

# COMPATIBILITY OF PROPOSED PORTLAND WATER BUREAU FILTRATION FACILITY & PIPELINES CONSTRUCTION WITH FARM TRAFFIC

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Prepared for City of Portland



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## 1.0 Introduction

The Portland Water Bureau (“Water Bureau”) proposes the construction and operation of the Bull Run Filtration Facility (referred to as the “filtration facility”) and the associated Water Bureau pipelines (referred to as the “new pipelines” or “pipelines”). Together, the filtration facility and pipelines are referred to as the “Bull Run Filtration Projects” or “projects.” These improvements to the Bull Run water supply will provide consistent, high-quality drinking water for nearly one million people.

Globalwise previously analyzed the compatibility of agriculture with the Water Bureau projects. That report, “Compatibility of Proposed Portland Water Bureau Filtration Facility & Pipeline Operations with Surrounding Agriculture,” dated September 2022, was submitted for the main land use application for the Water Bureau projects (the “Operations Report”). The Operations Report is in “Application Appendix D.1.”

The analysis of potential farm impacts from the Water Bureau projects is based on over two years of reviewing farm conditions in the Surrounding Lands.<sup>1</sup> Globalwise interviewed more than 60 farmers in the area. Added insight on agricultural conditions came from interviews and discussions with private businesses serving farms, government officials, and farm-industry organizations in Multnomah and Clackamas counties as well as state-level organizations.

This report addresses Water Bureau project traffic during the temporary construction period and evaluates potential impacts on accepted farm practices and the cost of accepted farm practices on lands surrounding the projects.<sup>2</sup> The report evaluates field and facility access, alternative transportation routes, and overall traffic congestion due to construction activity related to the Bull Run Filtration Projects.

Based upon the evaluation, this report concludes that when taking into consideration the construction practices to minimize impacts to farm practices during pipeline and facility construction, the conclusion of the project Construction Traffic Impact Analysis identified in this report, and the duration of the construction activities, activities related to facility and pipeline construction will not force a significant change in or significantly increase the cost of accepted farm or practices on surrounding lands devoted to farm use.

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<sup>1</sup> Surrounding Lands are defined in the Operations Report as the area around the proposed filtration facility site and pipelines which encompasses the land area with any potential for significant impacts on accepted farm practices or farm operating costs. The Surrounding Lands are the same area described as the “study area” in the land use application narratives.

<sup>2</sup> ORS 215.203(2)(c) defines accepted farm practice as “A mode of operation that is common to farms of similar nature, necessary for the operation of such farms to obtain a profit in money, and customarily utilized in conjunction with farm use.”

## **2.0 Operations Report Analysis and Findings**

The Operations Report is a comprehensive assessment of impacts on agriculture during operations of the two Water Bureau projects. The analysis first considered types of farms and agricultural conditions in the Surrounding Lands. An inventory and understanding of the range of crops grown and the accepted farm practices for each crop was the starting point for understanding agriculture in the Surrounding Lands. The compatibility of the filtration facility and the pipelines with the character of the Surrounding Lands was also evaluated. Potential externalities and sensitivities that might be caused by the Water Bureau projects were also evaluated. All potential impacts related to project operations were also identified.

Finally, the Operations Report considered approval criteria for conditional uses related to potential impacts from the filtration facility and pipeline operations on accepted farm practices on surrounding farm use properties. The conclusion is that the operation of the Water Bureau's filtration facility and pipelines will not cause any significant changes in accepted farm practices in the Surrounding Lands. It also concluded that there will be no significant increase in the cost of accepted farm practices due to the operation of the Water Bureau's filtration facility and pipelines.

## **3.0 Focus on Farm Traffic**

Consideration of farmer use of the public road system has been a primary element of project planning by the Water Bureau. This focus was reinforced by farmer comments during interviews Globalwise conducted with farm operators over the last two years. The Operations Report addressed farm traffic during the operations of the facilities. Additionally, over the last two years, analysis was conducted on construction-related farm traffic. That analysis is presented in this report. As a result, major attention has been devoted to assessing how the Water Bureau project construction activity could potentially impact farmers that use the road system within the Surrounding Lands and ways to minimize any impact. Farm travel on public roads in the Surrounding Lands is dominated by horticultural plant nurseries since they are the largest farms and have the most frequent need to travel between field and facility locations in the Surrounding Lands. However, all farmers use the road system to some extent.

Farmers use the public roads in two principal ways. First is road use to move farm equipment, employees, supplies, and crops between headquarters, ancillary facilities, and farm fields. Second is hauling crops from headquarters or hub facilities to customers.

Road travel is an accepted farm practice for farmers who have fields in separate locations and for hauling crops from farms to buyers. While farmers prefer to use the shortest or fastest route for road travel, there are circumstances that modify this preference. Conditions that cause farmers to modify their routes include county road and utility work, traffic accidents, and changes in traffic congestion patterns. Since farmers share the public roads with other road users, they must adapt to changing road conditions and at times use alternative travel routes on public roads to reach their destinations. This allows farmers to maintain their crops and profitability as they use the roads as an accepted farm practice in the Surrounding Lands.

Discussions with farmers have indicated that their preference is the shortest possible construction schedule. After careful review of primary and secondary farm road traffic routes, the Water Bureau and pipeline contractors addressed "fast-tracking" construction by defining limited cases where two pipe

segments in Multnomah County roadways can be constructed simultaneously. The chosen road segments allow farmers to reach fields using alternative routes and reduce the total construction time needed.

Information collection for the detailed analysis of farm traffic movement included: 1) locating the headquarters of farms and secondary facilities for equipment, supplies, and crop handling or storage, 2) identifying and locating fields owned or leased by farm operators as well as farm roads within fields and field access locations at public roads, 3) identifying seasonal use of roads, especially the peak times for road use, and 4) determining the most direct farm travel routes as well as secondary routes. The review generated a comprehensive description of the farm travel network for each road segment in the Surrounding Lands. Appendix A contains the detailed assessment of the farm-by-farm traffic analysis.

## **4.0 Integration of Farm Traffic Analysis with Pipeline Project Planning**

After collecting the farm traffic data, Globalwise worked with Water Bureau staff, pipeline design engineers, consulting transportation engineers, pipeline construction contractors, filtration facility design engineers, and filtration facility construction contractors to consider how farm traffic can be accommodated during project construction.

This required an understanding of the primary characteristics of farm traffic in the Surroundings Lands. Farmers were interviewed and asked if they moved farm vehicles and equipment on public roads, and if so, what roads they used to travel between headquarters, fields, and any other facilities. Farmers were also asked to describe the types of vehicles and equipment they moved. This review covered both farm vehicle travel on the public roads as well as the need for transporting products from farms to customers.

The Water Bureau's design team considered many factors for final selection of the pipeline alignment. Among them was remaining in the road Right-of-Way and avoiding EFU zoned property. Both criteria support maintaining land in farming. After selection of the pipeline routes, constraints on pipeline construction were made to further reduce temporary impacts for farm use of the road system in the Surrounding Lands. These constraints are described in the next section of this report.

## **5.0 Actions that Minimize Farm Impacts from Pipeline Construction**

The Water Bureau will implement a variety of actions during the construction phase to ensure farm traffic moves on public roads with no significant changes in accepted farm practices in the Surrounding Lands and no significant increase in the costs of accepted farm practices. During the planning stage for pipeline construction, the pipeline engineering team considered the farm-by-farm review of routes farmers use to reach their properties. Maintaining farm movement on public roads during project construction has been an important consideration during the design process.

### **5.1 Constraints Placed on Pipeline Construction to Support Farm Traffic Movement**

After reviewing the detailed information on farm use of the road system, the Water Bureau worked with the contractors and Globalwise to establish constraints for pipeline construction. The constraints allow

for carefully determined road closures to reduce the total time for pipeline construction and prohibit the simultaneous closure of specific segments to maximize alternative routes. Several of the constraints also apply seasonal limitations on specific segments to avoid or minimize impacts during important periods of the year for road use by surrounding farmers. There are 11 specific constraints to support farm traffic throughout pipeline construction. These constraints are:

1. No work shall be performed simultaneously on two County roads at the same time with the exception that:
  - a. S.E. Dodge Park Boulevard and Altman Road work is allowed to be performed concurrently; and
  - b. S.E. Lusted Road (between Finished Water Intertie and S.E. Altman Road) and S.E. Cottrell Road work is allowed to be performed concurrently.
2. The segment east of the intersection of S.E. Cottrell Road and S.E. Dodge Park Boulevard can only be constructed during the time frame of August through October.
3. The intersection of S.E. Cottrell Road/S.E. Dodge Park Boulevard can only be closed in the month of October.
4. The closing of S.E. Dodge Park Boulevard to cross the road onto the private property at the west end of the Finished Water Pipes can only be closed in the month of October.
5. S.E. Cottrell Road cannot be closed or limited to traffic while work is being accomplished on S.E. Dodge Park Boulevard limiting traffic.
6. Pipeline installation across the private property is recommended to only be conducted during the summertime (non-wet periods).
7. A minimum single lane of traffic flow is required at all times along S.E. Dodge Park Boulevard while work is being accomplished, and the traffic limitations shall only be restricted by the rolling lane closure.
8. Closure of S.E. Lusted Road between the Finished Water Intertie to S.E. Altman Road is allowed with the following limitations:
  - a. Emergency vehicle access and access for local residents and farmers shall be provided at all times during construction.
  - b. A farm direct and u-pick peach orchard located approximately 900 feet east of S.E. Altman Road shall be provided with unimpeded access for their customers during the month of August.
9. The completion of the C4FWP pipeline from the stop sign referenced above into S.E. Oxbow Drive for connection to the existing Conduit 4 can only occur during the months of June/July or October/mid-November to not impede farmers' shipping traffic at other periods of the year.
10. S.E. Lusted Road closure cannot be done simultaneous with the closure of S.E. Altman Road.
11. The C4FWP pipeline and connection in Oxbow Drive cannot be constructed simultaneous with the work on finished water pipes in S.E. Lusted Road.

The implementation of the listed pipeline construction constraints, combined with the network of roads that provide multiple routes including detours at the option of farmers, are accommodations during temporary project construction that reduce impacts on farmers using the public rights-of-way for farm use purposes.

## 5.2 Maximize Road Passage and Field Access

On Dodge Park Boulevard when one lane is closed, a flagger will allow traffic, including farm traffic, to move through the construction zone if they choose to stay on that road segment. Farmers may also choose to take detour routes. Where no detour is available, farm traffic will be treated similar to emergency vehicles and will be flagged through otherwise closed work zones. Because the active construction work zone is limited and moves approximately 30 to 50 feet per day, even roads that are closed to through traffic will still provide access to field entry points that are outside of the work zone. The presence of active construction zones directly adjacent to field access points is a short duration impact that will be mitigated by coordination with farm operators well in advance.

