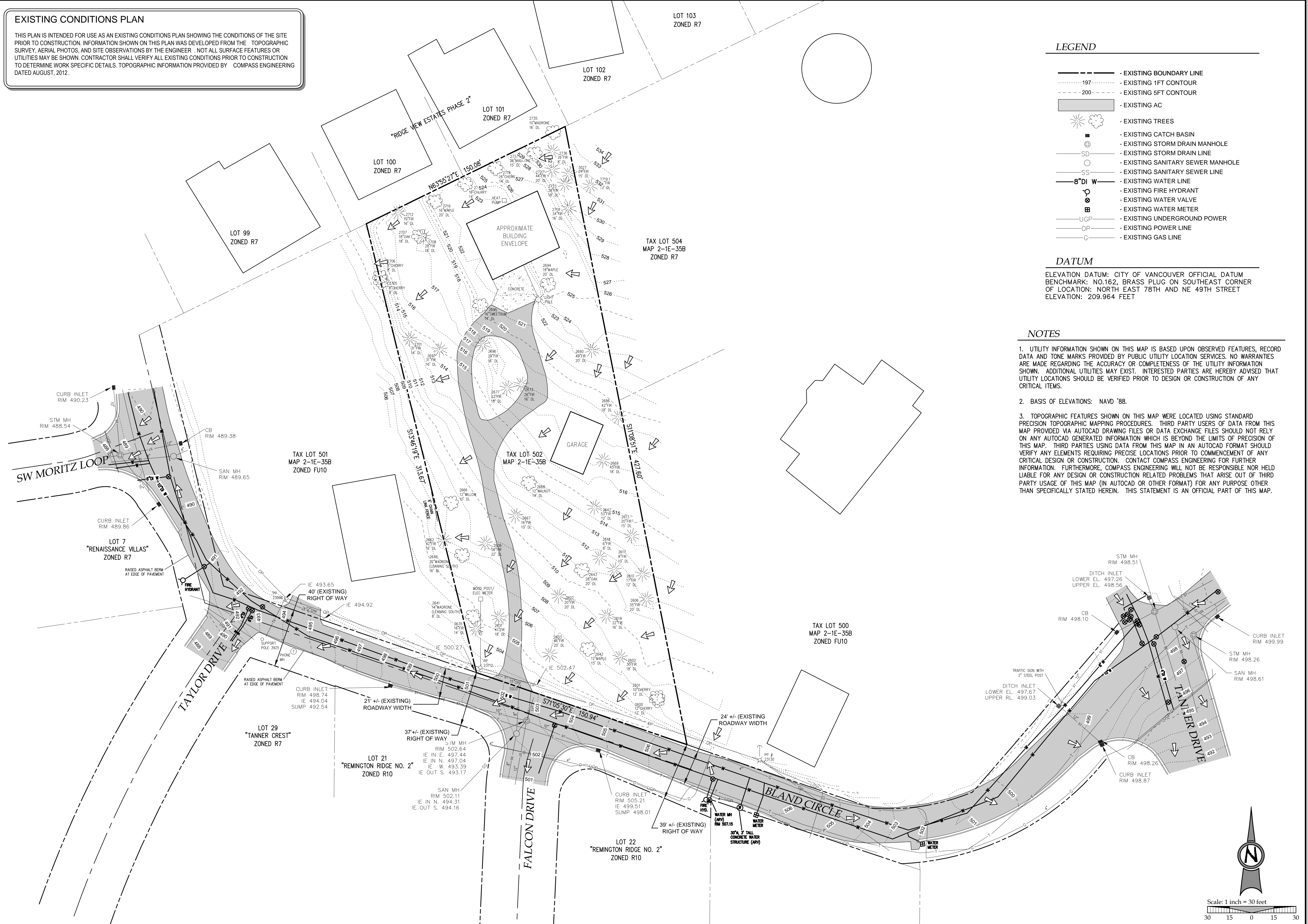
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- - - - - 197 - - - - - EXISTING 1FT CONTOUR
- - - - - 200 - - - - - EXISTING 5FT CONTOUR
- ▭ EXISTING AC
- ☀ ☁ EXISTING TREES
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- ⊕ EXISTING WATER VALVE
- ⊕ EXISTING WATER METER
- UGP— EXISTING UNDERGROUND POWER
- OP— EXISTING POWER LINE
- G— EXISTING GAS LINE

**DATUM**

ELEVATION DATUM: CITY OF VANCOUVER OFFICIAL DATUM  
 BENCHMARK: NO.162, BRASS PLUG ON SOUTHEAST CORNER  
 OF LOCATION: NORTH EAST 78TH AND NE 49TH STREET  
 ELEVATION: 209.964 FEET

**NOTES**

1. UTILITY INFORMATION SHOWN ON THIS MAP IS BASED UPON OBSERVED FEATURES, RECORD DATA AND TONE MARKS PROVIDED BY PUBLIC UTILITY LOCATION SERVICES. NO WARRANTIES ARE MADE REGARDING THE ACCURACY OR COMPLETENESS OF THE UTILITY INFORMATION SHOWN. ADDITIONAL UTILITIES MAY EXIST. INTERESTED PARTIES ARE HEREBY ADVISED THAT UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO DESIGN OR CONSTRUCTION OF ANY CRITICAL ITEMS.
2. BASIS OF ELEVATIONS: NAVD '88.
3. TOPOGRAPHIC FEATURES SHOWN ON THIS MAP WERE LOCATED USING STANDARD PRECISION TOPOGRAPHIC MAPPING PROCEDURES. THIRD PARTY USERS OF DATA FROM THIS MAP PROVIDED VIA AUTOCAD DRAWING FILES OR DATA EXCHANGE FILES SHOULD NOT RELY ON ANY AUTOCAD GENERATED INFORMATION WHICH IS BEYOND THE LIMITS OF PRECISION OF THIS MAP. THIRD PARTIES USING DATA FROM THIS MAP IN AN AUTOCAD FORMAT SHOULD VERIFY ANY ELEMENTS REQUIRING PRECISE LOCATIONS PRIOR TO COMMENCEMENT OF ANY CRITICAL DESIGN OR CONSTRUCTION. CONTACT COMPASS ENGINEERING FOR FURTHER INFORMATION. FURTHERMORE, COMPASS ENGINEERING WILL NOT BE RESPONSIBLE NOR HELD LIABLE FOR ANY DESIGN OR CONSTRUCTION RELATED PROBLEMS THAT ARISE OUT OF THIRD PARTY USAGE OF THIS MAP (IN AUTOCAD OR OTHER FORMAT) FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED HEREIN. THIS STATEMENT IS AN OFFICIAL PART OF THIS MAP.



LAND USE	REVISION SUMMARY	DATE
		1/18/13

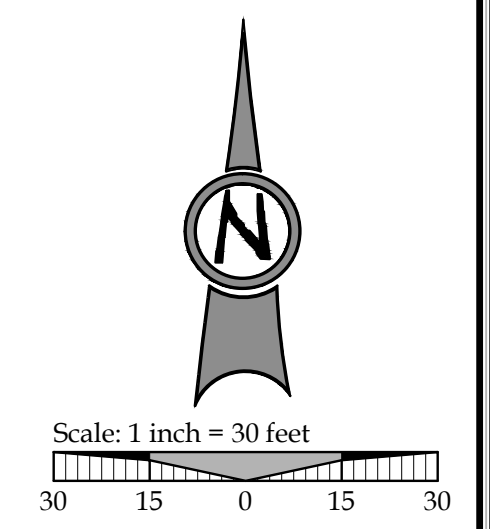
**EXISTING CONDITIONS  
 FALCON PLACE  
 SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

**3J CONSULTING, INC**  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5885

3J JOB ID # | I 12093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E358-502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

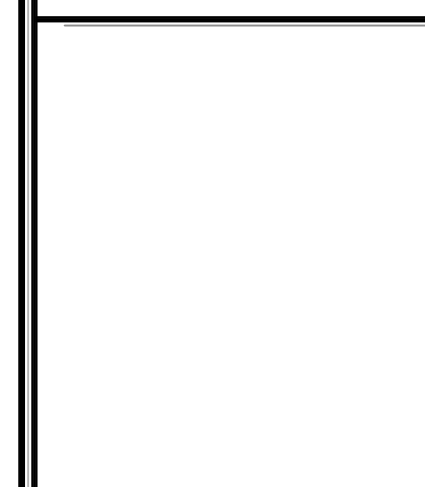
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**EXIST. CONDITIONS**  
 SHEET NUMBER

**C1.0**





DEMOLITION PLAN  
**FALCON PLACE**  
SUBDIVISION  
OLH 14, LLC  
WEST LINN, OR

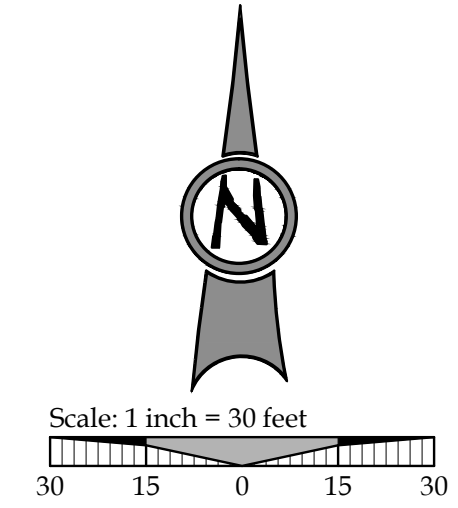


3J CONSULTING, INC.  
CIVIL ENGINEERING  
WATER RESOURCES  
LAND USE PLANNING  
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005  
PHONE & FAX: (503) 946-5885

3J JOB ID # | 12093  
LAND USE # | SUB-12-01  
TAX LOT # | 21E358-502  
DESIGNED BY | JTE  
CHECKED BY | RBS

SHEET TITLE  
**DEMO. PLAN**  
SHEET NUMBER

**C1.1**



**SPECIFIC WORK AREA DEMOLITION NOTES**

- 1 EXISTING BUILDING AND FOUNDATION TO BE DEMOLISHED. DEBRIS AND REFUSE TO BE DISPOSED OFF SITE AT AN APPROVED LOCATION
- 2 EXISTING POWER METER TO BE DISCONNECTED AND RETURNED TO POWER COMPANY. CAP SERVICE LINES AND REMOVE ALL CONDUITS AND WIRING WITHIN PROPERTY.
- 3 REMOVE EXISTING CONCRETE AND BASE ROCK WITHIN LIMITS SHOWN. DISPOSE OF RUBBLE AND REFUSE OFF SITE.
- 4 REMOVE EXISTING ASPHALT SURFACING AND BASE ROCK WITHIN LIMITS SHOWN. DISPOSE OF RUBBLE AND REFUSE OFF SITE.
- 5 REMOVE EXISTING CULVERT AND DISPOSE OFF SITE.

