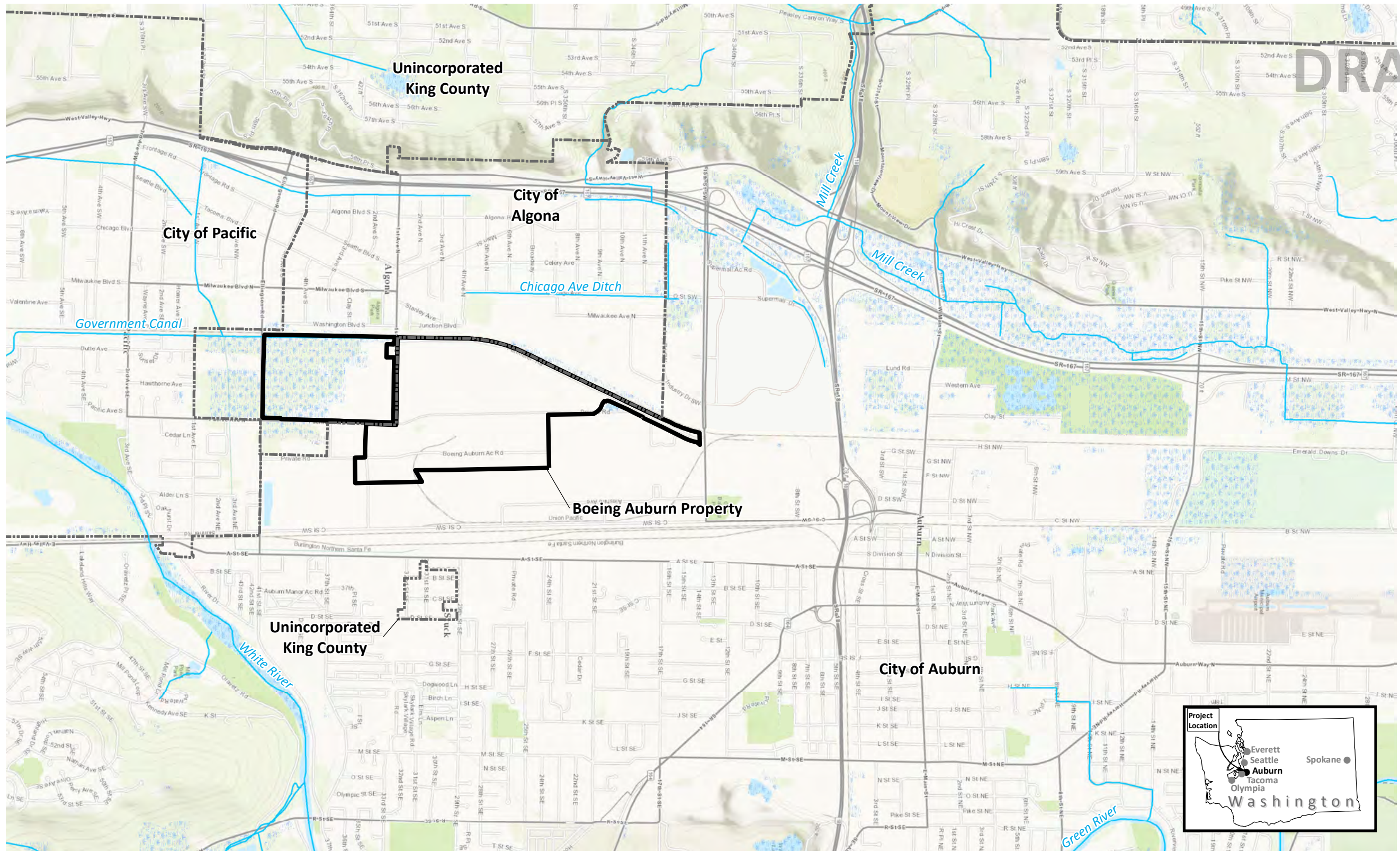


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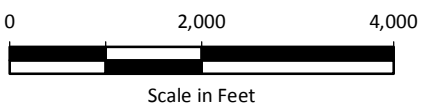
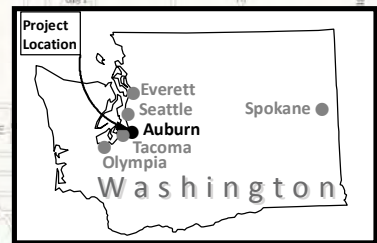


Legend

- Boeing Property
- City Limits
- Waterways
- Water Bodies
- Wetland Areas

Note

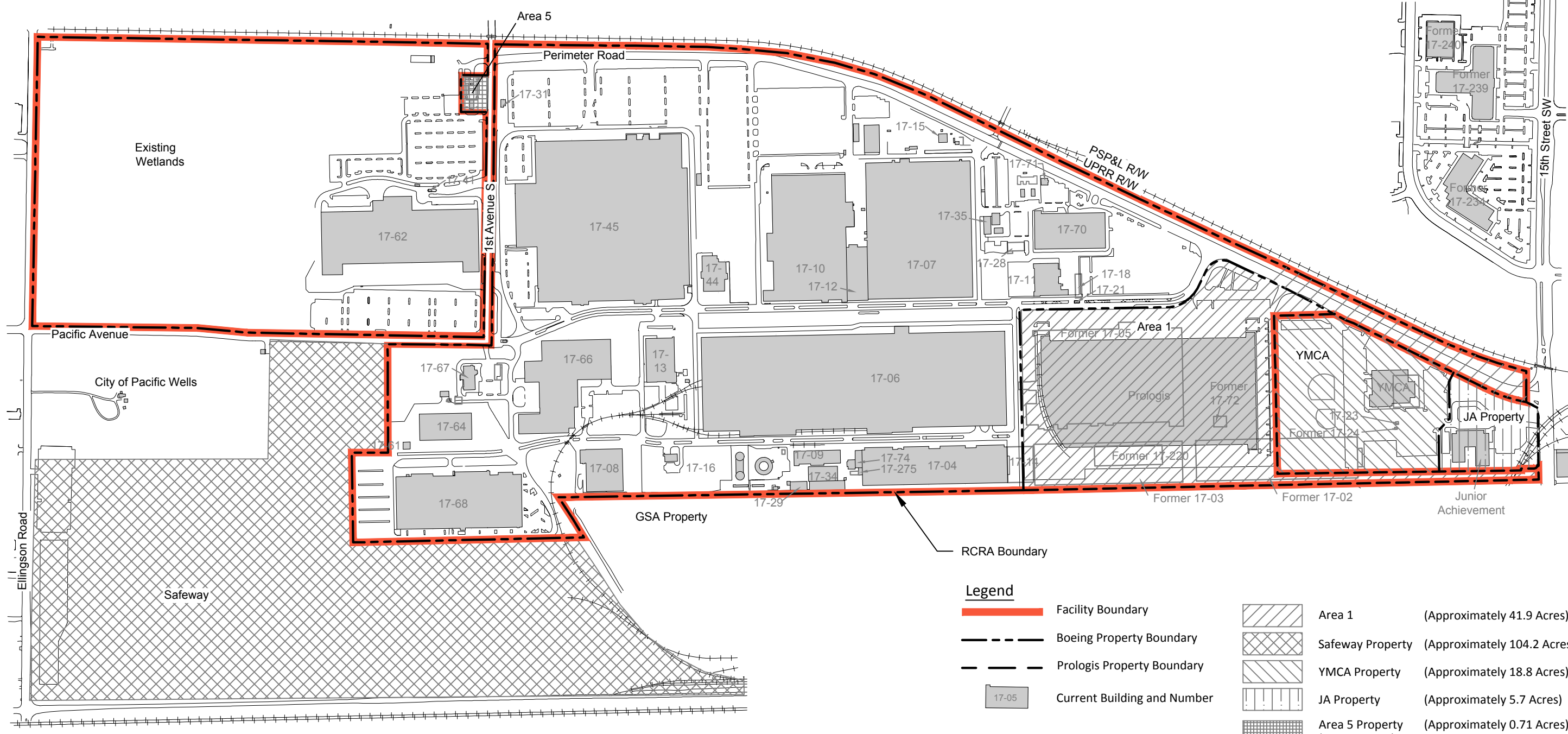
1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



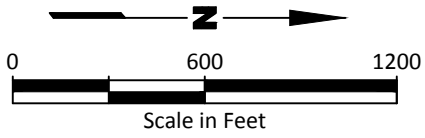
Data Source: Esri World Topo Map

Boeing Auburn Remedial Investigation Auburn, Washington	Vicinity Map	Figure 1-1
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- Note**
- Former Building Numbers 17-234, 17-239 and 17-240 are currently owned by Fana.
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



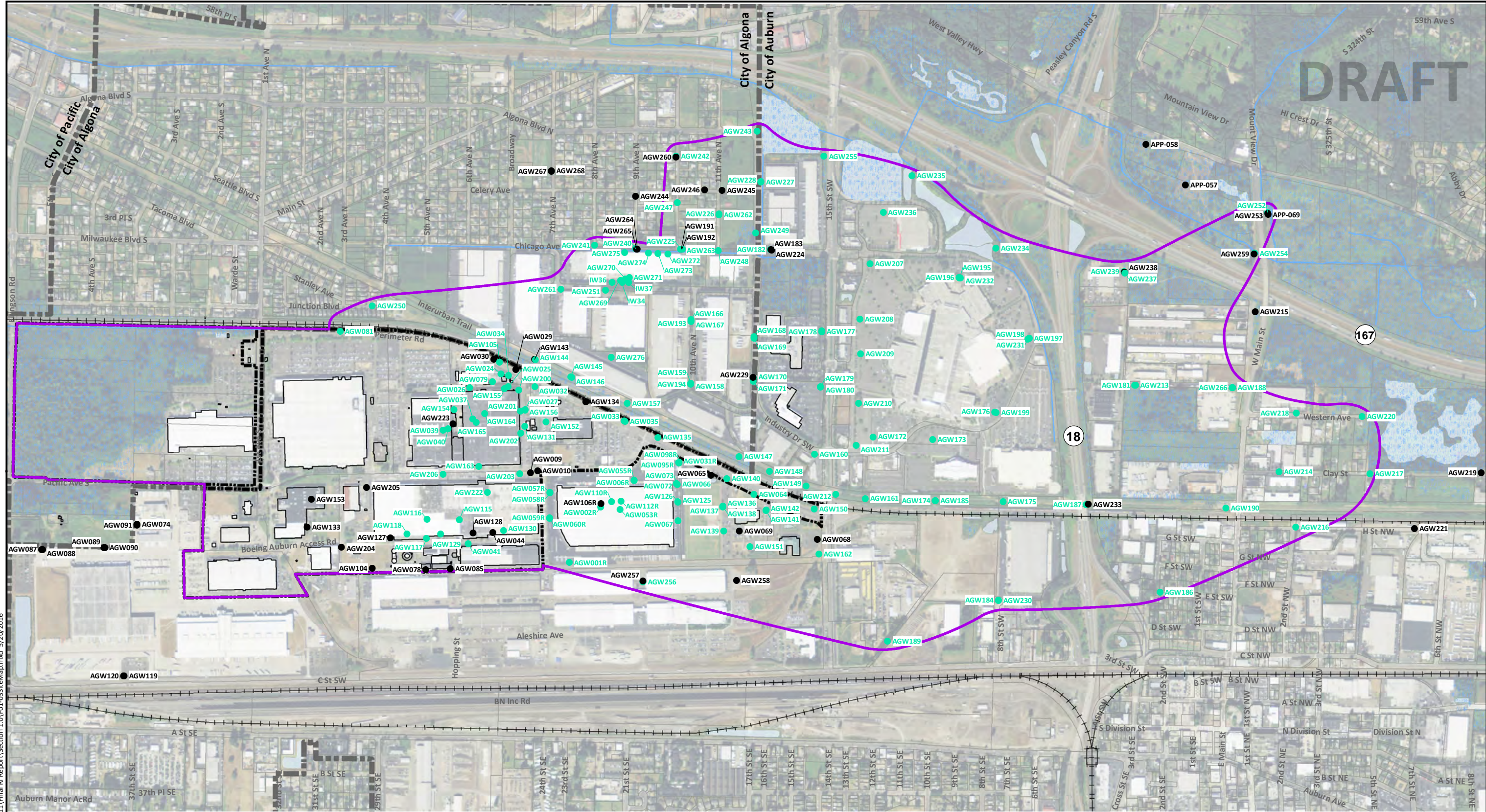
Base map source: Geomatrix 2003

Boeing Auburn Remedial Investigation Auburn, Washington	Facility Map	Figure 1-2
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Boeing Remedial Investigation Report | G:\Projects\025\164\130\111\Final RI Report\Section 1.0\F01-02.dwg (A) "Figure 1-3" 5/5/2016



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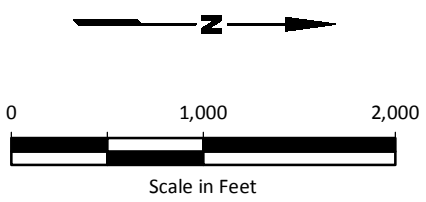


Notes

1. Detections of trichloroethene (TCE), cis-1,2-Dichloroethene (cDCE), and vinyl chloride (VC) determined based on most recent data as of December 2015.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Well with no Detections of TCE, cDCE, or VC
- Well with Detections of TCE, cDCE, or VC
- City Limits
- Boeing Property
- Approximate Extent of Site
- Wetland Areas
- Water Bodies
- Waterways



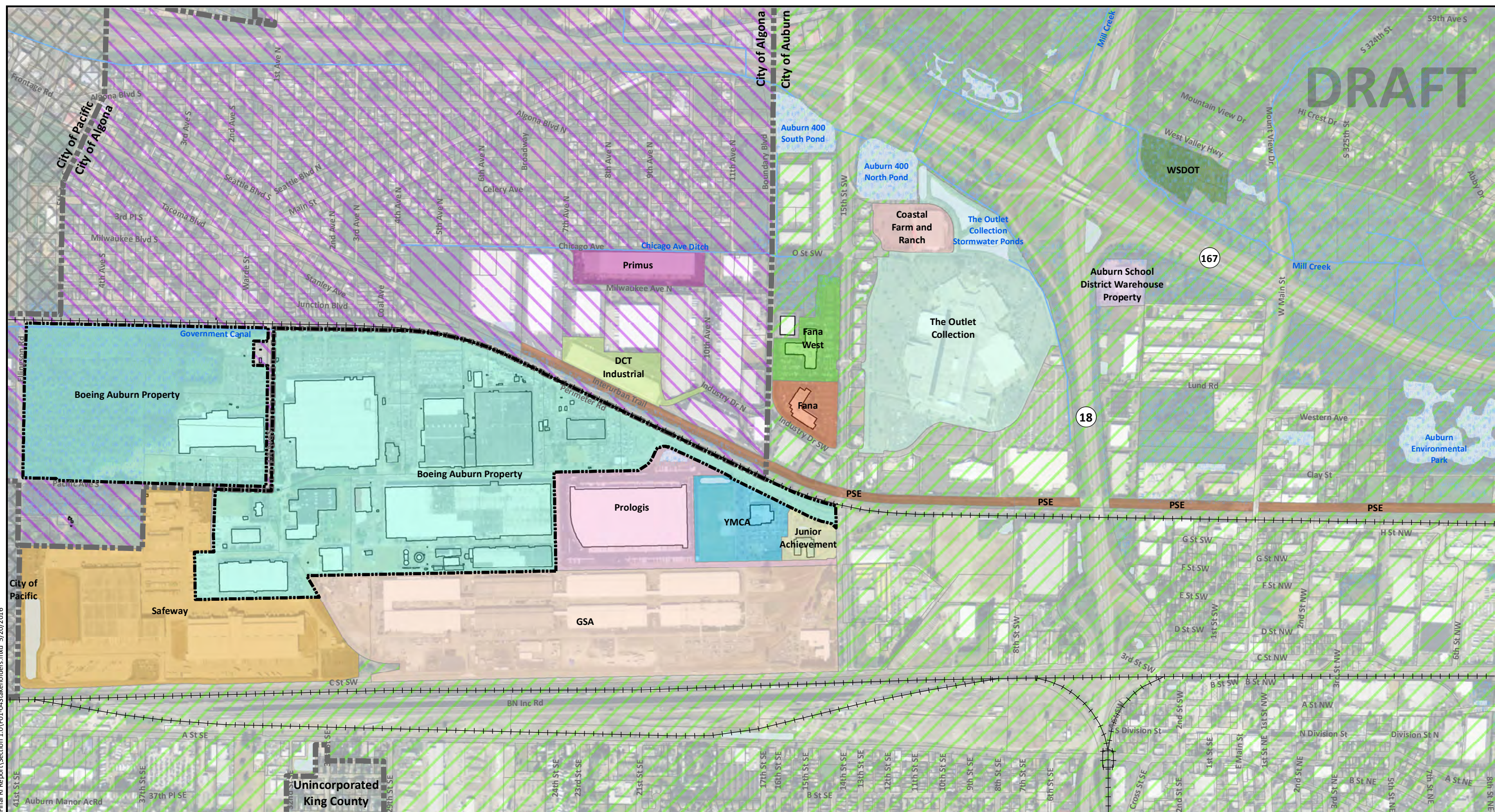
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Site Map	Figure 1-3
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Legend

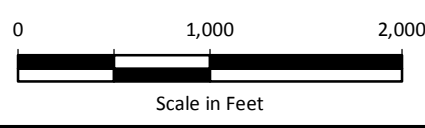
- Boeing Auburn Property
- City of Algona
- City of Auburn
- City of Pacific
- Auburn School District Warehouse Property
- Coastal Farm and Ranch
- DCT Industrial
- Fana
- Fana West
- GSA
- Junior Achievement
- Primus
- Prologis
- Safeway
- The Outlet Collection
- WSDOT
- YMCA
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