The analysis in the appendix shows that farmers often have more than one access point they use to enter and exit their fields. It is therefore an accepted farm practice to evaluate changing road conditions and utilize alternative routes to their fields.

There are additional accepted farm practices that may in some cases be temporary adjustments farmers make to mitigate anticipated changes in road travel and field access. First, interviews with farmers show that equipment is at times left in fields overnight instead of returning daily to headquarters. This temporary response reduces road travel. Second, farmers may temporarily utilize direct “off-road” access where ditches or other roadside physical impediments are not barriers for field entry by tractors, trucks, or other farm equipment. Third, farmers may adjust their field travel route on a given day by changing the order in which they arrive at fields to avoid a construction zone at a particular time of day or at a specific location in a road segment.

There are additional situations where farmers have unique travel requirements where an alternative route may not be available. In those cases, the Water Bureau intends to provide special accommodations. An example is farm vehicle travel safety on public roads. Some farmers’ safety protocol limits their travel to Dodge Park Boulevard east of Cottrell Road to reach their fields in the lower section of Lusted Road. To accommodate this unique travel limitation, construction activity in Dodge Park Boulevard will be restricted to months when farm vehicle traffic is at its lowest and one lane of flagger-controlled traffic through the work zone will be maintained.

## 6.0 Farm Traffic Impacts from Construction Traffic

Construction of the pipelines and the filtration facility will add vehicle trips to the surrounding road network. Additional vehicles on the roads within the Surrounding Lands will have a temporary impact on the movement of all vehicles, including farm vehicles that use the road network. To evaluate the scope of the impact, the Water Bureau’s traffic consultant prepared a Construction Traffic Impact Analysis that analyzed impacts to study intersections and roadways related to construction of the Bull Run Filtration Projects (the “Construction TIA”).<sup>3</sup> The Construction TIA identifies existing traffic volumes and expected construction-related trip generation. The Construction TIA considers four conservative trip distribution scenarios and assesses traffic impacts from each at 15 area intersections and planned filtration facility access points. The Construction TIA concludes that for three of the scenarios the study intersections will meet performance standards established by Multnomah and Clackamas Counties under peak hour

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<sup>3</sup> Bull Run Filtration Facility – Construction Traffic Impact Analysis, June 2, 2023, prepared by Global Transportation Engineering.

traffic conditions without any mitigation. The study further concludes that performance standards can also be met for the fourth scenario with the inclusion of transportation demand management strategies identified in the report. Overall, the Construction TIA concludes that impacts to intersection and roadway operations due to construction traffic from the Project will be minimal even under conservative analysis assumptions that take into consideration roadway closures due to pipeline construction. As a result, farm vehicles traveling on identified roadways and through the study intersections will experience minimal delays because of the addition of construction traffic.

## **7.0 Construction Activity Communications**

Through early engagement with local farm operators and other project neighbors, the Water Bureau developed a Good Neighbor Agreement that includes commitments to minimize disruption during construction and keep the community informed. Key goals for construction outreach include communicating early about what to expect, providing timely notice of work activities and traffic considerations, and dedicating the needed resources to respond to questions and resolve concerns quickly.

Current project-specific outreach includes a project email and comment form, regular project e-newsletters, project and construction webpage updates, neighbor information sessions, community group briefings, individual property owner meetings, direct mailings, doorhangers, traffic reader boards, project area signage, and an onsite Water Bureau liaison during work activities. All these outreach methods will be opportunities for farm operators and other interested parties to stay up to date about construction timelines and activities, including lane closures and other traffic considerations. While this outreach is not needed to avoid a significant change in farm practices or to avoid a significant increase in the cost of farm practices on surrounding lands, the Water Bureau is committed to these communication pathways as an accommodation to farms and farmers in the Surrounding Lands.

## **8.0 Conclusions**

Globalwise considered and evaluated all the farm properties within the Surrounding Lands. The appendix to this report presents the detailed analysis.

For the reasons described in this report, Globalwise concludes that Bull Run Filtration Project construction activity that impacts farm travel and field access will not force a significant change in accepted farm practices on lands devoted to farm use in the Surrounding Lands and will not significantly increase the cost of accepted farm practices on Surrounding Lands devoted to farm use.

## Appendix A: Analysis of Farm Use of the Public Roads in the Surrounding Lands

This appendix covers the farm transportation analysis for primary road use by farmers in the project area near the water filtration facility site and pipeline construction. The majority of the pipeline construction is in public right-of-way. Two segments of pipeline follow an existing farm access road across private property.

The purpose of this farmer information is: 1) provide the traffic engineers information for their analysis of traffic impacts (possible delays or detours for farm traffic during pipeline and filtration facility construction); and 2) assist project managers and construction contractors in the final planning, scheduling/sequencing of construction, and specifying appropriate traffic control measures.

This report notes traffic routes to and from farm headquarters; related operation facilities such as storage areas, equipment maintenance areas, or loading docks; and associated farm fields and field access points. A coding system is used in place of farm operator names to respect privacy.

The farms included in this appendix are those that most frequently use the public roads in the project area. Another factor is the frequency of travel which relates to farm size and the need to travel between multiple fields on the road system. Information about farmers who use the public roads less frequently is provided at the end of this appendix.

Farm traffic routes refer to travel by farm vehicles such as supervisor vehicles, crew buses, farm trucks pulling farm trailers, and tractors. Unless equipment is left in the field or moves to another field, each trip out has a corresponding daily trip back to the origin. Most nurseries do not leave equipment such as tractors, or field implements such as sprayers, in the fields due to the need to service the equipment, “reset” for the next day, protect against vandalism or theft, as well as other reasons. The exceptions to daily returning equipment are heavy equipment such as tree diggers that must be hauled to locations and are “time critical” for harvest.

Specific reference is sometimes made to the type of vehicle or equipment in this report. “Farm traffic” refers to all types of moving vehicles and equipment regardless of their speed. Tractors and the implements they pull are the slowest moving farm traffic. Faster farm vehicles include trucks of all sizes and the equipment they pull such as trailers as well as crew buses that can move at the posted speed limit on public roads.

Outbound traffic routes refer to truck traffic that usually originates at farm headquarters or other main loading facilities and loads shipped to customers. In most cases, these shipments are in semi-trucks with 53-foot trailers unless otherwise noted.

Figure 1 shows an overview of farm fields and headquarters evaluated in this appendix. Figures 2 through 5 show greater detail in four quadrants of the surrounding lands to show the locations of farm headquarters, other facilities, fields, and access points. For business confidentiality, farm information is presented using codes and symbols (see Figures 2-5). The conventions for the coding system are:

1) Farm Operators are indicated with a capitalized alphabetical letter. E.g., Farm Operator A is displayed as “A.”

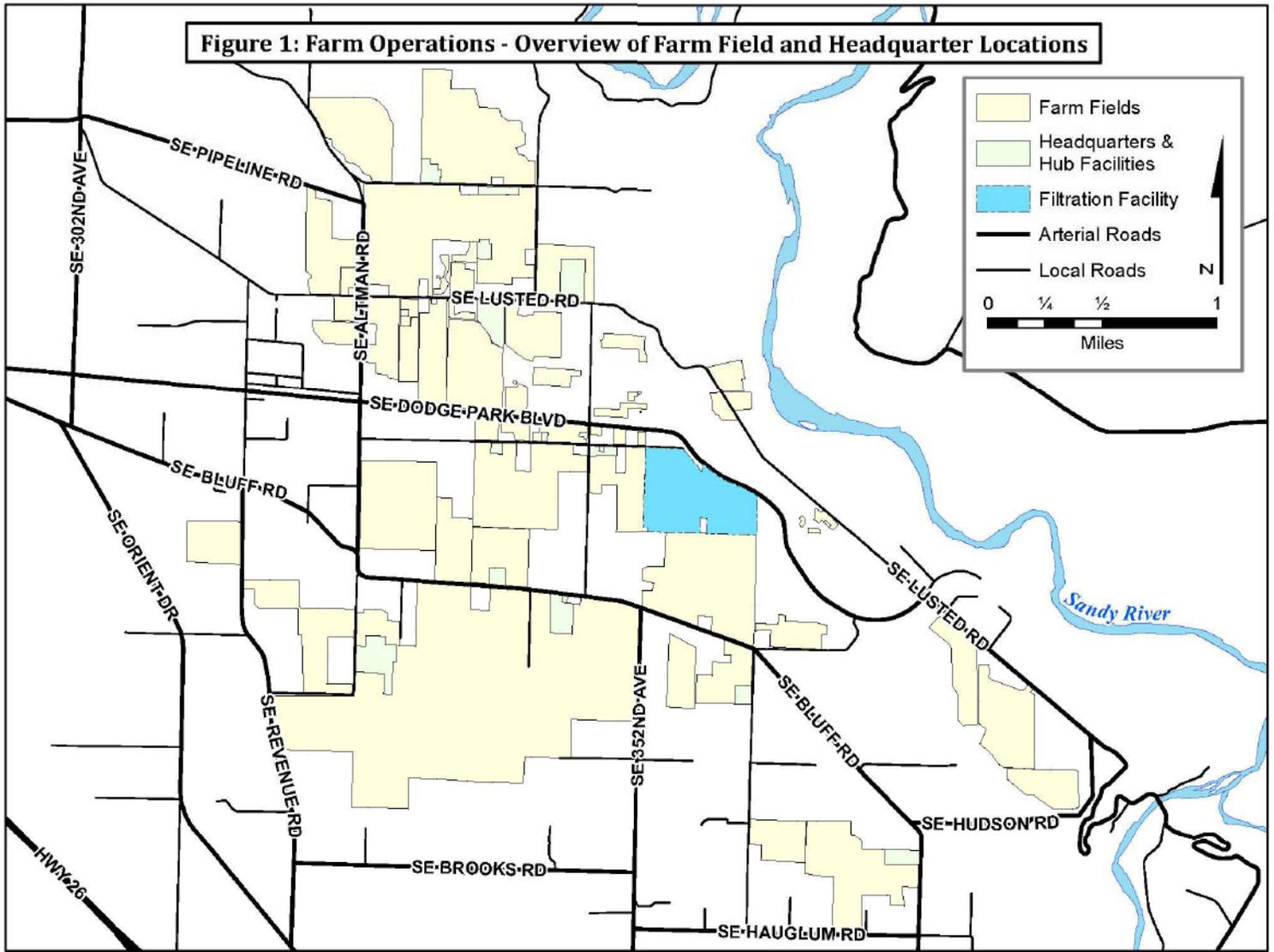
2) Headquarters locations are designated with the naming convention "HQ." Farm Operator A's headquarters is A-HQ. If the farm has additional facilities, these are referred to as hubs and the naming convention includes lower case alphabetical letters such as A-HQa, A-HQb, etc.