**GENERAL DEMOLITION NOTES**

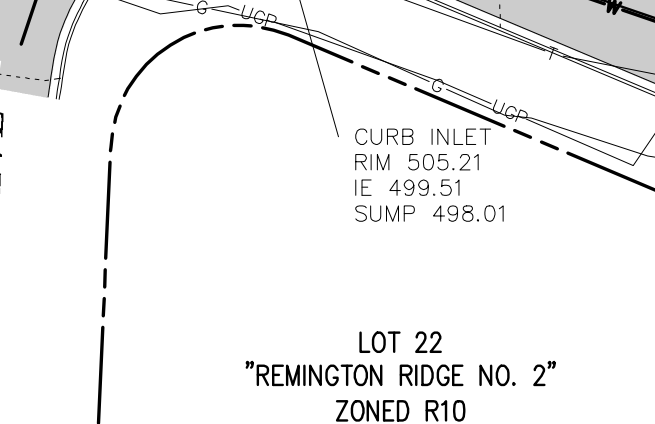
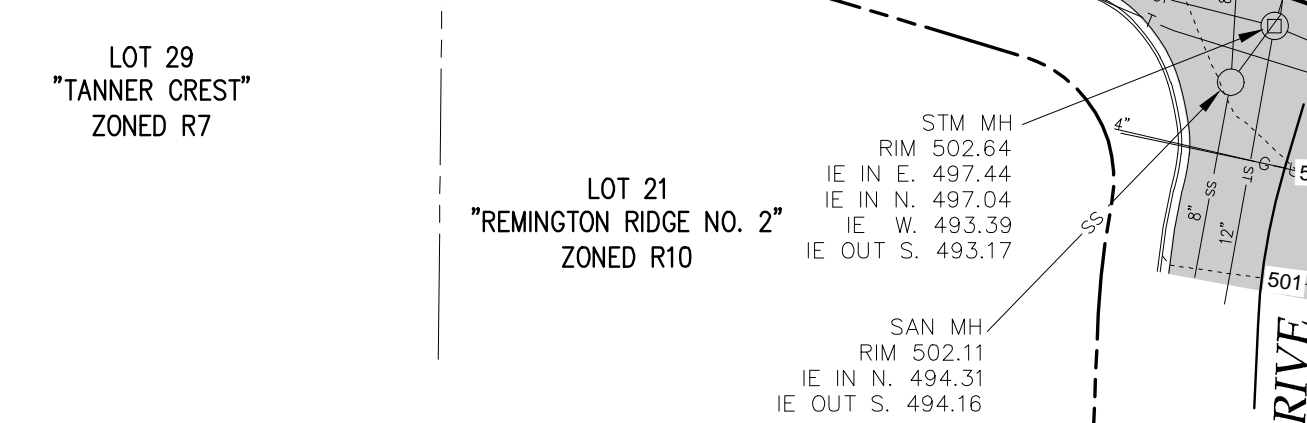
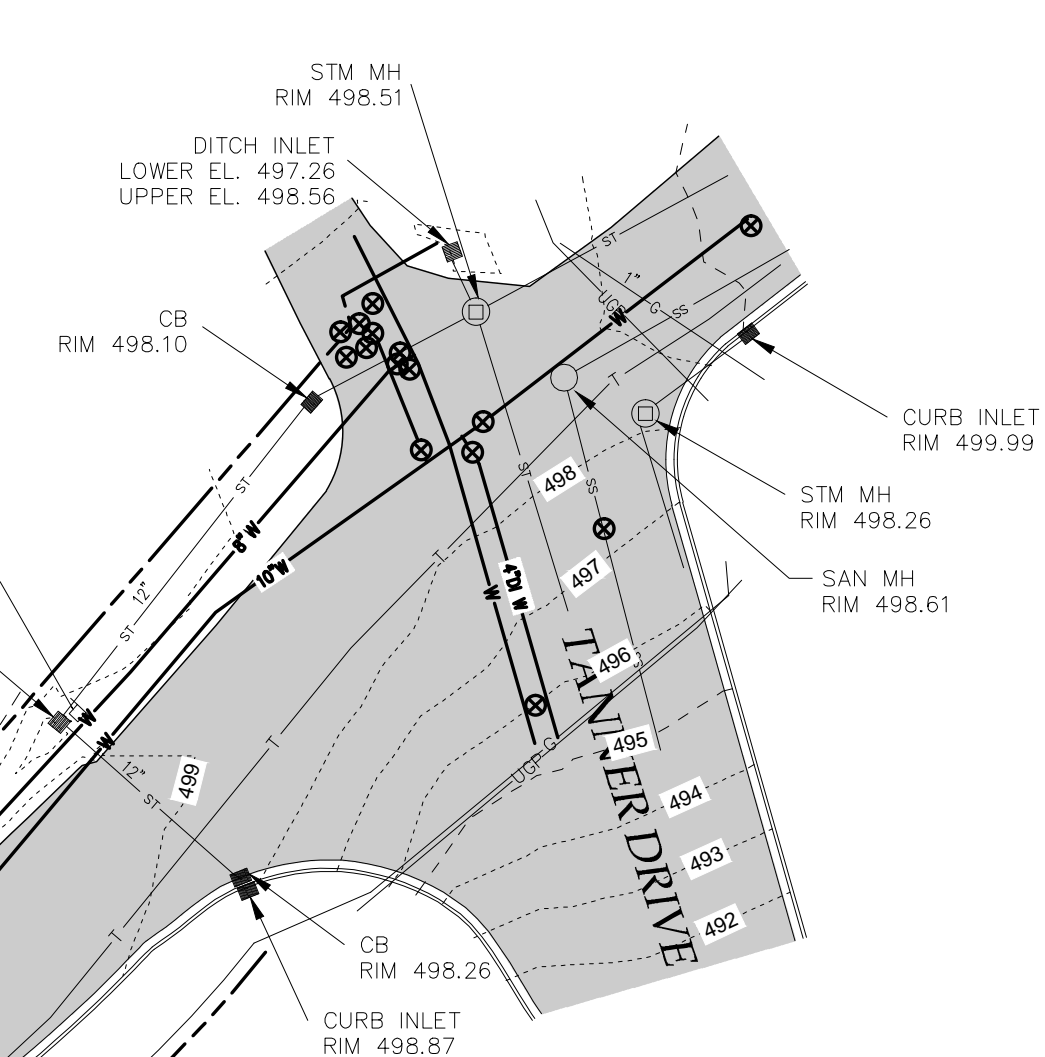
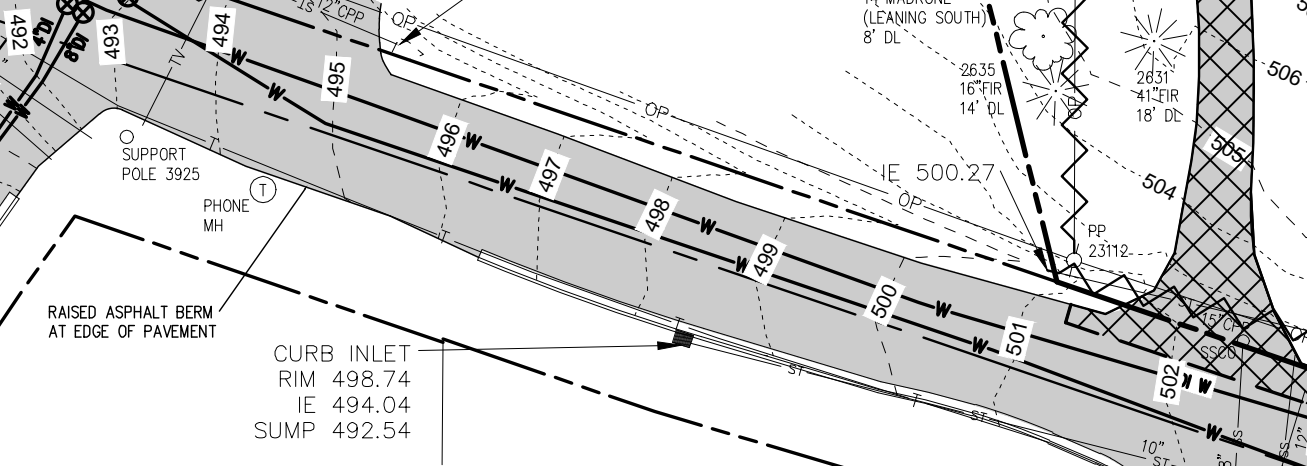
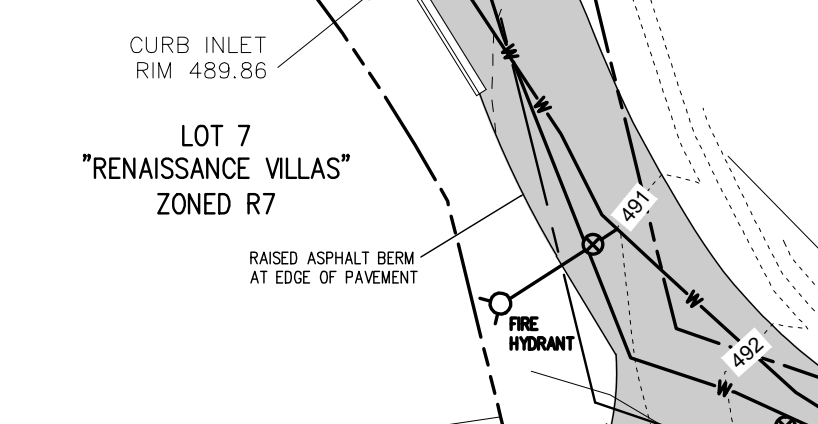
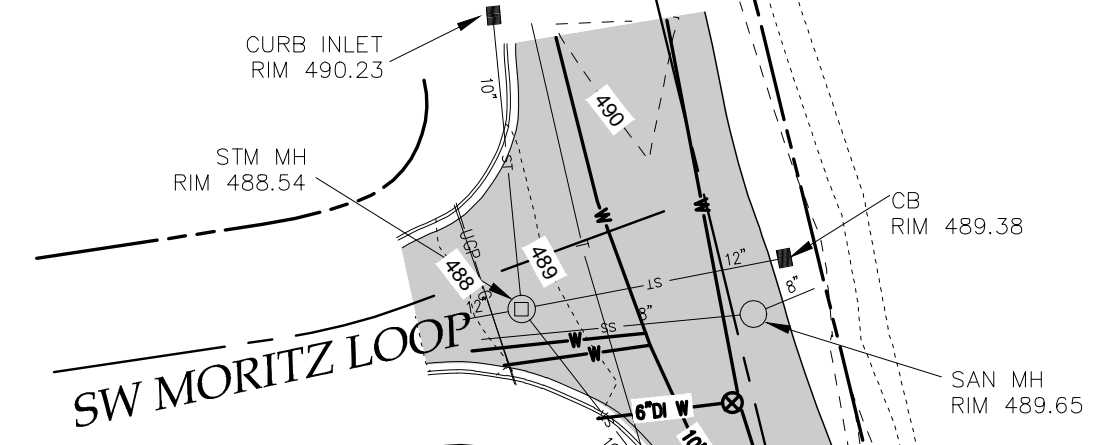
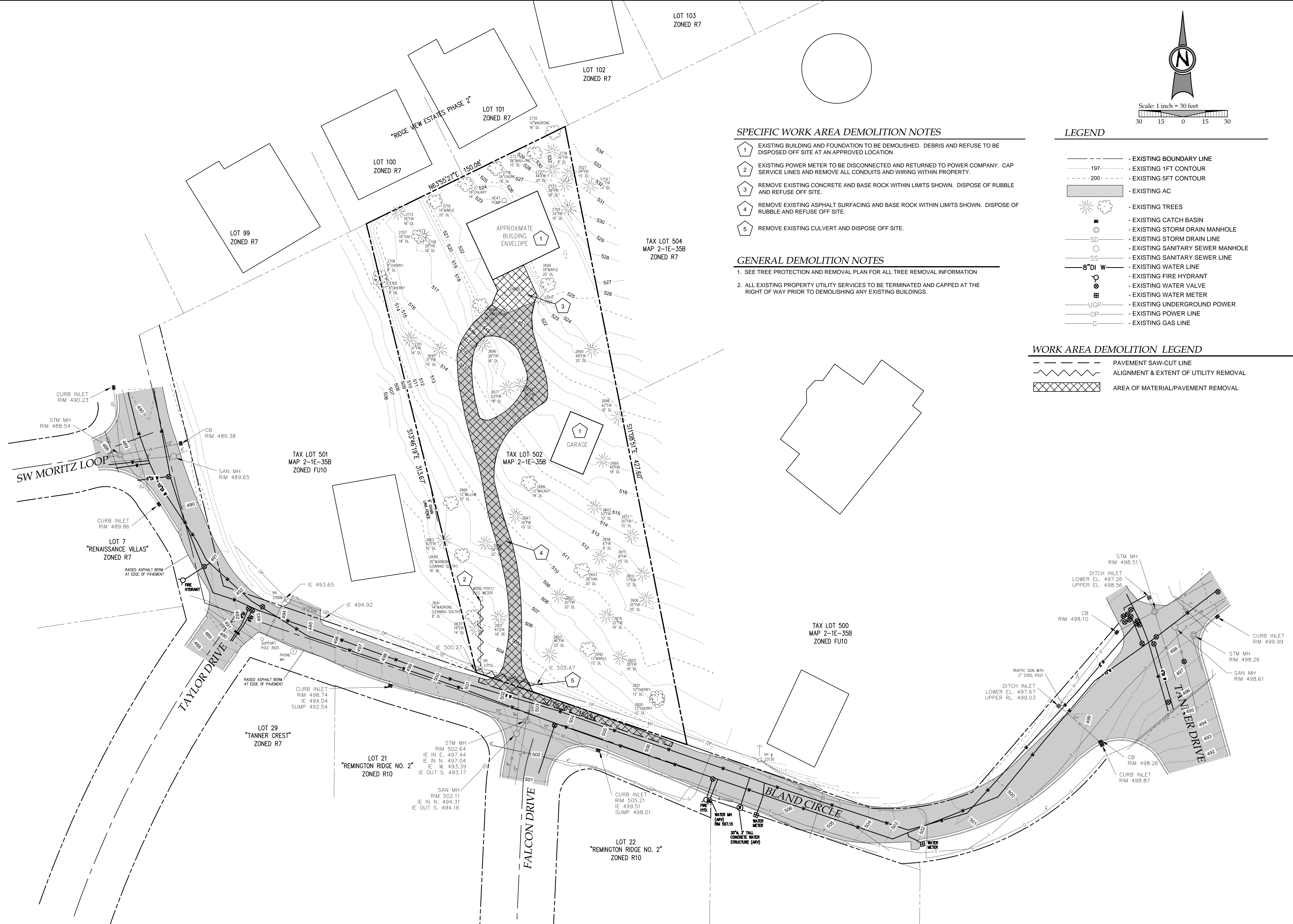
1. SEE TREE PROTECTION AND REMOVAL PLAN FOR ALL TREE REMOVAL INFORMATION
2. ALL EXISTING PROPERTY UTILITY SERVICES TO BE TERMINATED AND CAPPED AT THE RIGHT OF WAY PRIOR TO DEMOLISHING ANY EXISTING BUILDINGS.