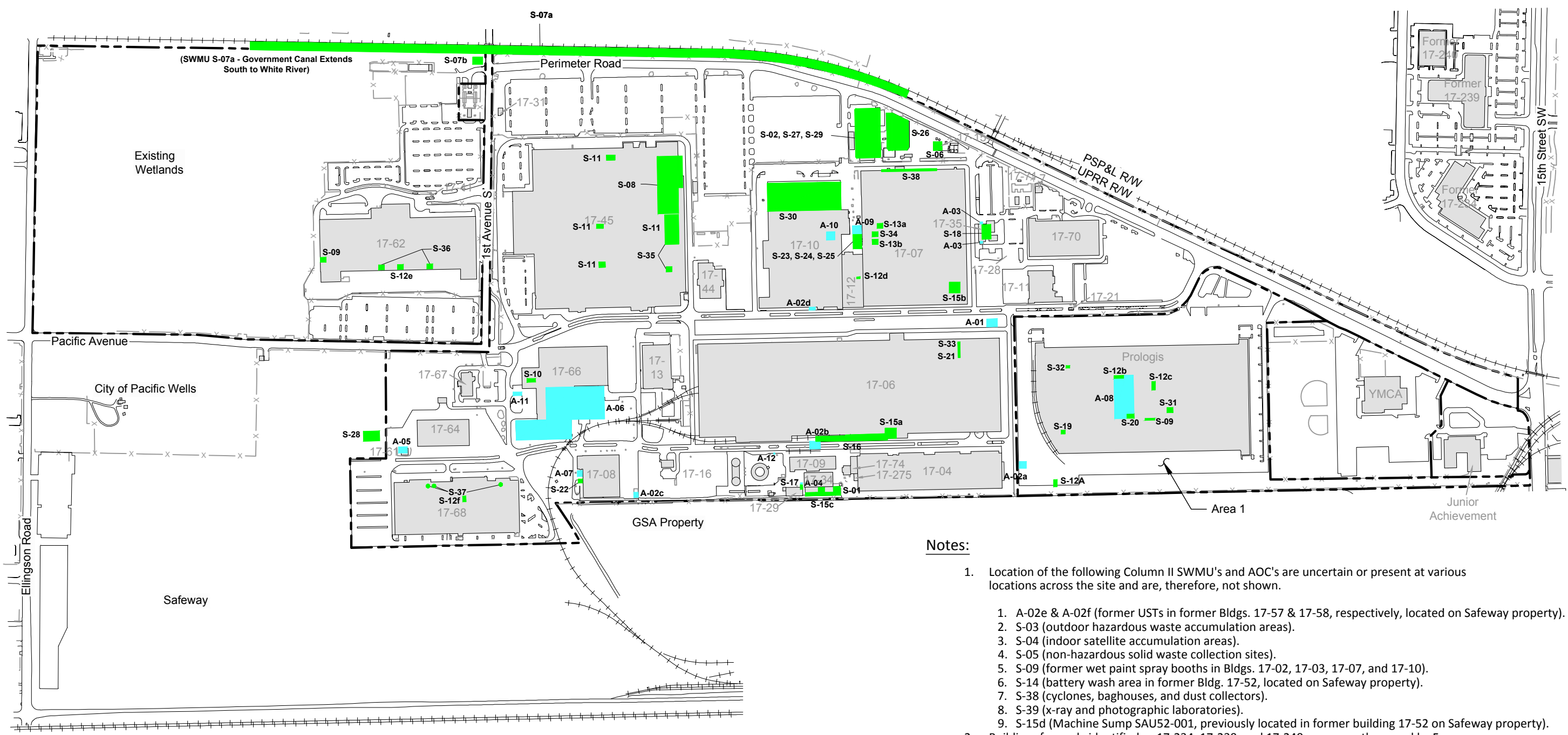


Boeing Auburn Remedial Investigation Auburn, Washington	Commercial, Industrial, and Municipal Stakeholders	Figure 1-4
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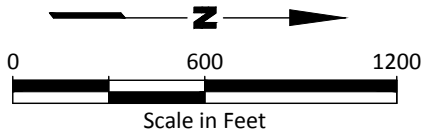


Notes:

1. Location of the following Column II SWMU's and AOC's are uncertain or present at various locations across the site and are, therefore, not shown.
 1. A-02e & A-02f (former USTs in former Bldgs. 17-57 & 17-58, respectively, located on Safeway property).
 2. S-03 (outdoor hazardous waste accumulation areas).
 3. S-04 (indoor satellite accumulation areas).
 4. S-05 (non-hazardous solid waste collection sites).
 5. S-09 (former wet paint spray booths in Bldgs. 17-02, 17-03, 17-07, and 17-10).
 6. S-14 (battery wash area in former Bldg. 17-52, located on Safeway property).
 7. S-38 (cyclones, baghouses, and dust collectors).
 8. S-39 (x-ray and photographic laboratories).
 9. S-15d (Machine Sump SAU52-001, previously located in former building 17-52 on Safeway property).
2. Buildings formerly identified as 17-234, 17-239, and 17-240 are currently owned by Fana.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- S-28 Solid Waste Management Unit (SWMU)
- A-05 Area of Concern (AOC)
- 17-68 Current Building and Number
- Property Boundary



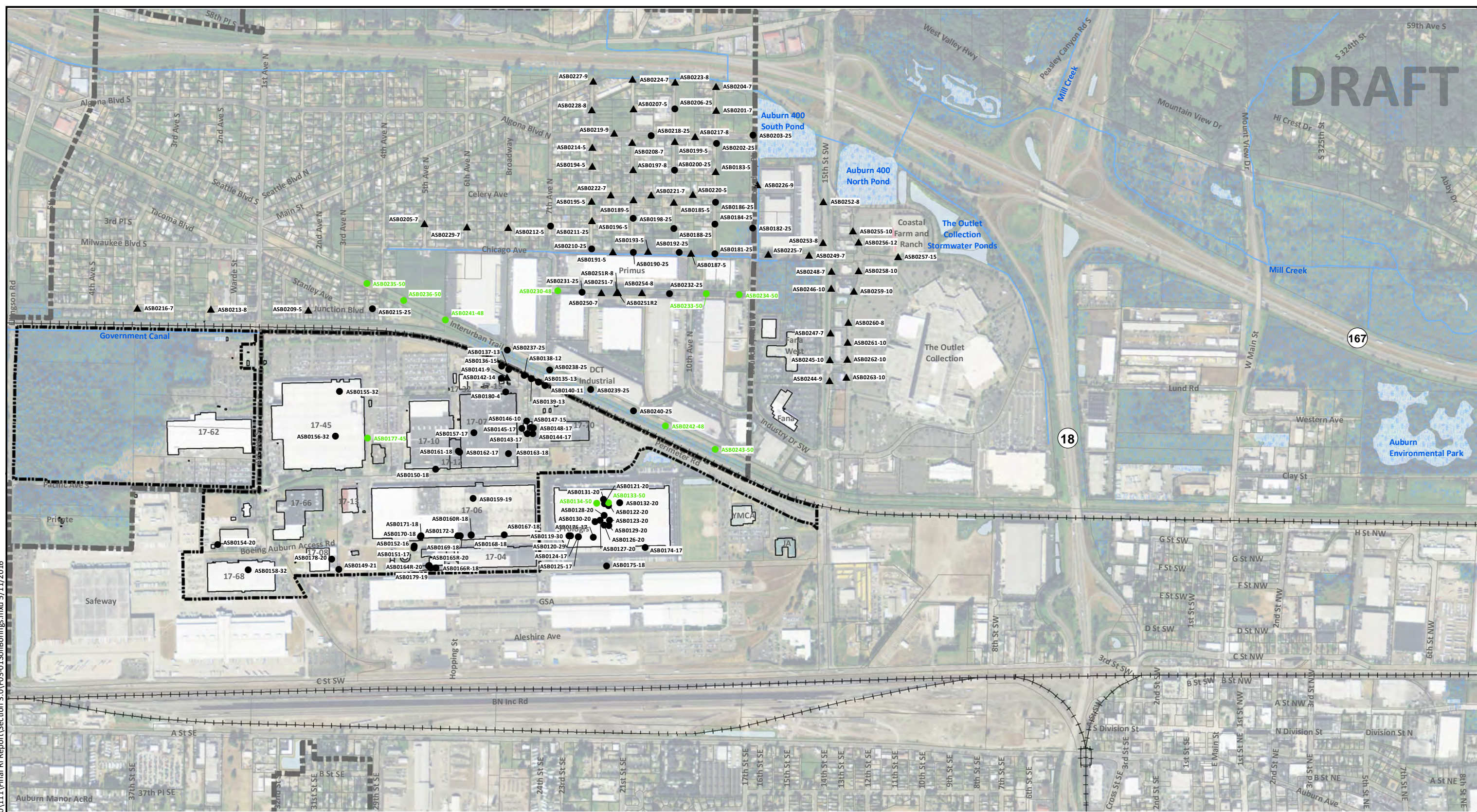
Base map source: Geomatrix 2003

Boeing Auburn Remedial Investigation Auburn, Washington	All SWMUs and AOCs	Figure 1-5
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Boeing\Remedial Investigation Report | G:\Projects\025\164\130\111\Final RI Report\Section 1.0\F01-05.dwg (A) "Figure 1-4" 5/20/2016



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- Notes**
1. Borings installed for the remedial investigation have designations beginning with ASB. The depth of the boring identified is the deepest sample that was collected, additional shallower samples may also have been collected.
 2. Borings designated as water table are locations off Boeing property that had groundwater samples collected from screens across the water table.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- ▲ Water Table Boring Location
 - Shallow Zone Boring Location
 - Intermediate Zone Boring Location
 - Wetland Areas
 - Water Bodies
 - Waterways
 - Boeing Property
 - City Limits

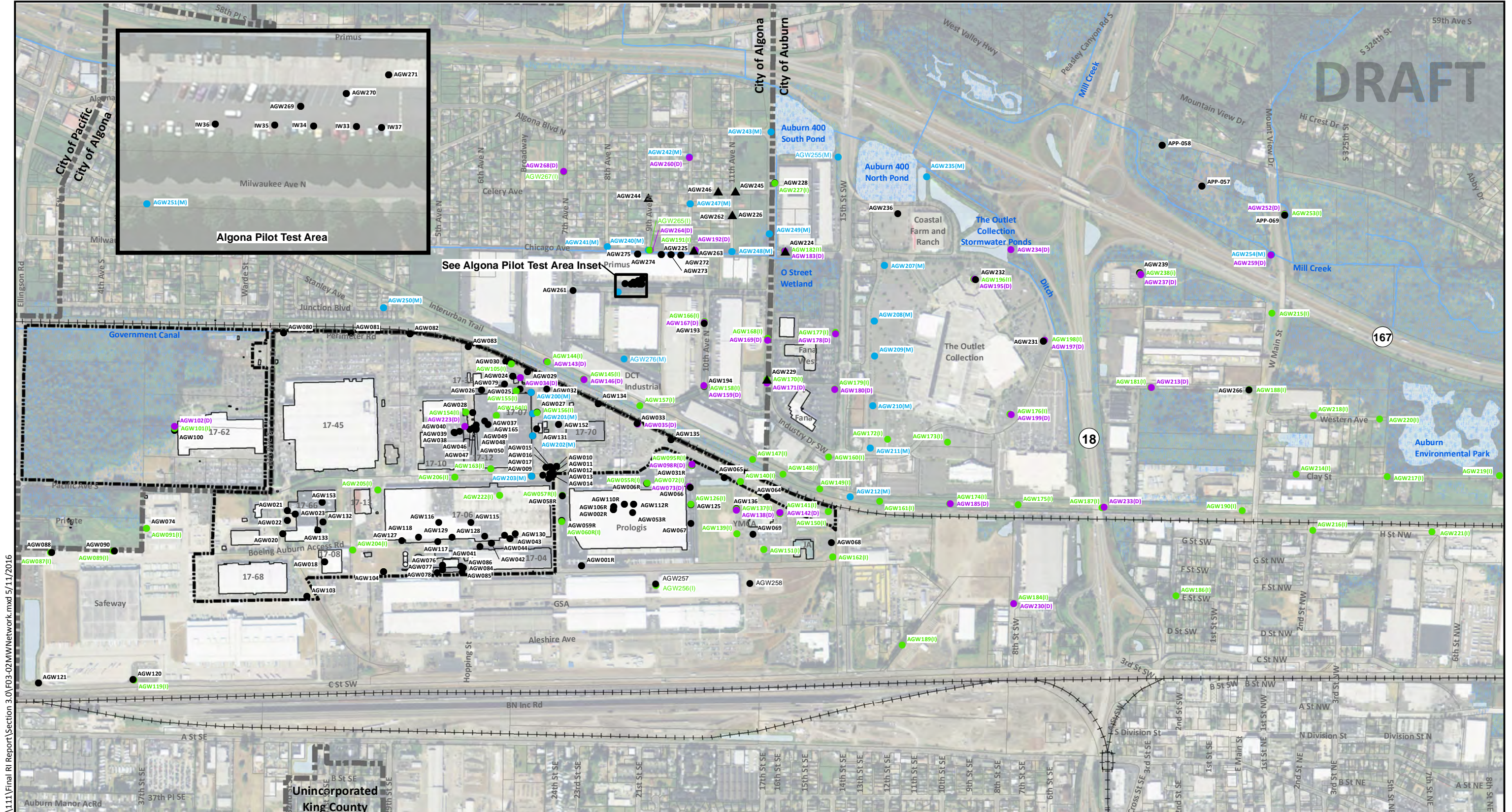
Scale in Feet
0 1,000 2,000

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

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- Notes**
1. Wells installed for the remedial investigation have designations beginning with AGW. Well designations beginning with APP are installed and owned by WSDOT. Injection wells have an IW identification.
 2. Wells designated as water table wells are locations off Boeing property that were specifically installed as water table wells.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- ▲ Offsite Water Table Well
 - Shallow Zone Monitoring Well
 - (I) Intermediate Zone Monitoring Well
 - (D) Deep Zone Monitoring Well
 - (M) Multi-Level Well
 - Wetland Areas
 - Water Bodies
 - Waterways
 - Boeing Property
 - City Limits

0 1,000 2,000
Scale in Feet

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

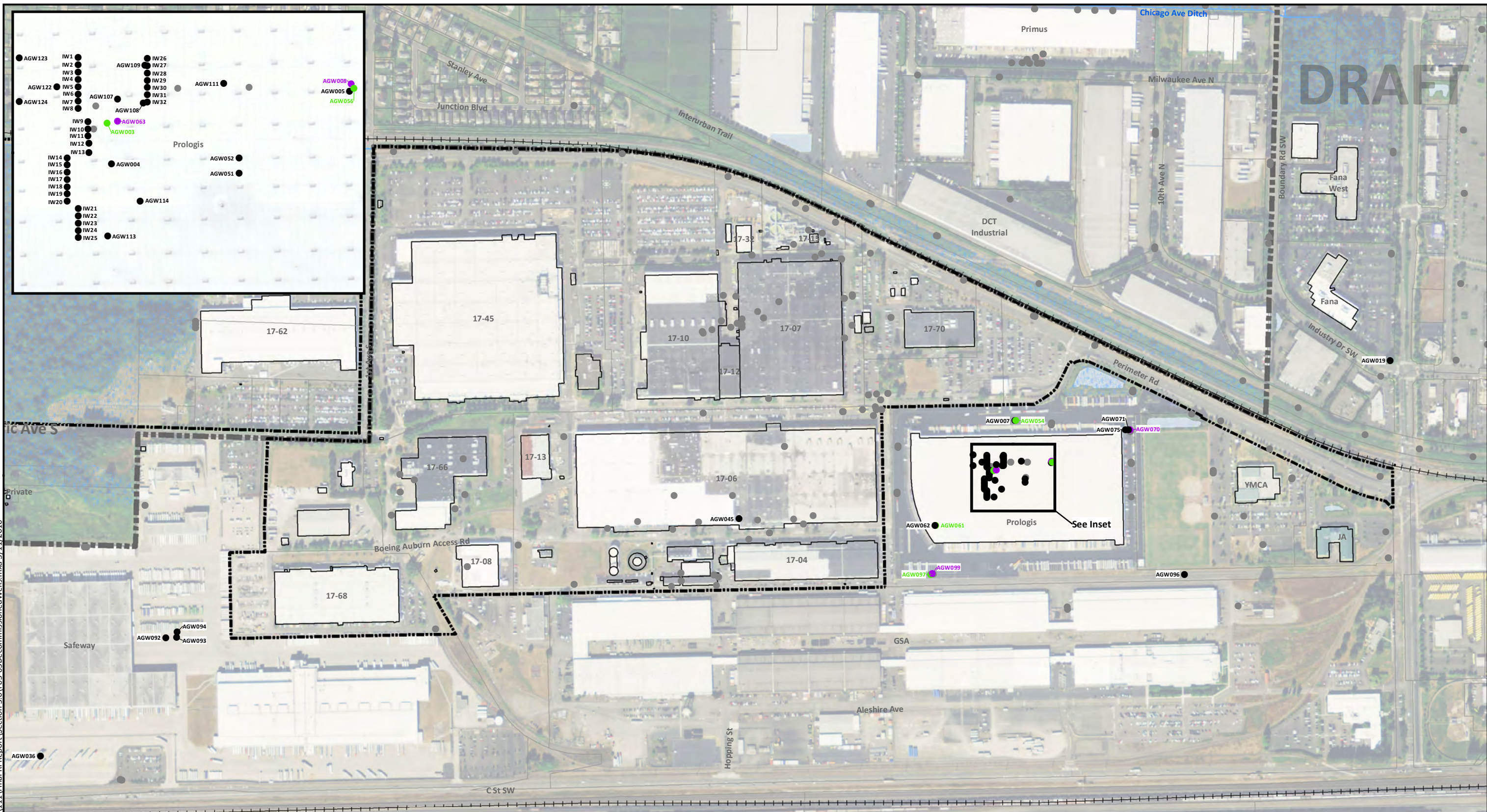


Boeing Auburn Remedial Investigation Auburn, Washington

Current Monitoring Well Network

Figure 3-2

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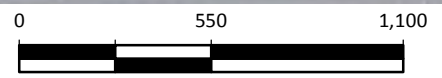
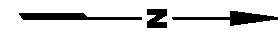
G:\Projects\025\164\130\111\Final RI Report\Section 3.0\F03-03DecommissionedWells.mxd 5/11/2016

Notes

1. Wells installed for the remedial investigation have designations beginning with AGW. Injection wells have an IW identification.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