3) Farm fields are identified with a capitalized F, and followed by a number that distinguishes multiple field locations, for example "F-1," "F-2," etc.

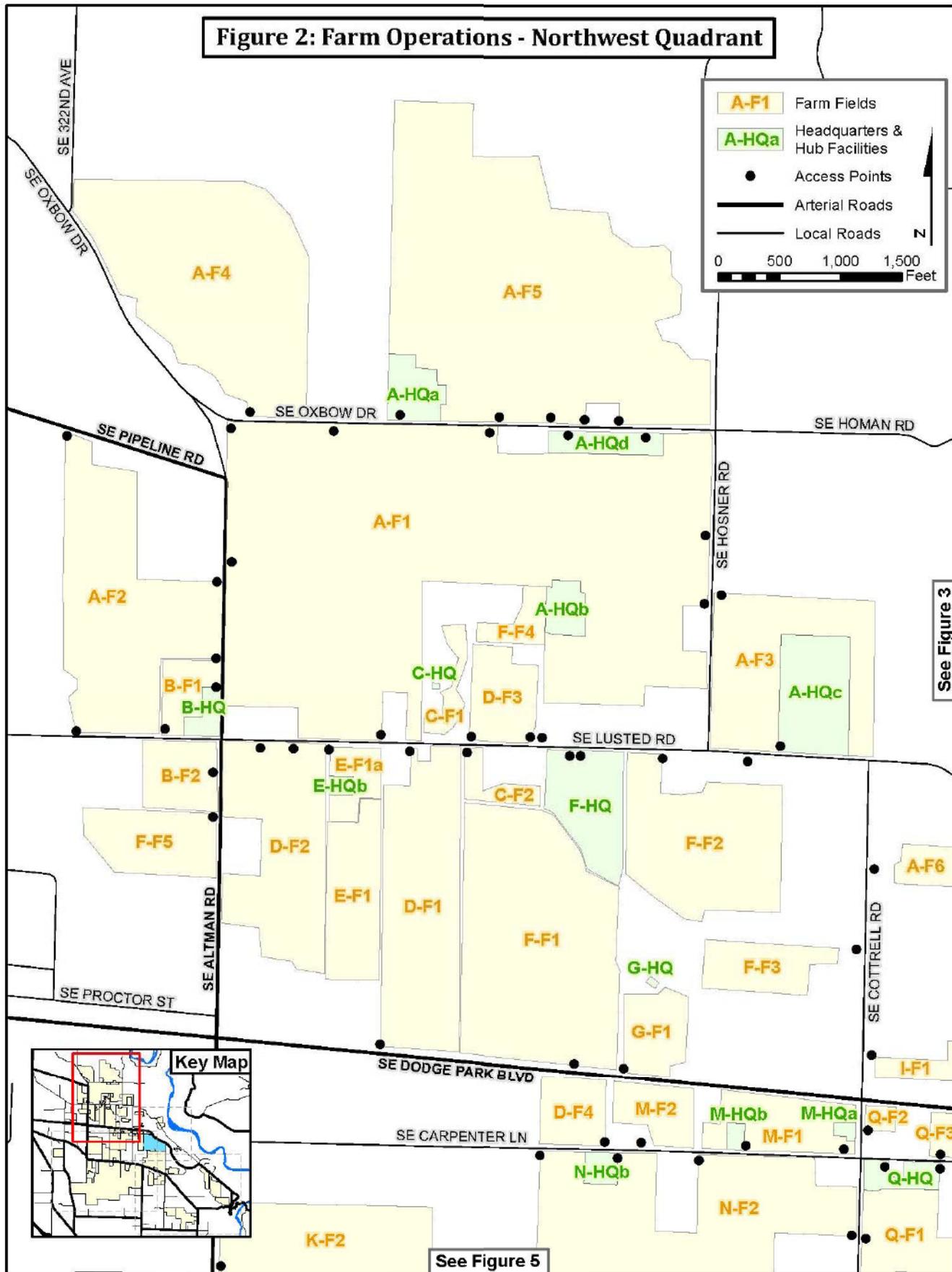
4) Field access points are displayed with a dot in Figures 2 to 5.

Within a road segment, some farm operators are identified more than once. This occurs when a farm operator travels to more than one destination over the same road segment and the destinations are distinctly different.

**Figure 1: Farm Operations - Overview of Farm Field and Headquarter Locations**

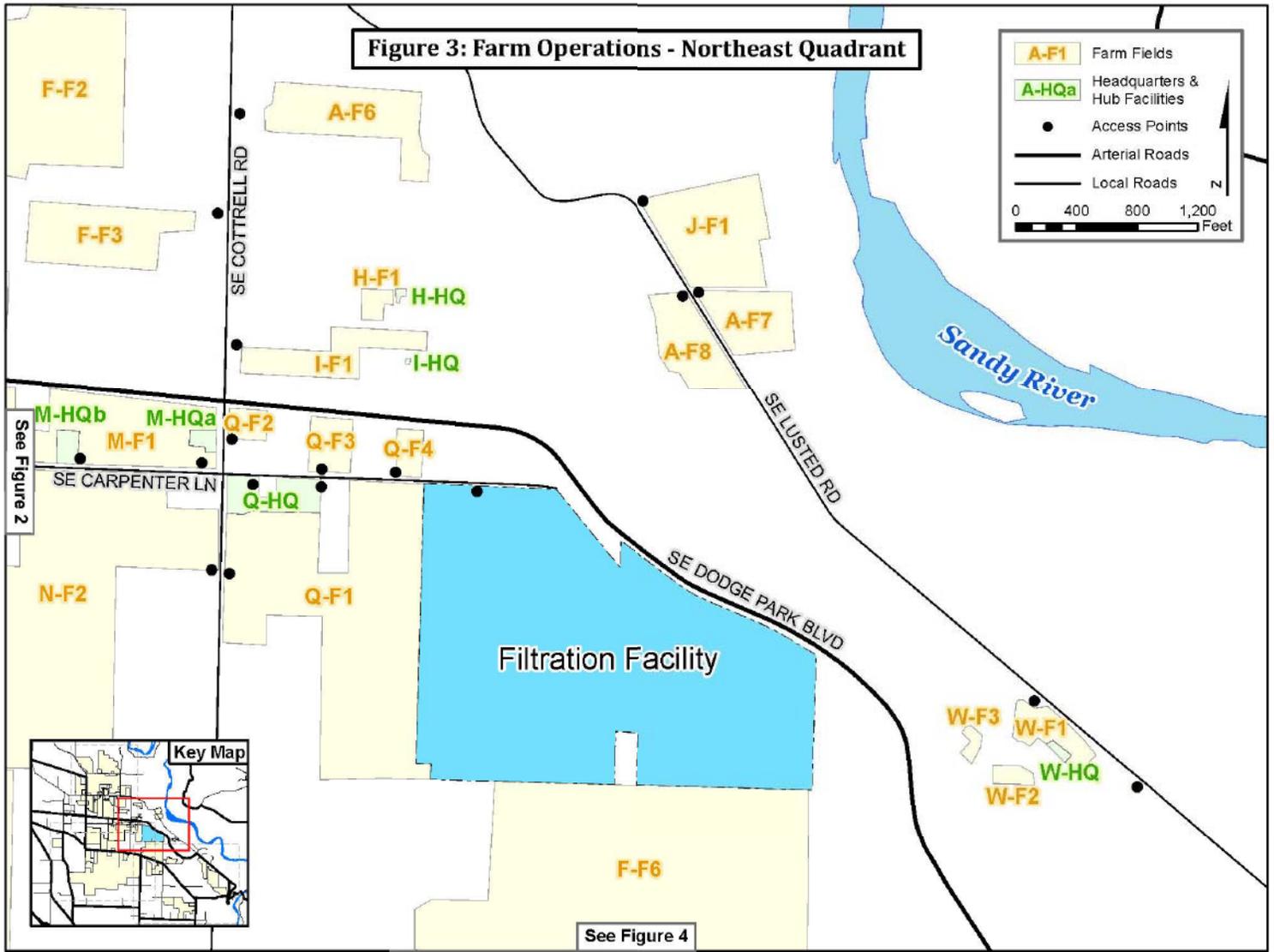


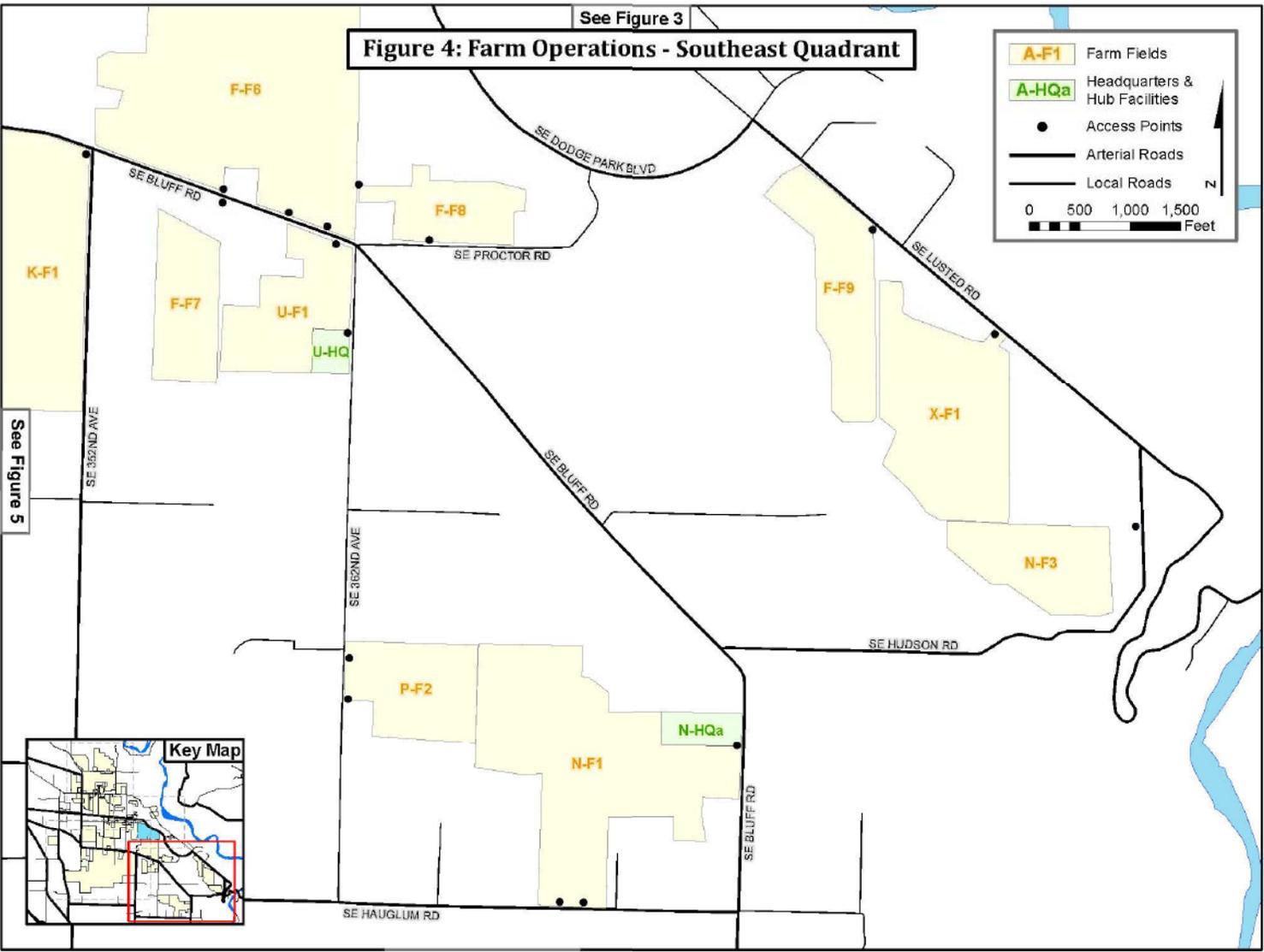
**Figure 2: Farm Operations - Northwest Quadrant**



