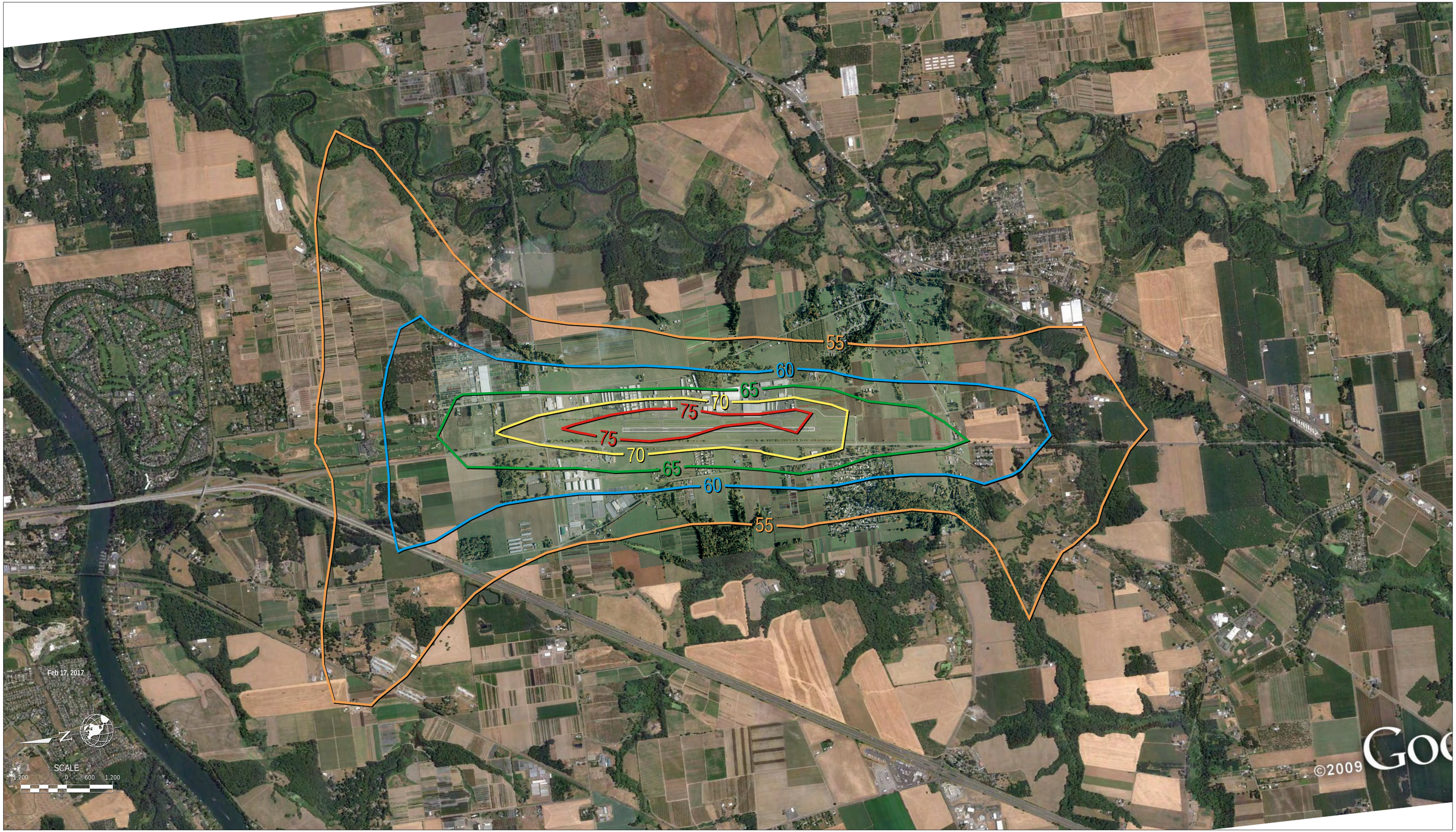

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Legend

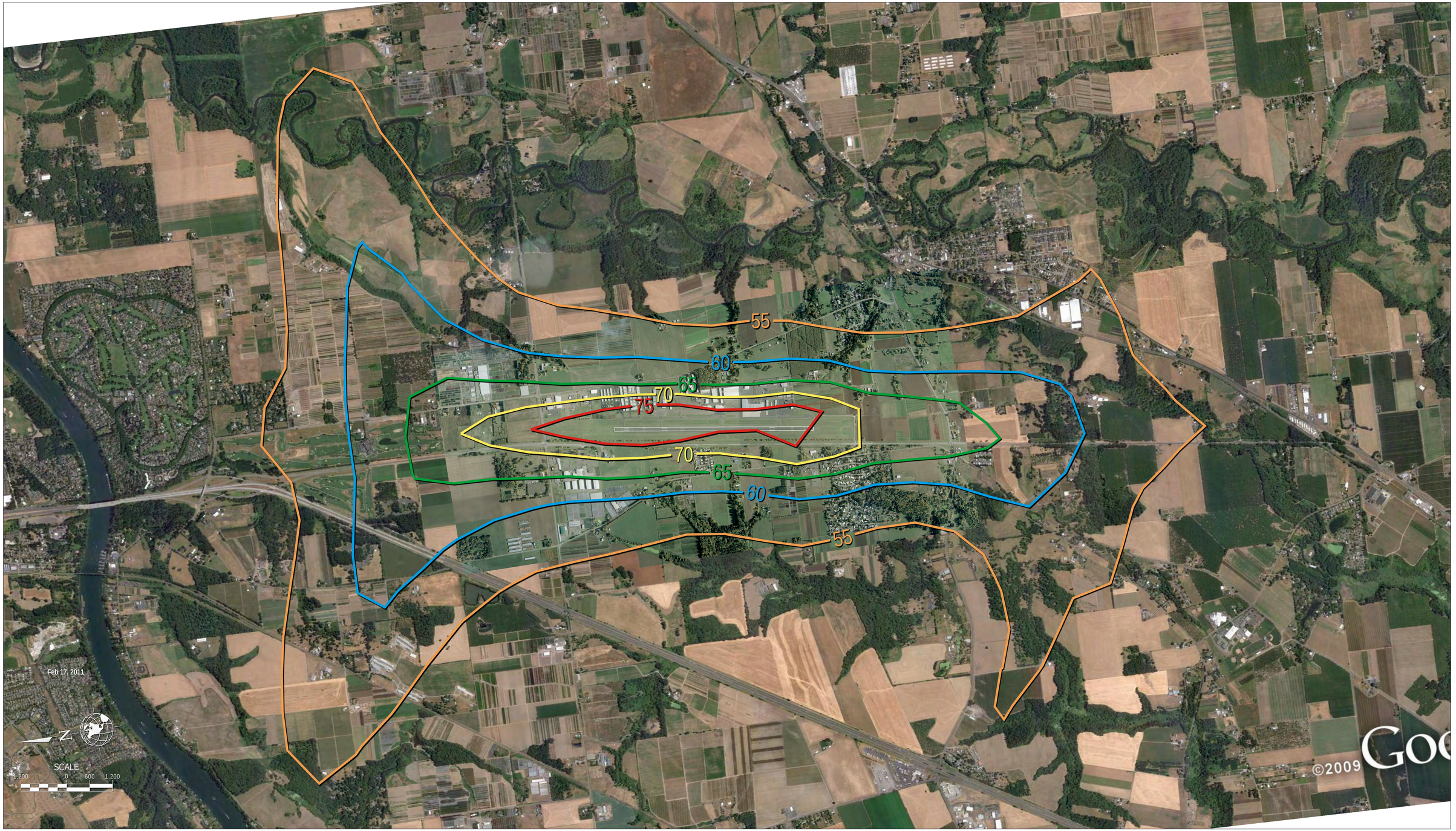
- 75
- 70
- 65
- 60
- 55

Aurora State Airport

Aurora, OR

Exhibit 5E - Noise Contours
Existing Conditions 2010

034317-AIRP-NOISE_MC.DWG



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Aurora State Airport

Aurora, OR

Exhibit 5F - Noise Contours

No Build Alternative 2020

034317-AIRP-NOISE_MC.DWG

