

HAND DELIVERED

June 22, 2017

Lane County Board of County Commissioners
125 E. 8th Avenue
Eugene, OR 97401

Subject: Wildish Sand and Gravel Co. Application
509-PA16-05971
Ordinance No. PA 1352

Dear Chair Farr and Board of County Commissioners:

Thank you for the opportunity to provide additional comments to address issues raised at the Lane County Planning Commission Public Hearing. Attached are the following documents which we ask to be added to the record of these proceedings:

1. Mineral & Aggregate Evaluation Process for June 27th Public Hearing
2. Letter from David Higgins, CEG, and Risheng "Park" Piao, PE, GE of Shannon & Wilson, Inc. in response to questions about Wildish operations on the north side of the McKenzie River having an adverse effect on wells south of the McKenzie River.
3. Letter from Michael Raley and Kerrie Standlee, PE of Acoustics by Design regarding the Goal 5 Noise Study for the Wildish Plant #2 North Side Expansion proposal and DEQ Ambient Degradation Noise Limits.
4. Figure 1. Aerial Photo of Wildish Property Boundary and Expansion Area
5. Figure 2. Aerial Photo of Non-Mineable "Setback" Areas
6. Figure 3. Wildish Plant 2 North Side Expansion Mining Operation Site Plan
7. Figure 4. Aerial Photo of Proposed Expansion Area and Impact Area

Thanks in advance for your consideration of these documents. If you have questions, we will be glad to address them at the Public Hearing on June 27th.

Very truly yours,



Kent Howe

Kent Howe, LLC
221 E. 3rd Avenue
Eugene, OR 97401
541-520-0844
KentHowePlanning@gmail.com

**Wildish Plant #2 North Side
Sand & Gravel Mine Expansion
File 509-PA16-05971 (Wildish)
Ordinance No. PA 1352
June 27, 2017**

Mineral & Aggregate Evaluation Process

Goal 5 Analysis – Six Main Steps:

1. Determine Significance
2. Define Impact Area
3. Identify Conflicts
4. Minimize Conflicts
5. Evaluate ESEE (Economic, Social, Environmental and Energy) Consequences of Mining on existing uses
(ONLY if conflicts can't be minimized)
6. Decide Whether to Allow Mining

If mining is allowed, evaluate ESEE consequences of allowing, limiting, or preventing new conflicting uses in the impact area.

Step 1: Determining Significance – Does the application meet OAR 660-023-0180(3)?

- Is the aggregate deposit “significant” in regard to quantity by exceeding 2,000,000 tons of aggregate?

Yes. Estimated quantity of aggregate available within the proposed expansion area is 9,926,840 tons. The quantity and quality analysis is provided by an Oregon Registered Professional Geologist. Exhibit H, p. 9; Draft Findings p. 8

- Is the aggregate deposit “significant” in regard to quality by meeting ODOT base rock testing requirements?

Yes. Laboratory tests of representative samples confirm that all rock on site significantly exceeds the required Goal 5 quality thresholds for air degradation, abrasion, and sodium sulfate soundness. Exhibit H, pp. 5-9; Draft Findings pp. 13-14

Step 2: Define Impact Area

- Is the impact area defined?

Yes. There is no evidence of impacts beyond the 1,500 foot limit set out in Goal 5.
Draft Findings pp. 14-17

Step 3: Identify Potential Conflicts of Allowing Mining

Goal 5 specifically limits consideration of Conflicts to the following:

- **Is there a potential conflict with noise?**

Yes. However, the use of sound barriers, mining orientation and/or mechanical dampening devices on the power shovel will ensure that noise levels comply with DEQ standards. Noise is fully minimized as required by Goal 5. The analysis is provided by an Oregon Registered Professional Engineer (Acoustical). Exhibit I, pp. 23-25; Draft Findings pp. 18-20

- **Is there a potential conflict with dust?**

Yes. However, use of the conveyor system (instead of haul trucks), spraying water on travel ways and conveyor transfer points, vegetating berms and setbacks will ensure dust emitted by the expansion area operations will comply with LRAPA standards. The analysis is provided by an Oregon Registered Professional Engineer. Exhibit J, pp. 14-15; Draft Findings pp. 20-21

- **Is there a potential conflict with flooding?**

No. The proposal meets Lane County's "No Rise" requirements within the floodway boundary. The analysis is provided by an Oregon Registered Professional Engineer. Exhibit K, p. 6; Draft Findings pp. 21-22

- **Is there a potential conflict with groundwater?**

Yes. However, with the use of setbacks and recharge trenches, ongoing groundwater level monitoring confirms that ongoing dewatering at Wildish's existing operations has had no net impact on groundwater level. The analysis is provided by an Oregon Registered Professional Engineering Geologist. Exhibit M, pp. 19-20; Draft Findings pp. 22-26

- **Is there a potential conflict with turbidity?**

Yes. With recharge trenches, turbidity will not reach water wells beyond the expansion area. The analysis is provided by an Oregon Registered Geologist and an Oregon Certified Engineering Geologist. Exhibit M, p. 17; Draft Findings pp. 22-26

- **Is there a potential conflict with stormwater runoff?**

No. Stormwater runoff will be managed on site through the DEQ Water Pollution Control Facilities Permit. Exhibit F, p. 4; Draft Findings p. 25

- **Are there potential impacts to local roads within one mile?**

No. Use of onsite conveyors will result in no change to current use of local roads. Traffic related to the site fully complies with Oregon's Transportation Planning Rule. The analysis is provided by an Oregon Registered Professional Engineer. Exhibit N, p. 2; Draft Findings pp. 26-28

- **Is there a potential impact to airports?**

No. The Eugene Airport is the only airport and it is over 5 miles from the closest approach surface and runway and it is 2.6 miles from the closest boundary of the Commercial Airport Safety Zone. Because of these distances separating the airport from the proposed mining expansion area, no significant safety conflict due to bird attractants created by an open water impoundment would result. Draft Findings p. 28

- **Is there potential impact to other Goal 5 Resource Sites?**

No inventoried Goal 5 resources categorized as "significant" are located within proposed expansion area or surrounding 1,500-foot impact area, other than existing mining site. Exhibit O, pp. 2-5; Draft Findings pp. 29-34

No identified Goal 5 cultural, historic or archaeological resources within proposed expansion area or surrounding impact area. Exhibit P, p. 14; Draft Findings p. 30

No wetlands in the proposed expansion area. Exhibit Q, p. 1; Draft Findings p. 30

With the exception of a small portion of the McKenzie River at the very outer SE limit of the impact area, there are no significant inventoried waterways, riparian or wildlife habitat for sensitive birds, rare plants, fish species or big game range habitat. The small portion of the McKenzie River that is currently within the impact area of Wildish's existing extraction operation on the north side of the McKenzie River and the impacts of mining were fully analyzed in Lane County's prior approval decision in Ordinance PA 892 which found that impact, if any, from the proposed expansion are fully minimized as they are separated from the river by the existing and approved Goal 5 mining resource site. Exhibit R, p. 1; Draft Findings pp. 30-32

No expected take of listed species or adverse modification to critical habitat (as defined in the April 2016 NMFS biological opinion) is associated with proposed mining expansion since the proposed expansion area is upland and cannot serve as salmonid habitat. This

conclusion is confirmed by a wildlife biologist based on hydrologic analysis by an Oregon Registered Professional Engineer. Exhibit L, p. 5; Draft Findings pp. 32-34

- **Is there a potential impact to Agricultural Practices?**

Yes. The only agricultural practice that potentially could be impacted from the proposed mining activity is irrigation. Analysis by an Oregon Registered Geologist and an Oregon Registered Engineering Geologist confirms that there will be no turbidity impact and that the use of recharge trenches will assure no net impact on groundwater levels. Preservation of groundwater levels confirms that irrigation-related impacts from the proposed operation will not force significant changes to accepted farming practices or significantly increase the cost of such practices on surrounding lands.