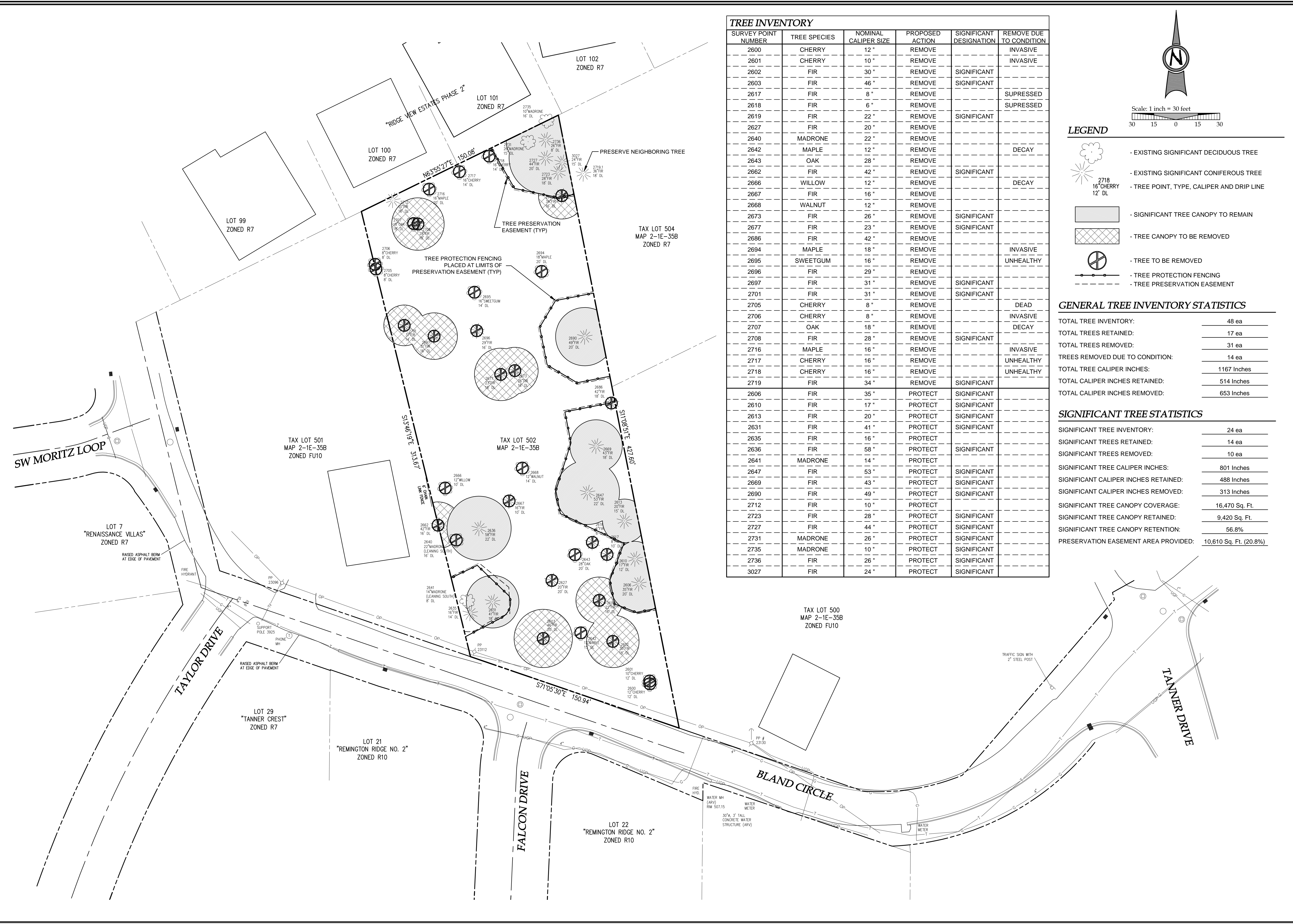
**LEGEND**

- - - - - EXISTING BOUNDARY LINE
- 197 --- EXISTING 1FT CONTOUR
- 200 --- EXISTING 5FT CONTOUR
- ▭ EXISTING AC
- ☼ EXISTING TREES
- EXISTING CATCH BASIN
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- ⊕ EXISTING WATER VALVE
- ⊕ EXISTING WATER METER
- UGP— EXISTING UNDERGROUND POWER
- OP— EXISTING POWER LINE
- G— EXISTING GAS LINE

**WORK AREA DEMOLITION LEGEND**

- - - - - PAVEMENT SAW-CUT LINE
- ~ ~ ~ ~ ~ ALIGNMENT & EXTENT OF UTILITY REMOVAL
- ▨ AREA OF MATERIAL/PAVEMENT REMOVAL





TREE INVENTORY					
SURVEY POINT NUMBER	TREE SPECIES	NOMINAL CALIPER SIZE	PROPOSED ACTION	SIGNIFICANT DESIGNATION	REMOVE DUE TO CONDITION
2600	CHERRY	12"	REMOVE		INVASIVE
2601	CHERRY	10"	REMOVE		INVASIVE
2602	FIR	30"	REMOVE	SIGNIFICANT	
2603	FIR	46"	REMOVE	SIGNIFICANT	
2617	FIR	8"	REMOVE		SUPRESSED
2618	FIR	6"	REMOVE		SUPRESSED
2619	FIR	22"	REMOVE	SIGNIFICANT	
2627	FIR	20"	REMOVE		
2640	MADRONE	22"	REMOVE		
2642	MAPLE	12"	REMOVE		DECAY
2643	OAK	28"	REMOVE		
2662	FIR	42"	REMOVE	SIGNIFICANT	
2666	WILLOW	12"	REMOVE		DECAY
2667	FIR	16"	REMOVE		
2668	WALNUT	12"	REMOVE		
2673	FIR	26"	REMOVE	SIGNIFICANT	
2677	FIR	23"	REMOVE	SIGNIFICANT	
2686	FIR	42"	REMOVE		
2694	MAPLE	18"	REMOVE		INVASIVE
2695	SWEETGUM	16"	REMOVE		UNHEALTHY
2696	FIR	29"	REMOVE		
2697	FIR	31"	REMOVE	SIGNIFICANT	
2701	FIR	31"	REMOVE	SIGNIFICANT	
2705	CHERRY	8"	REMOVE		DEAD
2706	CHERRY	8"	REMOVE		INVASIVE
2707	OAK	18"	REMOVE		DECAY
2708	FIR	28"	REMOVE	SIGNIFICANT	
2716	MAPLE	16"	REMOVE		INVASIVE
2717	CHERRY	16"	REMOVE		UNHEALTHY
2718	CHERRY	16"	REMOVE		UNHEALTHY
2719	FIR	34"	REMOVE	SIGNIFICANT	
2806	FIR	35"	PROTECT	SIGNIFICANT	
2610	FIR	17"	PROTECT	SIGNIFICANT	
2613	FIR	20"	PROTECT	SIGNIFICANT	
2631	FIR	41"	PROTECT	SIGNIFICANT	
2635	FIR	16"	PROTECT		
2636	FIR	58"	PROTECT	SIGNIFICANT	
2641	MADRONE	14"	PROTECT		
2647	FIR	53"	PROTECT	SIGNIFICANT	
2669	FIR	43"	PROTECT	SIGNIFICANT	
2690	FIR	49"	PROTECT	SIGNIFICANT	
2712	FIR	10"	PROTECT		
2723	FIR	28"	PROTECT	SIGNIFICANT	
2727	FIR	44"	PROTECT	SIGNIFICANT	
2731	MADRONE	26"	PROTECT	SIGNIFICANT	
2735	MADRONE	10"	PROTECT	SIGNIFICANT	
2736	FIR	26"	PROTECT	SIGNIFICANT	
3027	FIR	24"	PROTECT	SIGNIFICANT	

**LEGEND**

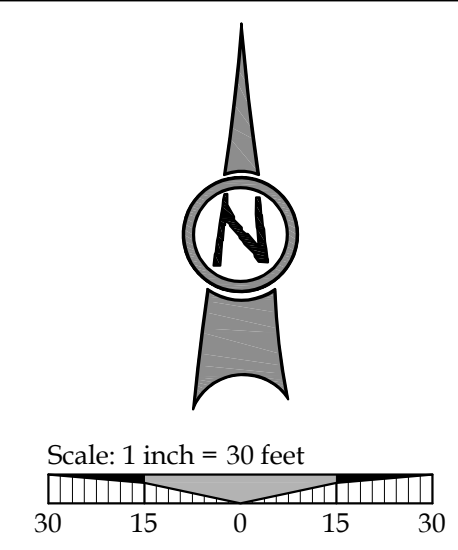
- EXISTING SIGNIFICANT DECIDUOUS TREE
- EXISTING SIGNIFICANT CONIFEROUS TREE
- TREE POINT, TYPE, CALIPER AND DRIP LINE
- SIGNIFICANT TREE CANOPY TO REMAIN
- TREE CANOPY TO BE REMOVED
- TREE TO BE REMOVED
- TREE PROTECTION FENCING
- TREE PRESERVATION EASEMENT

**GENERAL TREE INVENTORY STATISTICS**

TOTAL TREE INVENTORY:	48 ea
TOTAL TREES RETAINED:	17 ea
TOTAL TREES REMOVED:	31 ea
TREES REMOVED DUE TO CONDITION:	14 ea
TOTAL TREE CALIPER INCHES:	1167 Inches
TOTAL CALIPER INCHES RETAINED:	514 Inches
TOTAL CALIPER INCHES REMOVED:	653 Inches

**SIGNIFICANT TREE STATISTICS**

SIGNIFICANT TREE INVENTORY:	24 ea
SIGNIFICANT TREES RETAINED:	14 ea
SIGNIFICANT TREES REMOVED:	10 ea
SIGNIFICANT TREE CALIPER INCHES:	801 Inches
SIGNIFICANT CALIPER INCHES RETAINED:	488 Inches
SIGNIFICANT CALIPER INCHES REMOVED:	313 Inches
SIGNIFICANT TREE CANOPY COVERAGE:	16,470 Sq. Ft.
SIGNIFICANT TREE CANOPY RETAINED:	9,420 Sq. Ft.
SIGNIFICANT TREE CANOPY RETENTION:	56.8%
PRESERVATION EASEMENT AREA PROVIDED:	10,610 Sq. Ft. (20.8%)



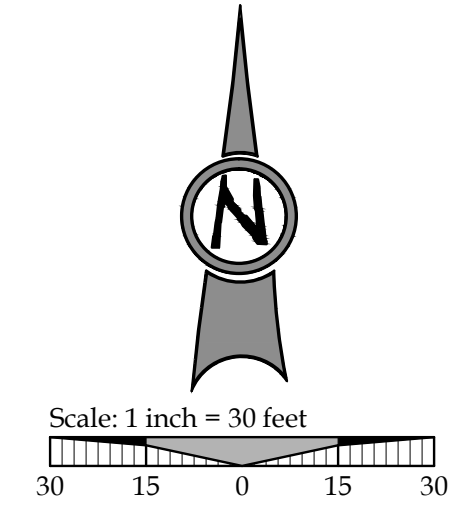
LAND USE REVISION SUMMARY BY DATE  
 1/18/13

TREE PROTECTION AND REMOVAL PLAN  
**FALCON PLACE**  
**SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

**3J CONSULTING, INC.**  
  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-8386

3J JOB ID # | 12093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E358 502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

SHEET TITLE  
**TREE PLAN**  
 SHEET NUMBER  
**C1.2**



**LEGEND**

- EXISTING BOUNDARY LINE
- EXISTING 1FT CONTOUR
- EXISTING 5FT CONTOUR
- EXISTING TREES
- RUNOFF FLOW DIRECTION

**SITE SLOPE ANALYSIS TABLE**

Minimum Slope	Maximum Slope	Area (sf)	Color
0%	15%	43,282	
16%	25%	3,241	
26%	35%	1,031	
36%	50%	2,128	
> 50%	--	1,107	