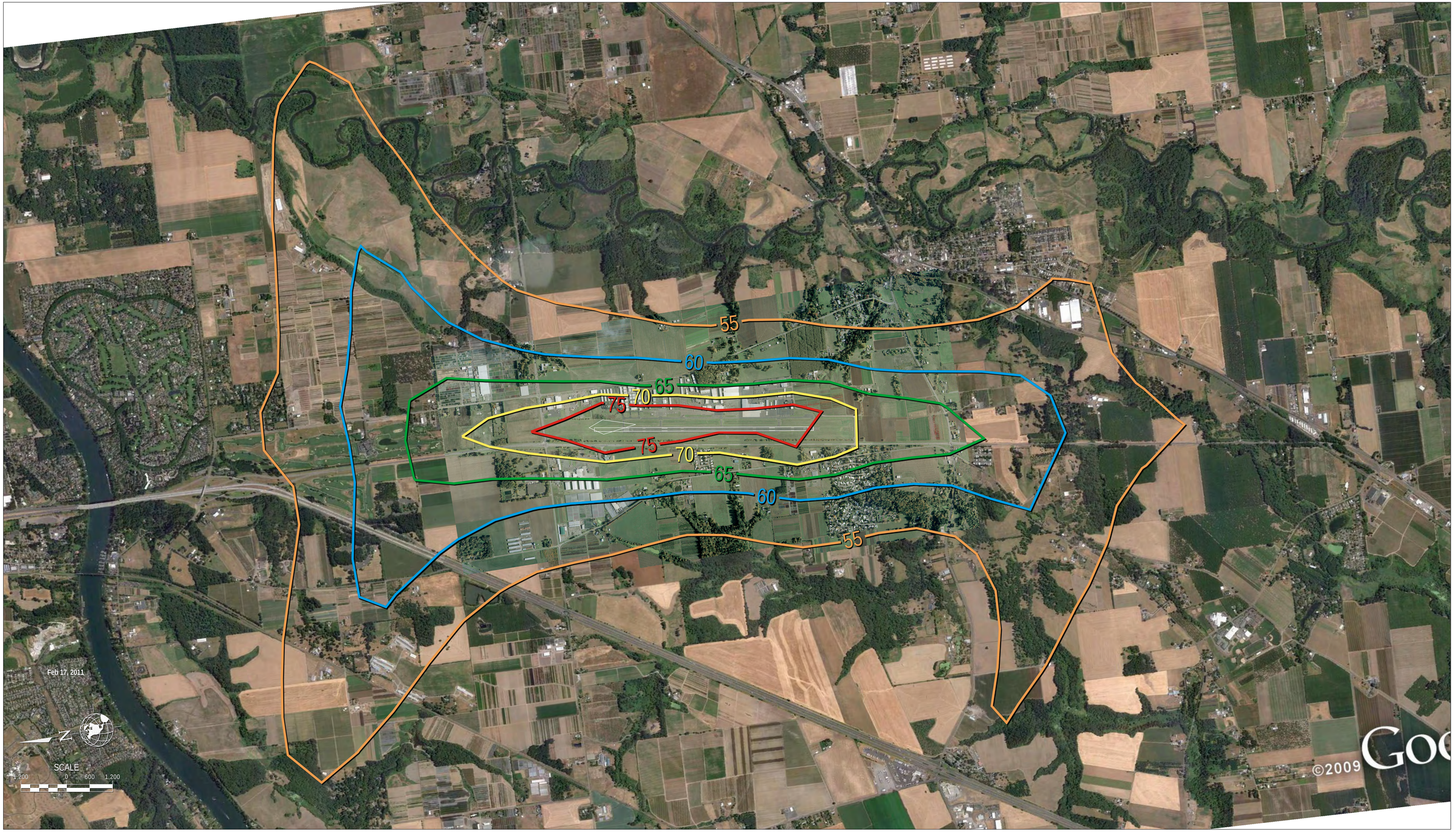

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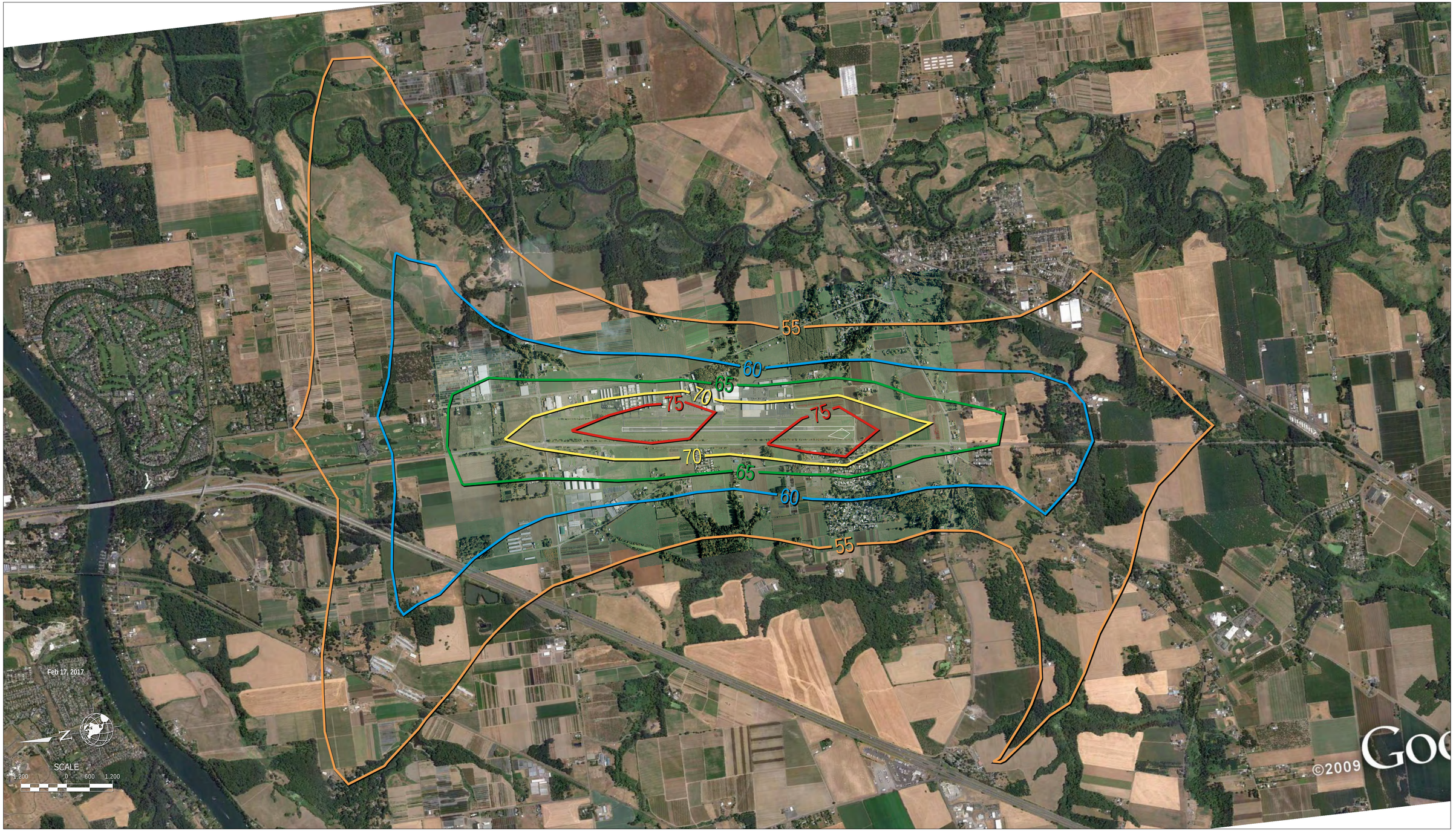
Exhibit 5G - Noise Contours

Build Alternative 1 ~ 2020

600' Runway Extension North

034317-AIRP-NOISE_MC.DWG



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Legend

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Aurora, OR

Exhibit 5H - Noise Contours

Build Alternative 2 ~ 2020

1,000' Runway Extension South

034317-AIRP-NOISE_MC.DWG

information presented in Chapter Three, *Aeronautical Activity Forecasts*. Flight paths input in the INM reflect the procedures shown in Exhibit 4A, as well as the departure procedures shown in **Exhibit 5I**[5].

2010 Existing Noise Contours

As presented in Exhibit 5E, the 65 dBA contour line extends off Airport Environs to the north, south and west. Some residential areas west of the Airport are included within this contour line, along with the 70 dBA line.