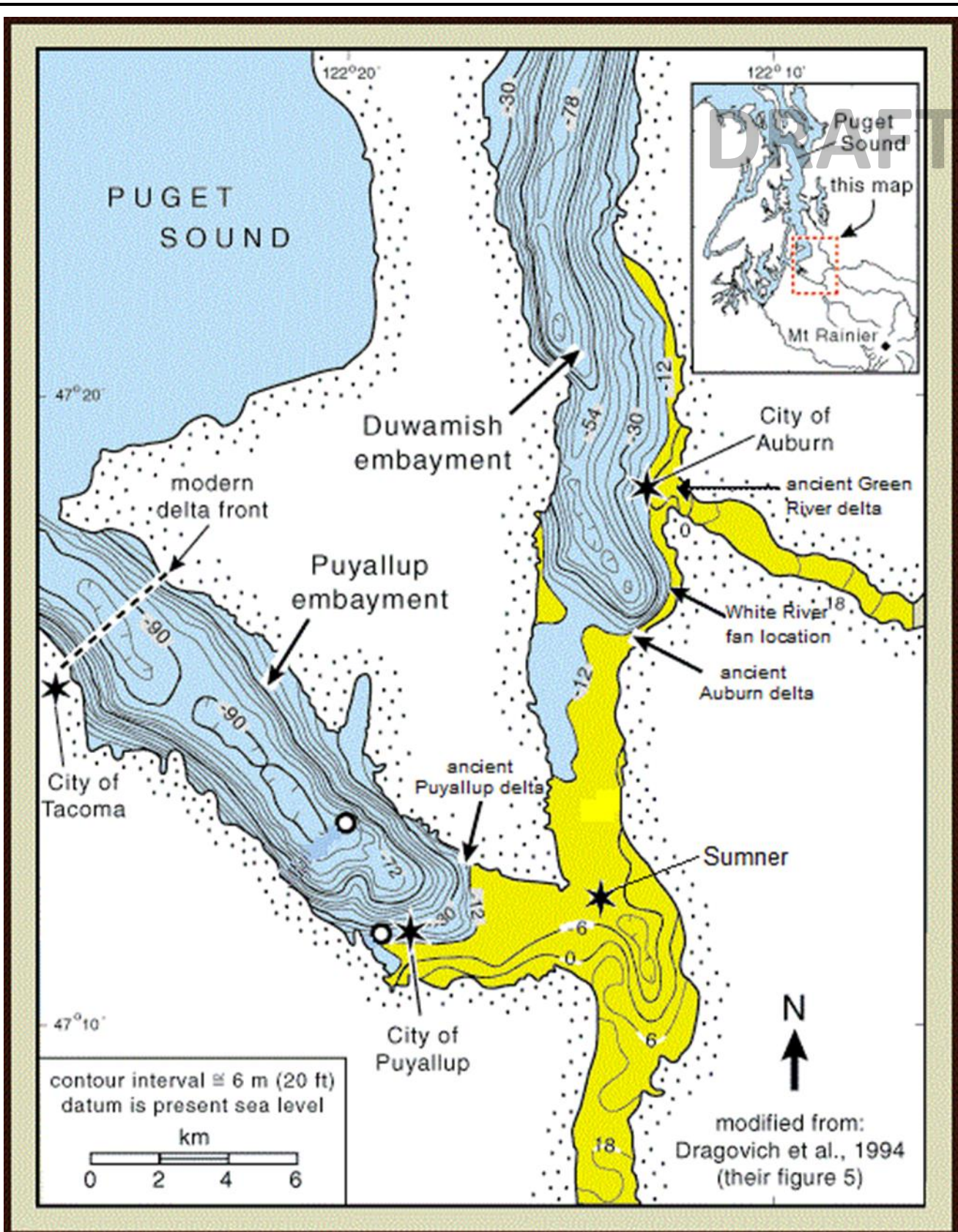
Legend

- Decommissioned Shallow Zone Monitoring Well
- (I) ● Decommissioned Intermediate Zone Monitoring Well
- (D) ● Decommissioned Deep Zone Monitoring Well
- ▲ Active Water Table Well
- Active Monitoring Well
- Wetland Areas
- Water Bodies
- Waterways
- Boeing Property
- City Limits



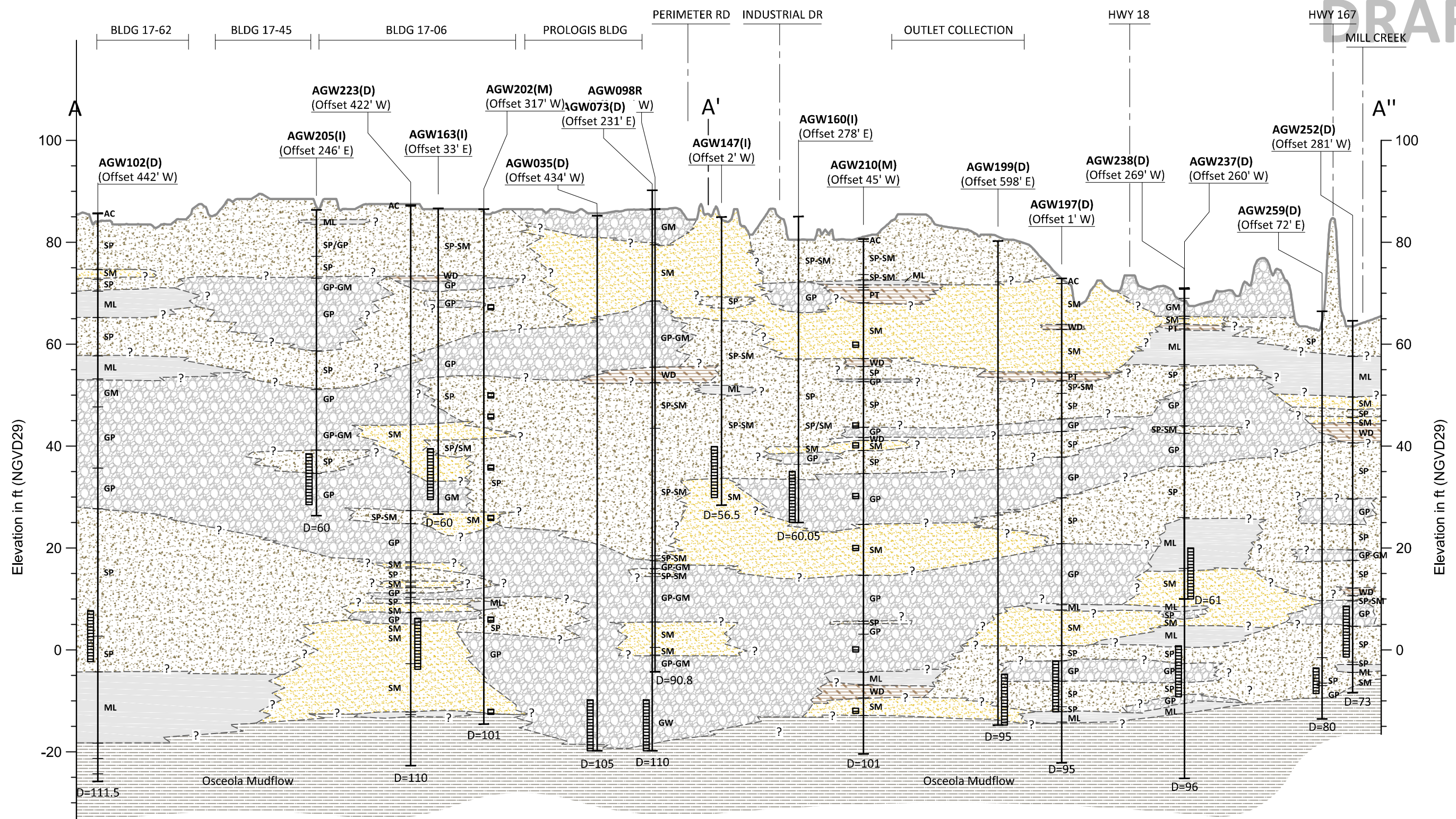
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Decommissioned Monitoring Wells	Figure 3-3
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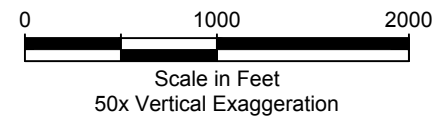
- Notes:
1. Modified from USGS (2000), modified from Dragovich et al. 1994.
 2. Yellow areas represent land within the valleys not submerged beneath the ancient marine embayments prior to the Osceola Mudflow.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

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Notes

1. This cross section approximates conditions between data collections points.
2. See Geologic Cross Section A-A'' legend on Figure 4-3b.



Ground surface elevation source: King County Lidar

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Auburn, Washington

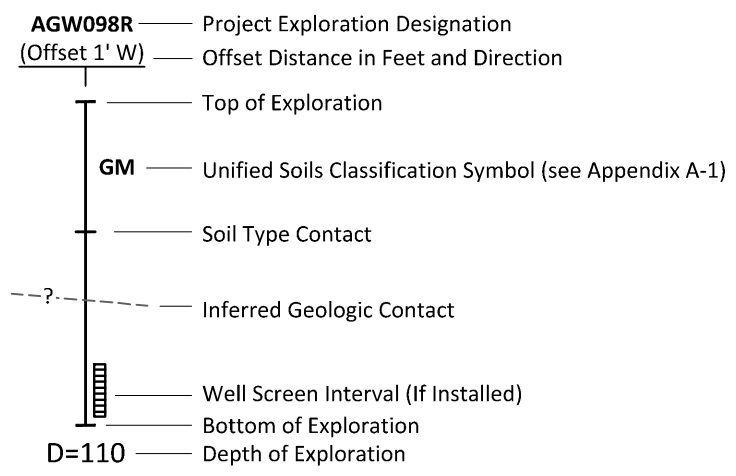
Geologic Cross-Section A-A''

Figure
4-3a

LANDAU ASSOCIATES, INC. | G:\Projects\025164130\11\Final RI Report\Section 4.0\F04-3a F04-3b CrossSectionA.dwg (A) *Figure 4-3a* 5/20/2016









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USCS Symbol Legend

- AC** asphalt concrete
- GM** silty gravel
- GP** poorly-graded gravel
- GW** well-graded gravel
- ML** inorganic silt with slight plasticity
- PT** peat
- SM** silty sand
- SP** poorly-graded sand
- SW** well-graded sand
- WD** wood

Hatch Legend

-  Peat or Wood Debris
-  Silt
-  Silty sand
-  Poorly graded sand with little to no fines
-  Gravel
-  Osceola mudflow

Notes

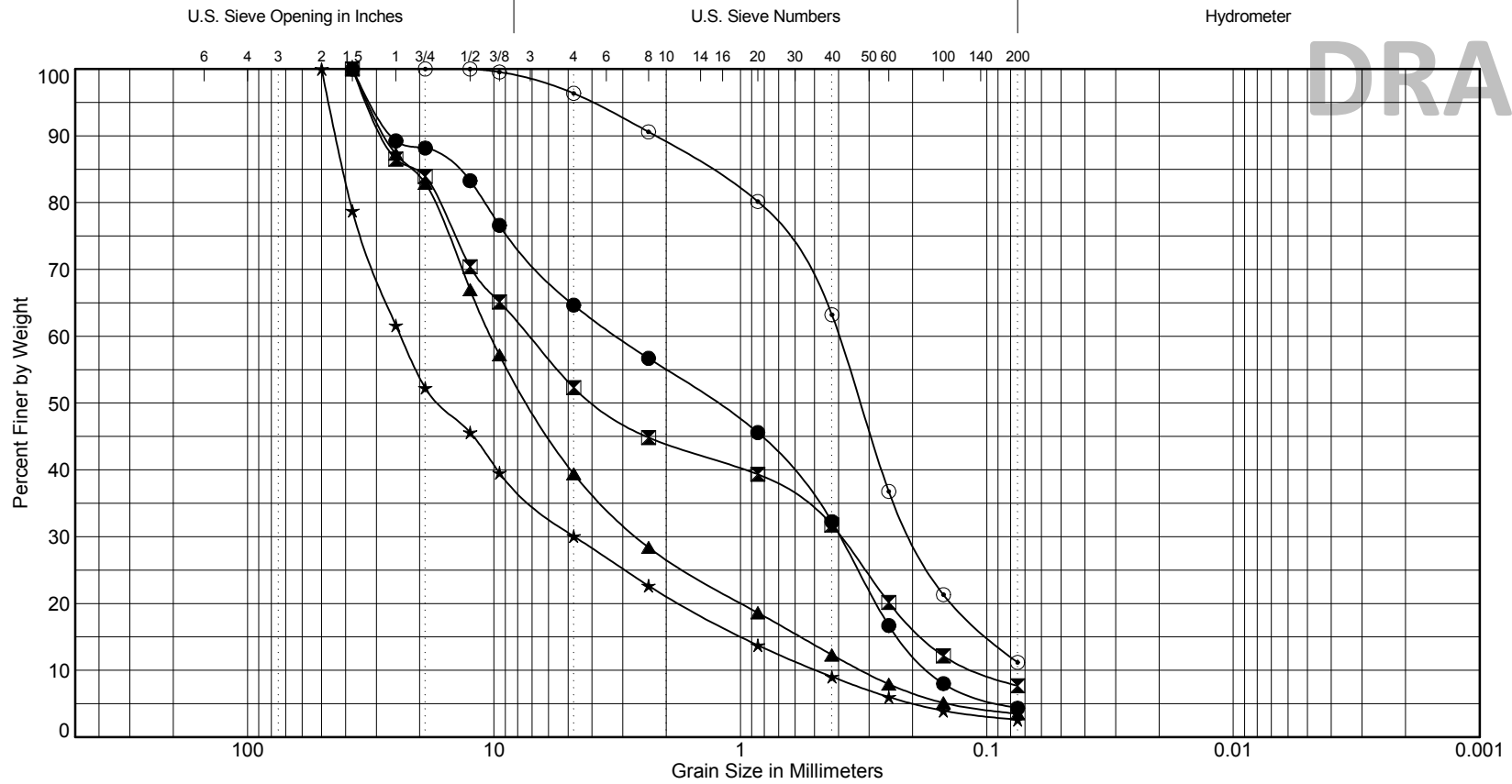
1. Soil descriptions are generalized based on interpretation of field and laboratory data. Contacts shown are based on interpretation between exploration locations. Actual contacts may be gradational and differ from those shown.
2. See report text for descriptions of geologic units.
3. For Cross Section location, see Cross Section Location Figure 4-2.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

LANDAU ASSOCIATES, INC. | G:\Projects\025\164\130\11\Final RI Report\Section 4.0\F04-3a F04-3b CrossSectionA.dwg (A) "Figure 4-3b" 5/20/2016



Boeing Auburn Remedial Investigation Auburn, Washington	Geologic Cross-Section A-A" Legend	Figure 4-3b
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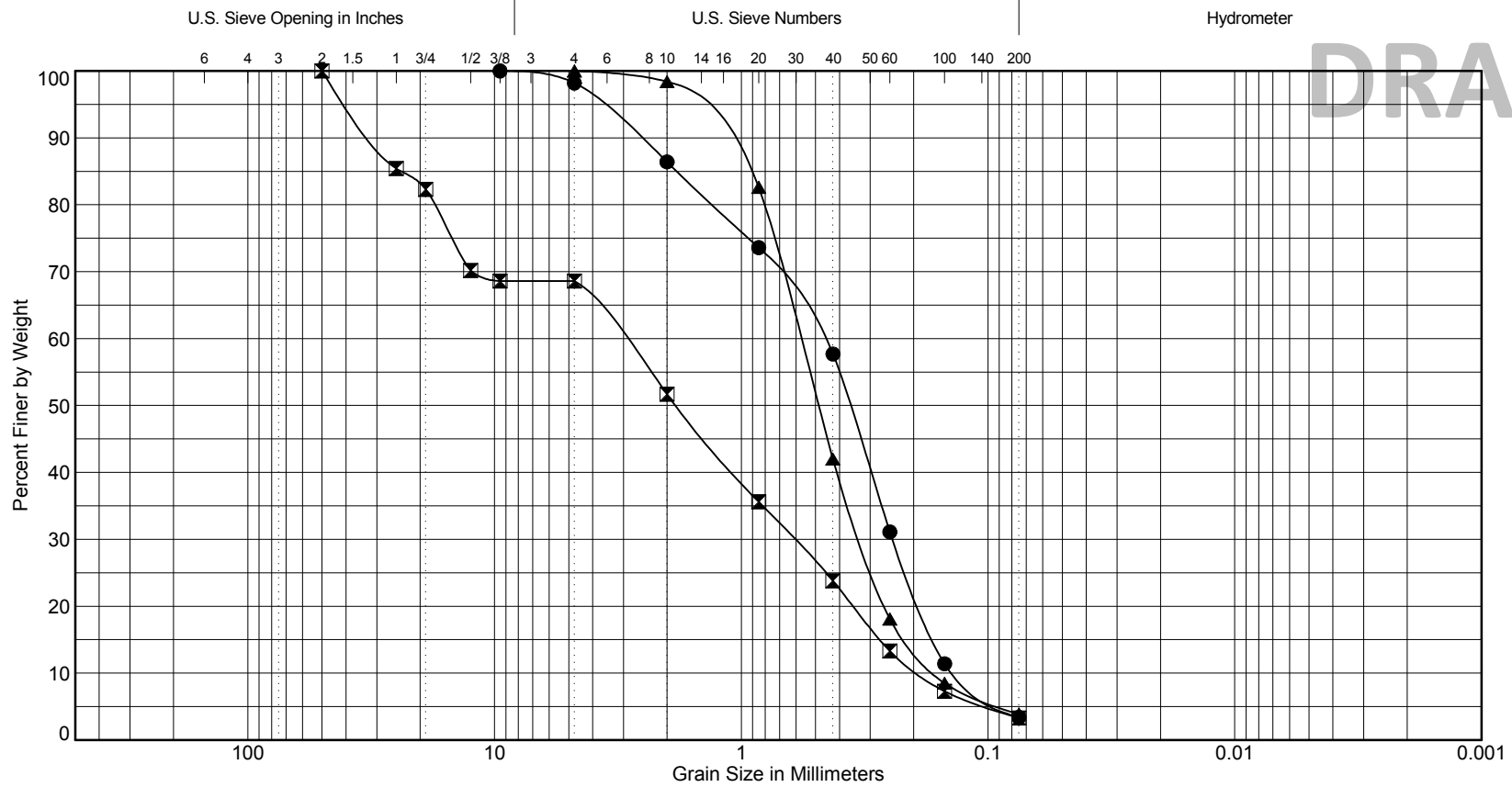
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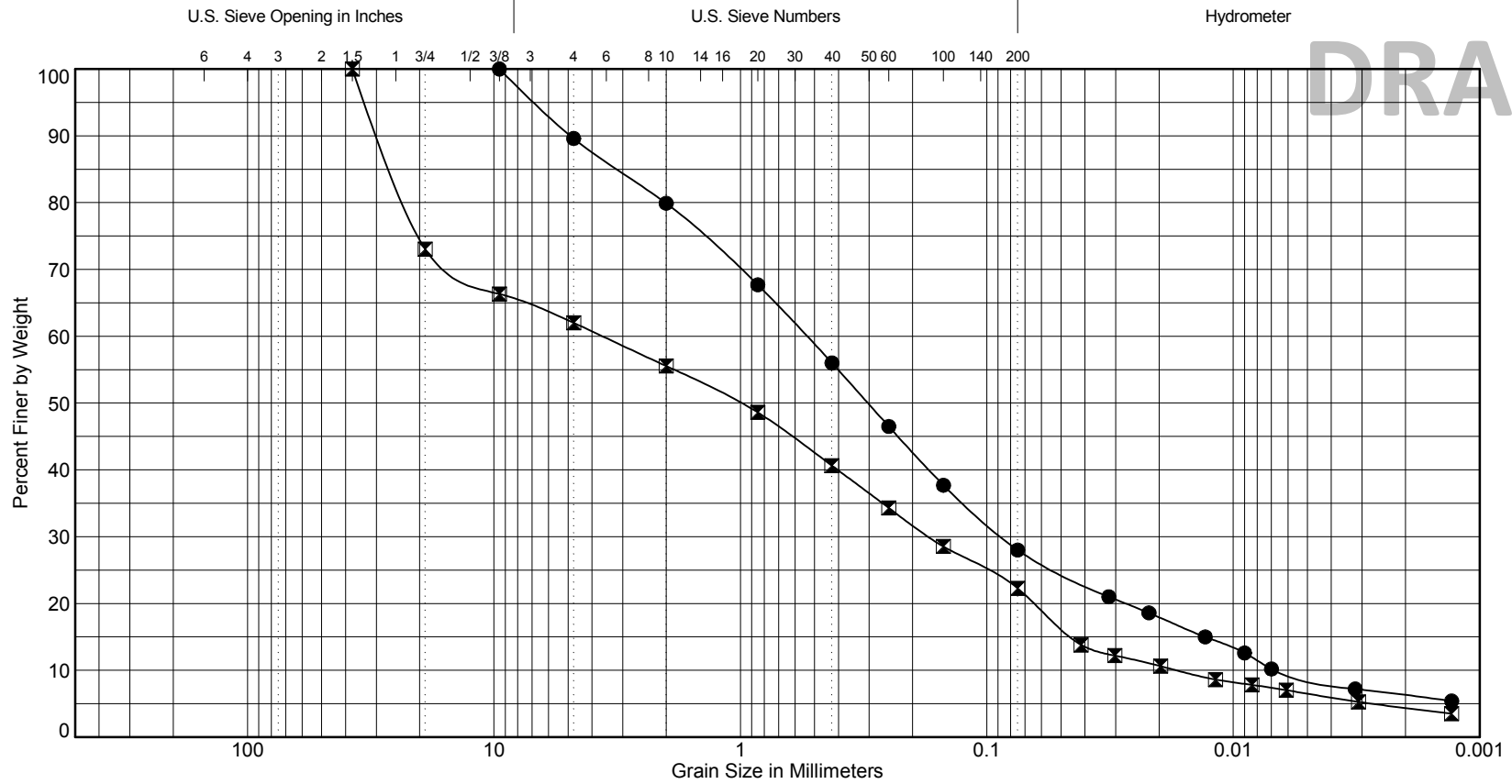
Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Exploration Number	Sample Number	Depth (ft)	Natural Moisture (%)	Soil Description	Unified Soil Classification
●	AGW095	10	50.0	15	Very gravelly, fine to coarse SAND with trace silt (35.3% Gravel, 60.3% Sand, 4.3% Fines)	SP
⊠	AGW096	5	25.0	11	Very sandy GRAVEL with silt (47.7% Gravel, 44.6% Sand, 7.7% Fines)	GP-GM
▲	AGW097	11	50.0	--	Very sandy GRAVEL with trace silt (60.6% Gravel, 35.9% Sand, 3.5% Fines)	GP
★	AGW098	5	80.0	5	Sandy GRAVEL with trace silt (69.9% Gravel, 27.5% Sand, 2.6% Fines)	GP
⊙	AGW099	11	86.0	24	Fine to coarse SAND with silt and trace gravel (3.6% Gravel, 85.2% Sand, 11.2% Fines)	SP-SM