LAND USE

REVISION SUMMARY	DATE	BY
	1/18/13	

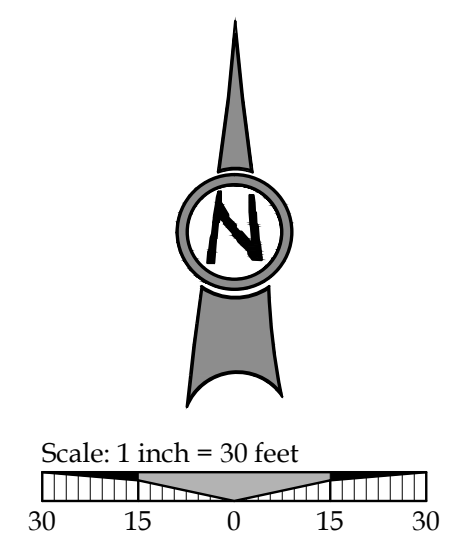
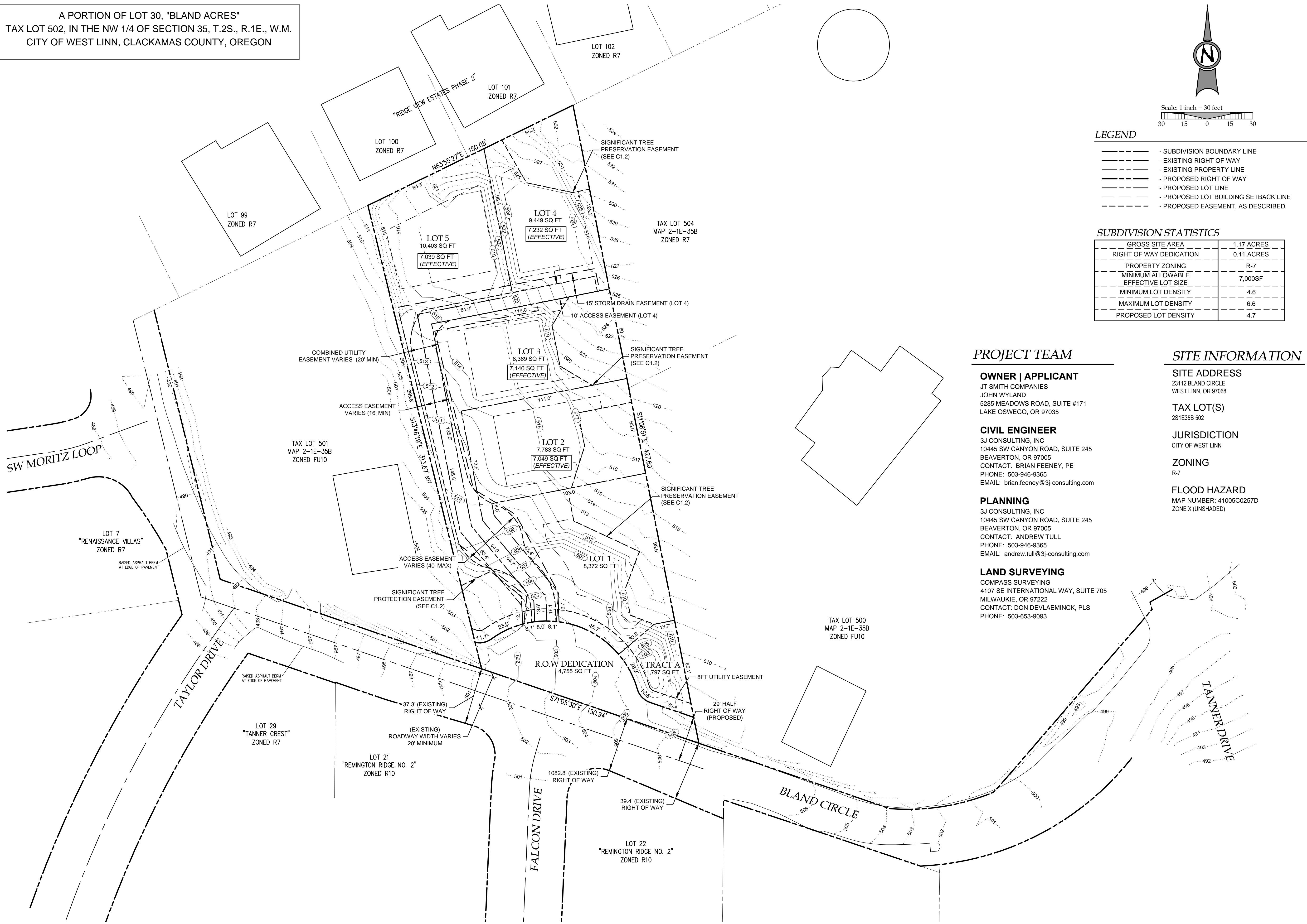
**SLOPE ANALYSIS PLAN  
FALCON PLACE  
SUBDIVISION**  
OLH 14, LLC  
WEST LINN, OR

**3J CONSULTING, INC.**  
  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5885

3J JOB ID #	12093
LAND USE #	SUB-12-01
TAX LOT #	21E35B 502
DESIGNED BY	JTE
CHECKED BY	RBS

SHEET TITLE  
**SLOPE ANALYSIS**  
SHEET NUMBER  
**C1.3**

A PORTION OF LOT 30, "BLAND ACRES"  
 TAX LOT 502, IN THE NW 1/4 OF SECTION 35, T.2S., R.1E., W.M.  
 CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON



**LEGEND**

- SUBDIVISION BOUNDARY LINE
- - - EXISTING RIGHT OF WAY
- - - EXISTING PROPERTY LINE
- - - PROPOSED RIGHT OF WAY
- - - PROPOSED LOT LINE
- - - PROPOSED LOT BUILDING SETBACK LINE
- - - PROPOSED EASEMENT, AS DESCRIBED

**SUBDIVISION STATISTICS**

GROSS SITE AREA	1.17 ACRES
RIGHT OF WAY DEDICATION	0.11 ACRES
PROPERTY ZONING	R-7
MINIMUM ALLOWABLE EFFECTIVE LOT SIZE	7,000SF
MINIMUM LOT DENSITY	4.6
MAXIMUM LOT DENSITY	6.6
PROPOSED LOT DENSITY	4.7

**PROJECT TEAM**

**OWNER | APPLICANT**  
 JT SMITH COMPANIES  
 JOHN WYLAND  
 5285 MEADOWS ROAD, SUITE #171  
 LAKE OSWEGO, OR 97035

**CIVIL ENGINEER**  
 3J CONSULTING, INC  
 10445 SW CANYON ROAD, SUITE 245  
 BEAVERTON, OR 97005  
 CONTACT: BRIAN FEENEY, PE  
 PHONE: 503-946-9365  
 EMAIL: brian.feeny@3j-consulting.com

**PLANNING**  
 3J CONSULTING, INC  
 10445 SW CANYON ROAD, SUITE 245  
 BEAVERTON, OR 97005  
 CONTACT: ANDREW TULL  
 PHONE: 503-946-9365  
 EMAIL: andrew.tull@3j-consulting.com

**LAND SURVEYING**  
 COMPASS SURVEYING  
 4107 SE INTERNATIONAL WAY, SUITE 705  
 MILWAUKIE, OR 97222  
 CONTACT: DON DEVLAMINCK, PLS  
 PHONE: 503-653-9093

**SITE INFORMATION**

**SITE ADDRESS**  
 23112 BLAND CIRCLE  
 WEST LINN, OR 97068

**TAX LOT(S)**  
 2S1E35B 502

**JURISDICTION**  
 CITY OF WEST LINN

**ZONING**  
 R-7

**FLOOD HAZARD**  
 MAP NUMBER: 41005C0257D  
 ZONE X (UNSHADED)

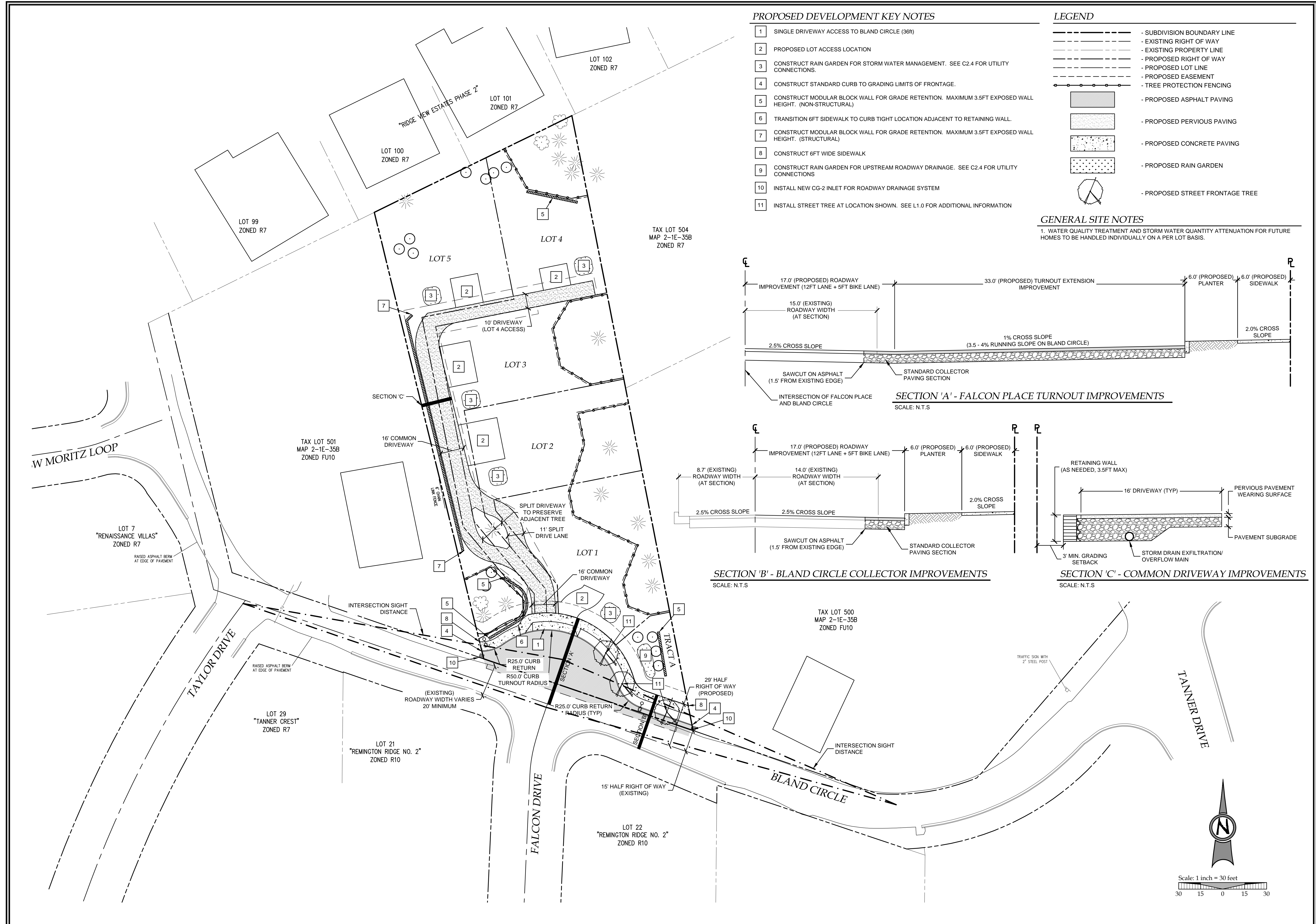
LAND USE REVISION SUMMARY BY DATE  
 1/18/13

TENTATIVE SUBDIVISION PLAT  
**FALCON PLACE**  
**SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

3J JOB ID # | I2093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E35B 502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

SHEET TITLE  
**SUBDIVISION PLAT**  
 SHEET NUMBER

**C2.0**



**PROPOSED DEVELOPMENT KEY NOTES**

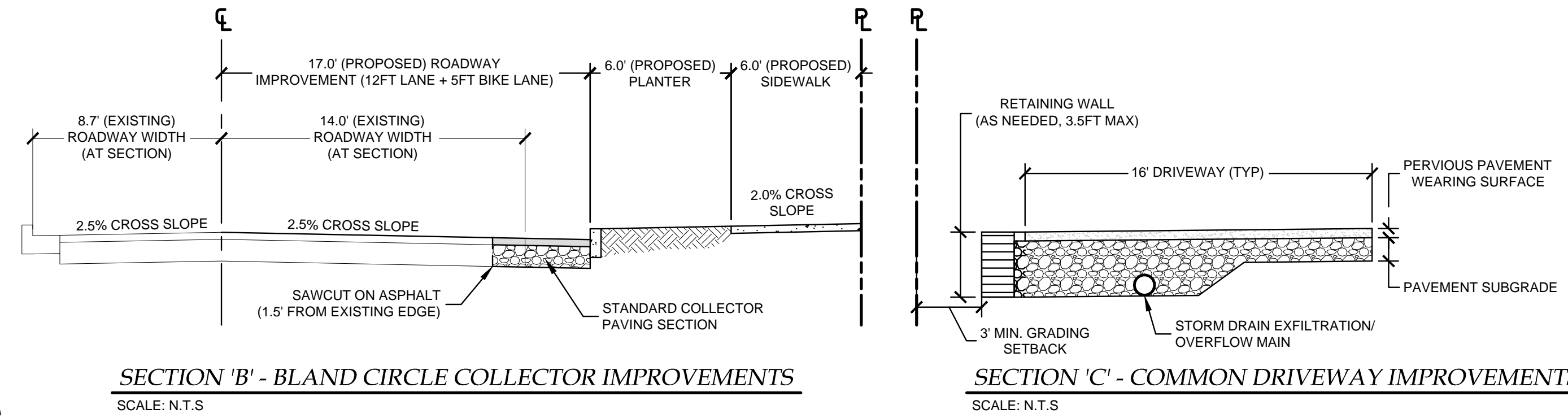
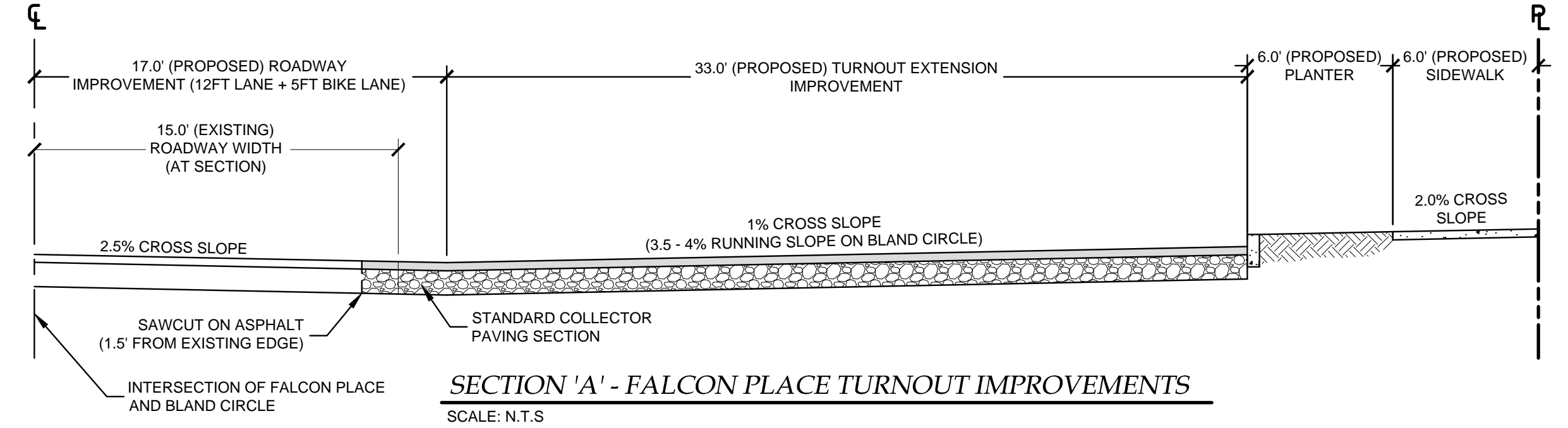
- 1 SINGLE DRIVEWAY ACCESS TO BLAND CIRCLE (36R)
- 2 PROPOSED LOT ACCESS LOCATION
- 3 CONSTRUCT RAIN GARDEN FOR STORM WATER MANAGEMENT. SEE C2.4 FOR UTILITY CONNECTIONS.
- 4 CONSTRUCT STANDARD CURB TO GRADING LIMITS OF FRONTAGE.
- 5 CONSTRUCT MODULAR BLOCK WALL FOR GRADE RETENTION. MAXIMUM 3.5FT EXPOSED WALL HEIGHT. (NON-STRUCTURAL)
- 6 TRANSITION 6FT SIDEWALK TO CURB TIGHT LOCATION ADJACENT TO RETAINING WALL.
- 7 CONSTRUCT MODULAR BLOCK WALL FOR GRADE RETENTION. MAXIMUM 3.5FT EXPOSED WALL HEIGHT. (STRUCTURAL)
- 8 CONSTRUCT 6FT WIDE SIDEWALK
- 9 CONSTRUCT RAIN GARDEN FOR UPSTREAM ROADWAY DRAINAGE. SEE C2.4 FOR UTILITY CONNECTIONS
- 10 INSTALL NEW CG-2 INLET FOR ROADWAY DRAINAGE SYSTEM
- 11 INSTALL STREET TREE AT LOCATION SHOWN. SEE L1.0 FOR ADDITIONAL INFORMATION