2020 No Build Alternative and Build Alternative 3 Noise Contours

The 2020 No Build Alternative and Build Alternative 3 contour exhibit represents the same physical layout as used in the 2010 existing noise contour exhibit. The only input variance is the increase in operations forecasted in Chapter Three. The increase in operations – and changes in aircraft fleet mix – cause the 65 dBA contour line to extend further off airport; however, the eastern 65 dBA noise contour line does remain nearly all within the Airport Environs. More residential homes would be impacted by noise exposures of 65 dBA, the FAA's threshold for compatibility.

2020 Build Alternative 1 Noise Contours

Exhibit 5G reflects the 600-foot runway extension to the north. Although the runway is extended to the north in this alternative, the noise profile is nearly identical to that in the 2020 No Build Alternative noise profile. The cause of this is the predominant use of Runway 35 during calm wind conditions (the Runway 17 threshold remains the same in Build Alternative 1).

2020 Build Alternative 2 Noise Contours

Build Alternative 2 proposes a 1,000-foot runway extension to the south, which is reflected in Exhibit 5H. As a result, the noise profile shifts to the south when compared to the previous profiles. Most notably, the 75 dBA contour line becomes two separate areas, because the aircraft noise exposure during the takeoff run is farther apart. Under this alternative, noise is shifted further away from Charbonneau, but closer to the City of Aurora and its surrounding communities. 65 dBA noise exposure west of the Airport is similar to the other 2020 contours. This alternative does incorporate more residential properties within the 65 dbA contour, due to its proximity to the City of Aurora.

Noise Analysis Summary

The noise profile is expected to increase by year 2020, regardless of development at the Airport. As shown in the noise contour exhibits, the 2020 noise profile for the No Build Alternative, Build Alternative 1, and Build Alternative 3 are nearly identical. In these noise profiles, some residential areas – mostly to the west – are within the 65 dBA noise contour. The noise profile associated with Build Alternative 2 displaces noise farther to the south of the Airport and reduces the noise impact to northern properties.

[5] *The FAA has not formally approved the departure procedures at this time; however, approval is expected in the fall of 2011.*

Table 5A. Sub-group Division by Aircraft Type and Departure Procedures (2010[6])

Aircraft Type	Percentage of sub-group[7]	Annual		Daily		Arrival		Departure		Touch and Go	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Propeller-Driven Aircraft											
Single Engine											
Bonanza	30%	10,424	213	29	1	11	0	11	0	7	0
Cessna 172	45%	15,636	319	43	1	16	0	16	0	11	0
Cessna 206H	25%	8,686	177	24	0	9	0	9	0	6	0
Multi-engine											
Beech Baron 58P	100%	8,018	164	22	0	9	0	9	0	3	0
Turboprop											
Beech King Air 200	100%	8,909	182	24	0	12	0	12	0	1	0
Jet Aircraft											
Small Jet											
Cessna 500	5%	535	11	1	0	1	0	1	0	-	-
Lear 25	30%	3,207	65	9	0	4	0	4	0	-	-
Large Jet											
Cessna 550B	5%	535	11	1	0	1	0	1	0	-	-
Lear 35	30%	3,207	65	9	0	4	0	4	0	-	-
Astra 1125	30%	3,207	79	9	0	4	0	4	0	-	-
Helicopter											
Bell 206	55%	14,700	300	40	1	20	0	20	0	-	-
Bell 212	34%	9,087	185	25	1	12	0	12	0	-	-
Hughes 500	11%	2,940	60	8	0	4	0	4	0	-	-

[6] *Operations based on Chapter Three, Forecasts.*
[7] *Fleet based on Harris, Miller, Miller & Hanson report to ODA (2002, May 31).*

Feb 9, 2011

SCALE
1,200 0 600 1,200
SCALE: 1" = 1,200'

Legend

- Small Turbojet
- Large Turbojet
- Small Turboprop
- Large Turboprop
- Small Piston
- Large Piston

Note:
Departure Procedures are pending Federal Aviation Administration approval. Publication expected August, 2011.

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Exhibit 5I
Draft Departure Procedures

034317-AIRP-EX5E.DWG

Table 5B. Sub-group Division by Aircraft Type and Departure Procedures (2020[8])

Aircraft Type	Percentage of sub-group[9]	Annual		Daily		Arrival		Departure		Touch and Go	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
Propeller-Driven Aircraft											
Single Engine											
Bonanza	30%	10,942	223	30	1	11	0	11	0	7	0
Cessna 172	45%	16,413	335	45	1	17	0	17	0	11	0
Cessna 206H	25%	9,118	186	25	1	9	0	9	0	6	0
Multi-engine											
Beech Baron 58P	100%	7,295	149	20	0	9	0	9	0	3	0
Turboprop											
Beech King Air 200	100%	11,463	234	31	1	15	0	15	0	2	0
Jet Aircraft											
Small Jet											
Cessna 500	5%	782	16	2	0	1	0	1	0	-	-
Lear 25	30%	4,690	96	13	0	6	0	6	0	-	-
Large Jet											
Cessna 550B	5%	782	16	2	0	1	0	1	0	-	-
Lear 35	30%	4,690	96	13	0	6	0	6	0	-	-
Astra 1125	30%	4,690	96	13	0	6	0	6	0	-	-
Helicopter											
Bell 206	55%	18,341	374	50	1	25	1	25	1	-	-
Bell 212	34%	11,338	231	31	1	16	0	16	0	-	-
Hughes 500	11%	3,668	75	10	0	5	0	5	0	-	-

[8] *Operations based on Chapter Three, Forecasts.*
[9] *Fleet based on Harris, Miller, Miller & Hanson report to ODA (2002, May 31).*

ENVIRONMENTAL SCREENING OF ALTERNATIVES

Each alternative was analyzed to assess its relative environmental impact, as well as identify any environmental constraints that may prohibit development. The results of this analysis are presented in **Table 5C**.