Exhibit M, pp. 16-17; Draft Findings pp. 34-43

Step 4: Minimize Conflicts:

Noise

Reasonable and practicable measures have been identified to minimize noise impact: mufflers, barriers and/or orientation of mining with high wall.

Exhibit I, pp. 19-21; Draft Findings p. 37

Dust

Reasonable and practicable measures have been identified to minimize dust impact: use of conveyors, sprinkling with water, mining setback of 150 feet, and berms.

Exhibit J, p. 11; Draft Findings pp. 37-38

Flooding

As confirmed by the analysis of an Oregon Registered Professional Engineer, use of the proposed expansion area does not result in any flooding conflicts.

Exhibit K, p. 10; Draft Findings p. 38

Groundwater

Reasonable and practicable measures have been identified to minimize groundwater impacts: use of setbacks, recharge trenches and ongoing monitoring. In addition, Wildish requests a condition requiring that if groundwater levels in monitored wells begin to show significant impacts related to mine dewatering, Wildish will have a professional hydrologist investigate, and if mining activity is more likely than not to be adversely affecting the well, Wildish will take action to correct the problem, including well replacement.

Exhibit M, pp. 18-19; Draft Findings pp. 38-39

Local Roads

Use of the conveyer system to transport raw aggregates to the existing processing plant is a reasonable and practicable measure to eliminate any significant effect on local roads.

Exhibit N, p. 2; Draft Findings pp. 26-28

Step 5: For Existing and Approved Uses, Evaluate ESEE Consequences of Mining

This step is only needed if conflicts cannot be minimized.

Reasonable and practicable measures have been identified and are available to minimize all potential conflicts. Accordingly, the interim ESEE for existing uses is not required by the Goal 5 Rule. Draft Findings, p. 43

Step 6: Decision Making

If the Board of Commissioners finds that the application meets the approval criteria and the identified conflicts can be minimized, then the Rural Comprehensive Plan can be amended.

If mining is allowed, the Goal 5 Rule requires an ESEE analysis to determine whether to allow, limit, or prevent new conflicting uses in the impact area. Current EFU zoning limits future uses and Wildish can effectively minimize all potential impacts. Accordingly, there is no need to limit or prevent future uses in the impact area. The Planning Commission recommended ESEE findings for the Board to consider and adopt in this regard. Draft Findings, pp. 47-54

June 21, 2017

Randall S. Hledik
Wildish Land Co.
P.O Box 40310
Eugene, Oregon 97404

**RE: WILDISH PLANT NO. 2 NORTH SIDE SITE EXPANSION APPLICATION
WELL FAILURE SOUTH OF THE MCKENZIE RIVER
LANE COUNTY, OREGON**

Dear Randy:

This letter is a supplement to the Ground Water Characterization Report, Wildish Plant No. 2, North Side Expansion, Lane County, Oregon, prepared by Shannon & Wilson, Inc., dated November 1, 2016. We are providing this letter in response to questions about Wildish operations on the north side of the McKenzie River having an adverse effect on wells south of the McKenzie River. We understand this issue was raised at a recent hearing before the Lane County Planning Commission when one person provided testimony regarding a well failure on the south side of the McKenzie River which occurred in the 1960s, long before there was mining at the Wildish mine site north of the McKenzie River. The testimony was provided in the context of a discussion regarding well replacement, specifically the Wildish offer to deepen or replace water wells located on adjacent properties that have experienced adverse effects that can be reasonably attributed to mining activities on Wildish property. In our opinion, based on our understanding of the local hydrogeologic setting, it is very unlikely that existing or proposed Wildish mining activities north of the McKenzie River could have a measurable impact on water wells south of the McKenzie River. This opinion is supported by site-specific information from exploration borings and over 20 years of well monitoring data from both the north and south sides of the McKenzie river.

From depths of a few feet below the ground surface to tens of feet below the proposed bottom of the Wildish excavation, subsurface materials in the area consist predominantly of alluvial gravel and sand. While permeabilities of the gravel and sand units vary, the upper 200 feet or more of sediments appear to be hydrologically connected to the McKenzie River. The November 1, 2016, Shannon & Wilson report explains how recharge trenches can be used in this setting to mitigate drawdown effects on area wells from the existing and proposed Wildish dewatering

Wildish Land Co.
Attn: Randall S. Hledik
June 21, 2017
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SHANNON & WILSON, INC.

activities. Since the local geologic units in the upper 200 feet are relatively permeable and hydrologically connected, water placed in recharge trenches is able to flow back into the aquifer, maintaining local groundwater levels away from dewatered areas and mitigating impacts to offsite wells. This technique has been successful in mitigating impacts to offsite wells from Wildish dewatering operations north side of the McKenzie River for over a decade. For wells on the south side of the McKenzie River, the river itself serves as a massive natural recharge trench, providing a constant source of aquifer recharge between the wells and dewatering activities. Due to the nature of the materials in the subsurface, the river is essentially a hydrologic barrier, beyond which the effects of dewatering are not likely to impact the aquifer or be measurable in wells.

The lack of impacts to area wells from mining and dewatering at the Wildish Plant No. 2 North Side Site is demonstrated by data from the groundwater level monitoring program which has been in place at the site since 1996. The program currently includes 12 wells on the north side of the McKenzie River and three wells on the south side of the McKenzie River. Despite the onset of Wildish dewatering on the north side of the McKenzie River in 2006, water levels in the three wells south of the McKenzie River have remained generally unchanged, showing only consistent seasonal variations going back to 2001. Over the same period, water levels in the wells on the north side of the McKenzie River show a very limited area of influence for the dewatering operations.

In our opinion, it is not plausible that mining operations north of the McKenzie river could cause a water well failure south of the McKenzie River similar to that which was described during the testimony. Since the start of mining at the north side site, there have been no abnormal groundwater level fluctuations recorded in wells south of the McKenzie river, which have been monitored for over 20 years. We hope this explanation is helpful.

Wildish Land Co.
Attn: Randall S. Hledik
June 21, 2017
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SHANNON & WILSON, INC.

Sincerely,
SHANNON & WILSON, INC.

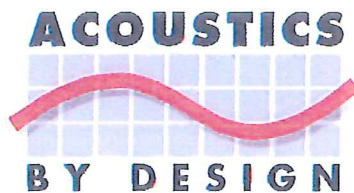


Expires: 12/31/2017

David J. Higgins, CEG
Associate | Engineering Geologist

AAJH/DJH:hrr

Risheng "Park" Piao, PE, GE
Vice President | Geotechnical Engineer



June 22, 2017

Randy Hledik
Wildish Land Co.
3600 Wildish Lane
Eugene, OR 97408

Re: Wildish Plant #2 North Side Expansion – Goal 5 Noise Study – DEQ Ambient Degradation Noise Limits

Report

On October 11, 2016, Daly Standlee and Associates, Inc. (DSA) (now Acoustics By Design, Inc. (ABD)), prepared a report for the Wildish expansion entitled “Wildish Plant #2 North Side Expansion – Goal 5 Noise Study.” The Lane County Planning Department received the report into the decision record and the Planning Commission found it to be credible and persuasive. In the original report, ABD applied Department of Environmental Quality (DEQ) regulations and guidance and determined that the applicable noise standards for the Wildish expansion are those contained in OAR 340-035-0035, Table 7. The October 11, 2016 report confirms that the Wildish operations on the expansion area will be in full compliance with the DEQ noise standards at all 26 receivers in the impact area with application of the mitigation measures suggested in the October 11, 2016 report and recommended by the Planning Commission.