See Figure 3

See Figure 5







## Raw Water Pipeline Segment: Multnomah Connection to Tunnel Portal

This report section describes farm traffic for one Farm Operator in this raw water pipeline segment near the Multnomah Connection.

### Farm Operator W

**Farm Traffic Origin & Destination:** Farm Operator W’s headquarters (W-HQ) is at 36910 SE Lusted Road. This is an integrated farm location with fields W-F1 and W-F2 at the same location as the headquarters. Field W-F3 is accessed by a driveway to the north of the access for fields W-F1 and F2.



**Farm Traffic Route:** All farm traffic is between two separate “side-by-side” fields, W-F1 and W-F2, and farm equipment and crews move within a field or go a short distance within the farm location without entering or exiting Lusted Road.

**Alternate Farm Traffic Route:** For fields W-F1 and F2, no alternate access is needed. For any vehicle leaving the farm or nearby residence, access will be provided during construction. For field W-F3, access is north of the main farm access and not impeded by pipeline construction.

**Outbound Shipping Traffic Route:** From all origin points, the normal route is Lusted Road, with approximately equal trips going north or south from the farm headquarters. Outbound vehicle traffic is in smaller vehicles and the route used depends on the destination. However, if one direction is delayed for pipeline construction, the alternate direction on Lusted Road does not result in a significant delay.

**Lowest Traffic Volume Months for Road Segment Use:** October to March are the lowest months for road use. July to September are important months for blueberry harvest access. U-pick blueberry customers can reach the blueberry fields by a second driveway apart from the main farm entrance that is near the pipeline construction. Farm traffic related to cattle production does not result in regular road use.

### Summary for Multnomah Connection to Tunnel Portal

Farm Operator	Alternate Farm Traffic Route	Farm Traffic Lowest Use Season	Alternate Outbound Shipping Traffic Route
W	Yes	Oct - March	None needed

## Finished Water Pipeline Segment: Dodge Park Boulevard through Cottrell Road Intersection

This report section describes farm traffic for four farm operators in this segment of Dodge Park Boulevard.

### Farm Operator F

**Farm Traffic Origins:** Farm Operator F's headquarters (F-HQ) is at 33740 SE Lusted Road. Additionally farm traffic may move to the destination in Lusted Flats from fields F-F1, F2, F3, F4, F5, F6, F7, or F8.

**Farm Traffic Destination:** Field F-F9 in Lusted Flats.

**Farm Traffic Route:** From all origin points, the normal route is Dodge Park Boulevard. This route is chosen for safety and Farm Operator F does not use any other road (Lusted or Proctor) to access or return from field F-F9. Farm Operator F ordinarily returns all equipment and crews to headquarters F-HQ daily. Tractors are usually driven on roads and rarely trailered. All crew members report to work at F-HQ and are transported to fields in crew buses.

**Alternate Farm Traffic Route:** None due to safety issues, the route of travel is only on Dodge Park.

**Outbound Shipping Traffic Route:** This segment of Dodge Park Boulevard is not used for Farm Operator F's outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** September to October is the lowest season, followed by July to August.



### Farm Operator N

**Farm Traffic Origins:** Farm Operator N has a farm hub (N-HQb) for equipment holding on Carpenter Lane and also field N-F2 with access from either Carpenter Lane or Cottrell Road.

**Farm Traffic Destination:** Field N-F3 in Lusted Flats.

**Farm Traffic Routes:** From either a) hub N-HQb with an access on Carpenter Lane or an access at field N-F2 on Carpenter Lane or b) an access for field N-F2 on Cottrell Road, the route is Cottrell Road north to the intersection with Dodge Park Boulevard, then travel through the road segment to Lusted Road in Lusted Flats, then taking Hudson Road a short distance to field N-F3. The return trip normally uses the same route back to the origin point, but some trips take Hudson Road if the equipment is needed at N-HQa on Bluff Road. Farm equipment is generally driven on roads and crews are transported in buses.

**Alternate Farm Traffic Route:** An alternate route turns south on Cottrell Road to Bluff Road, then Bluff Road to Hudson Road and on to Lusted Flats to access field N-F3. This route can also be taken for return trips.

**Outbound Shipping Traffic Route:** This road segment of Dodge Park Boulevard is not used by outbound truck traffic by the farm operator.

**Lowest Traffic Volume Months for Road Segment Use:** July to October.

## Farm Operator Q

**Farm Traffic Origins:** Farm Operator Q's headquarters (Q-HQ) is at 34826 SE Carpenter Lane with limited movement between fields Q-F2, F3, and F4.

**Farm Traffic Destination:** None of the fields are accessed from Dodge Park Boulevard. Fields Q-F2, F3, and F4 are near headquarters Q-HQ with access required across Carpenter Lane. In the case of field Q-F2, access is from Carpenter Lane to Cottrell Road.

**Alternate Farm Traffic Route:** None is needed, this road segment of Dodge Park Boulevard is not traversed.

**Outbound Shipping Traffic Route:** Trucks depart from Q-HQ on Carpenter Lane and can either turn left at Cottrell Road to reach Bluff Road or turn right to Dodge Park Boulevard.

**Alternate Outbound Shipping Traffic Route:** If the intersection at Dodge Park Boulevard is closed, trucks can exit south on Cottrell Road.

**Lowest Traffic Volume Months for Road Segment Use:** Approximately June to mid-November.

## Farm Operator X

**Farm Traffic Origin:** Farm Operator X's headquarters X-HQ is at 31020 SE Waybill Road (outside the study area). There are farm fields around X-HQ.

**Farm Traffic Destination:** Field X-F1 requires farm equipment to regularly move through the road segment of Dodge Park Boulevard to reach Lusted Flats.

**Farm Traffic Route:** From X-HQ or fields near the headquarters, all equipment moves via Dodge Park Boulevard through this road segment to access Lusted Road in Lusted Flats. Farm Operator X usually returns equipment and vehicles including crew buses to the headquarters, but many of these moves are truck and trailer hauling equipment and supplies due to the distance between headquarters X-HQ and field X-F1. Tractors are usually driven on roads. All crew members report to headquarters daily and are transported to fields in crew buses.

**Alternate Farm Traffic Route:** None due to safety issues, the route of travel is only on Dodge Park.

**Outbound Shipping Traffic Route:** This road segment of Dodge Park Boulevard is not used for Farm Operator X's outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** Approximately July to October.

### Summary for Dodge Park Boulevard Through Cottrell Road Intersection

Farm Operators	Alternate Farm Traffic Route	Farm Traffic Lowest Use Seasons	Alternate Outbound Shipping Traffic Route
F	No	Sept - Oct	Road segment not used
N	Yes	July - Oct	Road segment not used
Q	Yes	June - mid-Nov	Yes
X	No	July - Oct	Road segment not used

## Finished Water Pipeline Segment: Dodge Park Boulevard from Cottrell Road Intersection to Farm Access Road

This section of the report describes farm traffic for six farm operators in this segment of Dodge Park Boulevard. The segment begins at the intersection of Dodge Park Boulevard and Cottrell Road and continues west about 0.65 miles to the north-south farm access road in Farm Operator D's field D-F1.



### Farm Operator D

**Farm Traffic Origins:** Farm Operator D's headquarters (D-HQ) at 3199 SE 302nd Avenue and Farm Operator D's fields west of the project area (west of Altman Road) near Gresham which are outside the mapped area.

**Destination Locations:** Fields D-F1, F2, and F3.

**Farm Traffic Route:** A portion of Farm Operator D's trips take 302nd Avenue from D-HQ to Dodge Park Boulevard and then travel west on Dodge Park Boulevard to the access location for field D-F1. This farm operator and others report that they avoid driving trucks with heavy loads or trailers up or down the steep grade on 302nd Avenue. They also avoid Barlow High School during morning and mid-afternoon school traffic congestion.

**Alternate Farm Traffic Route:** Many of the remaining trips by this farm operator take Division Street to Oxbow Drive, turning onto Altman Road and east on Lusted Road to access fields D-F1, F2, or F3. Access locations are available to reach each of these fields.

**Outbound Shipping Traffic Route:** This road segment is not used by farm operator D for outbound traffic.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

### Farm Operator F

There are multiple route origins and destinations used by Farm Operator F along this road segment.

**Farm Traffic Origins:** Farm Operator F's headquarters (F-HQ) at 33740 SE Lusted Road, as well as farm equipment going to or coming from the following fields: F-F1, F2, F3, or F4. Any of these locations may be an origin or transfer point and use the road segment in Dodge Park Boulevard.

**Farm Traffic Destinations:** Fields F-F6, F7, and F8.

**Farm Traffic Routes:** The fields south of Dodge Park Boulevard are accessed by Cottrell Road. Farm Operator F can travel to these fields by taking a farm road in field F-F1 at an access on Dodge Park Boulevard and going east to the intersection with Cottrell Road, turning south on Cottrell to Carpenter Lane and using a proposed upgraded Water Bureau filtration site perimeter road to reach their field F-F6.

Farm Operator F can also use internal farm roads in field F-F6 to continue to Bluff Road and turn south on SE 352nd Avenue to reach field F-F7. Also, by exiting field F-F6 to Bluff Road and

continuing east to Proctor Road, the farm operator can reach field F-F8. The farm roads through field F-F6 are generally preferred to reach the two destination fields beyond field F-F6.