**LEGEND**

- SUBDIVISION BOUNDARY LINE
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED EASEMENT
- TREE PROTECTION FENCING
- PROPOSED ASPHALT PAVING
- PROPOSED PERVIOUS PAVING
- PROPOSED CONCRETE PAVING
- PROPOSED RAIN GARDEN
- PROPOSED STREET FRONTAGE TREE

**GENERAL SITE NOTES**

1. WATER QUALITY TREATMENT AND STORM WATER QUANTITY ATTENUATION FOR FUTURE HOMES TO BE HANDLED INDIVIDUALLY ON A PER LOT BASIS.



LAND USE	1/18/13
REVISION SUMMARY	BY DATE

**PROPOSED SITE PLAN**  
**FALCON PLACE**  
**SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

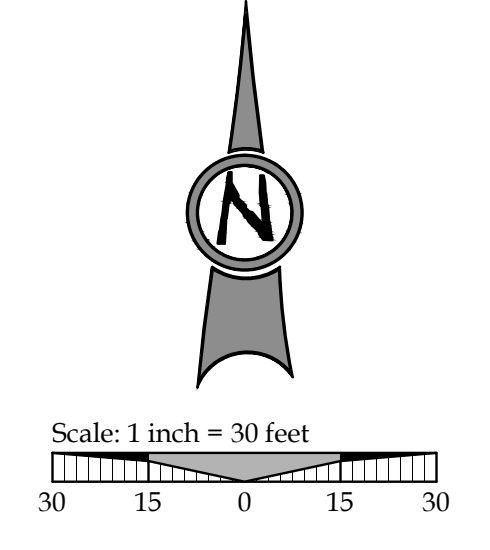


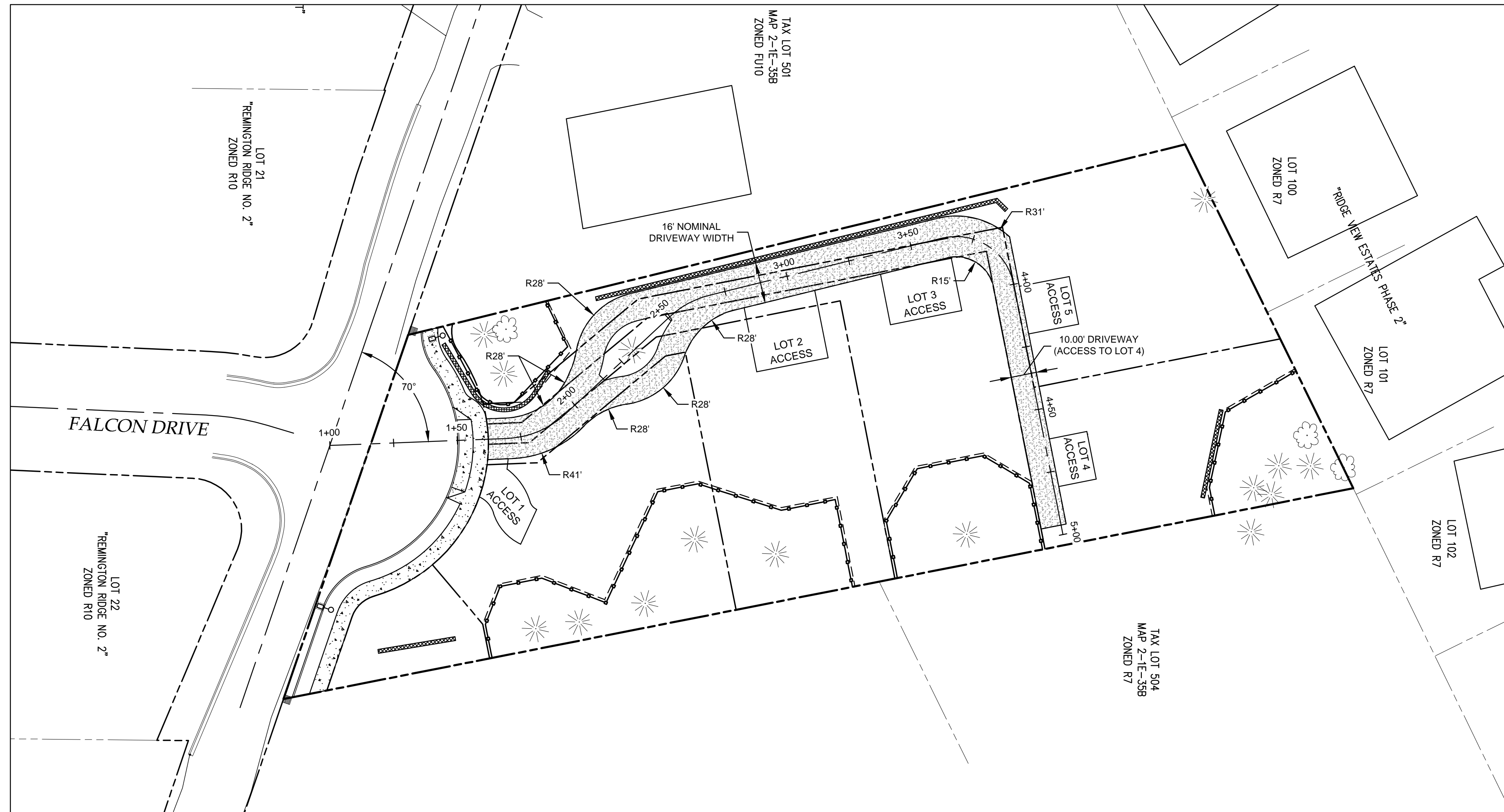
3J CONSULTING, INC.  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5365

3J JOB ID # | 12093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E358 502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

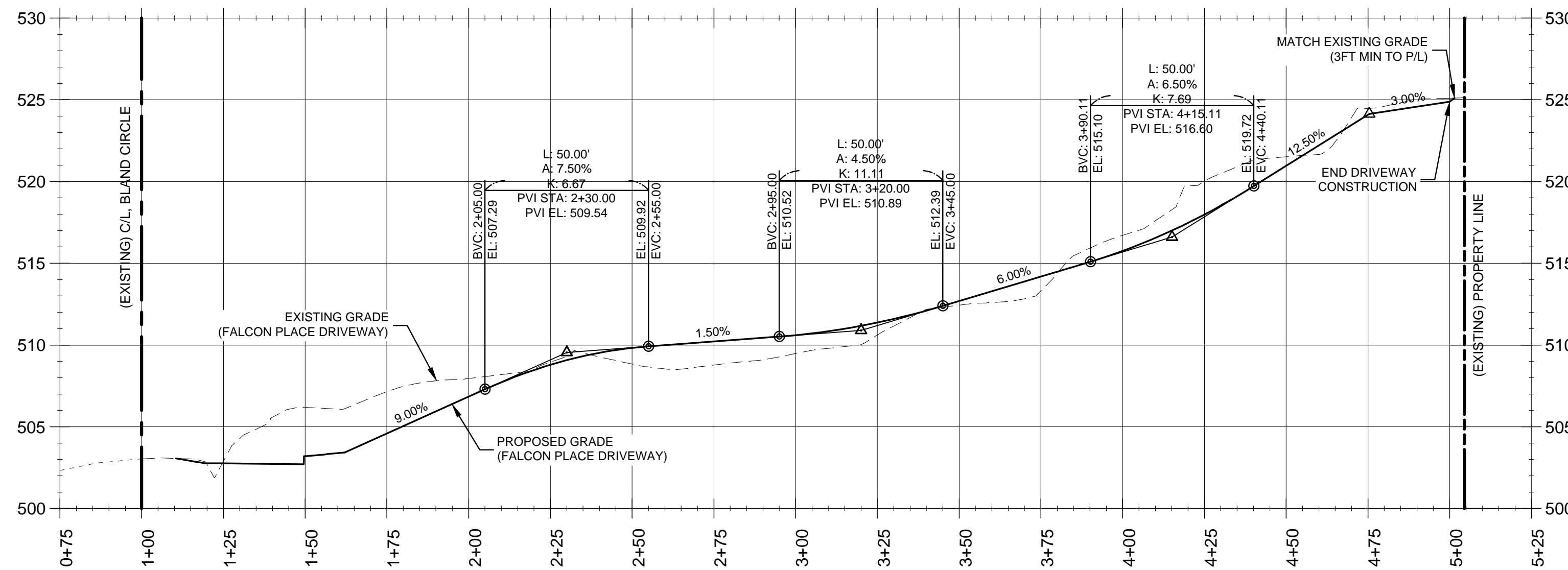
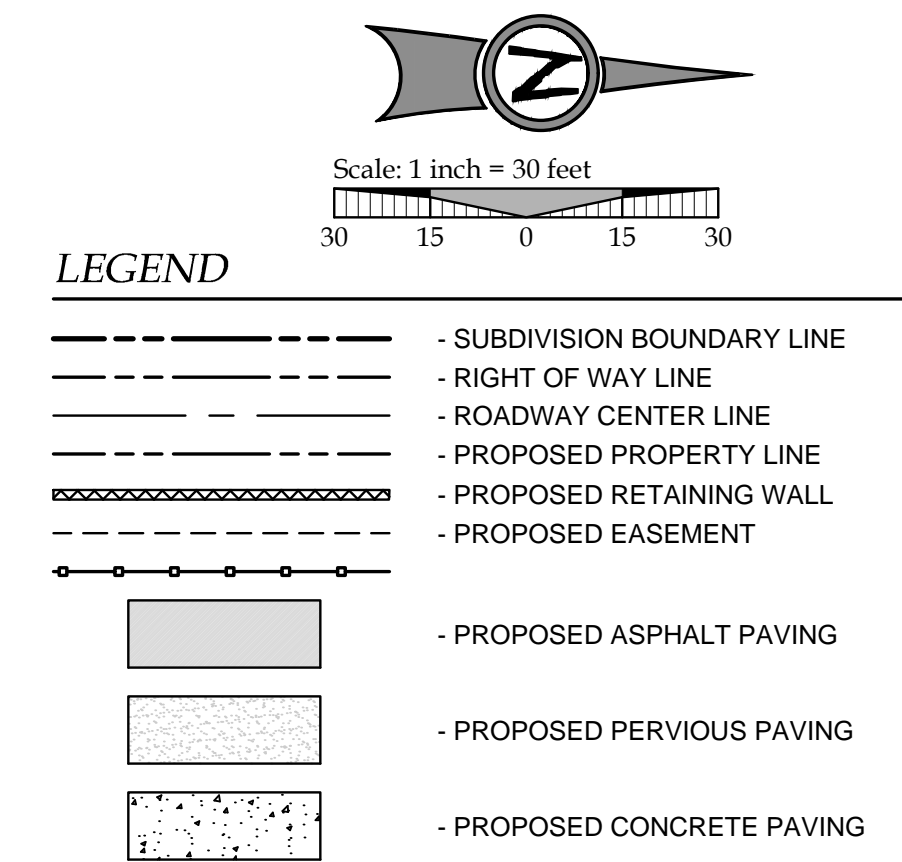
SHEET TITLE  
**SITE PLAN**  
 SHEET NUMBER