Each alternative presents an array of environmental opportunities and constraints. The following discussion summarizes the potential environmental concerns associated with each alternative.

Table 5C. Environmental Constraints and Impacts[10]

Impact Categories[11]	No Build Alternative	Build Alternative 1	Build Alternative 2	Build Alternative 3
Air Quality	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Biotic Resources	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Land Use Impacts	No apparent issues. *1*	Perception of community character change. *2*	Perception of community character change. *3*	Perception of community character change. *4*
Construction Impacts	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Section 4(f) Resources	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Threatened and Endangered Species	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Energy Supplies, Natural Resources and Sustainability	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Environmental Justice	No apparent issues. *1*	Perception of runway extension impact on northwest residents. (Charbonneau has a concentration of elderly) *2*	Perception of runway extension impact on northwest residents. (Charbonneau has a concentration of elderly) *3*	No apparent issues. *1*
Farmlands	No apparent issues. *1*	No apparent issues. *1*	Loss of productive farmland in southern RPZ. *2*	Loss of productive farmland in both RPZs. *4*
Hazardous Materials	No apparent issues. *1*	Risk for spills is associated w/landside development. 2	Risk for spills is associated w/landside development. 2	Risk for spills is associated w/landside development. 2
Historical, Archaeological and Cultural Resources	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*

[10] *The small italic number in each cell represents the qualitative rank of each alternative for the specific category. Where all alternatives are approximately equal, a value of 2 was given. A value of 1 represents the least impacting alternative; a value of 4 represents the greatest impact. A summing of these values appears at the bottom of this table, which in turn provides a subjective ranking of the four alternatives.*

[11] *The analysis is divided into 21 impact categories and is examined per FAA Order 1050.1E and guidance from the Council on Environmental Quality.*

Table 5B. Environmental Constraints and Impacts, *Continued*

Impact Categories	No Build Alternative	Alternative 1	Alternative 2	Alternative 3
Induced Socioeconomic Impacts	Potential loss of jobs and rent revenue. *3*	Development of landside improvements would create jobs and rent revenue. RW construction would create jobs. *2*	Development of landside improvements would create jobs and rent revenue. RW construction would create jobs. *1*	Development of off-airport landside improvements would create job, however businesses and revenue would be lost on-airport for BRL. *4*
Light Emissions and Visual Effects	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	Increased approach lighting for precision approach. *3*
Energy Supply & Natural Resources	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Noise	No apparent issues. *1*	Runway extension and aircraft types expand airport noise footprint. *3*	Runway extension and aircraft types expand airport noise footprint. *4*	Potential change in aircraft types expand airport noise footprint. *1*
Social Impacts	No apparent issues. *1*	Increased development could increase surface traffic demand. Perception of change in community structure. *2*	Increased development could increase surface traffic demand. Perception of change in community structure. *3*	Increased development could increase surface traffic demand. Perception of change in community structure, due to loss of homes and on-airport businesses. 4
Solid Waste	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	Demolition for BRL compliance would create large amounts of debris. *3*
Water Quality	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Wetlands	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*
Cumulative Impact	No apparent issues. *2*	No apparent issues. *2*	No apparent issues. *2*	Community change due to loss of residential areas could be significant. *3*
Controversy	No apparent issues. *1*	Some issues. *2*	More issues. *3*	Many issues. *4*
Total ranking	36	42	47	53

No Build Alternative

The No Build Alternative does not propose any new use designations on the airport. It includes only maintenance for the next 20 years. The No Build Alternative does not present land use compatibility concerns, noise concerns, changes to the social environment, or direct threats to plant and animal communities in relation to FAA levels of significance. Notwithstanding, surrounding communities are concerned of the potential increased noise exposure at the Airport due to the increase in operations. In terms of overall impact, **this alternative has the least impact to the existing natural and built environments.**

Build Alternative 1

This alternative includes development plans (primarily hangars and aprons) for approximately nine acres of State-owned land along Airport Road, and an ATCT. Airside improvements include a 600-foot extension of the runway and taxiway on the north end, and RPZs consistent with an airport designated for ARC B-II with approaches not lower than 1 sm visibility.

The RPZ dimensions would be 500 feet at the runway end, 700 feet at the outer end, and 1,000 feet in length. The southern end would include Keil Road and a strip of land outside of the existing airport property. FAA typically discourages roads in RPZs, but FAA advisory circulars do not prohibit them. An easement, rather than acquisition, is proposed for the small area south of Keil Road. Additionally, an easement would be proposed for the small portion of the northern RPZ extending off State-owned property. This would, however, not be a change to the current condition at the Airport.

Development of the vacant land in State ownership, along with the runway/taxiway extension, would increase impervious surface. The airport underwent a revision to on-airport drainage as part of the runway relocation project in 2005. The current system, with minor modifications, should be able to accommodate increased stormwater from new impervious surface.

The increase in hangar development, as well as new on-airport commercial and employment uses may also be perceived as a change in character by local residents. Development of the landside areas may also increase surface transportation demand, contributing to peak period congestion, or the appearance thereof for area residents.

The extension area appears to have been previously disturbed and likely does not constitute prime habitat.

Even with the northern runway extension, the noise contour of the Airport does not extend farther to the north, because the predominant runway use is Runway 35 (the preferential calm wind runway). In this alternative, the Runway 17 threshold does not change.