**Alternate Farm Traffic Routes:** An alternate route for Farm Operator F avoids Carpenter Lane by continuing south on Cottrell Road to Bluff Road, then east on Bluff Road to a farm access for field F-F6. Bluff Road can also be taken east and then turn south on SE 352nd Avenue to reach field F-F7. Additionally, field F-F8 can be reached from Bluff Road to Proctor Road using the driveway access.

Another alternate route from F-HQ initially takes Lusted Road going east to Cottrell Road, then turning south and crossing Dodge Park Boulevard. From that point, the routes to all fields are the same as described above.

Another alternate route that avoids the road segment is Lusted Road west to Altman Road, then Altman Road to Carpenter Lane with access to Cottrell Road.

**Outbound Shipping Traffic Route:** This road segment is not used by this farm operator for outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** September to October is the lowest season, followed by July to August.

### Farm Operator F

**Farm Traffic Origins:** Farm Operator F's headquarters (F-HQ) at 33740 SE Lusted Road, as well as farm equipment at fields F-F1 or F5.

**Farm Traffic Destination:** Field F-F9.

**Farm Traffic Routes:** The field in Lusted Flats is accessed by taking Farm Operator F's farm road in field F-F1 at an access on Dodge Park Boulevard and going east through the intersection at Cottrell Road and proceeding on Dodge Park Boulevard to Lusted Road, then turning right on Lusted Road to reach field F-F9. From field F-F5, the route is south on Altman Road, then east on Dodge Park Boulevard through the road segment.

**Alternate Farm Traffic Route:** An alternate route for Farm Operator F to avoid the pipeline portion of Dodge Park Boulevard is to exit F-HQ on Lusted Road and proceed east to Cottrell Road, then south on Cottrell Road to the intersection with Dodge Park Boulevard, then turn left on Dodge Park Boulevard to reach Lusted Road and proceed to field F-F9. From field F-F5, the alternate route is north on Altman to Lusted Road then east on Lusted and follow the rest of the route as described above.

Although Farm Operator F only uses Dodge Park Boulevard to reach field F-F9, Dodge Park Boulevard can be used without passing through the pipeline construction area.

**Outbound Shipping Traffic Route:** This road segment is not used by farm operator F for outbound traffic.

**Lowest Traffic Volume Months for Road Segment Use:** September to October is lowest season, followed by July to August.

### Farm Operator F

**Farm Traffic Origin:** Farm Operator F's headquarters (F-HQ) at 33740 SE Lusted Road traveling from field F-F1 to the farm access point on Dodge Park Boulevard.

**Farm Traffic Destination:** Field F-F5, located west of Altman Road.

**Farm Traffic Route:** Field F-F5 is accessed by taking the field F-F1 farm road south to reach Dodge Park Boulevard, proceeding west on Dodge Park Boulevard to Altman Road, then turning north on Altman to access F-F5.

**Alternate Farm Traffic Route:** The alternate route to field F-F5 exits headquarters F-HQ at Lusted Road and travels west on Lusted to Altman Road, then turns south on Altman Road to the field.

**Outbound Shipping Traffic Route:** This road segment is not used by this farm operator for outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** September to October is lowest season, followed by July to August.

### **Farm Operator G**

**Farm Traffic Origin & Destination:** Farm Operator G's headquarters (G-HQ) and field G-F1 are a single nursery location at 33915 SE Dodge Park Boulevard. This is a small-scale nursery that does not generate a significant number of road trips. There is one road access on Dodge Park Boulevard at the farm's access point and driveway.

**Farm Traffic Route:** The main traffic route exits onto Dodge Park Boulevard at the farm's access point on Dodge Park Boulevard and proceeds west in the road segment of Dodge Park Boulevard.

**Alternate Farm Traffic Route:** Alternate route exits onto Dodge Park Boulevard at Farm Operator G's access location, goes east on Dodge Park Boulevard through the road segment of Dodge Park Boulevard, and then turns south on Cottrell Road to Bluff Road.

**Outbound Shipping Traffic Route:** The main traffic route exits onto Dodge Park Boulevard at the farm access point and goes west.

**Alternate Outbound Shipping Traffic Route:** Alternate route exits onto Dodge Park Boulevard, goes east on Dodge Park Boulevard, and then turns south on Cottrell Road to Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** July to November.

### **Farm Operator H**

**Farm Traffic Origin & Destination:** Farm Operator H's headquarters (H-HQ) and field (H-F1) are a single farm location at 7416 SE Cottrell Road. The only road access is on Cottrell Road.

**Farm Traffic Route:** Main traffic route exits at the Cottrell Road access location to H-HQ and then turns south to Dodge Park Boulevard and west on Dodge Park Boulevard through the road segment.

**Alternate Farm Traffic Route:** Alternate route exits at Cottrell Road and proceeds north to Lusted Road, then west on Lusted Road.

**Outbound Shipping Traffic Route:** Main haul-out traffic exits this farm operation onto Cottrell Road, goes to Dodge Park Boulevard, and goes west on Dodge Park Boulevard through the road segment.

**Alternate Outbound Shipping Traffic Route:** The alternate route exits onto Cottrell Road and goes north to Lusted Road, then west on Lusted Road.

**Lowest Traffic Volume Months for Road Segment Use:** July to November.

## Farm Operator I

**Farm Traffic Origin & Destination:** Farm Operator I's headquarters (I-HQ) and field (I-F1) are a single farm location at 7450 SE Cottrell Road. The only road access is at Cottrell Road to reach the headquarters and the field.

**Farm Traffic Route:** Main traffic route exits onto Cottrell Road at the residential driveway for Farm Operator I to reach Dodge Park Boulevard and proceed west on Dodge Park Boulevard through the road segment.

**Alternate Farm Traffic Route:** Alternate route exits onto Cottrell Road and proceeds north to Lusted Road, then goes west on Lusted Road.

**Outbound Shipping Traffic Route:** The main traffic route exits onto Cottrell Road at field Farm Operator I's access location and onward to Dodge Park Boulevard, then west on Dodge Park Boulevard through the road segment.

**Alternate Outbound Shipping Traffic Route:** Alternate route exits onto Cottrell Road, goes north to Lusted Road, and then west on Lusted Road.

**Lowest Traffic Volume Months for Road Segment Use:** July to November.

## Farm Operator M

**Farm Traffic Origin & Destinations:** Farm Operator M's headquarters (M-HQa) and fields M-F1 and F2 are nearly side-by-side farm location at 34546 SE Carpenter Lane. Farm Operator M also has a separate shipping location (M-HQb) along field M-F1 on Carpenter Lane.

**Farm Traffic Route:** The road segment on Dodge Park is not traversed. All farm traffic and crews move between fields M-F1 and F2 which are close together. Farm equipment and crews move a short distance between the two fields by going a short distance on Carpenter Lane to each field's access location.

**Alternate Farm Traffic Route:** None needed.

**Outbound Shipping Traffic Routes:** Semi-trucks with 53-foot trailers must arrive from Altman Road and proceed east on Carpenter Lane to reach the shipping dock at M-HQb. This is the only route for access due to the limited driveway configuration at M-HQb. Outbound trucks continue east on Carpenter Lane, turn north at Cottrell Road, and then take Dodge Park Boulevard west through the road segment. They also can continue north on Cottrell Road through the intersection at Dodge Park Boulevard and turn west on Lusted Road.

**Alternate Outbound Shipping Traffic Route:** The alternate route is for trucks to leave M-HQb going east on Carpenter Lane, then turning south on Cottrell Road to Bluff Road. This is the primary option to avoid the road segment in Dodge Park Boulevard.

**Lowest Traffic Volume Months for Road Segment Use:** Early July to September and November to December.

**Summary for Dodge Park Boulevard from Cottrell Road Intersection to Farm Access Road**

<b>Farm Operators</b>	<b>Alternate Farm Traffic Route</b>	<b>Farm Traffic Lowest Use Seasons</b>	<b>Alternate Outbound Shipping Route</b>
<b>D</b>	Yes	June - Nov	Road segment not used
<b>F (multiple routes)</b>	Yes for all	Sept - Oct	Road segment not used
<b>G</b>	Yes	July - Nov	Yes
<b>H</b>	Yes	July - Nov	Yes
<b>I</b>	Yes	July - Nov	Yes
<b>M</b>	Yes	July - Sept & Nov - Dec	Yes

**Finished Water Pipeline Segment: Dodge Park Boulevard across Farm Access Road to Finished Water Intertie**

This section of the report describes farm traffic for one farm operator in this farm road segment.

**Farm Operator D**

**Farm Traffic Origins:** Farm Operator D’s headquarters (D-HQ) at 3199 SE 302nd Avenue and this farm operator’s fields west of the project area which are outside the Study Area.

**Destination Location:** Field D-F1 (pipeline alignment is within this field).

**Farm Traffic Route:** Approximately half of this farm operator’s trips take 302nd Avenue from D-HQ to Dodge Park Boulevard and then travel west on Dodge Park Boulevard to the access point for field D-F1.

**Alternate Farm Traffic Route:** Approximately half of trips for this farm operator follow the route of Division Street to Oxbow Drive, then south on Altman Road and east on Lusted Road to access field D-F1.

**Outbound Shipping Traffic Route:** This road segment is not used for Farm Operator D’s outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.



**Summary for Dodge Park Boulevard across Farm Access Road to Finished Water Intertie**

Farm Operator	Alternate Farm Traffic Route	Farm Traffic Lowest Use Season	Alternate Outbound Shipping Route
D	Yes	June - Nov	Road segment not used

**Finished Water Pipeline Segment: Lusted Road from Finished Water Intertie Entry through Altman Road Intersection to Connect to Existing Conduit**

This section of the report describes farm traffic for seven farm operators in this road segment.



**Farm Operator A**

There are multiple route origins and destinations used by Farm Operator A along this road segment.

**Farm Traffic Origins:** Farm Operator A’s centrally located hub for cold storage and equipment (A-HQb), their hub for receiving, sorting, storage, and outbound shipping (A-HQc), and their hub for receiving, sorting and outbound shipping (A-HQd) are each a location for farm traffic origins. In addition, their headquarters (A-HQa) at 33205 SE Oxbow Drive is also a potential origin location for farm traffic.

**Destination Location:** Field A-F1 is a large nursery field block with field equipment and crews moving internally and through an intra-connected farm road system. Field block A-F1 is centrally located to facilities and includes hubs A-HQb and A-HQd, while headquarters A-HQa is just across Oxbow Drive, and hub A-HQc is across Hosner Road from field block A-F1.