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Approximate Location of Groundwater Flow Divide

Green River Valley

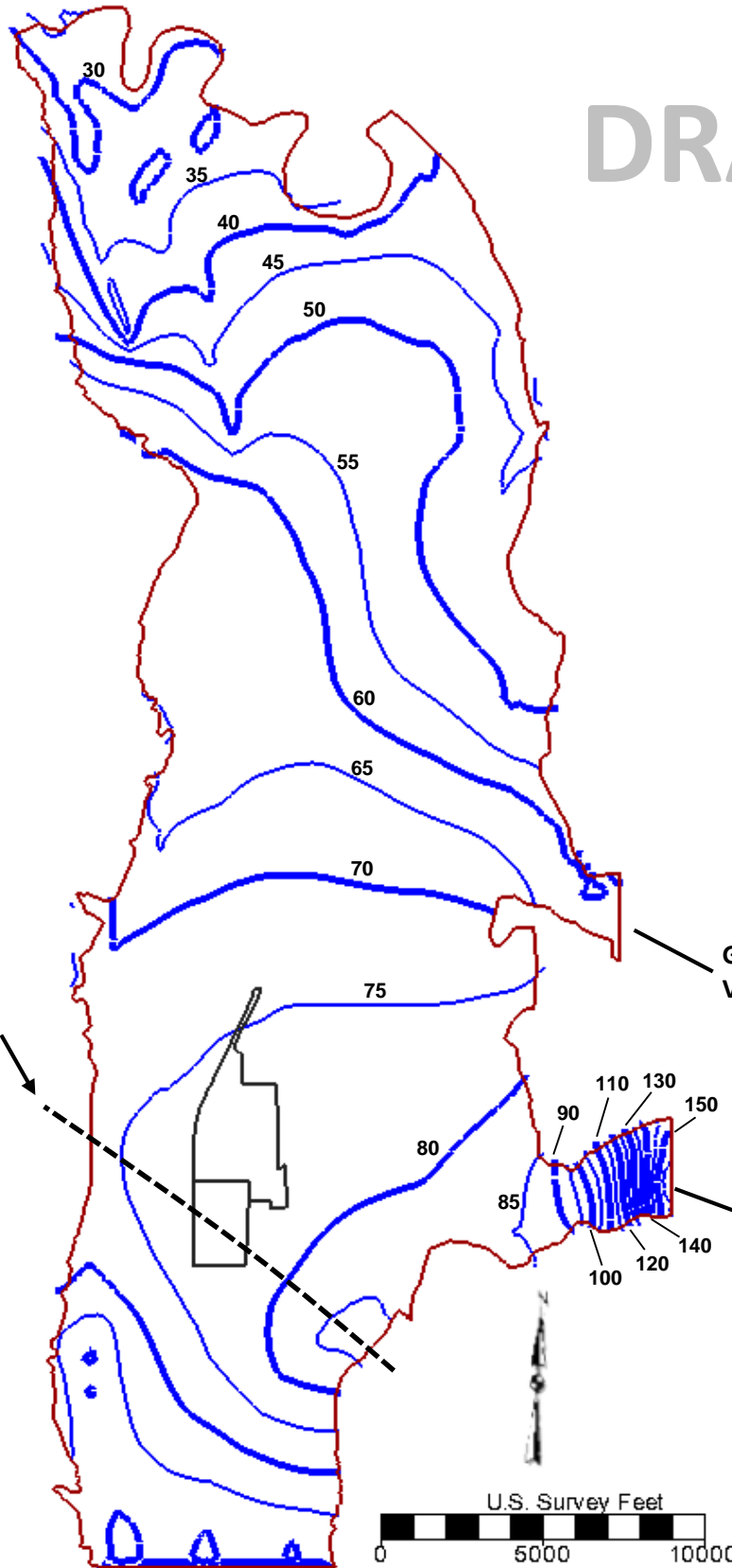
White River Valley

Notes

1. Simulated Groundwater Level Contours are from the Numerical Groundwater Model. Groundwater flow divide is interpolated from contours and understanding of hydrogeologic conceptual model.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

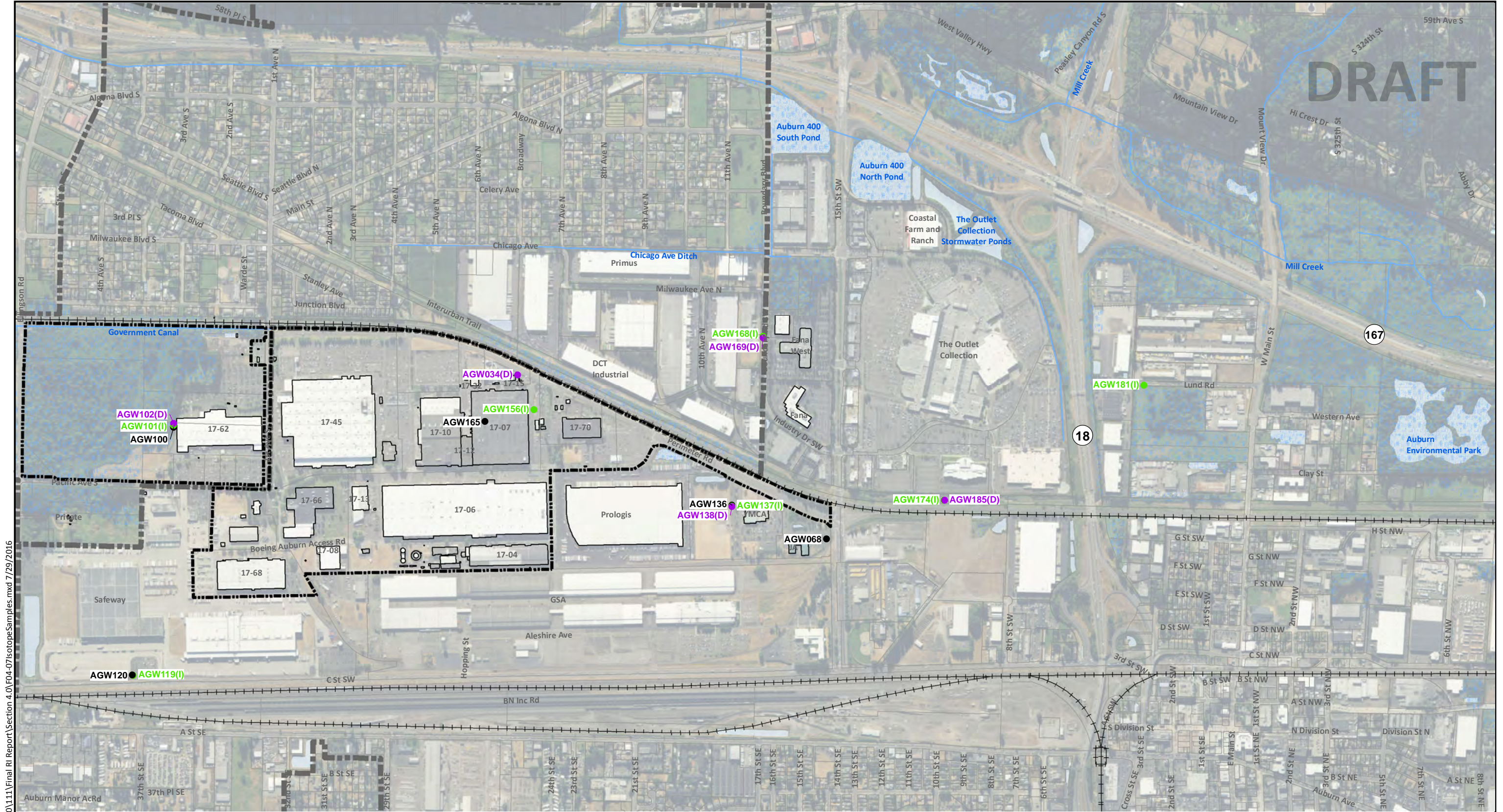
Legend

- Model Area
- Boeing Property
- 65 Simulated Groundwater Level Contours and Levels (ft NAVD88).



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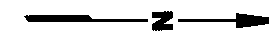


Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- | | |
|---------------------|---------------|
| ● Shallow Zone | Wetland Areas |
| ● Intermediate Zone | Water Bodies |
| ● Deep Zone | Waterways |



0 1,000 2,000

Scale in Feet

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

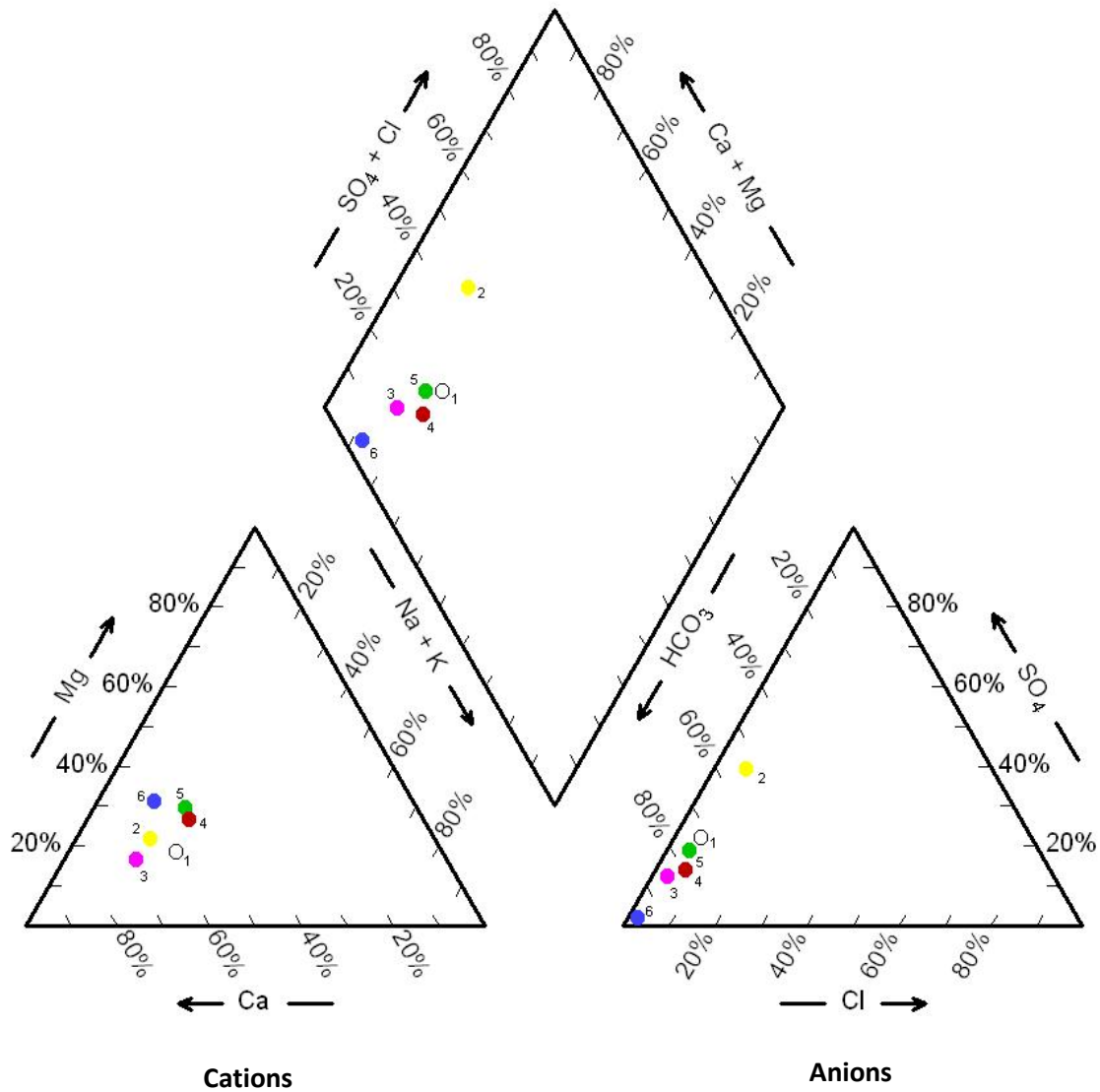
Boeing Auburn Remedial Investigation Auburn, Washington	Major Ion and Bulk Water Isotope Groundwater Sampling Locations	Figure 4-7
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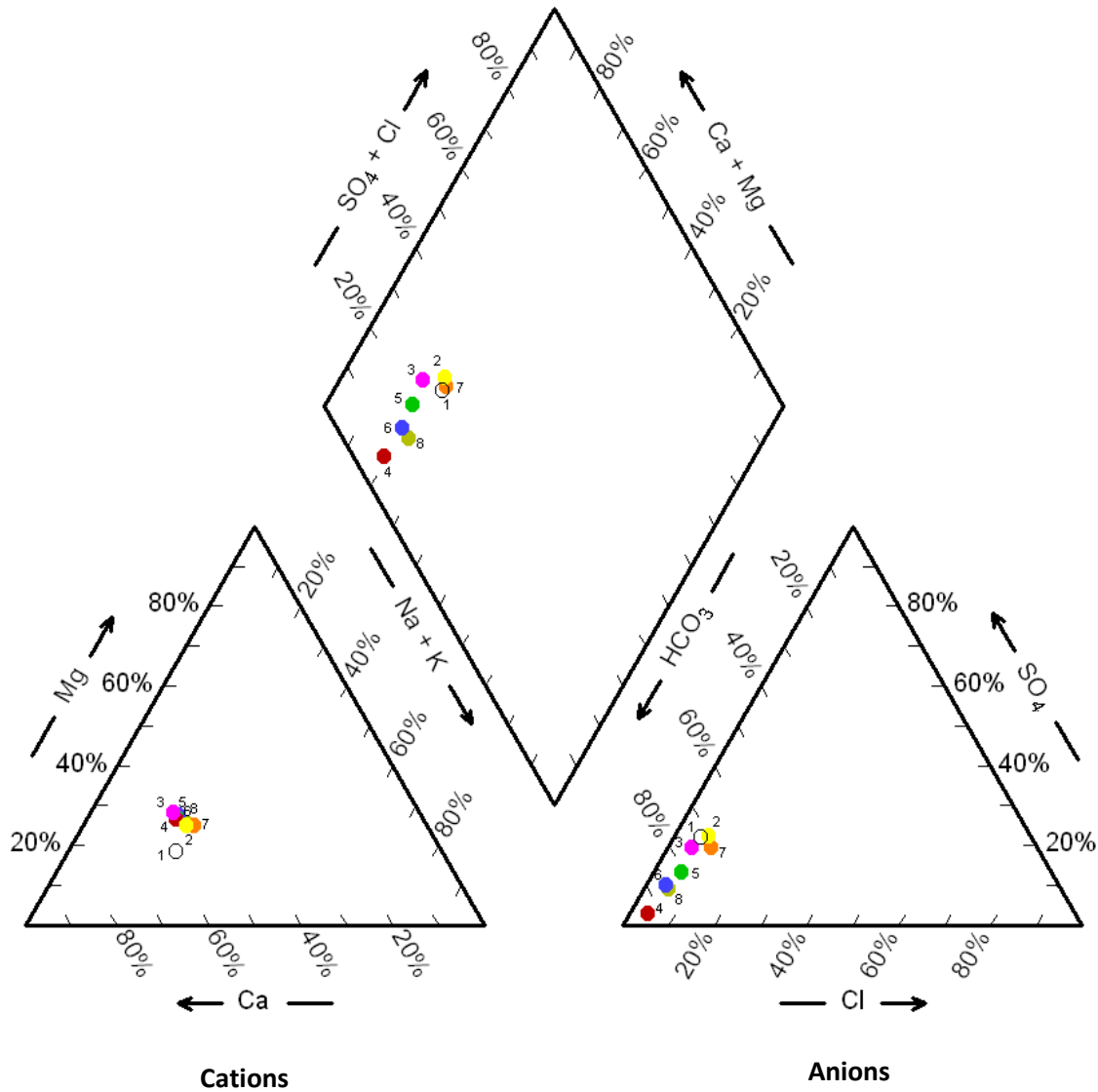
Legend