Additional development proposed in the airport environs, including privately held land in the Southend Airpark and land owned by HTS, is outside of the control of ODA. The size and complexity of these development projects would likely be identical under Alternatives 1 and 2, but may be denser with the No Build Alternative, due to the lack of development on State-owned land. Since Alternative 3 changes

the building restriction line, there may also be more development on privately owned land. These developments would likely contribute to the cumulative impact of airport-area development in terms of impervious surface/stormwater, community character, noise and traffic.

This alternative has the least amount of environmental impact of the three build alternatives.

Build Alternative 2

This alternative is similar to Build Alternative 1 in the allocation of future airside uses. This alternative would include a runway and taxiway extension of 1,000 feet to the south. The RPZs would be consistent with an airport designated ARC C-II with visual approaches greater than ¾ sm visibility.

The RPZ dimensions would be 1,000 feet at the runway end, 1,510 feet at the outer end, and 1,700 feet in length. The southern end would include Keil Road and Highway 551, as well as residential and farm properties on the west, south and east areas of the RPZ. FAA typically discourages roads in RPZs, but FAA advisory circulars do not prohibit them. Avigation easements would be sought from the residential property owners, and the areas within the RPZ currently in agricultural uses would be acquired.

Development of the vacant land in State ownership would be similar to Build Alternative 1. Because this alternative has the longest runway extension, the impervious surface increase would be larger than in Alternative 1. The existing stormwater collection system, with minor modifications, should be able to accommodate increased stormwater from new impervious surface.

The increase in hangar development, as well as new on-airport commercial and employment uses may also be perceived as a change in character by local residents. Development of the landside areas may also increase surface transportation demand, contributing to peak period congestion, or the appearance thereof for area residents.

This alternative would accommodate a greater variety of aircraft, due to the increased runway length. As stated above, the noise profile would extend farther south, but improve noise conditions to the north of the Airport. This alternative has the greatest impact in relation to noise of any of the alternatives.

Additional development proposed in the airport environs, including privately held land in the Southend Airpark and land owned by HTS, is outside of the control of ODA. The size and complexity of these development projects would likely be identical under Alternatives 1 and 2, but may be denser with the No Build Alternative, due to the lack of development on State-owned land. Since Alternative 3 changes the building restriction line, there may also be more development on privately owned land. These developments would likely contribute to the cumulative impact of airport-area development in terms of impervious surface/stormwater, community character, noise and traffic.

This alternative is has the mid-level environmental impact of the build alternatives.

Build Alternative 3

Due to the increased building restriction line, there is less development potential than in Build Alternatives 1 and 2. There is no runway extension proposed in this alternative. The RPZs would be

consistent with an airport designated for aircraft design group C-II with visual approaches lower than ¾ sm visibility.

The RPZ dimensions would be 1,000 feet at the runway end, 1,750 feet at the outer end, and 2,500 feet in length. The 35-foot building restriction line would extend 745 feet perpendicular from the runway centerline. The northern RPZ would include Arndt Road and the electric transmission lines just north of the road. The southern end would include Keil Road and Highway 551, as well as residential and farm properties on the west, south and east areas of the RPZ. A variance from FAA would be sought for the roads within the RPZ. The power lines would need to be relocated. Avigation easements would be sought from the residential property owners who are outside of the building restriction line, and the areas within the RPZ currently in agricultural uses would be acquired. Structures within the building restriction line, regardless of whether they are on- or off-airport would be acquired and removed. Acquisition and relocation would follow the federal guidelines. Depending on the type of commodity produced, the FAA may allow continuation of agricultural practices within the RPZ.

Development of the vacant land in State ownership would be similar to Build Alternatives 1 and 2; however, it may be more dense due to restrictions from the building restriction line. Because this alternative has no runway extension, the impervious surface increase would be less than in Alternatives 1 and 2. The existing stormwater collection system, with minor modifications, should be able to accommodate increased stormwater from new impervious surface.

The increase in hangar development, as well as new on-airport commercial and employment uses may also be perceived as a change in character by local residents. Development of the landside areas may also increase surface transportation demand, contributing to peak period congestion, or the appearance thereof for area residents. It is likely that the loss of trips associated with properties removed to comply with the building restriction line requirements would offset any trips related to new development, for a likely net loss in area wide travel demand.

Land to the south of the airport is currently zoned Exclusive Farm Use (EFU) under Marion County's Zoning Code. The land is considered High Value Farmland, and has been described as Foundation in a categorization of viable farmland that is worth protection, but it is not a legal classification, as EFU is. Airport development on EFU land is restricted, and it is difficult to rezone EFU land to other classifications, such as Public. Changing zoning would require an exception to Oregon Planning Goal 3. If FAA funding is used, the project would also require review under the federal Farmland Protection Policy Act (FPPA). Both processes are rigorous and the justification for the proposed change may not meet the tests to allow the change.

This alternative maintains the same runway dimensions as the No Build Alternative. While the noise profile does not vary from the contours shown for the No Build Alternative, there may be a perception of a noise increase due to the use of aircraft during instrument conditions, since Build Alternative 3 improves the Airport's instrumentation capabilities.

Additional development proposed in the airport environs, including privately held land in the Southend Airpark and land proposed for development by HTS, is outside of the area governed by the Airport

Master Plan. The size and complexity of these development projects would be identical under all of the Build Alternatives, as well as the No Build Alternative. These developments would likely contribute to the cumulative impact of airport-area development in terms of impervious surface/stormwater, noise and traffic.

This alternative is has the greatest environmental impact of the Build Alternatives.

As shown in Table 5C, the No Build Alternative has the least impact, as it does not change the airport from its current configuration. Alternative 3 has the greatest impact of the build alternatives because of its on-airport actions and off-airport impacts to residences, businesses, and agriculture.