**Farm Traffic Routes:** Most farm vehicles and equipment working in this field complex travel on internal farm roads but occasionally move on Oxbow Drive or Hosner Road. It is rare for farm equipment working in field block A-F1 to travel on this segment of Lusted Road, but there is an entry/exit access point on Lusted Road. Crew buses are more likely to use this route, for example moving from the access point across from A-HQc on Hosner Road and then traveling west on Lusted Road to reenter field block A-F1 at the access point north of Lusted Road before reaching the intersection with Altman Road.

**Alternate Farm Traffic Route:** None needed.

**Outbound Shipping Traffic Route:** The Lusted Road segment is rarely used for Farm Operator A’s outbound shipping traffic from hub A-HQc.

**Lowest Traffic Volume Months for Road Segment Use:** June to July and September to November.

## Farm Operator A

**Farm Traffic Origins:** Farm Operator A's equipment, crews, and vehicles can depart from any of these farm operator headquarters/farm hubs, namely A-HQa, HQb, HQc, and HQd. Movement may also originate in any of these fields: A-F3, F6, F7, and F8.

**Farm Traffic Destinations:** Field A-F2 and fields to the west on Pipeline Road.

**Farm Traffic Routes:** Tractors and related farm equipment from the origin locations travel through internal farm roads in field block A-F1 to an access location at Altman Road to reach fields on Pipeline Road. Farm vehicles such as crew buses can travel on internal farm roads or take public roads including travel through the road segment in Lusted Road when going to field A-F2.

Farm traffic can also exit field Block A-F1 at multiple access locations on Oxbow Drive and reach field A-F1 from Altman Road as well as other fields on Pipeline Road.

Plant materials move frequently between fields and for sorting at hub A-HQc and A-HQd. Return trips from the destination locations also move plants and equipment to the traffic origin locations.

**Alternate Farm Traffic Routes:** Faster-moving vehicles can avoid the segment of Lusted Road by taking Hosner Road to Oxbow Drive, then going to Altman Road to access field A-F2, or by traveling on Pipeline Road or continuing on Oxbow Drive to 302nd Avenue and going east on Pipeline Road to access field A-F2.

**Outbound Shipping Traffic Route:** Lusted Road is rarely used by outbound trucks from A-HQc and is not a direct route from farm hub A-HQd. The route for hub A-HQc is a short distance on Lusted Road to Hosner Road and onward to Oxbow Drive and Division Street. The route for hub A-HQd is Oxbow Drive to Division Street.

**Alternate Outbound Shipping Traffic Route:** None needed.

**Lowest Traffic Volume Months for Road Segment Use:** June to July and September to October.

## Farm Operator A

**Farm Traffic Origins:** Farm Operator A's equipment, crews and vehicles depart from all farm operator headquarters/farm hubs previously described: headquarters A-HQa, and hubs A-HQb, HQc, and HQd. Farm equipment in Farm Operator A's fields A-F3, F6, F7, and F8 may also move to destination locations using the routes described below.

**Farm Traffic Destinations:** The segment in Lusted Road is used for travel to Farm Operator A's fields on Lusted Road to the west of Altman Road, Dodge Park Boulevard to the west of Altman Road, and A's farm operations near Damascus.

**Farm Traffic Routes:** To reach fields west of Altman Road on Lusted Road, slower farm equipment can move on Farm Operator A's internal farm roads and exit from either an access for field block A-F1 onto Altman Road or exit from two access points for field block A-F1 on Lusted Road, to proceed west through the segment of Lusted Road. For fields west of Dodge Park Boulevard from the origins, farm equipment can also follow the internal farm roads described above to access either Altman Road going south or turn onto Lusted Road going east and then south on Pleasant Home Road to Dodge Park Boulevard.

For faster road vehicles from hub A-HQb, the route is south on a farm field access road to Lusted Road and west through the road segment on Lusted Road and proceed to the intersection of Lusted Road with Altman Road and onward to the destinations. For hub A-HQc, the fastest road route is also Lusted Road going west through the road segment to the Lusted Road and Altman

Road intersection and onward to the destinations. For A-HQa and hub A-HQd, and fields A- F3, F6, F7, and F8 the fastest route is Oxbow Drive to Altman Road and then south to either Lusted Road or to Dodge Park Boulevard.

**Alternate Farm Traffic Routes:** If the intersection at Lusted Road and Altman Road is congested or temporarily closed, the best alternate route to reach Lusted Road is to take Altman Road to Pipeline Road, then east to 302<sup>nd</sup> Avenue and turn south, then turn east on Lusted Road. The best alternate route to reach Dodge Park Boulevard is to proceed east on Lusted Road to Cottrell Road, then south to Dodge Park Boulevard, and proceed west.

For trucks and other faster vehicles going to fields on Lusted Road west of Altman Road, or fields west of Altman Road on Dodge Park Boulevard, the route is Hosner Road to Oxbow Drive and Altman Road if the Altman/Lusted intersection is open. Alternately, the longer route is south on Cottrell Road to Dodge Park Boulevard going east and turning north on Pleasant Home Road to Lusted Road.

This farm operator's trucks going to the Damascus farm also have the alternate route of Cottrell Road from Lusted Road and south to Dodge Park Boulevard or Bluff Road.

**Outbound Shipping Traffic Routes:** Lusted Road is rarely used by outbound trucks from either hub A-HQc or hub A-HQd. The route for hub A-HQc is Lusted Road to Hosner Road and onward to Oxbow Drive and Division Street. The route for hub A-HQd is Oxbow Drive to Division Street.

**Alternate Outbound Shipping Traffic Route:** None needed.

**Lowest Traffic Volume Months for Road Segment Use:** June to July and September to October.

### Farm Operator A

**Farm Traffic Origins:** Farm Operator A fields A-F4 and F5, which include greenhouse starter plants and outdoor plant production.

**Farm Traffic Destinations:** All farm hubs: A-HQa, HQb, HQc and HQd, as well as fields A-F6, F7, and F-8.

**Farm Traffic Routes:** All routes do not use the road segment in Lusted Road. The farm headquarters and hubs can all be accessed by Oxbow Drive and Hosner Road and may include use of internal farm roads in field block A-F1. Fields A-F6, F7, and F8 use Lusted Road to the east of the road segment in Lusted Road.

**Alternate Farm Traffic Route:** None needed.

**Outbound Shipping Traffic Route:** The Lusted Road segment is not used by this farm operator for outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** June to July and September to October.

### Farm Operator B

**Farm Traffic Origin:** Farm Operator B headquarters (B-HQ) is at 32539 SE Lusted Road. The headquarters is fully integrated with field B-F1, and no public road access is needed.

**Farm Traffic Destination:** Access to field B-F2 is a short distance from the access location for B-HQ on Lusted Road through the intersection of Lusted Road Altman a short distance south on Altman Road. The field access point is the primary access to field B-F2.

**Alternative Farm Traffic Route:** If the intersection of Lusted Road and Altman Road is temporarily closed, Farm Operator B can reach field B-F2 from Lusted Road with direct field entry from B-HQ across Lusted Road.

**Outbound Shipping Traffic Route:** The loading dock at B-HQ on Lusted Road is at the access location. Trucks arrive traveling east on Lusted Road and turn north into the loading area. Trucks depart from the nursery west on Lusted Road to avoid the intersection of Lusted Road and Altman Road.

**Alternate Outbound Shipping Traffic Route:** None needed.

**Lowest Traffic Volume Months for Road Segment Use:** June to October.

## Farm Operator C

**Farm Traffic Origin & Destination:** Farm Operator C headquarters (C-HQ) is at 33417 SE Lusted Road. This headquarters is integrated with field C-F1. The farm also has field C-F2 immediately across Lusted Road from the farm and residential access road to C-HQ.

**Farm Traffic Route:** Farm Operator C-HQ has the farm storage, equipment holding area, and loading facilities immediately next to field C-F1. This is a self-contained farm operation with access that also serves as the residential driveway. Farm traffic moves a short distance across Lusted Road to travel between fields C-F1 and F2.

**Alternate Farm Traffic Route:** None.

**Outbound Shipping Traffic Route:** The main outbound truck traffic proceeds west on Lusted Road through the segment to Altman Road and then either north or south depending on route preferences.

**Alternate Outbound Shipping Traffic Route:** The secondary haul-out traffic route is to proceed east on Lusted Road to either Hosner Road and north for access to Oxbow Drive or south on Cottrell Road for access to Dodge Park Boulevard or Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

## Farm Operator D

**Farm Traffic Origin:** Farm Operator D's headquarters (D-HQ) is at 3199 SE 302nd Avenue (outside the study area). The farm also has fields west of the project area.

**Farm Traffic Destinations:** Fields D-F1, F2, and F3. Farm Operator D also has fields west of Altman Road that can be origin points to transfer equipment to fields D-F1, F2, and F3.

**Farm Traffic Routes:** Approximately half of the time the route from D-HQ to the destination fields is Division Street to Oxbow Drive, then south on Altman Road and east on Lusted Road to or through the road segment to access three fields from Lusted Road.

When farm vehicles and equipment move to the destination from fields located west of Altman Road, the route is Lusted Road east through the road segment to access fields D-F1, F2, and F3.

**Alternate Farm Traffic Routes:** The alternate route from the headquarters that this farm travels to field D-F1 is 302nd Avenue to Dodge Park Boulevard and east on Dodge Park Boulevard to the access for field D-F1. This assumes there is no need to avoid the steep grade on 302nd Avenue. If that grade needs to be avoided, the route is Division Street east to Oxbow Drive, then south on Hosner Road to Lusted Road and proceeding east to Cottrell Road then west on Dodge Park Boulevard to the access point for fields D-F1 and F2.

The alternative to reach field D-F3 from the D-HQ is to take Division Street to Oxbow Drive and proceed east to Hosner Road, then to Houser Road south to Lusted Road and west on Lusted Road to the field access point.

**Outbound Shipping Traffic Route:** This Lusted Road segment is not used for outbound truck traffic by Farm Operator D.

**Lowest Traffic Volume Months for Road Segment Use:** July to October.

### Farm Operator E

There are multiple route origins and destinations used by Farm Operator E along this road segment.

**Farm Traffic Origin:** Farm Operator E headquarters (E-HQ) is at 6358 SE 302nd Avenue (outside the study area).

**Farm Traffic Destination:** Field E-F1 on Lusted Road.

**Farm Traffic Route:** From E-HQ, farm traffic goes south on 302nd Avenue, turns east on Jackson Road to Pleasant Home Road, continues north to Lusted Road, and then goes east to the farm access point at E-F1.

**Alternate Farm Traffic Route:** From headquarters E-HQ farm traffic goes south on 302nd Avenue to Dodge Park Boulevard and east to the access point for field E-F1.

**Outbound Shipping Traffic Route:** None needed, this Lusted Road segment is not used by this farm operator for outbound truck traffic.