It is the professional opinion of ABD that the October 11, 2016 report provides the proper analysis for the noise impacts of the Goal 5 expansion on the Wildish site. However, due to the possibility that the ambient degradation standard in OAR 340-0350-0035(1)(B) might be deemed applicable to the Wildish Application by the Lane County Board of Commissioners, ABD modeled and analyzed the ambient noise that would be present at the time the Wildish mining operation could begin within the expansion area. The results of the analysis show that the noise associated with the proposed Wildish mining activities in the expansion area will be in full compliance with both the applicable statistical noise level standards contained in OAR 300-035-0035, Table 7 *and* with the ambient degradation standards set out in OAR 340-035-0035(1)(B), with the inclusion of the same mitigation elements presented in the ABD October 11, 2016 report and recommended by the Lane County Planning Commission.

To determine the ambient noise that would be present at residences around the proposed mining expansion area prior to mining activities moving into the expansion area, ABD used the same engineering methodology and computer modeling software (SoundPLAN) that was used in predicting the expansion area noise discussed in the October 11, 2016 report. The ambient noise at the residences prior to mining activities moving into the expansion area was found to be influenced by mining activities occurring in the already-approved mining area located along the south edge of the proposed expansion area.

Based on the results of the analysis, prior to any mining on the expansion area, ambient hourly statistical noise levels at all receivers near the expansion area will be as shown in Table 1. It should be noted that the predicted levels in Table 1 are due solely to excavation operations in the permitted area and do not include noise from other nearby noise sources. Therefore, the actual ambient noise levels could be higher than those presented in the table, especially at the receivers furthest from the mine site where the mining-generated noise levels are the lowest. As with the October 11, 2016 report, the discussion here is limited to the hourly L_{50} noise levels because ABD's conservative approach to modeling the mining operations ensures that the hourly L_{50} noise limits will be the most restrictive limits for the operations (see Section 7.4.2 of the October 11, 2016 report).

Table 1: Predicted Ambient Hourly Statistical Noise Levels Generated by Mining in the Approved Mining Area

Receiver	Hourly L_{50} Noise Level (dBA)
R1	46
R2	46
R3	47
R4	44
R5	49
R6	49
R7	49
R8	53
R9	50
R10	50
R11	47
R12	48
R13	47
R14	42
R15	43
R16	41
R17	40
R18	40
R19	40
R20	40
R21	39
R22	39
R23	39
R24	39
R25	41
R26	41

If the ambient degradation standard OAR 340-035-0035(1)(B) were deemed to apply, the Wildish operations on the expansion area could not increase the ambient hourly L₁₀ or L₅₀ noise levels by more than 10 dBA in one hour¹. Using standard engineering methods and the SoundPLAN computer modeling software, the loudest noise levels that could possibly be generated by Wildish operations on the expansion area were predicted at receivers in the area. Table 2, below, presents the highest hourly noise levels predicted to radiate from the expansion area to each identified receiver in the impact area if the mitigation measures recommended in the October 11, 2016 DSA report are included in the mining plan.

Table 2: Predicted Hourly L₅₀ Noise Levels from Extraction Operations in the Expansion Area

Receiver	Loudest Hourly L ₅₀ Noise Level (dBA)
R1	55
R2	54
R3	54
R4	48
R5	55
R6	53
R7	55
R8	55
R9	49
R10	52
R11	49
R12	55
R13	55
R14	48
R15	51
R16	46
R17	46
R18	46
R19	46
R20	45
R21	45
R22	44
R23	44
R24	43
R25	46
R26	46

¹ Under the ambient degradation standard, noise from Wildish operations on the expansion area also cannot exceed the maximum noise levels in OAR 340-035-0035, Table 8. The statistical noise levels in Table 8 are identical to those in Table 7. The October 11, 2016 DSA Report concluded that Wildish operations on the expansion area would be in full compliance with Table 7 (or Table 8) with the proposed mitigation measures that were adopted by the Planning Commission.

As in our prior October 11, 2016 noise study report, Table 2 presents the highest hourly L₅₀ noise levels predicted to radiate from the expansion area to each receiver when excavation operations occur within the expansion area over its lifetime. It should be noted that the data shown in the table are not representative of the sound levels that will be present at individual residences during the entire time excavation operations occur in the expansion area. Also, as stated in the October 11, 2016 report, the maximum sound levels shown above will not necessarily occur at the same point in time at all individual receivers. This is because the sound level shown at a receiver typically occurs when the excavation equipment is nearest the receiver and the equipment will not be nearest all receivers at the same point in time. For example, the highest predicted noise level at receiver R2 will occur when excavation equipment is in the northeast corner of the expansion area, whereas the highest predicted level of receiver R8 will occur when the excavation equipment is located in the northwest corner of the expansion area. There will likely be many years between the time the equipment is in the northeast corner of the expansion area and when it will be in the northwest corner of the expansion area. Therefore, the highest noise levels that at these two receivers cannot occur at the same time.

Table 3: Comparison of Predicted Mitigated Mining-Generated Hourly L₅₀ Noise Levels with DEQ Maximum Allowable and Ambient Degradation Noise Rule Limits

Receiver	Predicted Ambient Noise Levels (dBA) (from Table 1)	DEQ Ambient Degradation Noise Rule Limits Based on Predicted Ambient Noise Levels ¹ (dBA)	DEQ Table 7 and 8 Noise Limits (dBA)	Predicted Mining-Generated Noise Levels for Expansion Area Operations (dBA) (from Table 2)	In Compliance with Both Noise Limits?
R1	46	55	55	55	Yes
R2	46	55	55	54	Yes
R3	47	55	55	54	Yes
R4	44	54	55	48	Yes
R5	49	55	55	55	Yes
R6	49	55	55	53	Yes
R7	49	55	55	55	Yes
R8	53	55	55	55	Yes
R9	50	55	55	49	Yes
R10	50	55	55	52	Yes
R11	47	55	55	49	Yes
R12	48	55	55	55	Yes
R13	47	55	55	55	Yes
R14	42	52	55	48	Yes
R15	43	53	55	51	Yes
R16	41	51	55	46	Yes
R17	40	50	55	46	Yes
R18	40	50	55	46	Yes
R19	40	50	55	46	Yes
R20	40	50	55	45	Yes

Receiver	Predicted Ambient Noise Levels (dBA) (from Table 1)	DEQ Ambient Degradation Noise Rule Limits Based on Predicted Ambient Noise Levels ¹ (dBA)	DEQ Table 7 and 8 Noise Limits (dBA)	Predicted Mining-Generated Noise Levels for Expansion Area Operations (dBA) (from Table 2)	In Compliance with Both Noise Limits?
R21	39	49	55	45	Yes
R22	39	49	55	44	Yes
R23	39	49	55	44	Yes
R24	39	49	55	43	Yes
R25	41	51	55	46	Yes
R26	41	51	55	46	Yes

Note 1: The ambient degradation noise limit is the ambient noise level + 10 dBA. However, the ambient degradation noise rule limits cannot exceed the maximum allowable noise rule limits, which for the hourly L_{50} is 55 dBA. Therefore, wherever the ambient + 10 dBA is greater than 55 dBA, the ambient degradation noise rule limits has been set to 55 dBA.