Alternative 1 is shown with the least amount of impact for the build alternatives, while Alternative 2 is shown as having the mid-level impact. While Alternative 3 lacks a runway extension, the need for a relocation of the taxiway and expansion of the building restriction line causes a large amount of off-airport property impact, including social and socioeconomic impacts. In addition, the restrictions on airport use of EFU land may make a zone change unfeasible. Additional research needs to be conducted on this issue.

EVALUTION OF ALTERNATIVES

Chapter 1 identified Goals and Issues for this Master Plan Update. The intent of identifying these early in the planning process was, in part, to help evaluate the alternatives once they were developed.

The following discussion is intended to be used as a means of comparison, and also a guideline for dialogue among interested parties, to aid in decision-making while developing the Preferred Alternative for the Airport.

Master Plan Goals

Enhance Safety.

All alternatives meet FAA design standards, which are developed to ensure the safety of people operating aircraft and of people on the ground.

The lack of an ATCT has been cited as a safety concern. All build alternatives show the construction of an ATCT and funding has been secured by ODA.

Discussions with ODOT, by ODA personnel, have identified the intersection of Keil Road and Highway 551 to be a safety hazard. Build Alternatives 2 and 3 would dead-end Keil Road, which would remove the intersection. Alternative 2 also includes a new service road that is intended to help separate vehicular traffic from taxiing aircraft. The goal of enhancing safety goes beyond airport safety to include vehicular and pedestrian safety. As such, Build Alternative 2 enhances safety in ways the other alternatives do not.

As the Airport Access analysis in Chapter Four reported, It is recommended that ODA continue to work with and support Marion County and the City of Aurora as improvements to Airport Road are considered. It will be important that appropriate considerations be given to the entrances (gates) to the Airport and business along Airport Road.

Meet the current and projected needs of airport users, as feasible (feasibility includes financial, environmental, and political).

As far as meeting the needs of airport users, Alternative 2 is best at providing the runway length supported by airport users. Alternative 1 also lengthens the runway, but less than Alternative 2. Alternative 3 provides precision instrument approach capability that would reduce the time the airport is below minima. Alternative 2 provides some improvement of instrument approach capability, but not as much as Alternative 3. Alternatives 1 and 2 are the best at accommodating the landside development needs projected for the next 20 years.

Alternative 3 has the greatest capital cost, followed by Alternative 2, Alternative 1, and the No Build Alternative. In terms of revenue generation, Alternatives 1 and 2 are the highest, with runway extensions that allow more fuel sales and more landside development for hangar rental and aviation businesses.

As stated in the environmental section, changing land zoned as EFU to Public may be unfeasible; an exception to Oregon Planning Goal 3 would be required.

On the grounds of political feasibility, it has been expressed through the planning process that there is concern over expanding the Airport's footprint. Build Alternative 1 does not appreciably expand the footprint, so it may have the least political controversy of the build alternatives, although Alternative 1 strengthens and lengthens the runway. Both Alternatives 2 and 3 expand off-Airport. Alternative 3 would require a zoning change and two rigorous farmland protection reviews; all of which are likely to be controversial. In addition, Alternative 3 has impacts to residential properties, unlike Alternative 2, so it likely has the greatest cause for political controversy.

Consider all the off-airport impacts of Airport development; minimize negative impacts and maximize positive impacts.

This goal ranges from including surrounding communities in the planning process, to protecting farmland and livability, to maximizing economic benefit. The assessment of how well the alternatives meet this goal will be addressed after the PAC has met to evaluate the impacts of the alternatives.

Master Plan Issues

Runway Extension

Through the planning process, many users have expressed the need for an extended runway while concerned citizens have voiced an extension would disrupt their community's livability. Two of the build alternatives show runway extensions. Noise modeling was prepared for each of the alternatives, to help evaluate the impact of the runway extensions, as discussed previously.

Air Traffic Control Tower

In light of safety concerns, ODA has secured funding for an ATCT at the Airport. Three potential locations for the ATCT are shown on the build alternatives. These locations will be assessed by FAA in the spring of 2011 to determine their suitability in regards to FAA's siting criteria.

Impact of Airport Expansion on Surrounding Area

Concern has been voiced over the Airport's impact on Boone Bridge. After analysis, the Airport's impact to Boone Bridge equates to 1,800 AADT out of the 115,700 AADT as indicated by the ODOT. Even with growth projections, there would still be an insignificant impact from Airport-related activity.

Other concerns listed related to the Aurora Rural Fire District's ability to respond at the Airport, availability of utilities, and aircraft noise. All of the build alternatives show locations for the Fire District's response building. Utilities are an issue the Airport is facing, regardless of future development. New technologies may bring more efficient means of septic treatments to the Airport, or a sewer extension from the City of Aurora may need to occur in the future. Aircraft noise was addressed for all of the alternatives, to assess each alternative's impact to the surrounding communities; the results of this study are shown above.

Calm Wind Runway Change

ODA is working with the FAA to get approvals for new departure procedures that will lessen the Airport's disruption to surrounding communities. The calm wind runway, as recommended in the 2002 noise study, will remain with all alternatives. As shown in the noise contour exhibits, the Airport's noise profile will increase by 2020. Utilization of the Runway 35 calm wind runway reduces impacts to areas north of the Airport. However, in Build Alternative 2 the noise exposure shifts closer to the City of Aurora, as a result of the calm wind runway.