**C2.1**





FALCON PLACE DRIVEWAY - PLAN VIEW



FALCON PLACE DRIVEWAY - GRADE PROFILE  
(STA:0+75.00 - STA:5+25.00)  
1" = 30' H.; 1" = 6' V

LAND USE REVISION SUMMARY BY DATE

SITE DRIVEWAY PROFILE  
**FALCON PLACE**  
**SUBDIVISION**  
OLH 14, LLC  
WEST LINN, OR

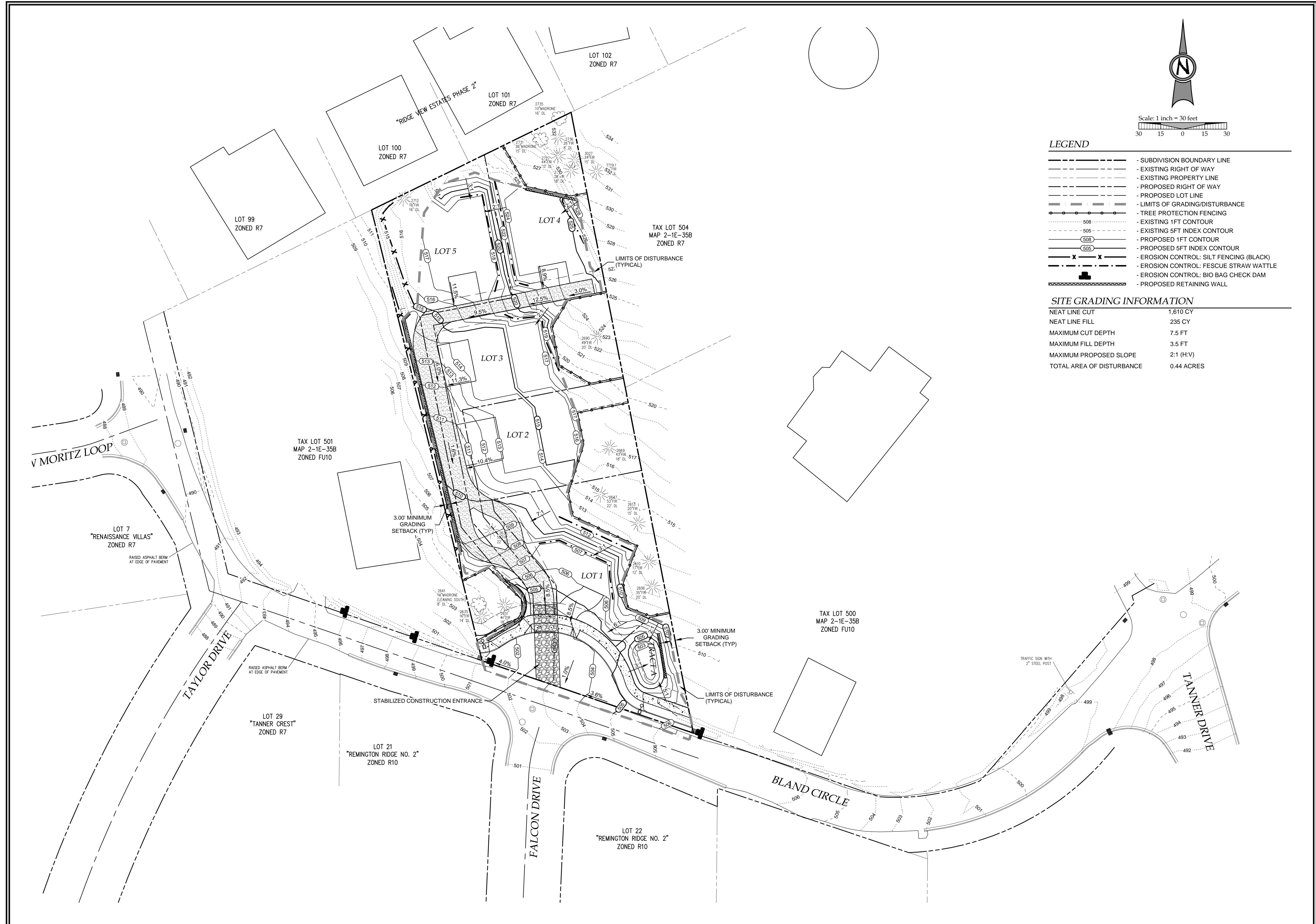


3J JOB ID # | 12093  
LAND USE # | SUB-12-01  
TAX LOT # | 21E358 502  
DESIGNED BY | JTE  
CHECKED BY | RBS

SHEET TITLE  
DRIVEWAY PROFILE

SHEET NUMBER

**C2.2**



**LEGEND**

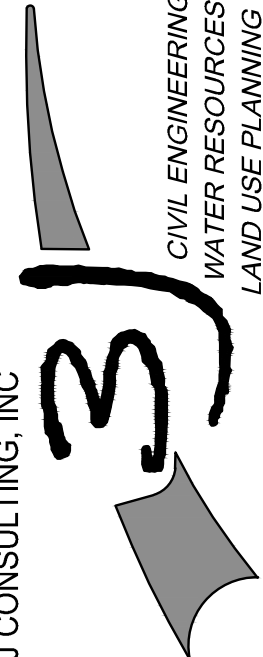
- - - - - SUBDIVISION BOUNDARY LINE
- - - - - EXISTING RIGHT OF WAY
- - - - - EXISTING PROPERTY LINE
- - - - - PROPOSED RIGHT OF WAY
- - - - - PROPOSED LOT LINE
- - - - - LIMITS OF GRADING/DISTURBANCE
- - - - - TREE PROTECTION FENCING
- - - - - EXISTING 1FT CONTOUR
- - - - - EXISTING 5FT INDEX CONTOUR
- - - - - PROPOSED 1FT CONTOUR
- - - - - PROPOSED 5FT INDEX CONTOUR
- - - - - EROSION CONTROL: SILT FENCING (BLACK)
- - - - - EROSION CONTROL: FESCUE STRAW WATTLE
- - - - - EROSION CONTROL: BIO BAG CHECK DAM
- - - - - PROPOSED RETAINING WALL

**SITE GRADING INFORMATION**

NEAT LINE CUT	1,610 CY
NEAT LINE FILL	235 CY
MAXIMUM CUT DEPTH	7.5 FT
MAXIMUM FILL DEPTH	3.5 FT
MAXIMUM PROPOSED SLOPE	2:1 (H:V)
TOTAL AREA OF DISTURBANCE	0.44 ACRES

LAND USE REVISION SUMMARY BY DATE  
1/18/13

**GRADING & EROSION CONTROL PLAN**  
**FALCON PLACE**  
**SUBDIVISION**  
OLH 14, LLC  
WEST LINN, OR

3J CONSULTING, INC  
  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5365

3J JOB ID # | 12093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E358 502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

SHEET TITLE  
**GRADING & EC**

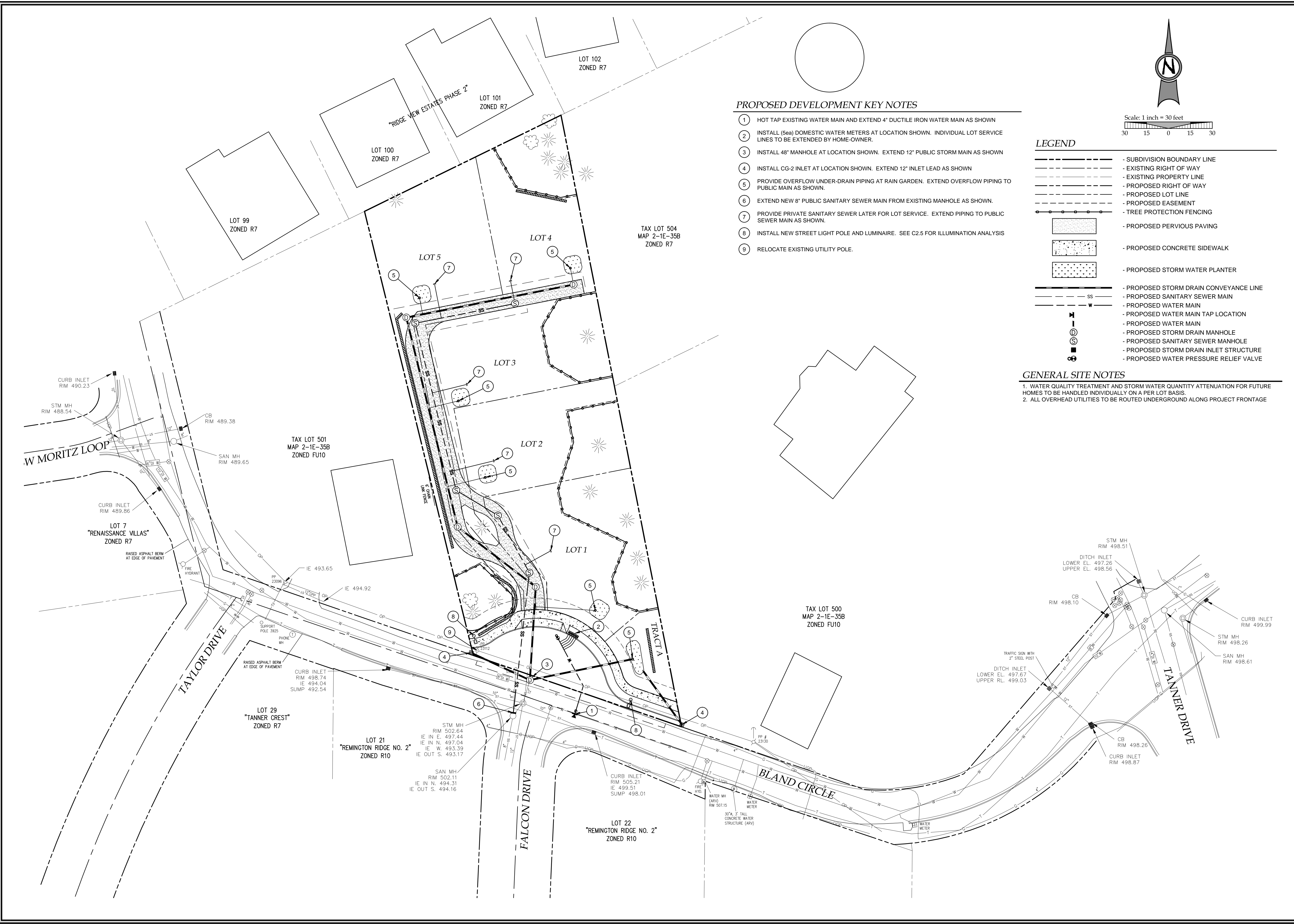
SHEET NUMBER  
**C2.3**

COMPOSITE UTILITY PLAN  
**FALCON PLACE**  
SUBDIVISION  
OLH 14, LLC  
WEST LINN, OR

3J CONSULTING, INC  
**3J**  
CIVIL ENGINEERING  
WATER RESOURCES  
LAND USE PLANNING  
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005  
PHONE & FAX: (503) 946-5885

3J JOB ID # | 12093  
LAND USE # | SUB-12-01  
TAX LOT # | 21E358-502  
DESIGNED BY | JTE  
CHECKED BY | RBS

SHEET TITLE  
**COMPOSITE UTILITY**  
SHEET NUMBER  
**C2.4**



**PROPOSED DEVELOPMENT KEY NOTES**

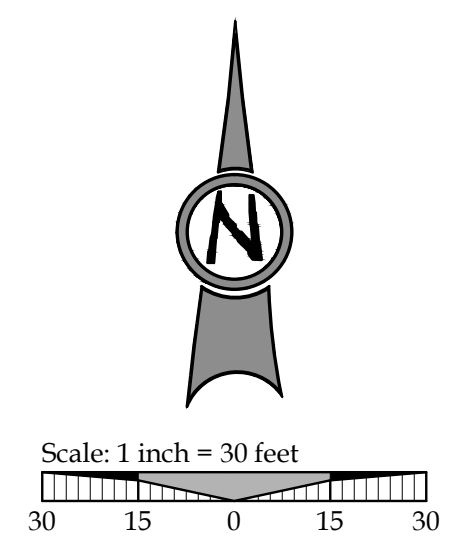
- 1 HOT TAP EXISTING WATER MAIN AND EXTEND 4" DUCTILE IRON WATER MAIN AS SHOWN
- 2 INSTALL (5ea) DOMESTIC WATER METERS AT LOCATION SHOWN. INDIVIDUAL LOT SERVICE LINES TO BE EXTENDED BY HOME-OWNER.
- 3 INSTALL 48" MANHOLE AT LOCATION SHOWN. EXTEND 12" PUBLIC STORM MAIN AS SHOWN
- 4 INSTALL CG-2 INLET AT LOCATION SHOWN. EXTEND 12" INLET LEAD AS SHOWN
- 5 PROVIDE OVERFLOW UNDER-DRAIN PIPING AT RAIN GARDEN. EXTEND OVERFLOW PIPING TO PUBLIC MAIN AS SHOWN.
- 6 EXTEND NEW 8" PUBLIC SANITARY SEWER MAIN FROM EXISTING MANHOLE AS SHOWN.
- 7 PROVIDE PRIVATE SANITARY SEWER LATER FOR LOT SERVICE. EXTEND PIPING TO PUBLIC SEWER MAIN AS SHOWN.
- 8 INSTALL NEW STREET LIGHT POLE AND LUMINAIRE. SEE C2.5 FOR ILLUMINATION ANALYSIS
- 9 RELOCATE EXISTING UTILITY POLE.