**Lowest Traffic Volume Months for Road Segment Use:** July to October.

### Farm Operator E

**Farm Traffic Origin & Destination:** Farm Operator E has a second farm business which is a single location fruit orchard at 33030 SE Lusted Road with the headquarters designation E-HQb. This headquarters is next to the orchard with farm access on Lusted Road. Field E-F1 a is a small-scale orchard next to field E-F1, and both fields share access from Lusted Road. Farm equipment and work crew activity take place at this location with farm equipment also moving here from headquarters E-HQa which is west and outside the study area.

**Alternate Farm Traffic Route:** None needed.

**Outbound Shipping Traffic Route:** Field E-F1 a is a u-pick peach orchard. All traffic comes to this farm on Lusted Road using the farm access point on Lusted Road. Traffic arrives from either direction on Lusted Road and follows the reverse route when departing. During the harvest period between late July and August, several hundred customers came to the farm to pick or purchase harvested peaches. Customers can only enter and exit at the farm access point which is also the residential driveway. The alternative farm access location at Dodge Park Boulevard is not suitable for orchard customer traffic access.

**Alternate Outbound Shipping Traffic Route:** None.

**Lowest Traffic Volume Months for Road Segment Use:** July to October.

### Farm Operator F

**Farm Traffic Origin:** Farm Operator F's headquarters (F-HQ) is at 33740 SE Lusted Road.

**Farm Traffic Destination:** Field F-F5.

**Farm Traffic Route:** From headquarter F-HQ on Lusted Road, travel west to the intersection of Altman Road and Lusted Road, turn south on Altman Road, and access field F-F5.

**Alternate Farm Traffic Route:** From F-HQ, the farm road is followed along field F-F1 south to the access point on Dodge Park Boulevard and proceeds west to the intersection of Altman Road and Dodge Park Boulevard, then turns north on Altman Road to access field F-F5.

**Outbound Shipping Traffic Route:** From F-HQ at 33740 SE Lusted Road, farm traffic turns east on Lusted Road, then north on Hosner Road to Oxbow Drive, then west to Division Street. Note: Trucks arrive at F-HQ by using Hosner Road and then going west on Lusted Road to access the shipping docks at F-HQ. With this routing, the road segment for pipeline construction is not used for outbound shipping by this farm operator.

**Alternative Outbound Shipping Traffic Route:** The Lusted Road segment is not used for outbound traffic by Farm Operator F.

**Lowest Traffic Volume Months for Road Segment Use:** July to October.

### **Farm Operator J**

**Farm Traffic Origin:** Farm Operator J (J-HQ) is located at 28745 SE Division Street (outside the study area).

**Farm Traffic Destination:** Field J-F1.

**Farm Traffic Route:** From J-HQ the normal route is east on Division Street to Oxbow Drive and continues east and turns south at Altman Road then proceeds east on Lusted Road to field J-F1.

**Alternate Farm Traffic Route:** From headquarters J-HQ, the route is east on Division Street to Oxbow Drive and continues east past Altman Road and turns south on Hosner Road to reach Lusted Road, then east and enter field J-F1 at the field access point.

**Outbound Shipping Traffic Route:** This road segment is not used by Farm Operator J for outbound traffic.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

**Summary for Lusted Road from Finished Water Intertie Entry through Altman Road Intersection to Connect to Existing Conduit**

Farm Operators	Alternate Farm Traffic Route	Farm Traffic Lowest Use Seasons	Alternate Outbound Shipping Route
<b>A (multiple routes)</b>	Yes or none needed	Varies from June - Nov	None needed/Yes
<b>B</b>	Yes	June - Oct	None needed
<b>C</b>	None needed	June - Nov	Yes
<b>D</b>	Yes	July - Oct	Road segment not used
<b>E (multiple routes)</b>	Yes	July - Oct	No – direct market customers need access in August
<b>F</b>	Yes	July - Oct	Road segment not used
<b>J</b>	Yes	June - Nov	Road segment not used

**Finished Water Pipeline Segment: Altman Road from Lusted Road Intersection to Oxbow Drive Intersection**

This section of the report describes farm traffic for eight farm operators in this road segment.

**Farm Operator A**

There are multiple route origins and destinations used by Farm Operator A along this road segment.

**Farm Traffic Origins:** Farm equipment, crews and vehicles depart from farm hub A-HQa, hub A-HQb, and hub A-HQc. Farm equipment in fields A-F1, F2, F3, F4, F5, F6, F7, F8, and F9 may also move to destination locations.

**Farm Traffic Destinations:** The segment in Altman Road is traversed by farm traffic to field A-F2 located west of Altman Road, Farm Operator A’s fields west of Altman Road off Pipeline Road, and fields adjacent to Lusted Road west of the Altman Road/Lusted Road intersection.

**Farm Traffic Routes:** From the three main facility origin points, farm equipment travels on internal farm roads in field A-F1 and exits from that field’s access point on Altman Road approximately halfway between Lusted Road and Pipeline Road. From fields A-F3, F6, F7, or F8 for any type of vehicle it is faster to travel on Lusted Road to Altman Road and go north. From fields A-F4 and F5 the route is Oxbow Drive to Altman Road.

Vehicles that travel faster than tractors going from hub A HQc, the route is Oxbow Drive to Altman Road when in fields A-F4 or F5. These faster vehicles go from hub A-HQa and A-HQb using Hosner Road to Oxbow Drive and then Altman Road. Faster vehicles can also take Hosner Road to Lusted Road and travel west to Altman Road.



**Alternate Farm Traffic Routes:** If Farm Operator A does not have direct access to Altman Road, the first alternative is detour taking Oxbow Drive to Division Street, then turning south on 302nd Avenue, and then coming in a southeasterly direction on Pipeline Road to access field A-F2. This requires travel over a steep section of 302nd Avenue that is north of Barlow High School. This route also provides access to other farm fields on Pipeline Road. If the destination is a field west of the Altman/Lusted intersection, the travel route on 302nd Avenue passes Pipeline Road proceeding south to Lusted Road and then east on Lusted Road.

**Outbound Shipping Traffic Route:** The outbound route for this farm is Oxbow Drive to Division Street. Farm Operator A's shipping route will be impeded for a relatively short time to connect to the intertie at Oxbow Drive and Altman Road.

**Alternate Outbound Shipping Traffic Route:** The best alternative option for outbound loads is Oxbow Drive to Hosner Road then to Cottrell Road and exit to the west on Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

## Farm Operator A

**Farm Traffic Origins:** Farm equipment, crews, and vehicles depart from farm hub A-HQa, hub A-HQb, and hub A-HQc. Farm equipment in fields A-F1, F2, F3, F4, F5, F6, F7, F8, and F9 may also move to destination locations.

Nursery plants grown in multiple fields of farm operator A are transported to headquarters A-HQc at Oxbow Drive. Harvested plants are from fields located on Pipeline Road, and on Lusted Road west of Altman Road, as well as fields A-F2, F4, F5, F7, and F8. Trucks from farm operator A's Damascus location also transfer crops between the farms to hub A-HQc and/or to hub A-HQb. Box trucks and full-size semi-truck and trailer equipment are used to move plants within the farm and its two major locations. Close-by fields such as A-F4 and A-F5 often move plants by farm tractor and trailer.

**Farm Traffic Destinations:** Altman Road is also the most direct route for this farm's equipment that goes to fields west of Dodge Park Boulevard. Altman Road is also used for trucks that travel between this farm's Multnomah County operations and their farm operations in Damascus.

**Alternate Farm Traffic Route:** Farm equipment that is accessing fields on Dodge Park Boulevard west of Altman Road have the alternate route of Lusted Road to Cottrell Road and then Cottrell Road to Dodge Park Boulevard. Vehicles faster than tractors would also take this route.

**Outbound Shipping Traffic Route:** The outbound route farm operator A uses is Oxbow Drive to Division Street. This route will be impeded for a relatively short time to connect to the Finished Water Intertie at Oxbow Drive and Altman Road.

**Alternate Outbound Shipping Traffic Route:** The most practical option for outbound loads is Oxbow Drive to Hosner Road then to Cottrell Road and exit to the west on Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

## Farm Operator B

**Farm Traffic Origins:** Farm Operator B headquarters (B-HQ) at 32539 SE Lusted Road. This farm's headquarters has a farm access location on Altman Road and a second farm access on Lusted Road. Therefore, if the farm operator cannot access the farm from Altman Road the access on Lusted Road can be used.

**Farm Traffic Destination:** Field B-F2.

**Farm Traffic Route:** Headquarters B-HQ and field B-F1 are fully integrated with no public road access needed. From the headquarters or field B-F1, field B-F2 is reached by taking the access location south of B-HQ and then east a short distance on Lusted Road through the intersection of Lusted Road and Altman then south a short distance on Altman Road to the access point. The field access point is the primary access to field B-F2.

**Alternate Farm Traffic Route:** If the intersection of Lusted Road and Altman Road is temporarily closed, Farm Operator B can reach field B-F2 from Lusted Road with direct field entry from B-HQ across Lusted Road.

**Outbound Shipping Traffic Route:** The loading dock at headquarters B-HQ on Lusted Road at the nearby access point. All trucks arrive on Lusted Road going east and turn north into the loading area. Trucks depart from the nursery and travel west on Lusted Road to avoid the intersection with Altman Road.

**Alternate Outbound Shipping Traffic Route:** None needed.

**Lowest Traffic Volume Months for Road Segment Use:** June to October.

### **Farm Operator C**

**Farm Traffic Origin & Destinations:** Farm Operator C headquarters (C-HQ) at 33417 SE Lusted Road and is integrated with field C-F1. The farm also has field C-F2 immediately across Lusted Road from the farm and residential access road to headquarters C-HQ.

**Farm Traffic Route:** Headquarters C-HQ has the farm storage, equipment holding area, and loading facilities immediately next to field C-F1. This is a self-contained farm operation with access that also serves as the residential driveway. Farm traffic moves a short distance across Lusted Road to travel between fields C-F1 and C-F2.

**Alternate Farm Traffic Route:** None.

**Outbound Shipping Traffic Route:** The main outbound shipping traffic proceeds west on Lusted Road through the segment to Altman Road and then either north or south depending on route preferences.

**Alternate Outbound Shipping Traffic Route:** The secondary outbound shipping route is to proceed east on Lusted Road to either Hosner Road and north for access to Oxbow Drive or south on Cottrell Road for access to Dodge Park Boulevard or Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

### **Farm Operator D**

**Farm Traffic Origin:** Farm Operator D's headquarters (D-HQ) is at 3199 SE 302nd Avenue.

**Farm Traffic Destination:** Field D-F4.

**Farm Traffic Route:** The principal route to field D-F4 from the farm headquarters takes Division Street to Oxbow Drive and turns south on Altman Road and through the road segment then turns east on Dodge Park Boulevard to access field D-F4.