- 6 ● AGW068
- 5 ● AGW136
- 4 ● AGW165
- 3 ● AGW100
- 2 ● AGW120
- 1 ○ White River

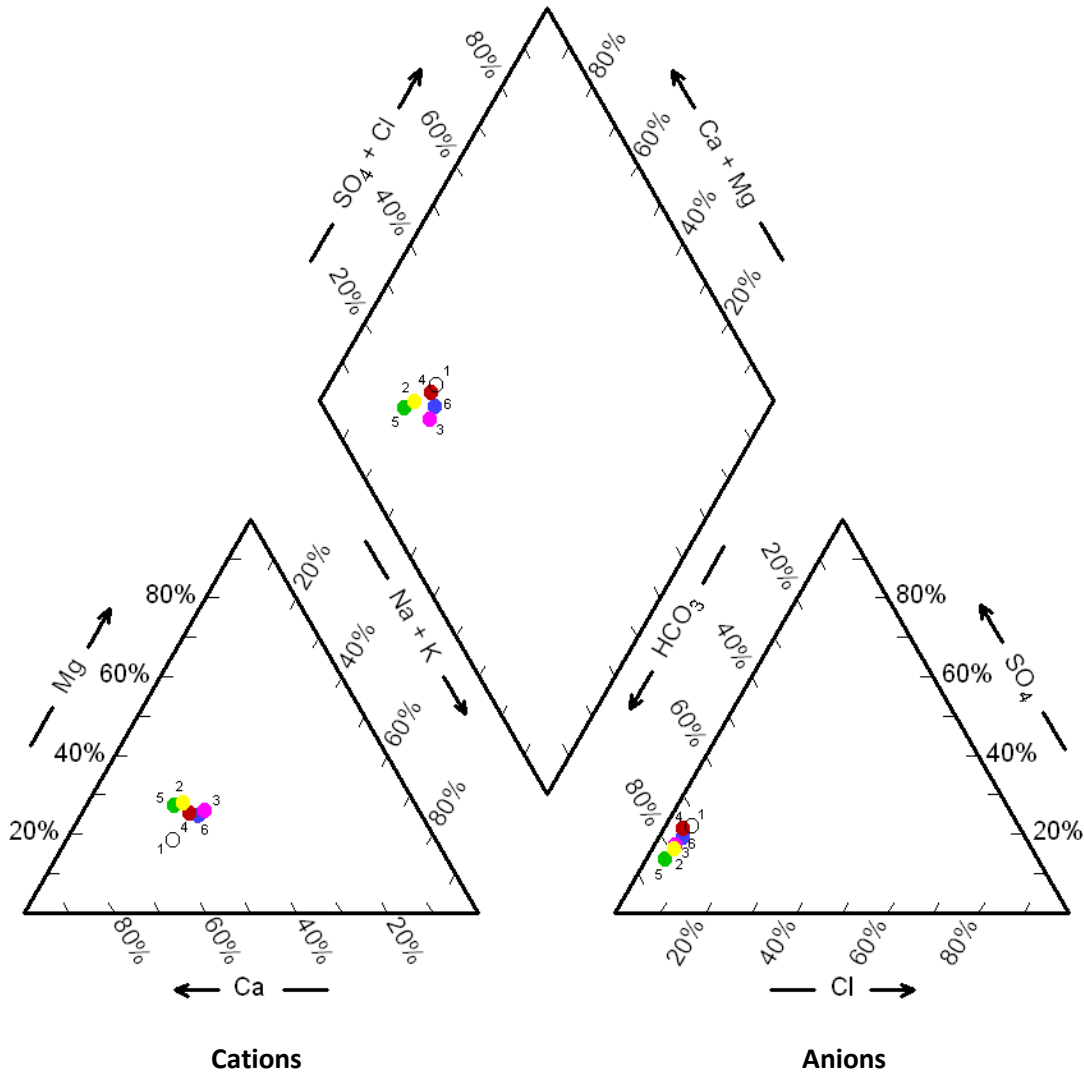


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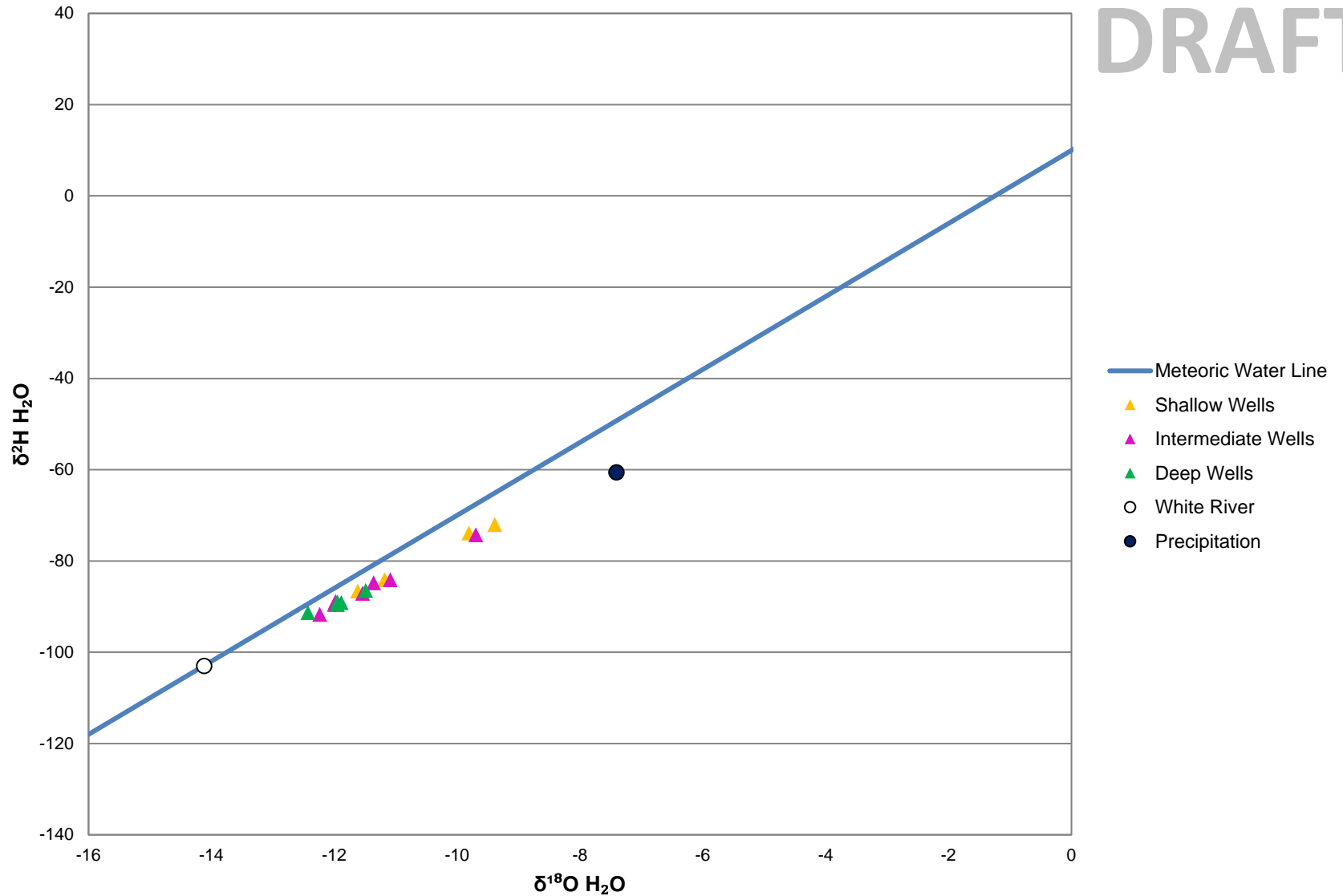
- Legend**
- 8 ● AGW181
 - 7 ● AGW174
 - 6 ● AGW168
 - 5 ● AGW137
 - 4 ● AGW156
 - 3 ● AGW101
 - 2 ● AGW119
 - 1 ○ White River



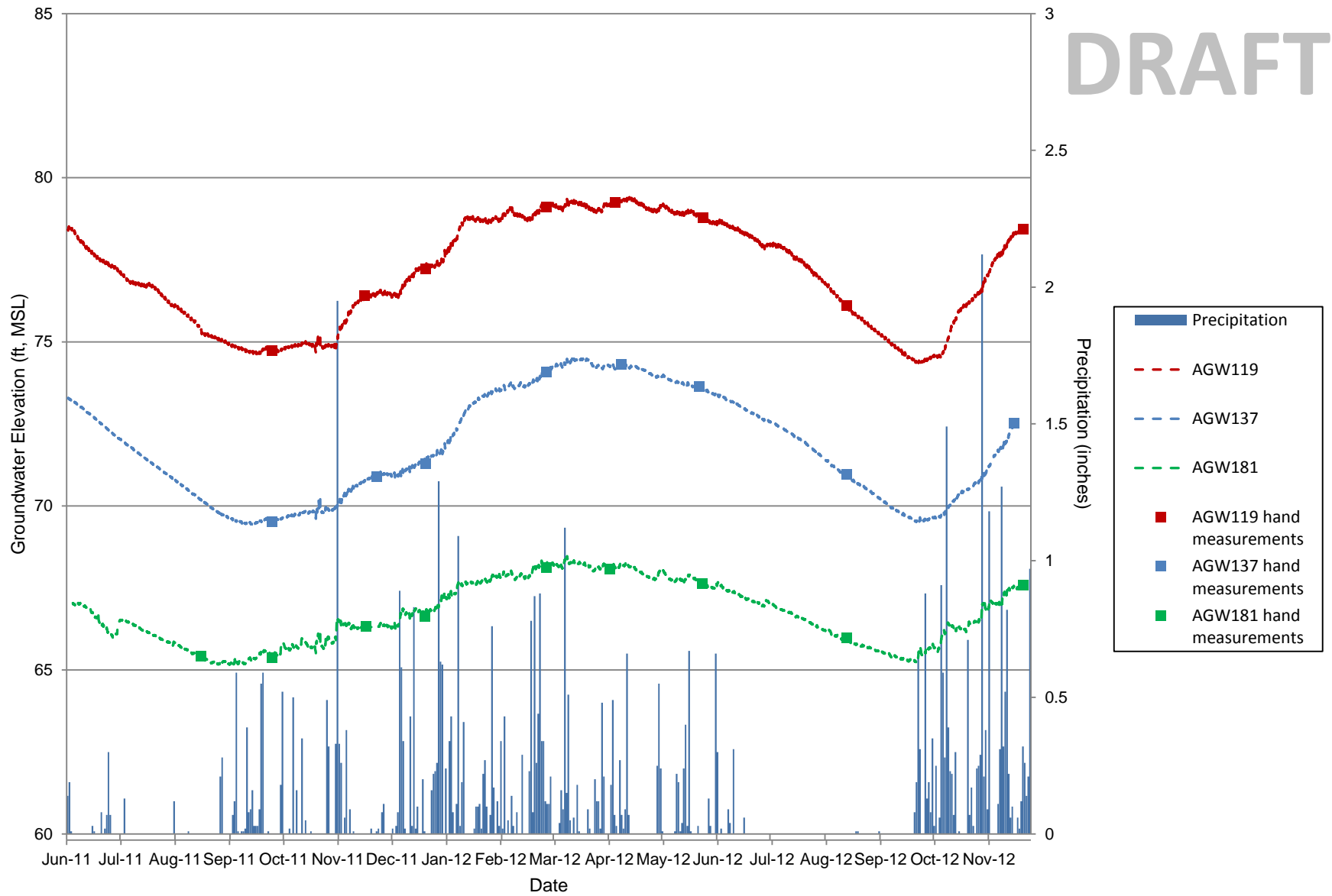
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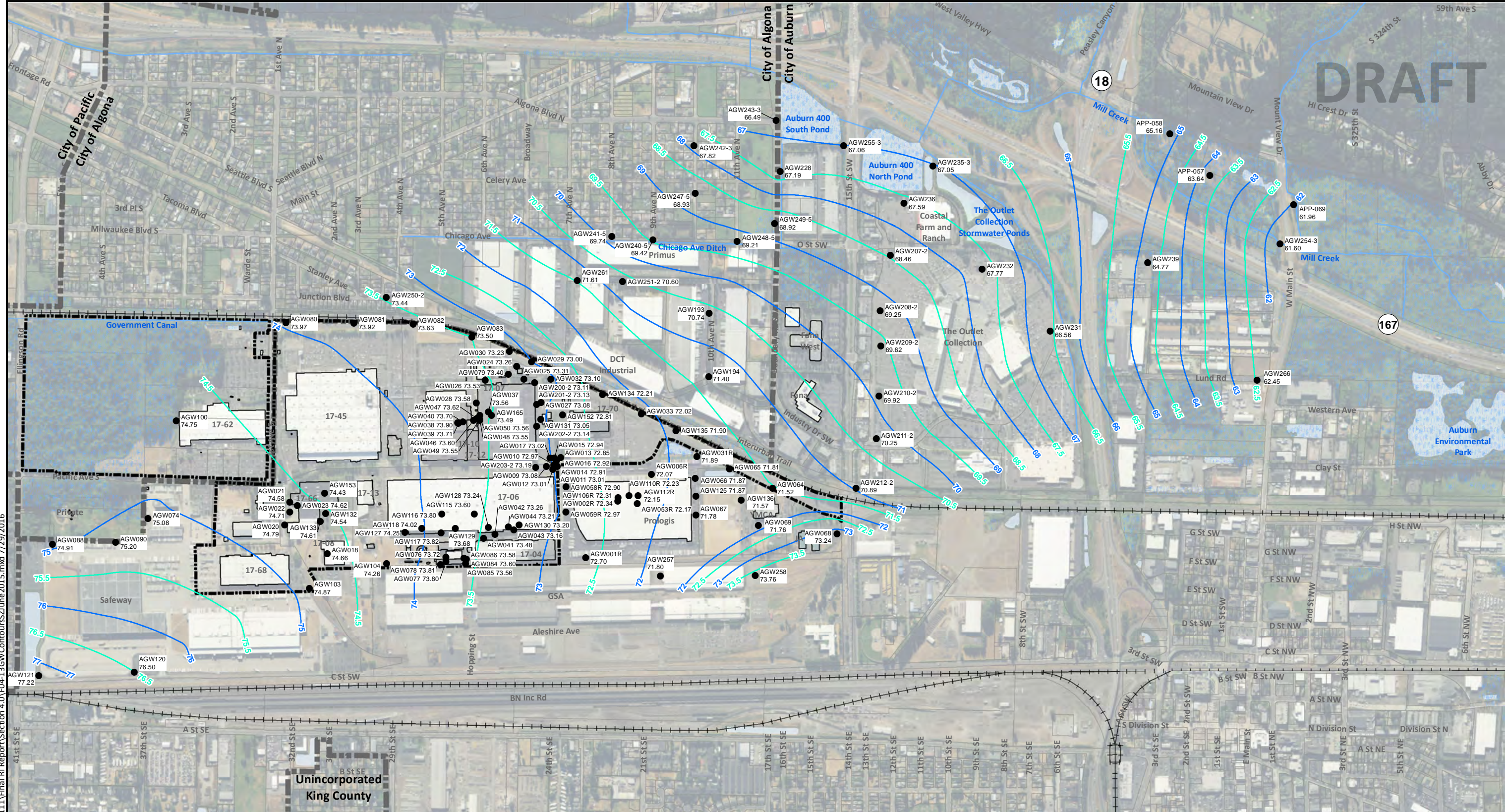
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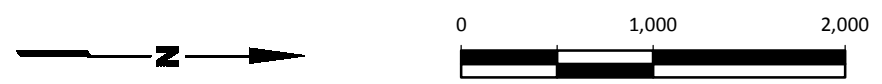
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- Legend**
- AGW121 Monitoring Well Designation
 - 79.13 Groundwater Elevation (ft, MSL)
 - 72 Groundwater Elevation Contours
 - 72.5 Groundwater Elevation Contours
 - Boeing Property
 - Waterway
 - Wetland Area
 - City Limits

- Notes**
1. All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in June 2015.
 2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2). Groundwater elevations listed are for the channel closest to 30 ft below ground surface.
 3. Wells with APP designation are owned by WSDOT.
 4. Wells installed specifically as water table wells are not included.
 5. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