As demonstrated by Table 3 above, with use of the mitigation measures adopted by the Planning Commission, the extraction operations on the Wildish expansion area will at all times remain in compliance with the ambient degradation standard of OAR 340-035-0035(1)(B) *and* OAR 340-035-0035, Tables 7 and 8. It is important to again note that the noise levels presented in Table 2 and Table 3 are the loudest possible excavation-generated hourly noise levels that could reach residences when excavation operations occur in the expansion area. Much of the time when mining operations occur in the expansion area, the noise radiating from the excavation equipment to individual receivers will be well below the levels presented in the tables. In addition, the predicted noise levels in Table 2 and Table 3 represent times when the Wildish shovel is excavating the first lift within the expansion area and it is located approximately 40 feet below the surrounding grade level. When the shovel begins to remove material from the second lift, it will be located approximately 80 feet below the surrounding grade level and the barrier effect of the high wall will increase significantly, resulting in noise levels significantly below those shown in Table 2 and Table 3.

Conclusion

Based on the results of our analysis of the ambient noise levels at residences in the impact area prior to excavation activities in the expansion area, all noise radiating from the Wildish expansion area will comply with both the applicable DEQ statistical table (Table 7 or Table 8) *and* the 10 dBA degradation requirements of OAR 340-035-0035(1)(B). Based on the results of our analysis, with mitigation measures such as those recommended by the Planning Commission, the noise associated with the Wildish Plant #2 north side expansion area will be in full compliance with the DEQ noise regulations at all residences, whether the statistical tables apply which (we believe is the correct analysis), or whether the ambient degradation provisions are deemed to apply.

Wildish Plant #2 North Side Expansion
June 22, 2017
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Sincerely,

ACOUSTICS BY DESIGN, INC.
Per:

Michael Raley

Michael Raley
Senior Acoustical Consultant

cc: Marci Boks – Acoustics By Design

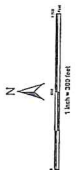


Kerrie G. Standlee, PE
Principal



Figure 1

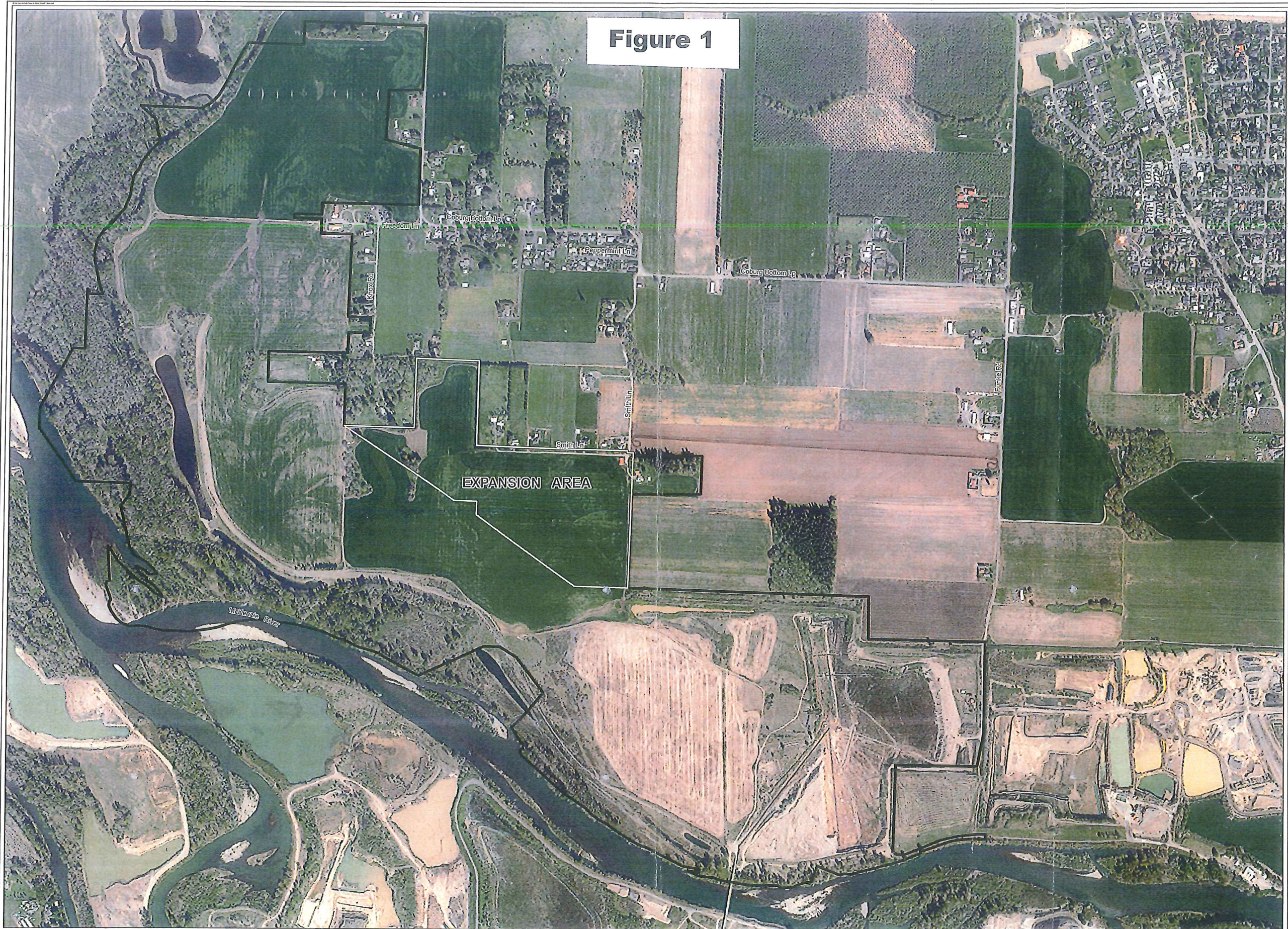

**WILDISH PLANT 2 NORTH SIDE EXPANSION
PROPERTY BOUNDARY/EXPANSION AREA**
 Lane County, Oregon





**Expansion Area
Wildfish Property**

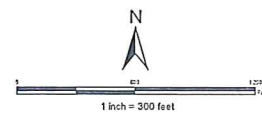
This map was prepared by Wildfish Property, Inc. for the Lane County Planning Commission. The map is not a legal document and should not be used for legal purposes. The map is for informational purposes only. The map is not a guarantee of any kind. The map is not a warranty of any kind. The map is not a representation of any kind. The map is not a statement of any kind. The map is not a contract of any kind. The map is not a promise of any kind. The map is not a covenant of any kind. The map is not a deed of any kind. The map is not a mortgage of any kind. The map is not a lease of any kind. The map is not a license of any kind. The map is not a franchise of any kind. The map is not a partnership of any kind. The map is not a joint venture of any kind. The map is not a consortium of any kind. The map is not a syndicate of any kind. The map is not a trust of any kind. The map is not a partnership of any kind. The map is not a joint venture of any kind. The map is not a consortium of any kind. The map is not a syndicate of any kind. The map is not a trust of any kind.