Precision Instrument Approach

Build Alternative 3 shows what would be required to implement a precision instrument approach. The process would be difficult financially and politically. The best minima possible would likely be ½ sm, which is the lowest achievable with a GPS-aided LPV approach or with a Category I instrument landing system. Given historical weather conditions at the Airport, visibility is below ½ mile 2.3% of the time, below ¾ sm 3.7% of the time, and below 1 sm 5.0% of the time.[12]. The worst month is November, when visibility is below ½ sm 6.8% of the time, below ¾ sm 10.2% of the time, and below 1 sm 13.6% of the time. In constrast, visibility exceeds 1 sm 98.8% of the time in July. The cost associated with Alternative 3 may outweigh the benefit gained from implementing a precision instrument approach.

Helicopter Operations

All three build alternatives show suggested locations for the helicopter operations area on state-owned property.

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[12] *National Oceanic and Atmospheric Administration (NOAA) weather data for 2000-2009.*

Other Airport Improvements

The other airport improvements listed were a run-up area for Runway 17, improved runway lighting, a restaurant, and radar/approach control coverage in the area. Build Alternative 1 shows a run-up area on the extended Runway 17 parallel taxiway. Build Alternative 2 also shows a run-up area that could be constructed if Runway 17 is not extended. Approach lighting would be upgraded, as needed, to implement new instrument approaches. A restaurant is not shown on State-owned property, but could be developed on private property. Radar is difficult to obtain, as the airway system is becoming more GPS-based. However, the ATCT will provide approach control at the Airport when the tower is open.

PREFERRED ALTERNATIVE

On March 10, 2011, the above alternatives were presented to the Planning Advisory Committee (PAC) and public. The purpose of the meeting was to gather input towards developing a preferred alternative. In addition to discussion during the meeting, comment forms were available at the meeting and on the project website, and comments were gathered for two weeks after the meeting. Comments varied greatly, from supporting the No Build Alternative to Airport expansion. **Appendix K** documents the discussions and testimony given, as well as the comments received.

Since no consensus for a Preferred Alternative was reached at the PAC meeting, ODA considered PAC and public comments (gathered through March 24), and then presented a recommended Preferred Alternative for the Oregon Aviation Board's consideration on March 31. The Preferred Alternative was then available for public comment until April 21. Based on the comments received during that period, the project team presented potential add-on Scenarios 1 and 2 to the Board on April 28. Scenarios 1 and 2 integrate the use of displaced thresholds to gain additional usable runway, as further detailed below. Subsequent discussions between ODA and FAA have reintroduced the concept of a 1,000-feet runway extension to the south, hereinafter referred to as Scenario 3. The following text outlines the Preferred Alternative and the three add-on scenarios, to be further discussed with the PAC and public on June 7.

The Preferred Alternative, shown in **Exhibit 5J,** reflects ODA's plan for developing the Airport. The Preferred Alternative will be the basis for revising the Airport Layout Plan, which establishes FAA grant funding eligibility for airport improvements and must be approved by the FAA. Implementing the airfield improvements in the Preferred Alternative will depend on FAA and ODA funding availability and the results of environmental analyses for individual projects. The private development of landside facilities will depend on the actual growth of aviation demand, market and financing conditions, and local laws and regulations.

The predominant features of the Preferred Alternative are described below. Scenarios 1, 2, and 3 vary from the Preferred Alternative only in the area of Runway Length – all other components will remain constant.

Airport Reference Code

As Chapter Three, *Aeronautical Activity Forecasts*, documented, activity at the Airport currently meets the criteria for an ARC of C-II. Meeting the FAA design standards for the appropriate ARC at an airport is important for safety. The Airport currently is designed to ARC B-II standards, although the existing runway width and the runway-to-parallel taxiway separation exceed B-II standards and meet the standards for ARC C-II. The larger RSA required for ARC C-II can be provided easily, since the ground within the larger RSA is already well-graded for rescue vehicles and aircraft recovery in case of an aircraft undershoot, overshoot, or excursion from the runway. The major design standards that would need upgrading would be the RPZ and ROFA.

For the current instrument approach visibility minimums, the required RPZ is 700 feet longer for ARC C-II. ODA should control land within the RPZs to prevent incompatible land uses. Residences and places of assembly are examples of incompatible land uses within an RPZ. If fee acquisition is not possible, land use control may be provided through avigation easement. ODA has not initiated consultation with the affected property owners relating to this item.

Vehicles on Highway 551 west of the Airport would be objects within the wider ROFA required for ARC C-II. The highway would only encroach upon this surface by a small margin, and a modification to FAA standards will be requested. Recent discussions with the FAA indicate the request will likely be approved.

Runway Length

Preferred Alternative

Although this Master Plan has shown that a runway extension is justified according to FAA guidance, ODA has decided that any extension would prove infeasible at this time. An extension to the north might constrain Columbia Helicopters' ability to expand on their private property. An extension to the south might have a negative impact on farmland – a potentially environmentally infeasible situation. A south extension might also have a negative impact on private property and Keil Road. Keil Road provides necessary access for farm equipment/machinery and emergency responders, even though it poses some safety concerns at the intersection with Highway 551.

Add-On Scenario 1

Scenarios 1 and 2 incorporate the use of displaced thresholds, which create "declared distances." The purpose of declared distances in airport design is to provide an equivalent RSA, ROFA, or RPZ in accordance with the design standards at existing constrained airports where it is otherwise impracticable to meet standards by other means. Declared distances are also employed when there are obstructions in the runway approaches and/or departure surface that are beyond the ability of the airport owner to remove and result in a displaced runway threshold or change in the departure end of the runway. In other words declared distances, when applied at Aurora State, can increase the usable runway length without fully extending the runway or encroaching upon adjacent lands

Scenario 1 adds a 600-feet displaced threshold to Runway 35 and 200-feet displaced threshold to Runway 17 to acquire the following declared distances, see **Exhibit 5J Scenario #1**.