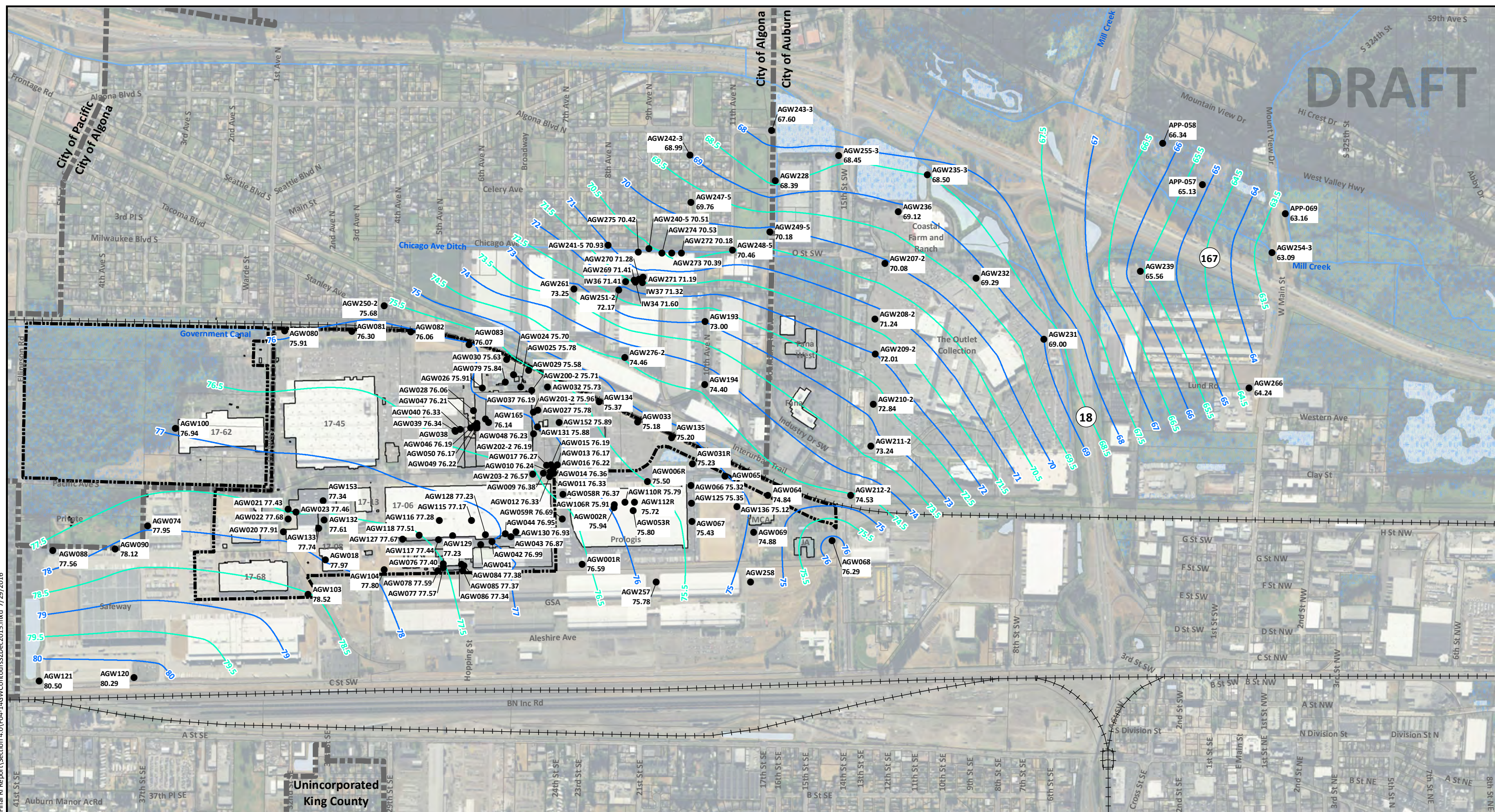


Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone Groundwater Elevation Contours June 2015	Figure 4-13
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Legend

- AGW121 80.50 ● Monitoring Well Designation
- 80.50 ● Groundwater Elevation (ft, MSL)
- 72 Groundwater Elevation Contours
- 72.5 Groundwater Elevation Contours
- Boeing Property
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

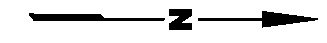
Note

- All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in December 2015.
- Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2). Groundwater elevations listed are for the channel closest to 30 ft below ground surface.
- Wells without a posted water level were inaccessible or had anomalous data.
- Wells with APP designation are owned by WSDOT.
- Wells installed specifically as water table wells are not included.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 1,000 2,000



Scale in Feet

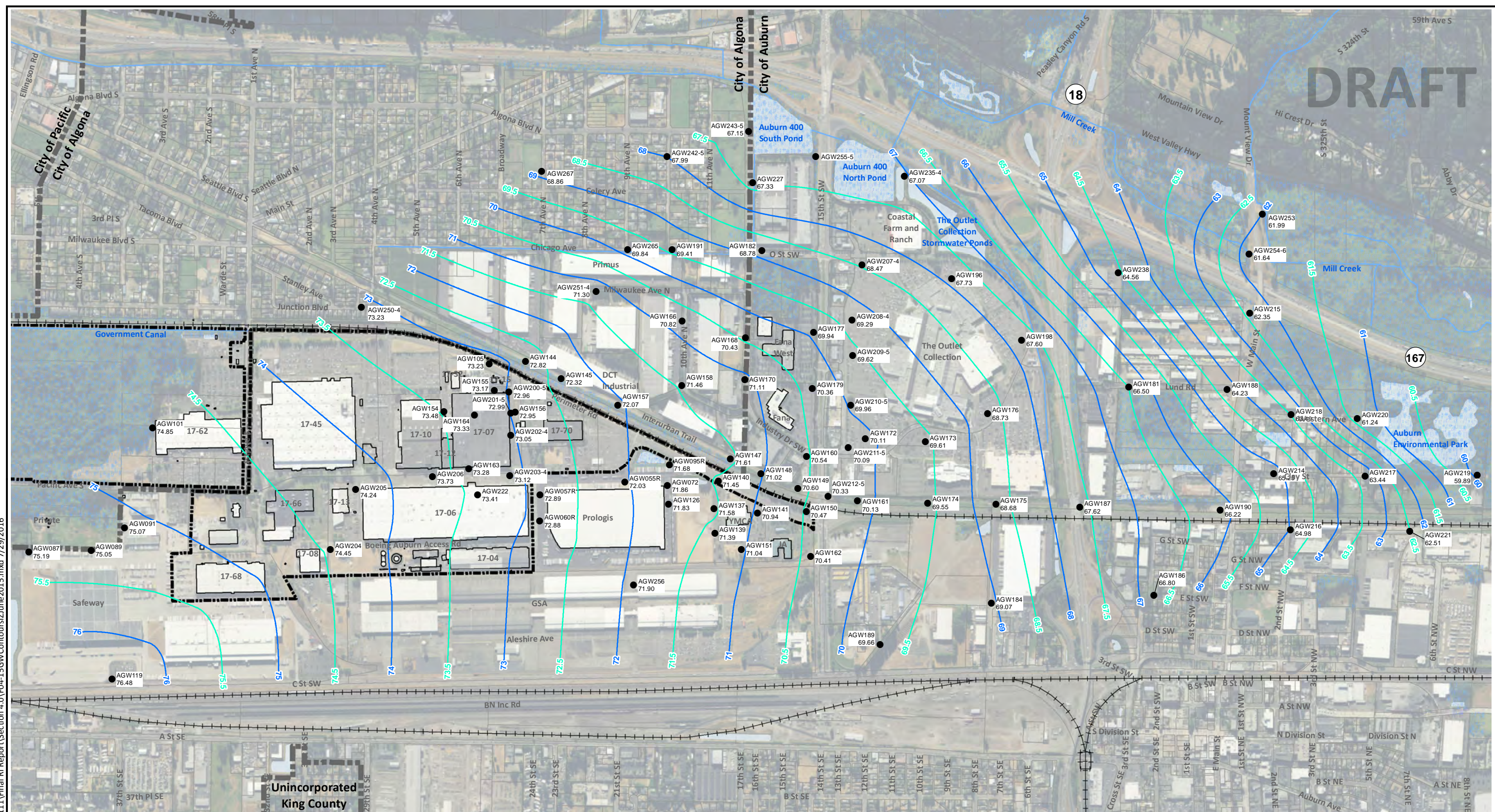


Base Map Source: Geomatrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone Groundwater Elevation Contours December 2015	Figure 4-14
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- Legend**
- AGW119 Monitoring Well Designation
 - 78.48 Groundwater Elevation (ft, MSL)
 - 72 Groundwater Elevation Contours
 - 72.5 Groundwater Elevation Contours
 - Boeing Property
 - Waterway
 - Wetland Area
 - City Limits

- Notes**
1. All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in June 2015.
 2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
 3. Wells without a posted water level had anomalous data.
 4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

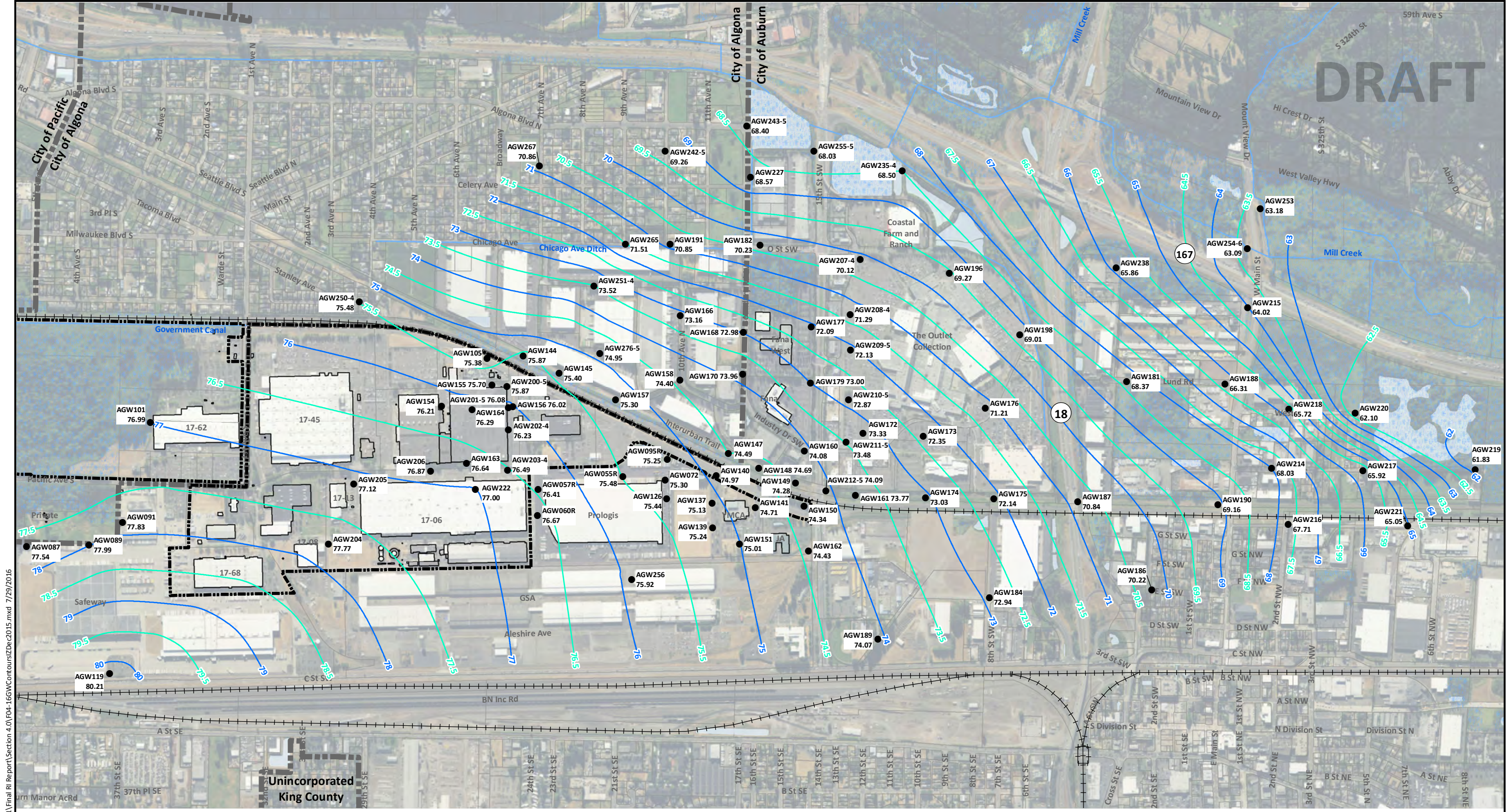


Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Intermediate Zone Groundwater Elevation Contours June 2015	Figure 4-15
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Legend

- AGW121 ● Monitoring Well Designation
- 80.50 ● Groundwater Elevation (ft, MSL)
- 72 — Groundwater Elevation Contours
- 72.5 — Groundwater Elevation Contours
- Boeing Property
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

Note

1. All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in December 2015.
2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

0 1,000 2,000



Scale in Feet

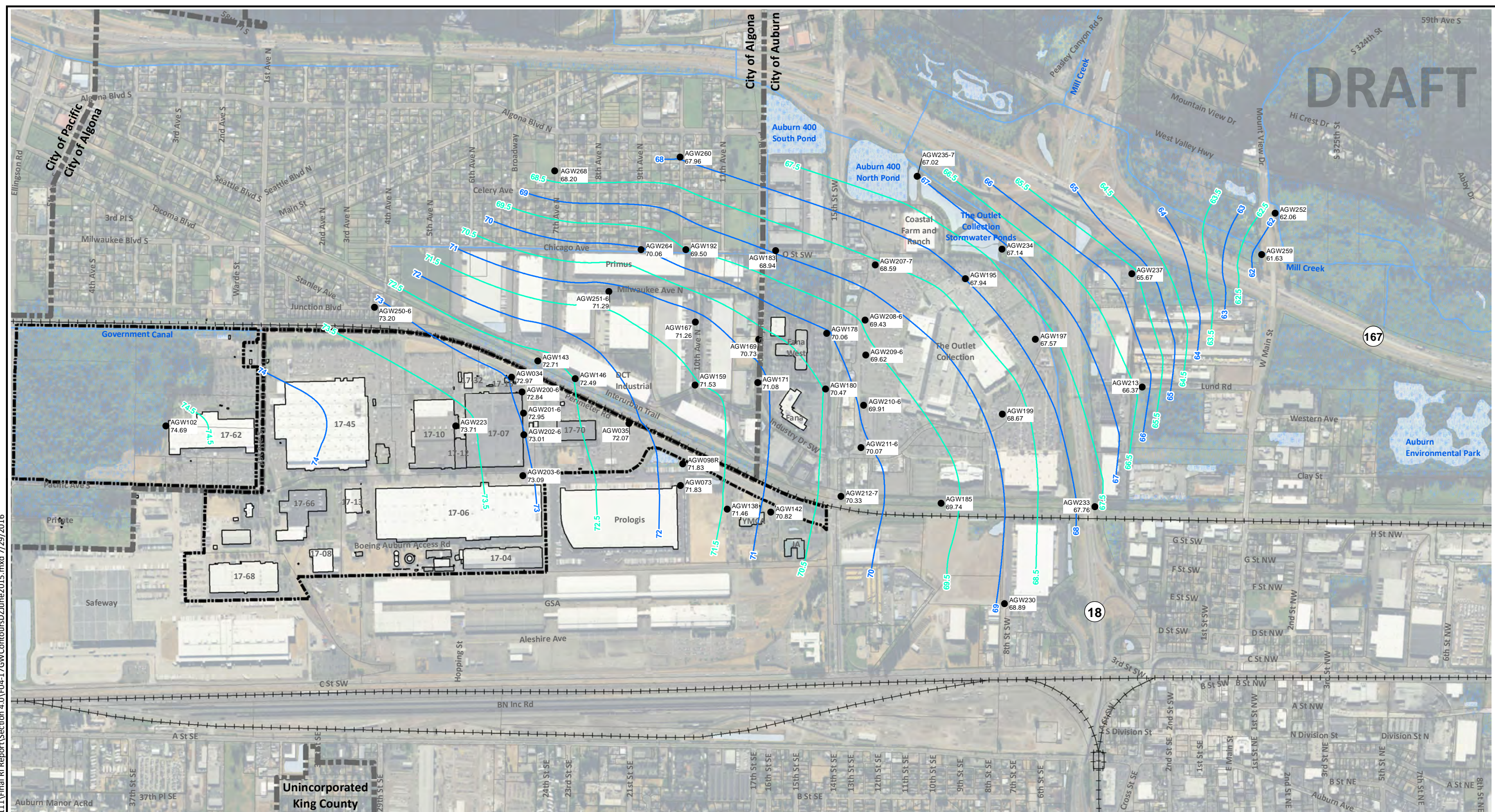


Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Intermediate Zone Groundwater Elevation Contours December 2015	Figure 4-16
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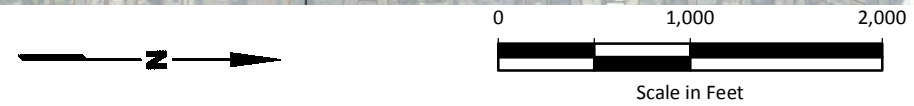
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- Legend**
- AGW102 Monitoring Well Designation
 - 76.06 Groundwater Elevation (ft, MSL)
 - 72 Groundwater Elevation Contours
 - 72.5 Groundwater Elevation Contours
 - Boeing Property
 - Waterway
 - Wetland Area
 - City Limits

- Notes**
1. All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in June 2015.
 2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

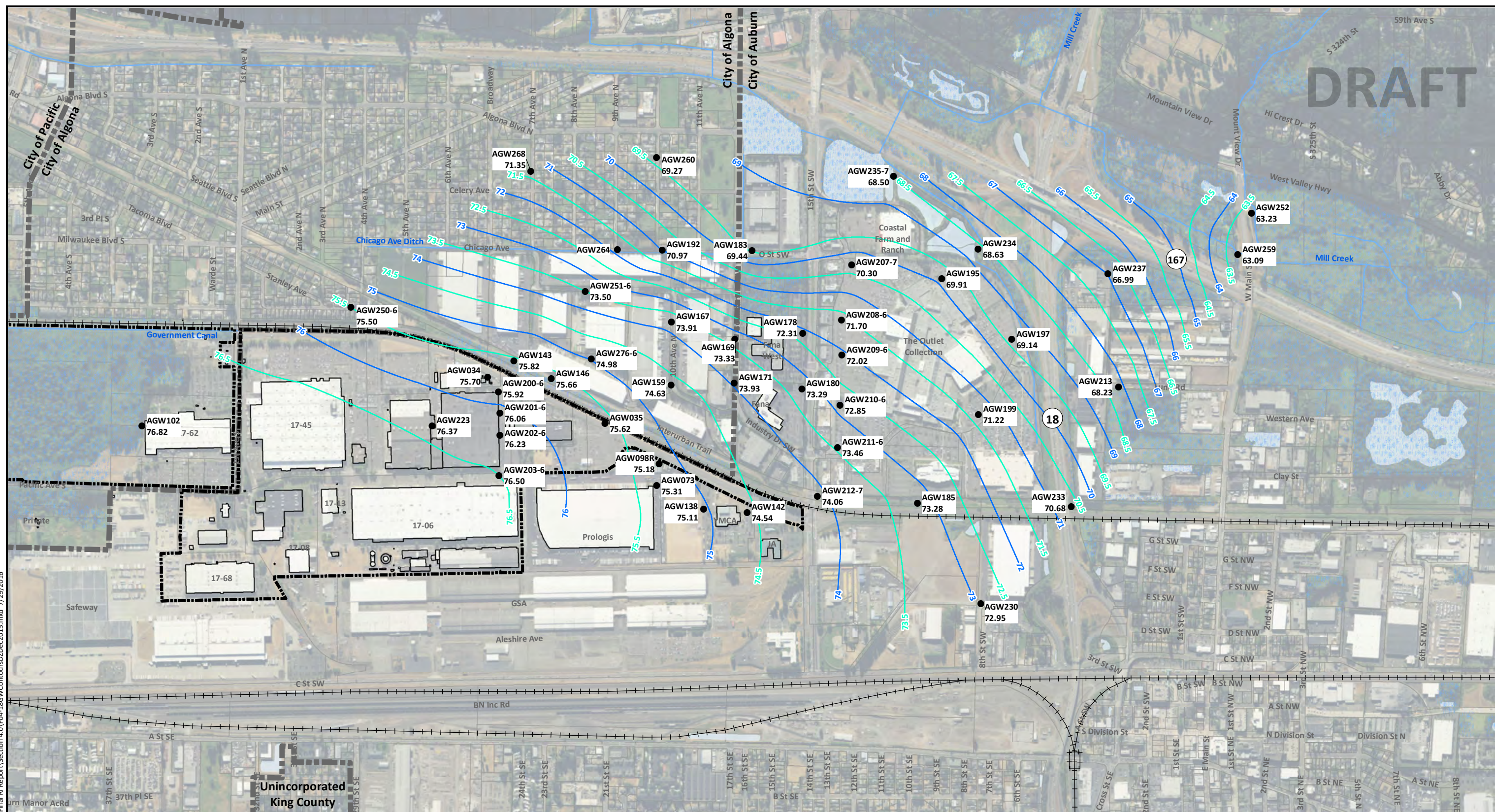


Base Map Source: Geomatrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone Groundwater Elevation Contours June 2015	Figure 4-17
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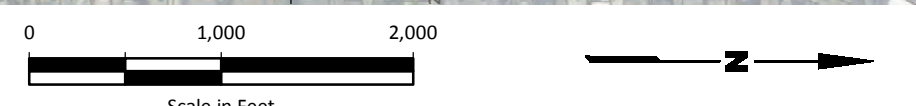