Figure 1



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 Expansion Area
Wildish Property



**WILDISH PLANT 2 NORTH SIDE EXPANSION
PROPERTY BOUNDARY/EXPANSION AREA**

Lane County, Oregon

Drawn By: EAL

Date: 6/16/2016

Revised: 6/16/2016

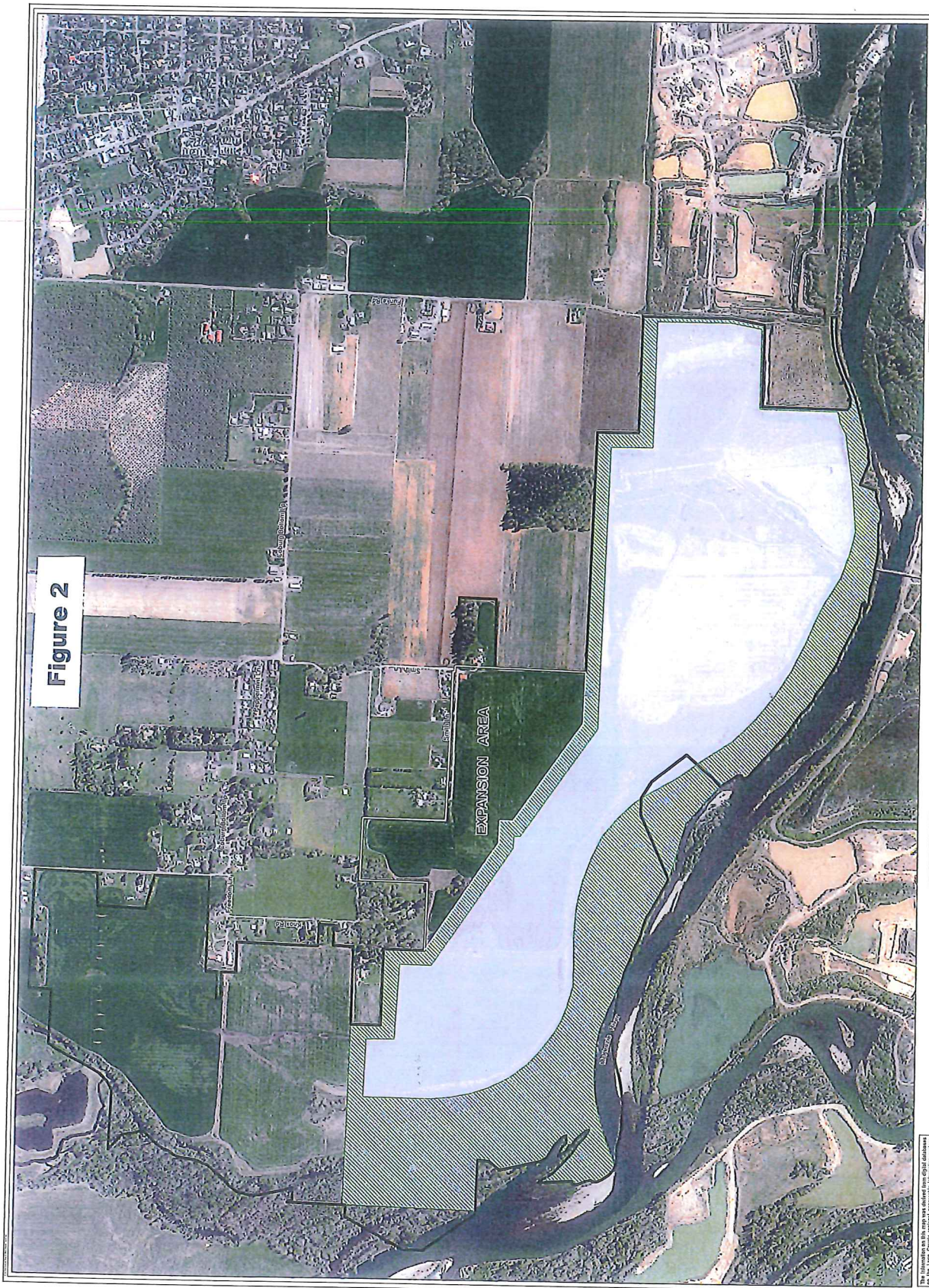
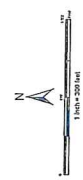



Figure 2

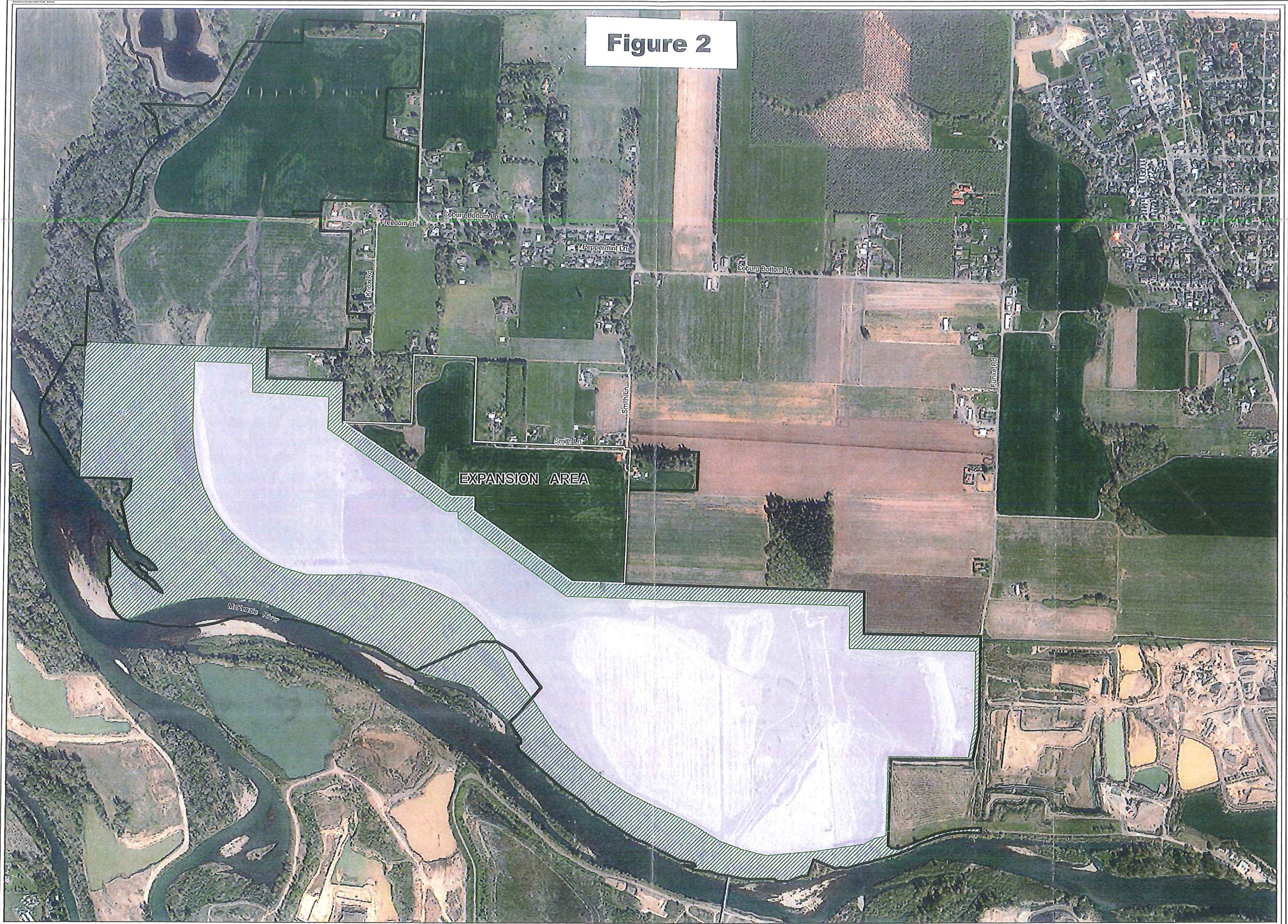
**WILDISH PLANT 2 NORTH SIDE EXPANSION
NON-MINEABLE "SETBACK" AREAS**
Leda Corbett, Oregon



Expansion Area  **Zoning - SG**
Wildish Property  **Setback Area**

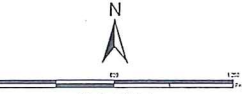
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Figure 2