**LEGEND**

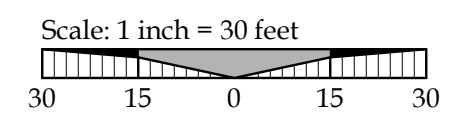
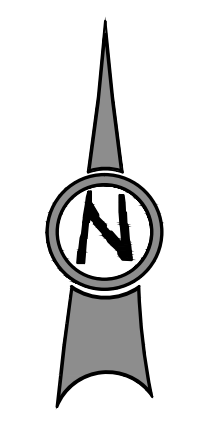
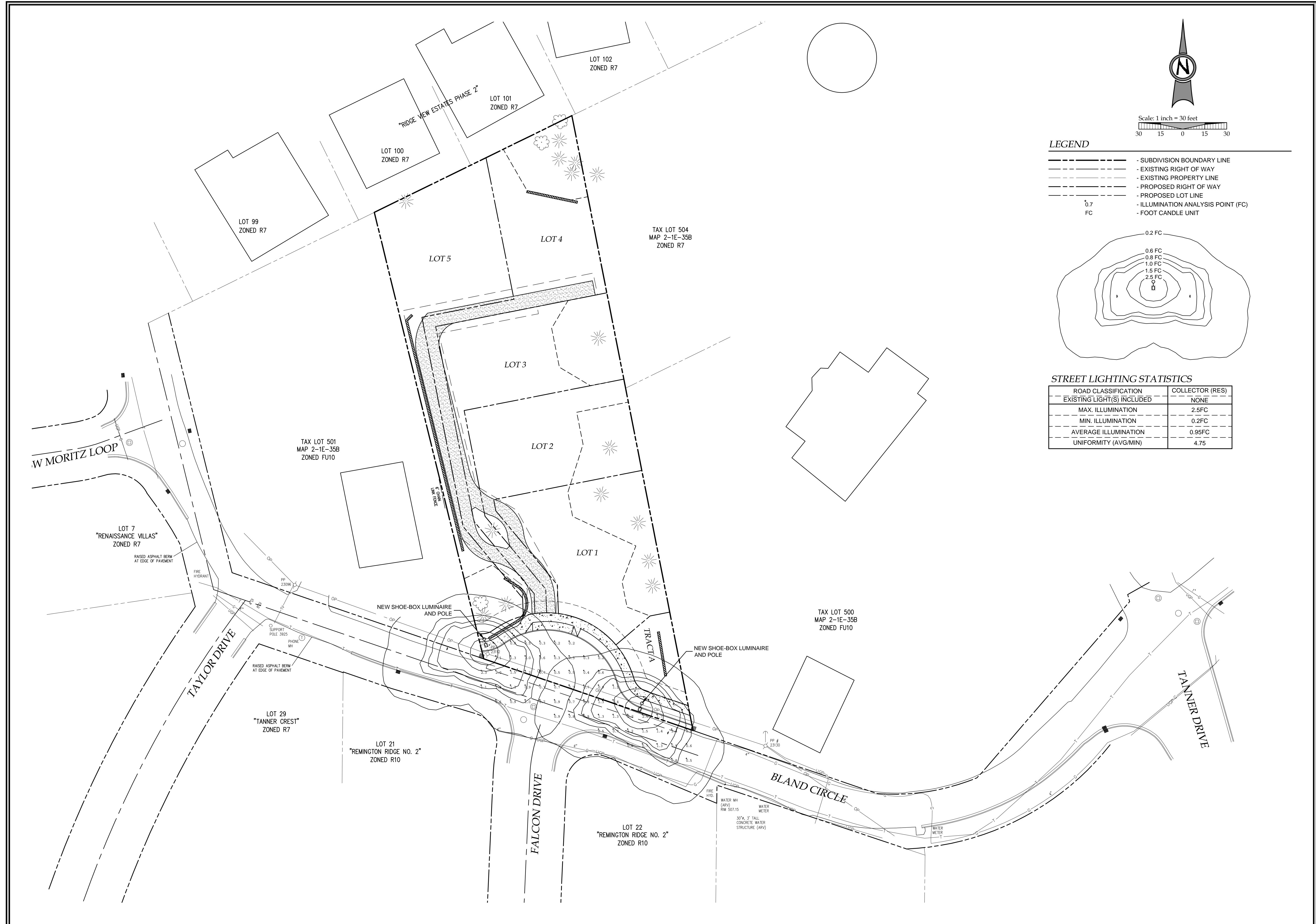
- SUBDIVISION BOUNDARY LINE
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED EASEMENT
- TREE PROTECTION FENCING
- PROPOSED PERVIOUS PAVING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED STORM WATER PLANTER
- PROPOSED STORM DRAIN CONVEYANCE LINE
- PROPOSED SANITARY SEWER MAIN
- PROPOSED WATER MAIN
- PROPOSED WATER MAIN TAP LOCATION
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM DRAIN INLET STRUCTURE
- PROPOSED WATER PRESSURE RELIEF VALVE

**GENERAL SITE NOTES**

1. WATER QUALITY TREATMENT AND STORM WATER QUANTITY ATTENUATION FOR FUTURE HOMES TO BE HANDLED INDIVIDUALLY ON A PER LOT BASIS.
2. ALL OVERHEAD UTILITIES TO BE ROUTED UNDERGROUND ALONG PROJECT FRONTAGE

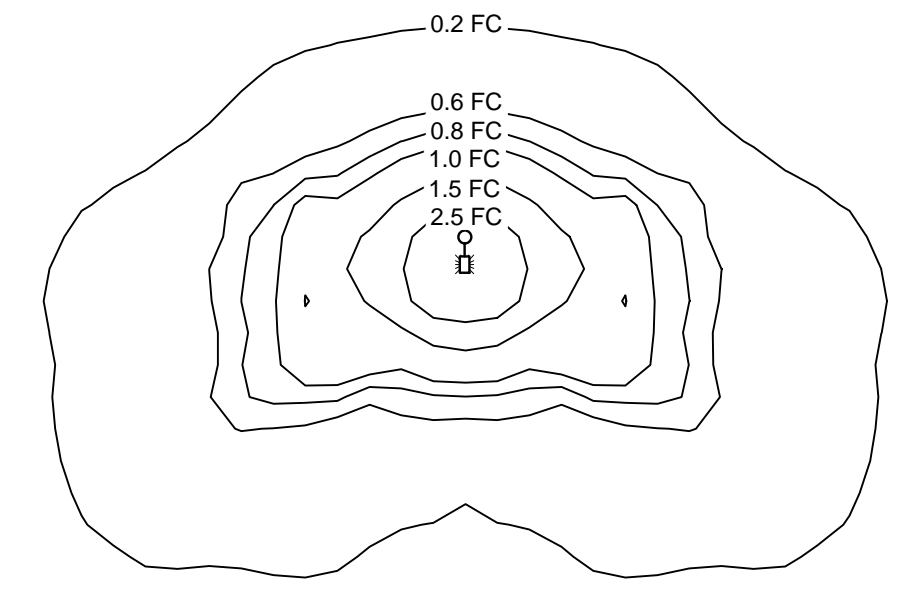






**LEGEND**

- SUBDIVISION BOUNDARY LINE
- - - EXISTING RIGHT OF WAY
- - - EXISTING PROPERTY LINE
- - - PROPOSED RIGHT OF WAY
- - - PROPOSED LOT LINE
- 0.7 FC
- ILLUMINATION ANALYSIS POINT (FC)
- FOOT CANDLE UNIT



**STREET LIGHTING STATISTICS**

ROAD CLASSIFICATION	COLLECTOR (RES)
EXISTING LIGHT(S) INCLUDED	NONE
MAX. ILLUMINATION	2.5FC
MIN. ILLUMINATION	0.2FC
AVERAGE ILLUMINATION	0.95FC
UNIFORMITY (AVG/MIN)	4.75

LAND USE REVISION SUMMARY BY DATE

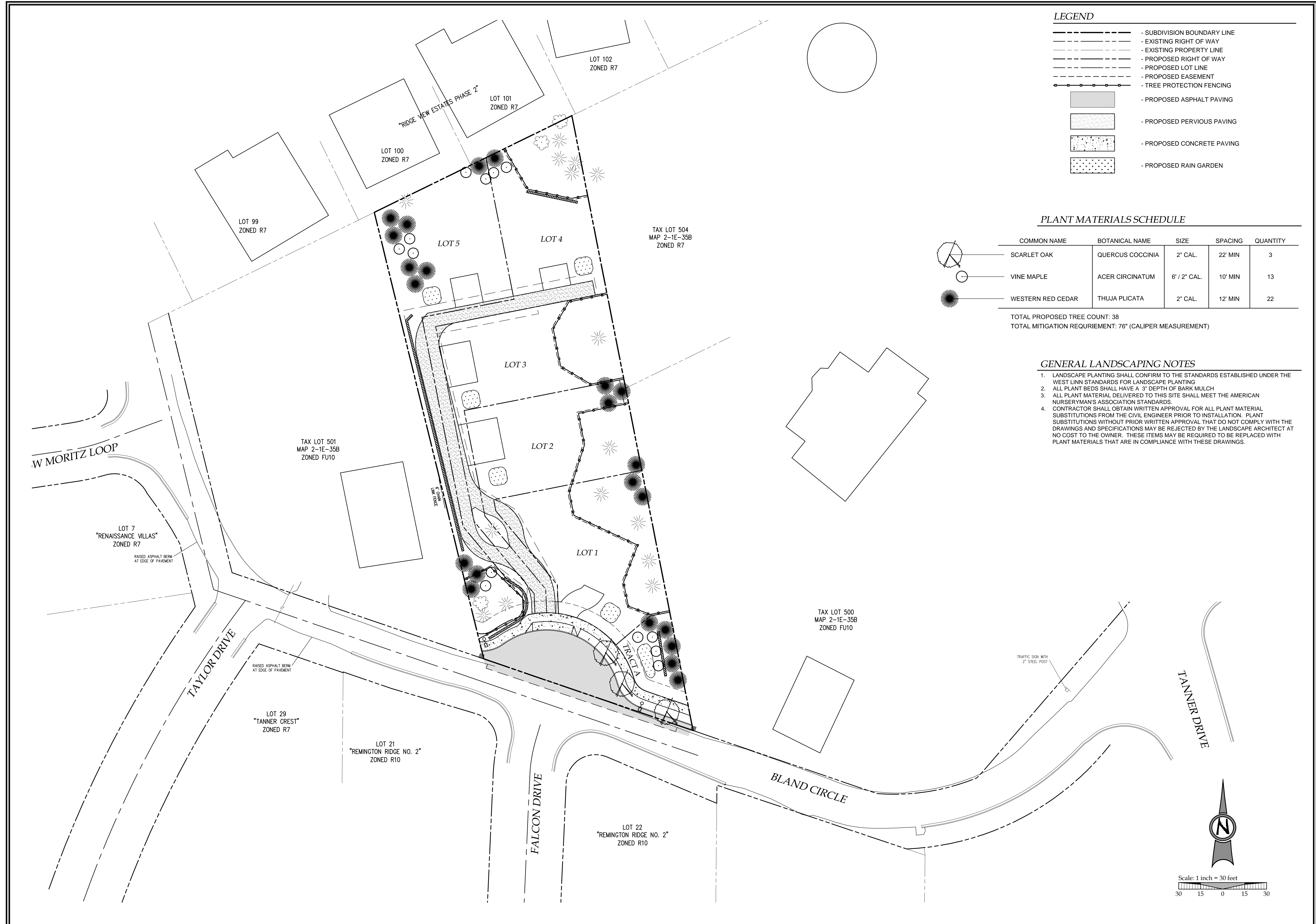
STREET LIGHTING PLAN  
**FALCON PLACE**  
**SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

3J CONSULTING, INC  
  
 CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING  
 10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5365

3J JOB ID # | 12093  
 LAND USE # | SUB-12-01  
 TAX LOT # | 21E358 502  
 DESIGNED BY | JTE  
 CHECKED BY | RBS

SHEET TITLE  
**LIGHTING PLAN**

SHEET NUMBER  
**C2.5**



**LEGEND**

- SUBDIVISION BOUNDARY LINE
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED EASEMENT
- TREE PROTECTION FENCING
- PROPOSED ASPHALT PAVING
- PROPOSED PERVIOUS PAVING
- PROPOSED CONCRETE PAVING
- PROPOSED RAIN GARDEN

**PLANT MATERIALS SCHEDULE**

COMMON NAME	BOTANICAL NAME	SIZE	SPACING	QUANTITY
SCARLET OAK	QUERCUS COCCINIA	2" CAL.	22' MIN	3
VINE MAPLE	ACER CIRCINATUM	6' / 2" CAL.	10' MIN	13
WESTERN RED CEDAR	THUJA PLICATA	2" CAL.	12' MIN	22

TOTAL PROPOSED TREE COUNT: 38  
 TOTAL MITIGATION REQUIREMENT: 76" (CALIPER MEASUREMENT)

**GENERAL LANDSCAPING NOTES**

- LANDSCAPE PLANTING SHALL CONFIRM TO THE STANDARDS ESTABLISHED UNDER THE WEST LINN STANDARDS FOR LANDSCAPE PLANTING
- ALL PLANT BEDS SHALL HAVE A 3" DEPTH OF BARK MULCH
- ALL PLANT MATERIAL DELIVERED TO THIS SITE SHALL MEET THE AMERICAN NURSERYMAN'S ASSOCIATION STANDARDS.
- CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE CIVIL ENGINEER PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THESE DRAWINGS.