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- Legend**
- AGW121 ● Monitoring Well Designation
 - 80.50 ● Groundwater Elevation (ft, MSL)
 - 72 — Groundwater Elevation Contours
 - 72.5 — Groundwater Elevation Contours
 - Boeing Property
 - City Limits
 - Wetland Areas
 - Water Bodies
 - Waterways

- Note**
1. All water level data in ft, MSL. Vertical datum is NGVD29. Data collected in December 2015.
 2. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
 3. Wells without a posted water level had anomalous data.
 4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



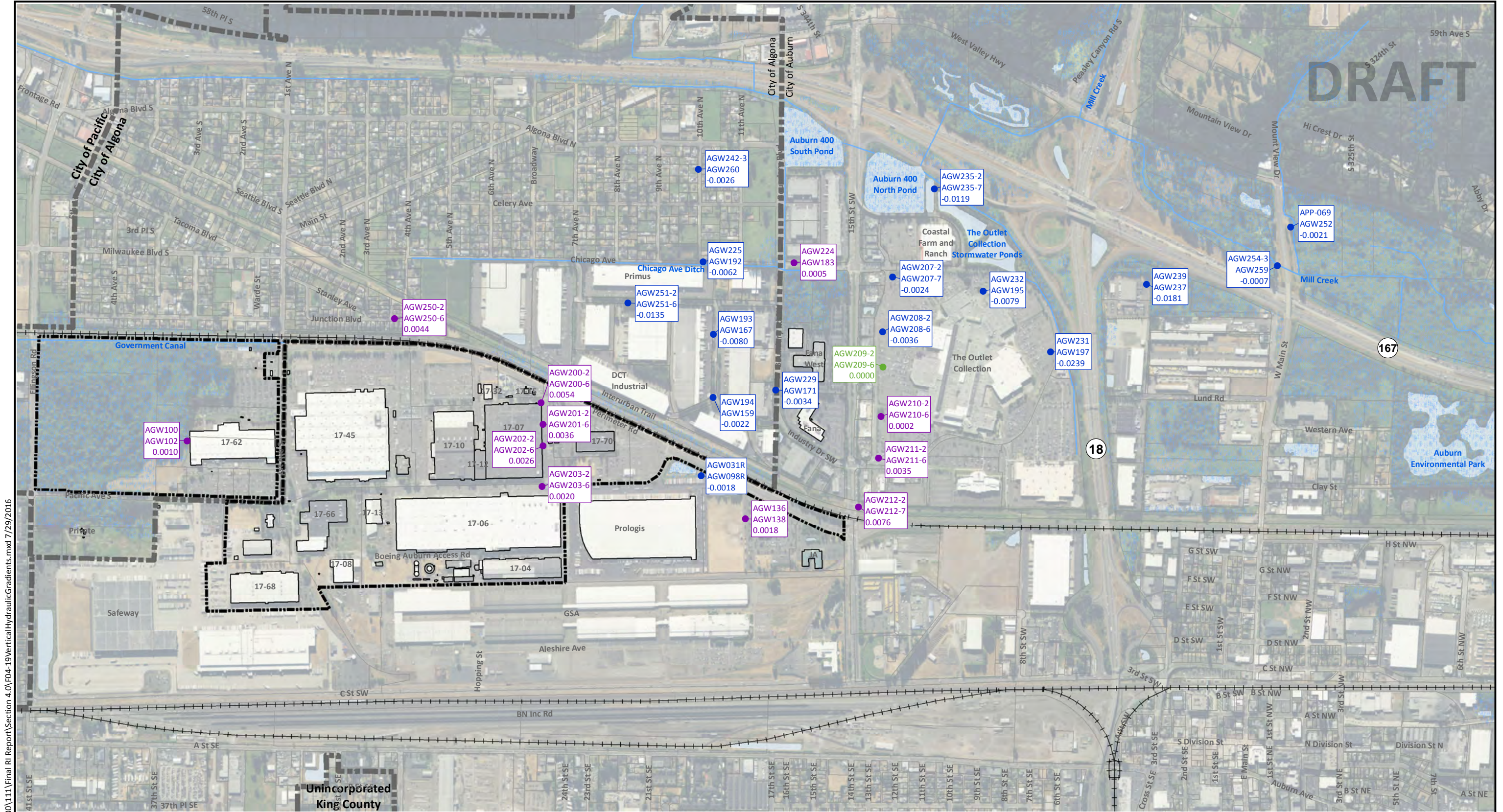
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone Groundwater Elevation Contours December 2015	Figure 4-18
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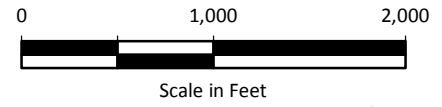


Notes

1. Water levels collected on June 15-16, 2015.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Neutral Hydraulic Gradient
- Upward Hydraulic Gradient
- Downward Hydraulic Gradient
- Wetland Areas
- Water Bodies
- Waterways



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

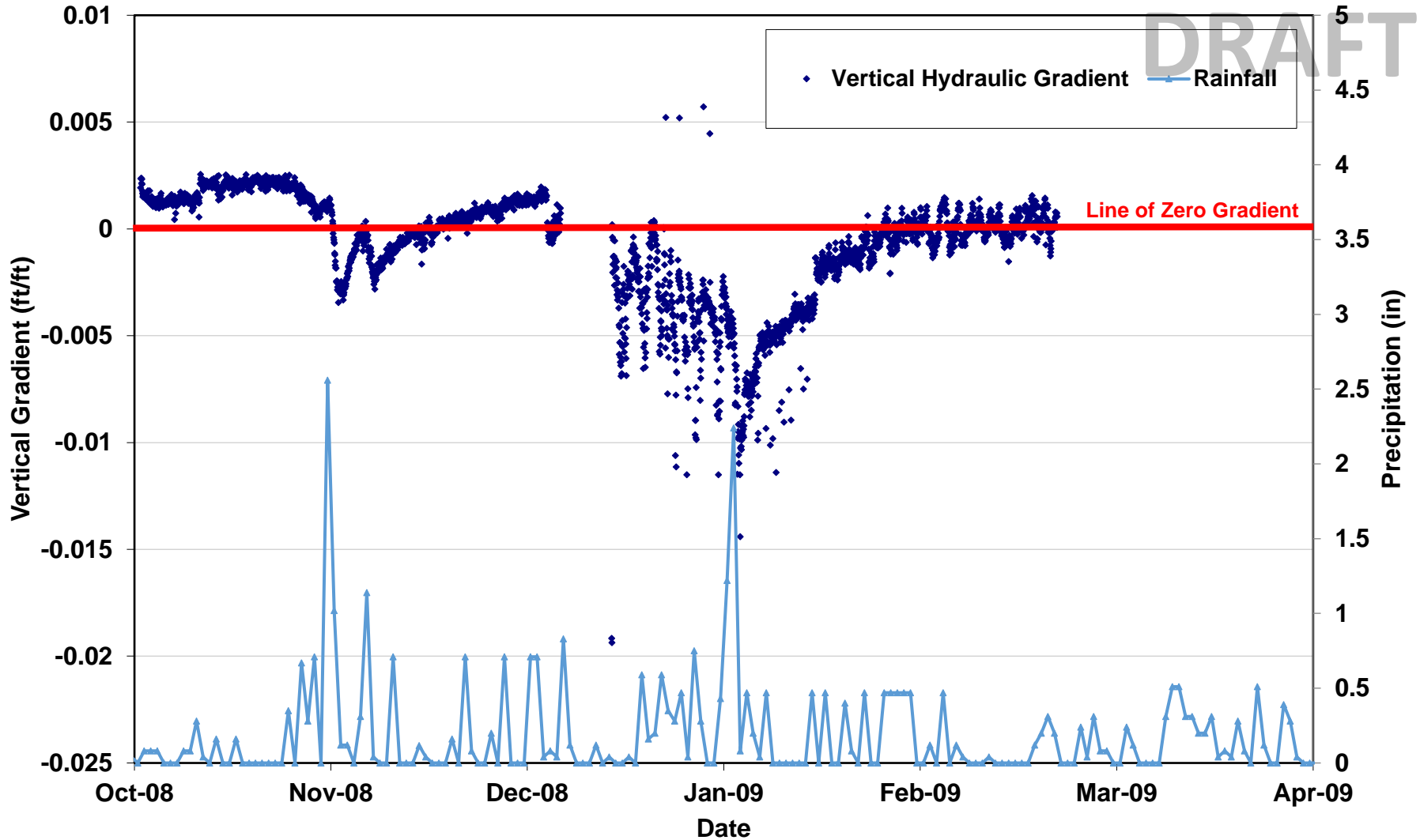
Boeing Auburn
Remedial Investigation
Auburn, Washington

**Vertical Hydraulic Gradient
Shallow to Deep Zone
June 2015**

Figure
4-19

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Note

1. Positive value indicates downward gradient, negative value indicates upward gradient.
2. Vertical Gradients were calculated for continuous water levels collected from AGW125 (shallow zone) and AGW126 (deep zone).

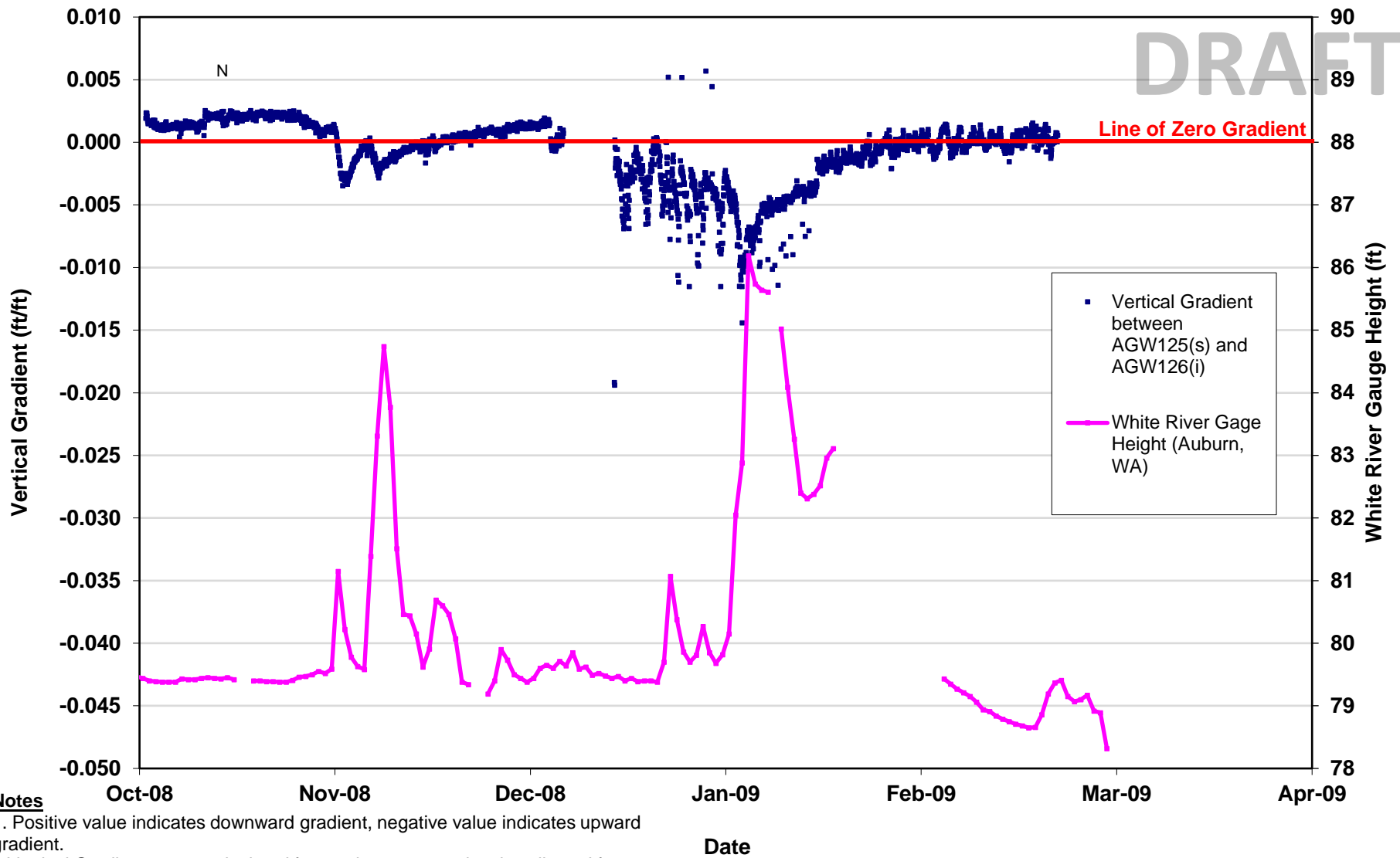


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Auburn, Washington

**Precipitation and Vertical
Groundwater Gradients**

Figure
4-20

DRAFT



Notes

1. Positive value indicates downward gradient, negative value indicates upward gradient.
2. Vertical Gradients were calculated for continuous water levels collected from AGW125 (shallow zone) and AGW126 (deep zone).
3. White River gage height data is taken from USGS 12100496 White River near Auburn, Washington.

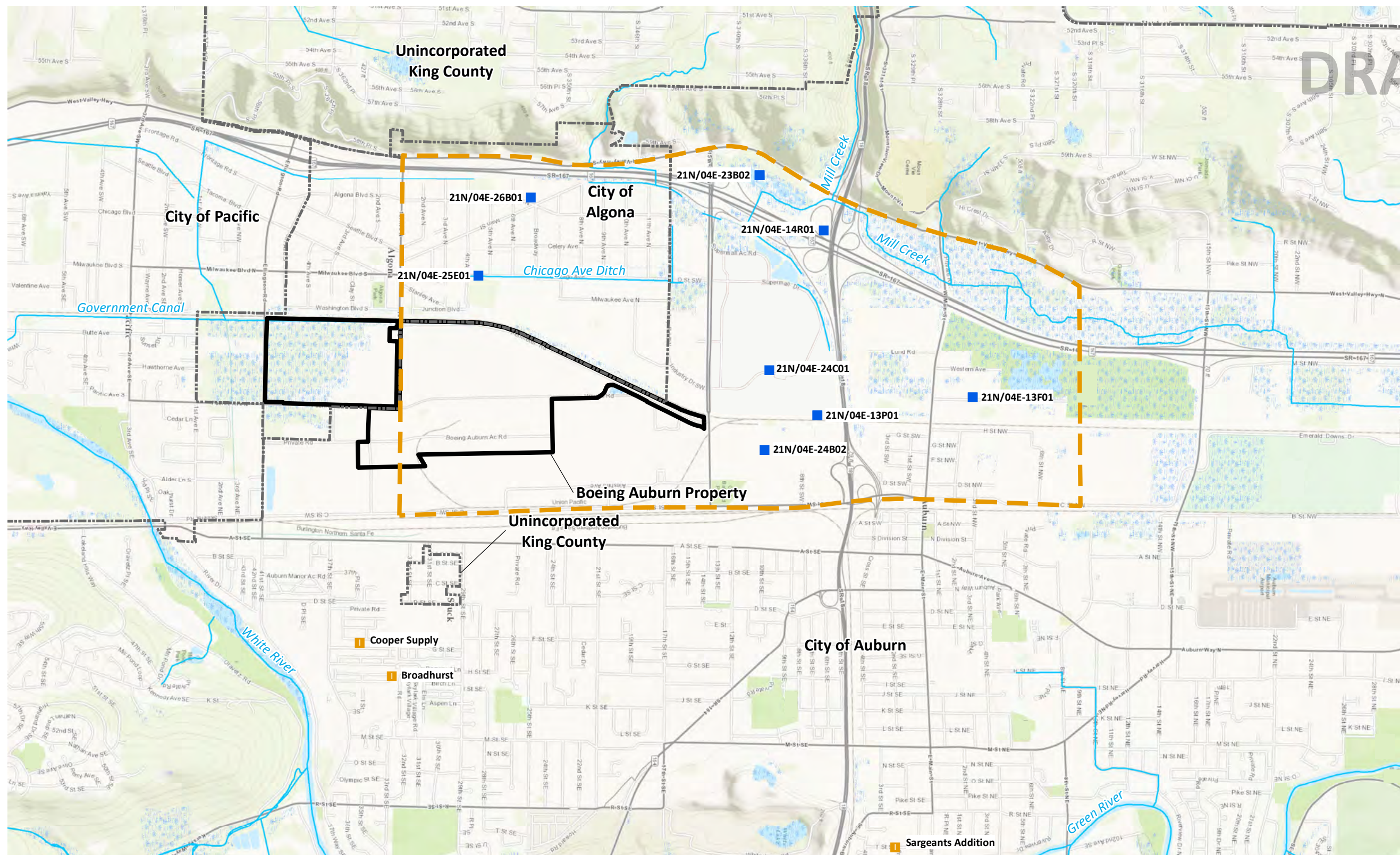


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**White River Gage Height and Vertical
Groundwater Gradients**