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 Expansion Area	 Zoning - SG
 Wildish Property	 Setback Area

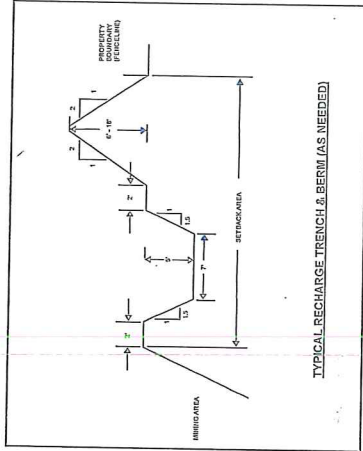
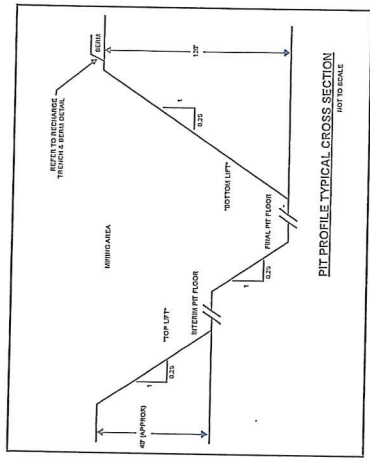
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 1 inch = 300 feet



**WILDISH PLANT 2 NORTH SIDE EXPANSION
NON-MINEABLE "SETBACK" AREAS**

Lane County, Oregon
 Date: 8/1/2017
 Drawn By: GCL
 Revised: 8/1/2017

Figure 3

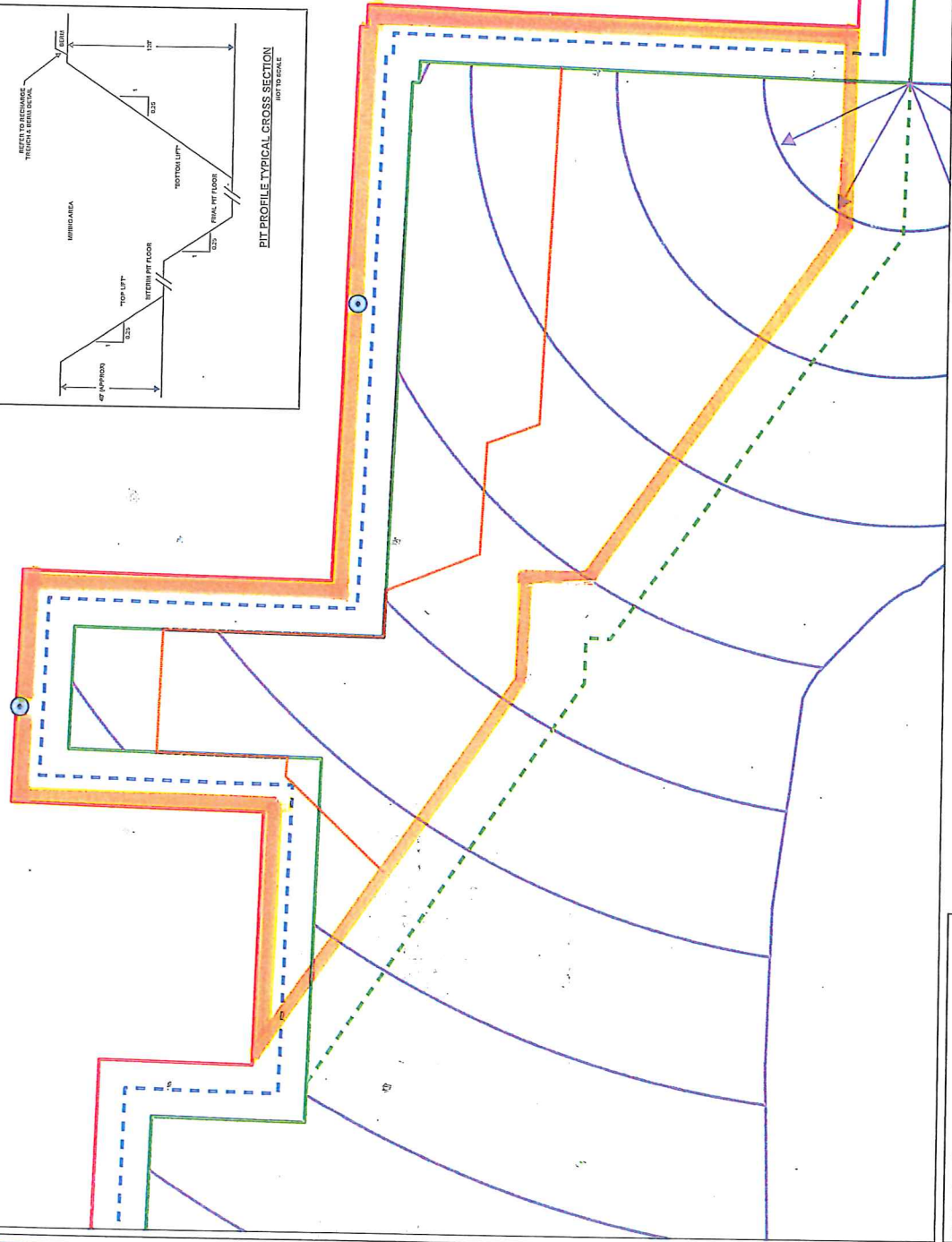


Notes:

- 1) Plan shows ultimate configuration of fence line(s), berm(s) and recharge trench(es). These features to be constructed in phases as pit extraction progresses. Temporary features may be constructed.
- 2) Stripped overburden and topsoil will be temporarily stockpiled in unexcavated areas. Overburden/topsoil generated from excavation will be used for reclamation of slopes. Aggregate resource may be stored temporarily on site. Stockpiles will change in location periodically depending on mining area.
- 3) Storm water will be directed into the excavation, and excavation dewatering will be directed into a perimeter recharge trench. The water in the perimeter recharge trench will infiltrate and disperse out of the trench. During mining, no storm water or dewatering will directly enter the McKenzie River. As the dewatering area expands, additional pumps and recharge trenches will be added and/or settling ponds will be excavated.
- 4) Before excavating between the noise mitigation boundary and the 150 foot setback boundary, measures will be taken to mitigate noise generated by mining equipment. Refer to "Wildish Plant #2 North Side Expansion - Goal 5 Noise Study" dated October 11, 2016, prepared by Daly-Standlee & Associates, Inc.
- 5) Before filling or excavating the 100 year flood plain, floodplain development approval will be obtained from Lane County and/or other floodplain regulatory agency. Refer to "FEMA 'No Rise' Hydraulic Evaluation of Proposed North Side Expansion" dated October 4, 2016, prepared by Watershed Science & Engineering.