LAND USE

1/18/13

REVISION SUMMARY

BY

DATE

MITIGATION PLANTING PLAN  
**FALCON PLACE**  
**SUBDIVISION**  
 OLH 14, LLC  
 WEST LINN, OR

3J CONSULTING, INC

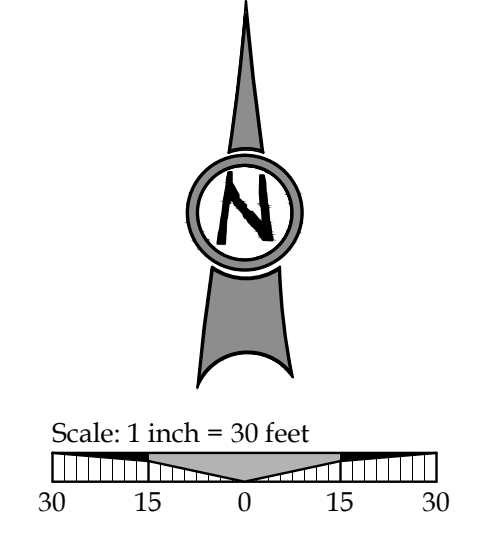
CIVIL ENGINEERING  
 WATER RESOURCES  
 LAND USE PLANNING

10445 SW CANYON ROAD SUITE 245 BEAVERTON, OR 97005  
 PHONE & FAX: (503) 946-5365

3J JOB ID #	12093
LAND USE #	SUB-12-01
TAX LOT #	21E358 502
DESIGNED BY	JTE
CHECKED BY	RBS

SHEET TITLE  
**PLANTING PLAN**

SHEET NUMBER  
**L1.0**



## MEMORANDUM

To: Peter Spir  
*City of West Linn*

From: Brian Feeney, PE  
*Project Manager*

Kathleen Freeman, PE, CFM  
*Water Resources Engineer*

Date: January 22, 2013

**Project Name: Falcon Place (SUB 12-01)**  
**Project No: 12093**  
**RE: Stormwater Management Memorandum**

---

The purpose of this memorandum is to address the incompleteness notification released by your office on December 13, 2012 relating to Falcon Place Subdivision. This memorandum has been prepared to address the storm drainage improvement components of the notification and to describe the changes which have occurred to the preliminary plans and submission materials.

### STORM DRAINAGE IMPROVEMENT

- Modify storm drainage report to show how street storm run-off is collected, treated, and detained.
  - Each individual lot will contain a rain garden which will treat and retain the runoff from events up to and including the 25-year storm event. Each rain garden will contain an overflow underdrain to convey events greater than the 25-year storm event to the proposed 12 inch storm pipe in the private driveway.
  - The proposed private driveway will consist of pervious pavement and will retain the runoff from storm events up to and including the 25-year storm event. The driveway will contain a 12 inch storm line which will convey overflow from the rain gardens and driveway to the public storm system in Bland Circle.
  - A rain garden located in the southeast corner of the site in Tract A will be constructed for water quality treatment. Since the grading does not allow the runoff from the bulb out to drain into the rain garden, the equivalent area from Bland Circle will be captured and treated. The area from the bulb out is 4,728 square feet, which is below the City's threshold for requiring detention on new impervious area draining downstream. Therefore, the runoff from the bulb out will not be detained.
- Modify site plan in accordance with recommendation from storm drainage report perhaps a public storm facility should be provided at the southwest corner of the property.
  - A rain garden has been designed for the southwest corner of the property to treat the runoff from the proposed bulb out. As described above, due to grading constraints, the bulb out cannot drain to the rain garden; however the equivalent area from Bland Circle will be intercepted and treated. The rain garden was sized using the City of Portland's Presumptive Approach Calculator and will have a bottom surface area of 174 square feet.
- Show preliminary location of individual storm treatment facility on each lot.
  - Please see Sheet C2.4 for preliminary locations of all individual storm treatment and retention facilities.

- Storm main along private drive should be public system and 12” is the minimum size for public storm main.
  - The storm main in the private driveway has been called out as a 12 inch pipe.

Please do not hesitate to call if you have further questions.

January 18, 2013

OLH 14, LLC  
c/o John Wyland  
5285 Meadows Road  
Lake Oswego, OR 97045

RE: *Falcon Place  
Transportation Analysis Letter*

Dear Mr. Wyland,

We have completed our transportation analysis for the proposed Falcon Place subdivision in West Linn, Oregon. Based on a letter from the City of West Linn on December 13, 2012, a Transportation Analysis Letter (TAL) addressing the intersection configuration is required for this project.

#### **LOCATION AND PROJECT DESCRIPTION**

The site is located on the north side of the roadway at 23112 Bland Circle in West Linn, Oregon, directly across from Falcon Drive. The proposed five-lot subdivision layout includes the alteration of the intersection to include an "eye brow" to allow vehicles to access a private drive serving the houses on the property. The private drive is to be constructed as a fourth-leg to the Bland Circle/Falcon Drive intersection. The private drive will generally follow the west side of the property.

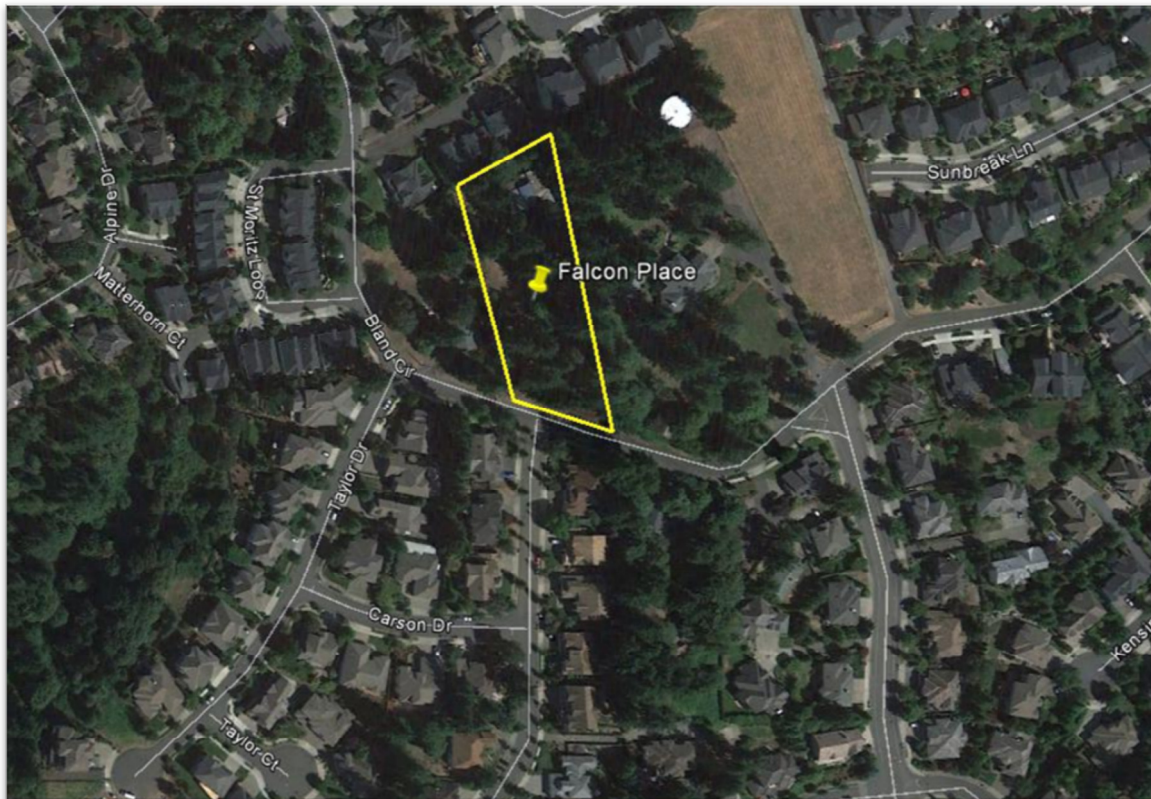
Bland Circle is under the jurisdiction of the City of West Linn and is classified as a Collector. There is a statutory 25 mph residential speed limit in the area. There are intermittent curbs and sidewalks along the south side of the roadway in the vicinity of the subject property. On-street parking is available on the south side of the roadway where no curbs are present.

Presently, one single-family dwelling exists in the northeast corner of the subject property. This home takes access from Bland Circle via a private driveway that will be replaced by the future private drive.

Figure 1 shows the vicinity of the site, and a copy of the project site plan is included in the Technical Appendix of this report. Several figures that follow show various views from the project site.



321 SW 4<sup>th</sup> Ave., Suite 400  
Portland, OR 97204  
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**Figure 1:** Aerial view of the site and nearby vicinity (Image from Google Earth).

### **TRIP GENERATION & DISTRIBUTION**

To estimate the trips generated by the construction of four additional single family homes associated with the proposed subdivision, trip rates from the manual *TRIP GENERATION*, Ninth Edition, published by the Institute of Transportation Engineers (ITE) were used. The land-use code utilized was #210, *Single-Family Detached Housing*, with trip rates based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision with four additional single-family homes will generate a total of three additional trips during the morning peak hour with one trip entering the site and two trips exiting the site. During the evening peak hour a total of four additional trips are to be expected with three trips entering the site and one exiting. A weekday total of 38 trips are expected with half entering and half exiting the site. The following table offers a summary of the trip generation calculations and detailed trip generation calculations are included in the technical appendix of this report.



TRIP GENERATION								
Morning Peak Hour			Evening Peak Hour			Weekday		
In	Out	Total	In	Out	Total	In	Out	Total
1	2	3	3	1	4	19	19	38

It is expected that the majority of the new trips will travel east along Bland Circle to the intersection of Bland Circle and Salamo Road. With the minimal number of trips associated with the proposed project, none of the surrounding transportation facilities are expected to see a significant increase in traffic or change in operation.



**Figure 2:** View looking eastward on Bland Circle, with the southern frontage of the site on the left side of the road.



## **SIGHT DISTANCE**

Intersection sight distance requirements were taken from *A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). Sight distance requirements are based on the speed of traffic on the major street and the sight distance measurements are based on an eye height of 3.5 feet and an approaching driver's eye height of 3.5 feet above the road, with the driver's eye 15 feet behind the edge of the near-side travel lane.

Based on a statutory speed limit at the subject property, the required intersection stopping distance for traffic is 280 feet. Sight distance from 15 feet behind the edge of the near-side travel lane was 260 feet to the east (obstructed by a crest vertical curve) and 195 feet to the west (obstructed by a horizontal curve). Both measurements fall short of the required intersection sight distance.

As stated within AASHTO's *A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS*:

*“Intersection sight distance criteria for stop-controlled intersections are longer than stopping sight distance to allow the intersection to operate smoothly. Minor-road vehicle operators can wait until they can proceed safely without forcing a major-road vehicle to stop.”*

*“If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, a major-road vehicle may need to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distance are desirable along the major road.”*

The minimum required stopping sight distance for approaching vehicles was calculated to be 152 feet. Therefore, adequate intersection sight distance is available for safety in each direction at the proposed site access location.

To further enhance safety and operations at the site, the development plan calls for the construction of an “eye brow” on the north side of the intersection. This will allow vehicles that utilize the site to enter and exit the private drive in a forward direction avoiding the need to back into the collector street and minimizing disruptions to the flow of through traffic.





**Figure 3:** Southern frontage of the site, looking west on Bland Circle.

### **ACCESS SPACING**

Access spacing was observed at the subject property and compared to the minimum requirements found in West Linn's Transportation System Plan (TSP). According to Table 8-3 in the TSP, private driveways along a collector should be spaced 150 feet apart and 200 feet from public intersections. The subject property's driveway is approximately 130 feet from another driveway to the west (measured from the near-side of each driveway) and approximately 160 feet from Taylor Drive.

Under section 48.025.B.6 in the West Linn Community Development Code, access spacing standards found in Chapter 8 of the City's TSP shall be applicable to all newly established private driveways. According to Chapter 8 in the City's TSP, "new development and roadway projects on city street facilities *should* meet the recommended access spacing standards." The City of West Linn recognizes that the access spacing standards are not always possible to meet, but effort should be made to meet the standard. When it is not possible to meet the access spacing standards, access spacing should be maximized and the proposed access spacing deviation should be analyzed for safety and operational impacts to determine whether lesser spacing can be acceptable.

Since existing driveways on both sides and the existing Falcon Drive alignment directly opposite the proposed access prevent selection of a driveway alignment that meets the City's spacing standards, the driveway was located to maximize access spacing.

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January 18, 2013  
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The “eye brow”, as mentioned in the previous section, will also improve issues that arise from the close proximity of the subject property’s driveway to other driveways and Taylor Drive. Vehicles will be able to move out of the travel lane when turning onto the property’s driveway preventing the slow-down of traffic behind the turning vehicle.

Crash history was examined in the site vicinity to determine whether the existing access spacing, which does not meet current city standards, has resulted in any safety deficiencies. No crashes have been reported during the most recent five years for which data is available. Based on this data, no significant safety concern is evident. Since the access spacing will not change upon completion of the proposed development, it is anticipated that the intersection will continue operating acceptably.

#### CONCLUSIONS

The impact to the existing infrastructure created by the trips generated as a result of the proposed subdivision and eventual construction of four additional single family residences will be minimal and is not expected to significantly alter the operation of the existing facilities.

No significant safety issues arise due to the development of the subdivision, however to maximize safety and maintain smooth flow of traffic in the site vicinity, an “eye brow” is proposed at the site access driveway. No other mitigations are recommended as part of the proposed preliminary subdivision plan.

If you have any questions regarding this report or if you need any further assistance, please don’t hesitate to contact us.

With Best Regards,

William Farley, EI  
Transportation Analyst



## TRIP GENERATION CALCULATIONS

*Land Use:* Single-Family Detached Housing  
*Land Use Code:* 210  
*Variable:* Dwelling Units  
*Variable Value:* 4

### AM PEAK HOUR

*Trip Rate:* 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	1	2	3

### PM PEAK HOUR

*Trip Rate:* 1

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	3	1	4

### WEEKDAY

*Trip Rate:* 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	19	19	38

### SATURDAY

*Trip Rate:* 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	20	20	40