**Alternate Farm Traffic Route:** The alternate route from the farm headquarters proceeds on 302nd Avenue to Dodge Park Boulevard and then goes east to access field D-F4.

**Outbound Shipping Traffic Route:** None needed.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

## Farm Operator E

**Farm Traffic Origin:** Farm Operator E's headquarters (E-HQa) is at 6358 SE 302nd Avenue (outside the study area). A second headquarters (E-HQb) is at 33030 SE Lusted Road.

**Farm Traffic Destinations:** Fields E-F1 a and E-F1 which are adjacent to each other.

**Farm Traffic Route:** When travelling from headquarters E-HQa the principal route to fields E-F1 a and E-F1 is south on 302nd Avenue then east on SE Jackson Road and turns north on SE Pleasant Hone Road and then east on Lusted Road. Headquarter E-HQb is adjacent to field E-F1 a.

**Alternate Farm Traffic Route:** The alternate route from headquarters E-HQa travels south on 302nd Avenue, then east on Dodge Park Boulevard to an access road and goes north to both fields.

**Outbound Shipping Traffic Route:** This road segment is not used for shipping from headquarters E-HQa. Some customers for products at headquarters E-HQb would arrive and depart using this road segment.

**Alternate Outbound Shipping Traffic Route:** For headquarters E-HQb, customers can take Lusted Road east to Hosner Road and then north to Oxbow Drive and west to Division Street.

**Lowest Traffic Volume Months for Road Segment Use:** July to November.

## Farm Operator J

**Farm Traffic Origin:** Farm Operator J headquarters (J HQ) is located at 28745 SE Division Street (outside the study area).

**Farm Traffic Destination:** Field J-F1.

**Farm Traffic Route:** From headquarters J-HQ, the normal route goes east on Division Street to Oxbow Drive and continues east and turns south at Altman Road then proceeds east on Lusted Road to field J-F1.

**Alternate Farm Traffic Route:** From J-HQ, proceeds east on Division Street to Oxbow Drive and continues east past Altman Road and turns south on Hosner Road to reach Lusted Road, then east to field J-F1.

**Outbound Shipping Traffic Route:** This road segment is not used by farm operator J for outbound traffic.

**Lowest Traffic Volume Months for Road Segment Use:** June to November.

## Farm Operator O

**Farm Traffic Origin:** Farm Operator O headquarters (O-HQ) at 1918 SE 302nd Avenue.

**Farm Traffic Destination:** Field O-F2.

**Farm Traffic Route:** The principal route to field O-F2 from the farm headquarters goes east on Division Street to Oxbow Drive and turns south on Altman Road and through the road segment then turns east on Bluff Road to access the field.

**Alternate Farm Traffic Route:** The alternate route from the farm headquarters is 302nd Avenue to Dodge Park Boulevard and continues east to Altman Road and then goes south to access Bluff Road and proceeds east to the Windy Ridge field north of Bluff Road.

**Outbound Shipping Traffic Route:** This road segment is not used by farm operator O for outbound traffic.

**Lowest Traffic Volume Months for Road Segment Use:** December to July.

### Farm Operator P

**Farm Traffic Origin:** Farm Operator P headquarters (P-HQ) at 33755 SE Bluff Road.

**Farm Traffic Destination:** Fields north of Division Street toward Troutdale (beyond study area).

**Farm Traffic Route:** Traffic exits P-HQ onto Bluff Road and proceeds west to Altman Road, then north on Altman Road through the road segment to Oxbow Drive, then Division Street to 302nd Avenue turning north to access fields on farm road.

**Alternate Farm Traffic Route:** The alternate route is to exit to Bluff Road and go west to Pleasant Home Road, then north to Pipeline Road turning northwest on Pipeline Road to 302nd Avenue.

**Outbound Shipping Traffic Route:** The outbound route is west on Bluff Road.

**Lowest Traffic Volume Months for Road Segment Use:** June through August.

#### Summary for Altman Road from Lusted Road Intersection to Oxbow Drive Intersection

Farm Operators	Alternate Farm Traffic Route	Farm Traffic Lowest Use Season	Alternate Outbound Shipping Route
A (multiple routes)	Yes	June - Nov	Yes
B	Yes	June - Oct	None needed
C	None needed	June - Nov	Yes
D	Yes	June - Nov	None needed
E (multiple routes)	Yes	July - Nov	None needed/Yes
J	Yes	June - Nov	None needed
O	Yes	Dec - July	None needed
P	Yes	June - Aug	None needed

### Farms Traveling on Bluff Road

#### Farm Operator K

There are multiple route origins and destinations used by Farm Operator K along this road segment.

**Farm Traffic Origins & Destinations:** Farm Operator K headquarters (K-HQa) at 9500 SE 327th Avenue and hub facilities K-HQb at 34210 SE Bluff Road are integrated with field block K-F1.

**Farm Traffic Destinations:** Field block K-F1.

**Farm Traffic Route:** Headquarters K-HQa has offices, equipment holding areas, cold storage and other crop receiving facilities, and outbound shipping facilities next to field block K-F1. The hub facility K-HQb with greenhouse propagation and loading facilities is also located within the complex of consolidated fields with an entrance on Bluff Road. Within field block K-F1, most farm traffic moves within the extensive internal farm road system but occasionally, farm equipment may travel on Bluff Road and use field access location to enter field block K-F1. Faster road vehicles and trucks that move plant materials between K-HQa and K-HQb move on Bluff Road and SE 327th Avenue.

**Alternate Farm Traffic Route:** None.

**Outbound Shipping Traffic Route:** The primary outbound shipping route from K-HQa is SE 327th Avenue north to Bluff Road and west on Bluff Road toward Gresham. From K-HQb the main outbound truck route is to enter Bluff Road and proceed west toward Gresham.

**Alternate Outbound Shipping Traffic Route:** The secondary shipping route for K-HQa is south on SE 327th Ave and west on SE Altman Road a short distance to SE Revenue Road, then south on SE Revenue Road to SE Orient Drive then turning on SE Compton Road for a short distance to Highway 26. For hub K-HQb, travel on Bluff Road is the only alternate outbound shipping route.

**Lowest Traffic Volume Months for Road Segment Use:** Most of the year has significant outbound shipping. December is the lowest month for road use.

## Farm Operator K

**Farm Traffic Origin:** Farm Operator K headquarters (K-HQa) at 9500 SE 327th Avenue.

**Farm Traffic Destinations:** Fields K-F2 and K-F3.

**Farm Traffic Route:** From headquarters K-HQa the route to field K-F2 is north on 327th Avenue, then straight through a short segment of Bluff Road to Altman Road with access to field K-F2.

From headquarters K-HQa the route to field K-F3 from the K-HQa headquarters is north on 327th Avenue, then straight through a short segment of Bluff Road, then west on Bluff Road and turning south on Pleasant Home Road to reach the field.

**Alternate Farm Traffic Routes:** There is no alternate route from headquarters K-HQa to field K-F2. From K-HQa to field K-F3 the alternative is south on 327<sup>th</sup> Avenue then turning west on Altman Road, then right on Revenue Road which becomes Pleasant Home Road to enter the field. One other alternate route to reach field K-F3 is a farm road that crosses SE 327th Avenue to Pleasant Home Road. Use of this farm road avoids travel on Bluff Road but is not accessible in wet weather due to field road mud.

**Outbound Shipping Traffic Route:** See description above for Farm Operator K.

**Alternate Outbound Shipping Traffic Route:** See description above for Farm Operator K.

**Lowest Traffic Volume Months for Road Segment Use:** July to August and October.

## Farm Operator U

**Farm Traffic Origin & Destination:** Farm Operator U headquarters (U-HQ) at 9825 SE 362nd Avenue is integrated with field U-F1, the farm's container operations.

**Farm Traffic Route:** The headquarter U-HQ is located with the container yard, and all internal farm travel is within farm roads at this site.

**Alternate Farm Traffic Route:** None needed.

**Outbound Shipping Traffic Route:** The principal outbound shipping route is SE 362<sup>nd</sup> Avenue north to Bluff Road then west on Bluff Road.

**Alternate Outbound Shipping Traffic Route:** The secondary outbound shipping route is SE 362<sup>nd</sup> Avenue north to Bluff Road then east on Bluff Road. Travel on Bluff Road is the only alternate outbound shipping route.

#### Summary for Farms Traveling on Bluff Road

Farm Operators	Alternate Farm Traffic Route	Farm Traffic Lowest Use Seasons	Alternate Outbound Shipping Route
K (multiple routes)	No/Yes	July - Oct	Yes/No
U	None Needed	July - Jan	No

## Farm Access at Carpenter Lane

### Farm Operator Q

**Farm Traffic Origin & Destination:** Farm Operator Q headquarters (Q-HQ) at is at 34826 SE Carpenter Lane with short distance movement between fields Q-F2, F3, and F4.

**Farm Traffic Destination:** Fields Q-F2, F3 and F4 are north of Carpenter Lane.

**Farm Traffic Route:** Field Q-F2 is accessed from Carpenter Lane and then turning north a short distance on Cottrell Road to reach the field. Fields Q-F3 and F4 are accessed from the headquarters on the south side of Carpenter Lane by crossing Carpenter Lane.

**Alternate Farm Traffic Route:** None.

**Outbound Shipping Traffic Route:** Trucks depart from Q-HQ on Carpenter Lane and turn left to Cottrell Road. At Cottrell Road vehicles turn left to reach Bluff Road or turn right to Dodge Park Boulevard.

**Alternate Outbound Shipping Traffic Route:** There is not alternate route for shipping because Farm Operator Q's loading dock is accessed from Carpenter Lane.

**Lowest Traffic Volume Months for Road Segment Use:** Approximately June to mid-November.

#### Summary for Farms Traveling on Bluff Road

Farm Operators	Alternate Farm Traffic Route	Farm Traffic Lowest Use Seasons	Alternate Outbound Shipping Route
Q	No	July - Oct	No

## **Travel by Other Farms**

The farms reviewed in this section are primarily larger farms that frequently use the roads in the project area. Other farms in the area that are not directly on the pipeline route have been identified in the operations report for agricultural compatibility. These additional farms are small-scale and are mainly near the filtration facility. They are not specifically identified here because they have lower reliance on road use than the larger farms.

The farms not specifically included are integrated in a single location, so they do not travel between farm locations on the road system. This greatly reduces their use of public roads. Second, their accepted farm practices have less seasonal variation which reduces critical short-term time periods when they travel on the public roads. Third, unlike the farms identified here, the other farms do not sell farm crops in large volume, so they do not transport products in semi-truck and trailer loads to their customers. All of these factors increase the flexibility for the frequency and timing of when small-scale farms travel on the public roads.