6) Calculations:
 Total Expansion Area 63 acres
 Mineable Area 44 acres
 (including noise mitigation and 100 year floodplain)

7) Hours of Operation (maximum): Monday - Sunday 7:00am - 10:00pm

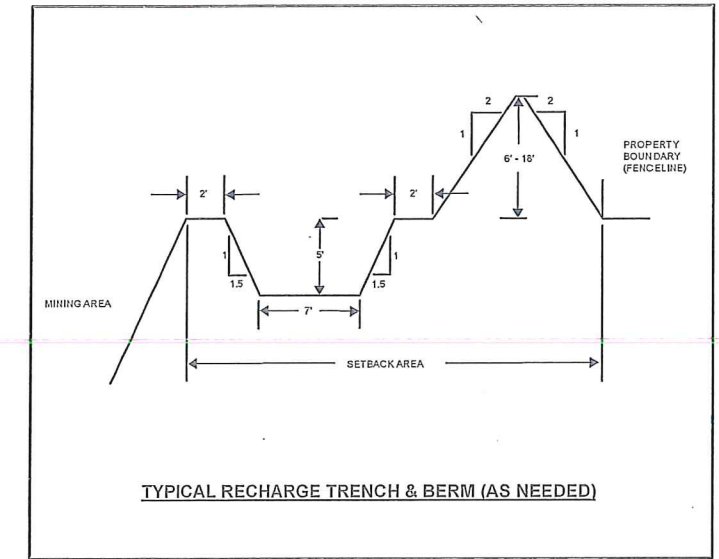
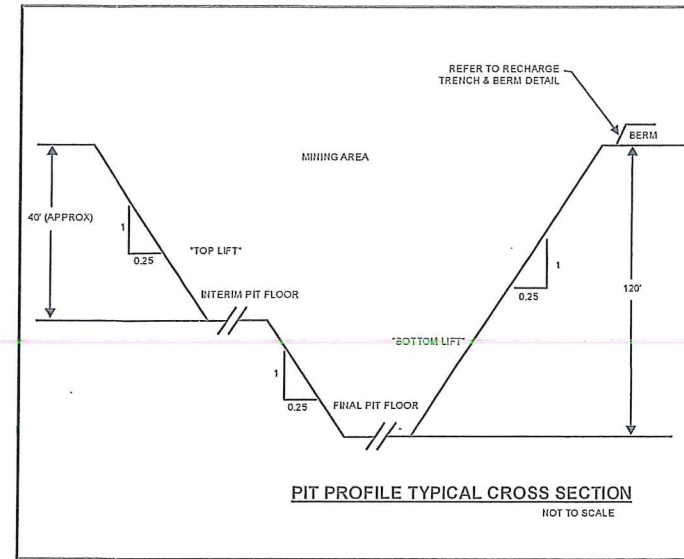
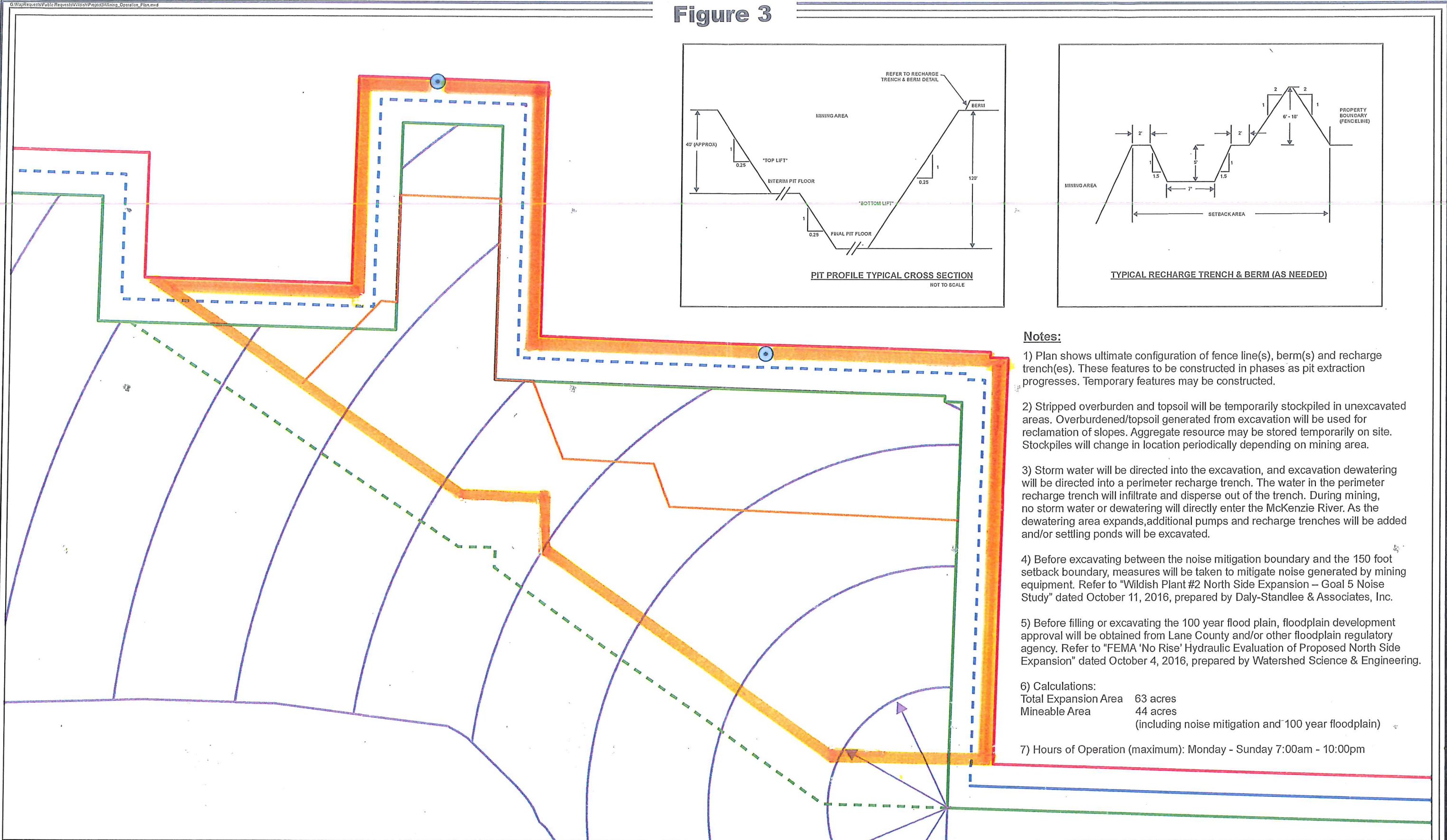


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- Property Boundary/Fence Line
- 150' Setback
- - - Former 150' Setback
- Existing Recharge Trench and Berm
- - - Potential Recharge Trench and Berm (As Needed)
- Noise Mitigation Boundary
- Monitoring Wells
- Direction of Excavation
- EXPANSION AREA



Figure 3



Notes:

- 1) Plan shows ultimate configuration of fence line(s), berm(s) and recharge trench(es). These features to be constructed in phases as pit extraction progresses. Temporary features may be constructed.
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Property Boundary/Fence Line	Existing Recharge Trench and Berm	Monitoring Wells
150' Setback	Potential Recharge Trench and Berm (As Needed)	Direction of Excavation
Former 150' Setback	Noise Mitigation Boundary	EXPANSION AREA

0 250 500 Feet

WILDISH PLANT 2 NORTH SIDE EXPANSION MINING OPERATION SITE PLAN
 Lane County, Oregon
 Drawn By: LCPWGRL
 Date: 2/1/2017
DRAFT
Sheet 3

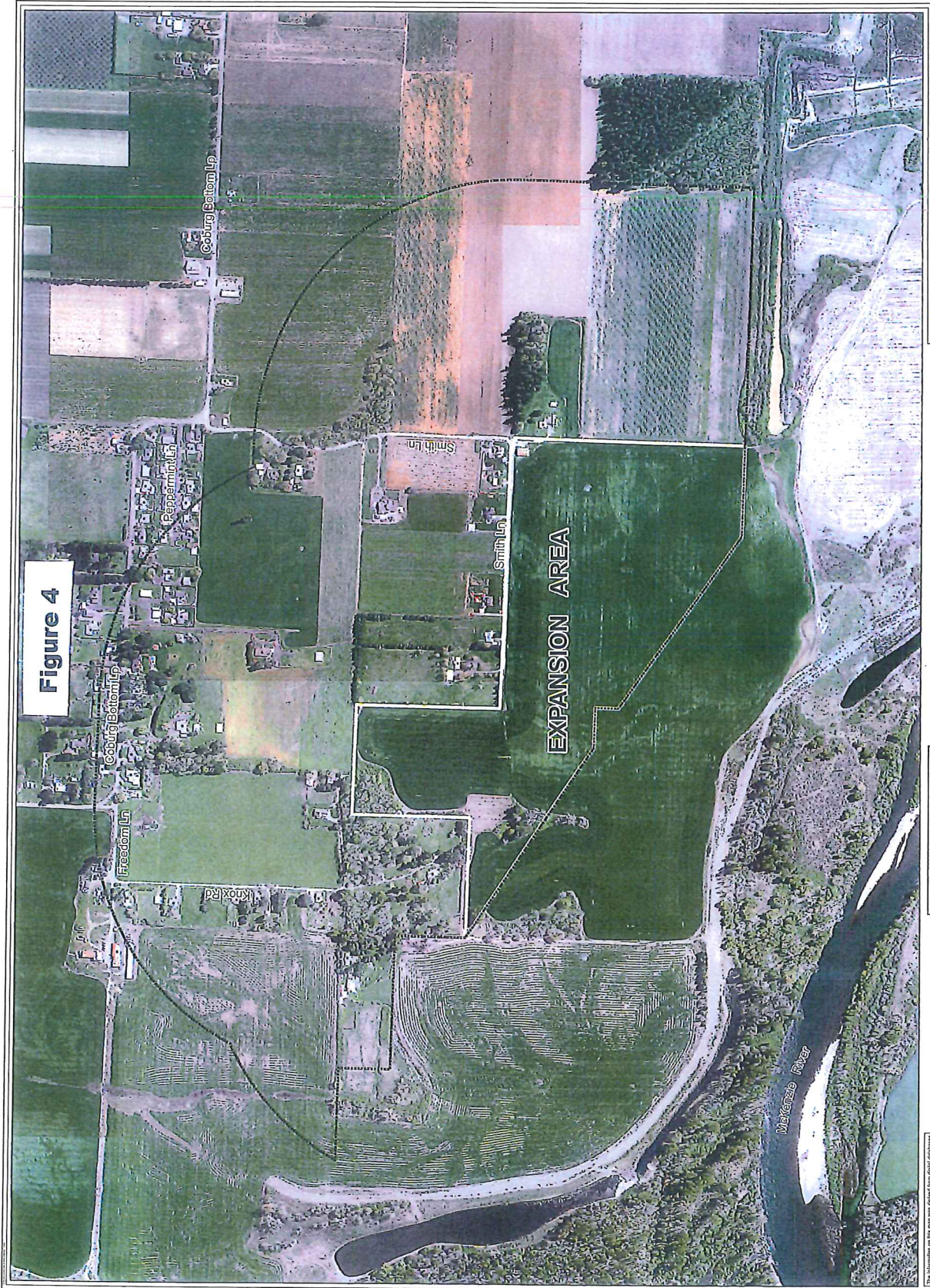
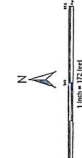


Figure 4

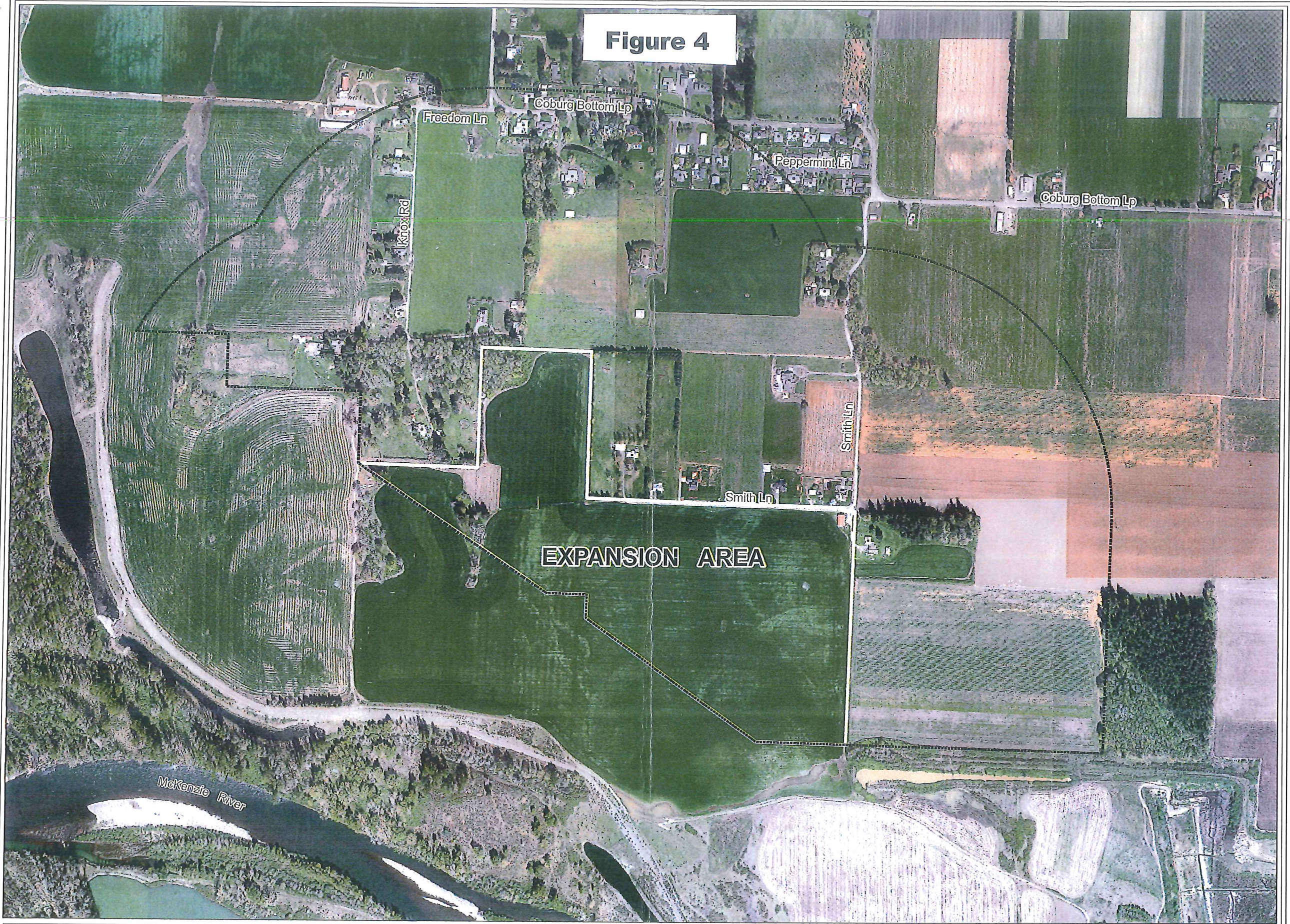
**WILDISH PLANT 2 NORTH SIDE EXPANSION
EXPANSION AREA/IMPACT AREA**
Linn County, Oregon




**Impact Area
Expansion Area**

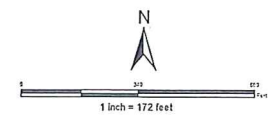
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Figure 4



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 Impact Area
Expansion Area



**WILDISH PLANT 2 NORTH SIDE EXPANSION
EXPANSION AREA/IMPACT AREA**

Lane County, Oregon
 Drawn By: GCL
 Date: 7/13/2015
 Revised: 7/13/2015