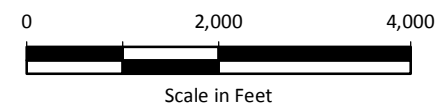
Figure
4-21

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- Legend**
- Possible Private Well
 - Active Group B Well
 - Inactive Group B Well
 - ⌈ Private Well Study Area
 - ▬ Boeing Property
 - City Limits
 - Waterways
 - Water Bodies
 - Wetland Areas

- Notes**
1. Locations of wells are based on TSR data and should be considered approximate.
 2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



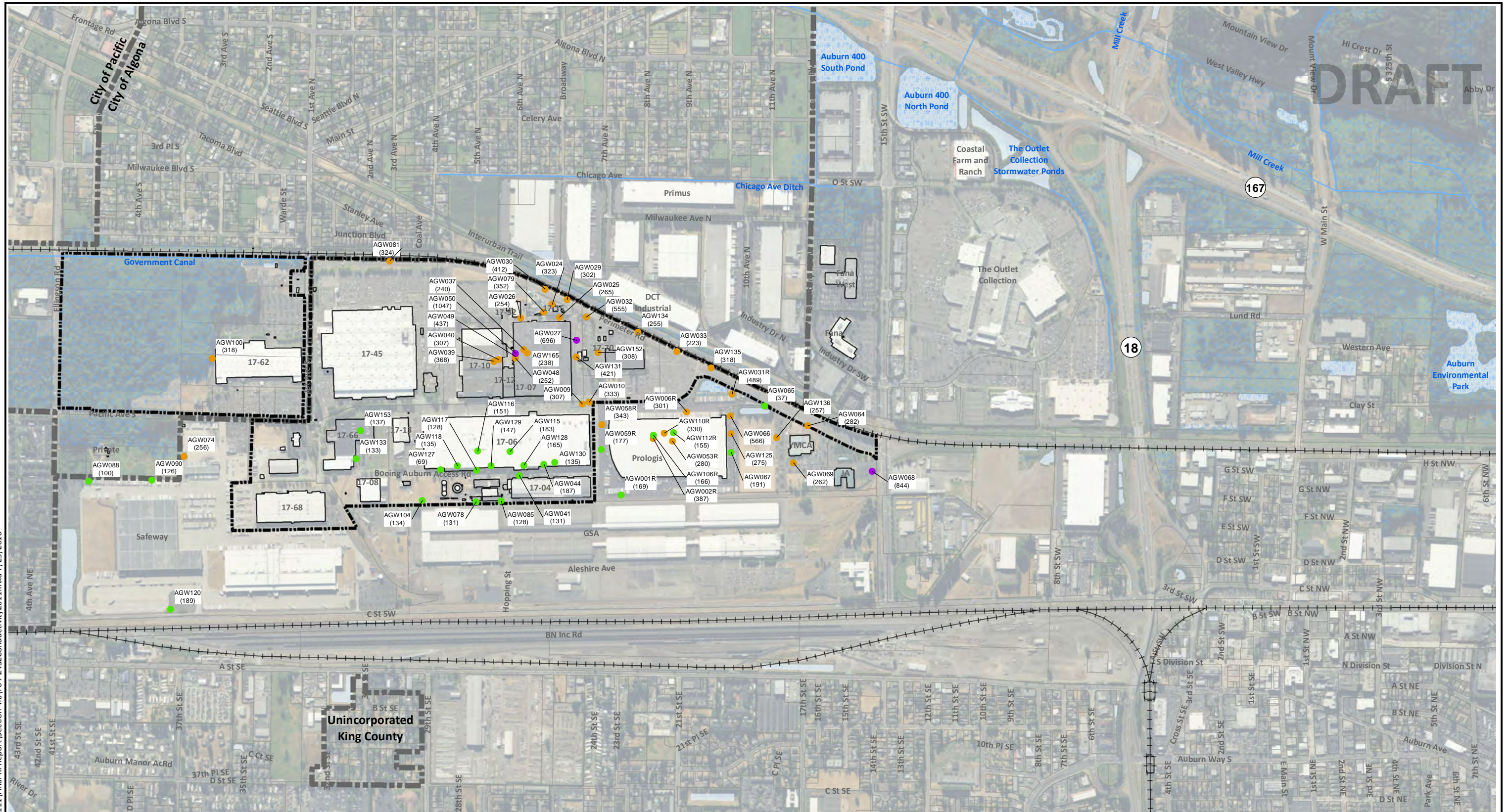
Data Sources: WSDH, Division of Environmental Health, Office of Drinking Water; King County GIS; Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Group B and Private Well Locations	Figure 4-23
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Notes

1. Conductivity results are shown in micro Siemens per centimeter ($\mu\text{S}/\text{cm}$).
2. Well designations ending in (I) indicate intermediate zone wells, those ending in (D) indicate deep zone wells.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Conductivity Result $>600 \mu\text{S}/\text{cm}$
- Conductivity Result $200-600 \mu\text{S}/\text{cm}$
- Conductivity Result $0-200 \mu\text{S}/\text{cm}$
- Boeing Property
- City Limits

0 1,000 2,000



Scale in Feet

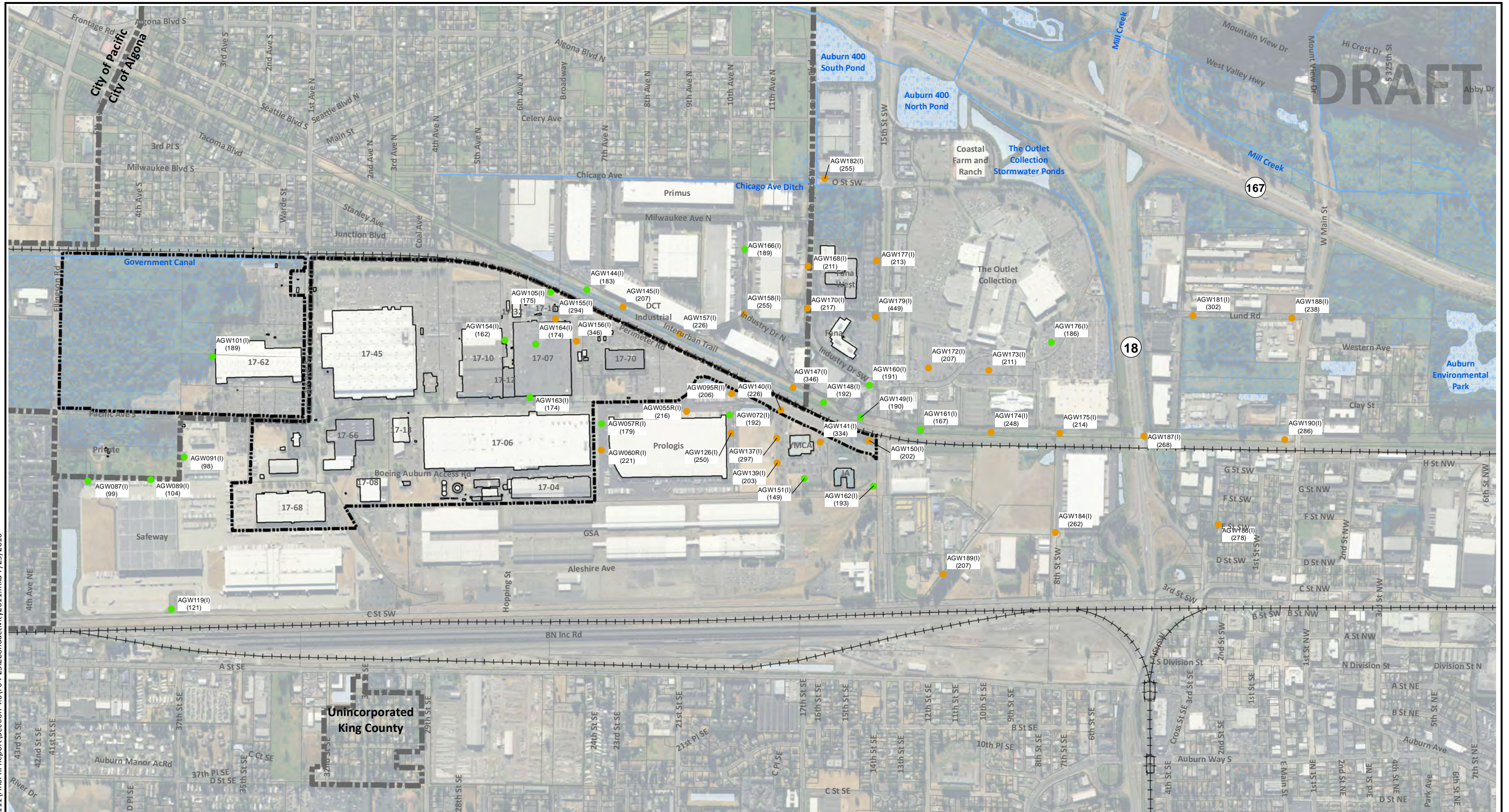
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

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Remedial Investigation
Auburn, Washington

Shallow Zone
Conductivity June 2011

Figure
4-24

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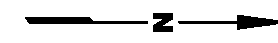
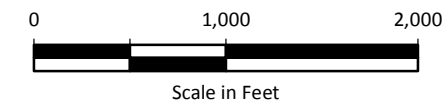
DRAFT

Notes

1. Conductivity results are shown in micro Siemens per centimeter ($\mu\text{S}/\text{cm}$).
2. Well designations ending in (I) indicate intermediate zone wells, those ending in (D) indicate deep zone wells.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Conductivity Result > 600 $\mu\text{S}/\text{cm}$
- Conductivity Result 200-600 $\mu\text{S}/\text{cm}$
- Conductivity Result 0-200 $\mu\text{S}/\text{cm}$
- Boeing Property
- City Limits



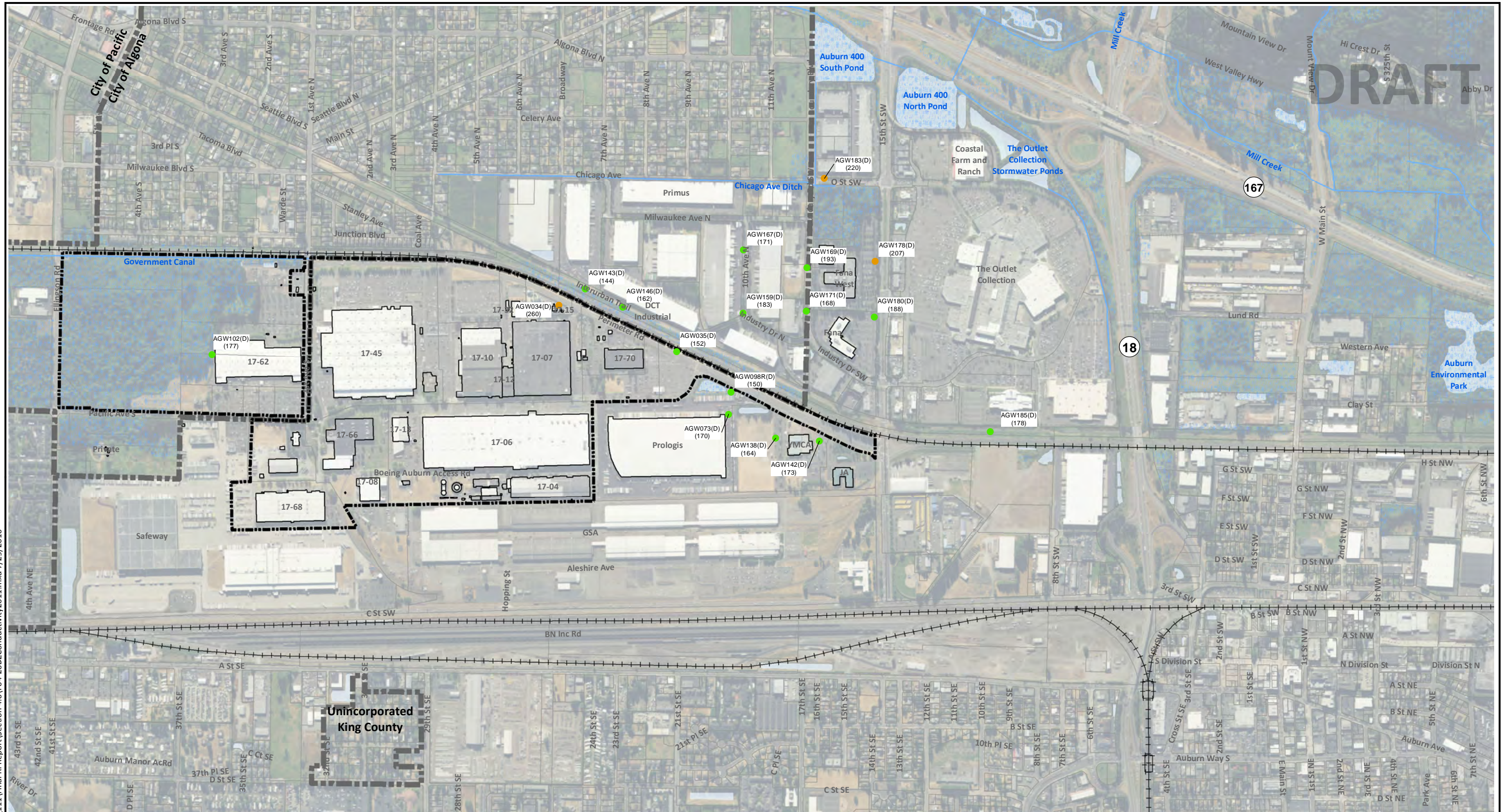
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

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Remedial Investigation
Auburn, Washington

Intermediate Zone
Conductivity June 2011

Figure
4-25

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DRAFT

Notes

1. Conductivity results are shown in micro Siemens per centimeter ($\mu\text{S}/\text{cm}$).
2. Well designations ending in (I) indicate intermediate zone wells, those ending in (D) indicate deep zone wells.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

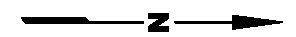
Legend

- Conductivity Result > 600 $\mu\text{S}/\text{cm}$
- Conductivity Result 200-600 $\mu\text{S}/\text{cm}$
- Conductivity Result 0-200 $\mu\text{S}/\text{cm}$
- Boeing Property
- City Limits

0 1,000 2,000



Scale in Feet

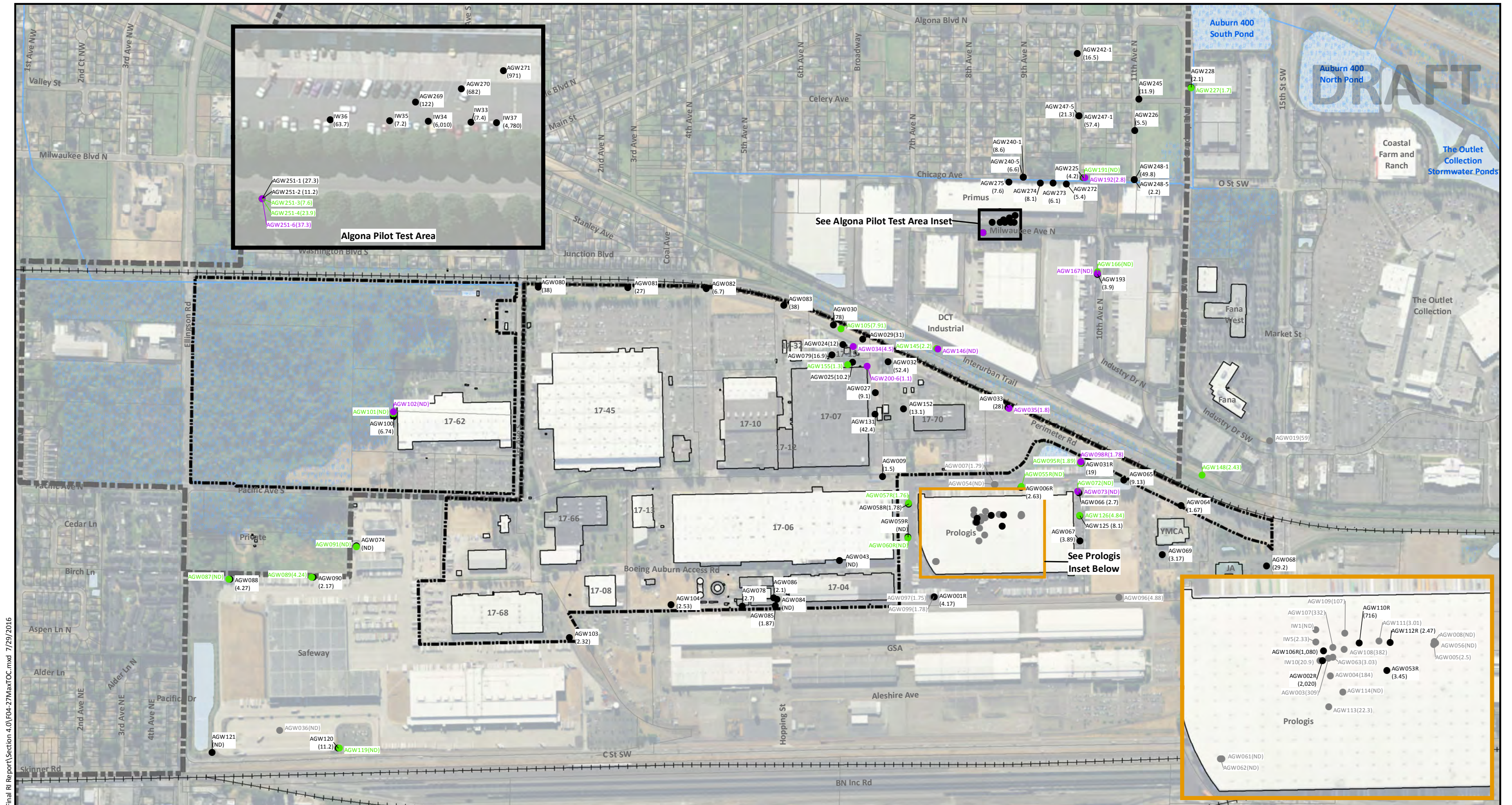


Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

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Remedial Investigation
Auburn, Washington

Deep Zone
Conductivity June 2011

Figure
4-26

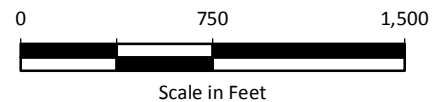


Notes

1. Maximum total organic carbon (TOC) concentrations for all wells sampled for this constituent.
2. All concentrations shown in mg/L.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Shallow Zone Well - Active
- Intermediate Zone Well - Active
- Deep Zone Well - Active
- Decommissioned Well
- Wetland Areas
- Water Bodies
- Waterways



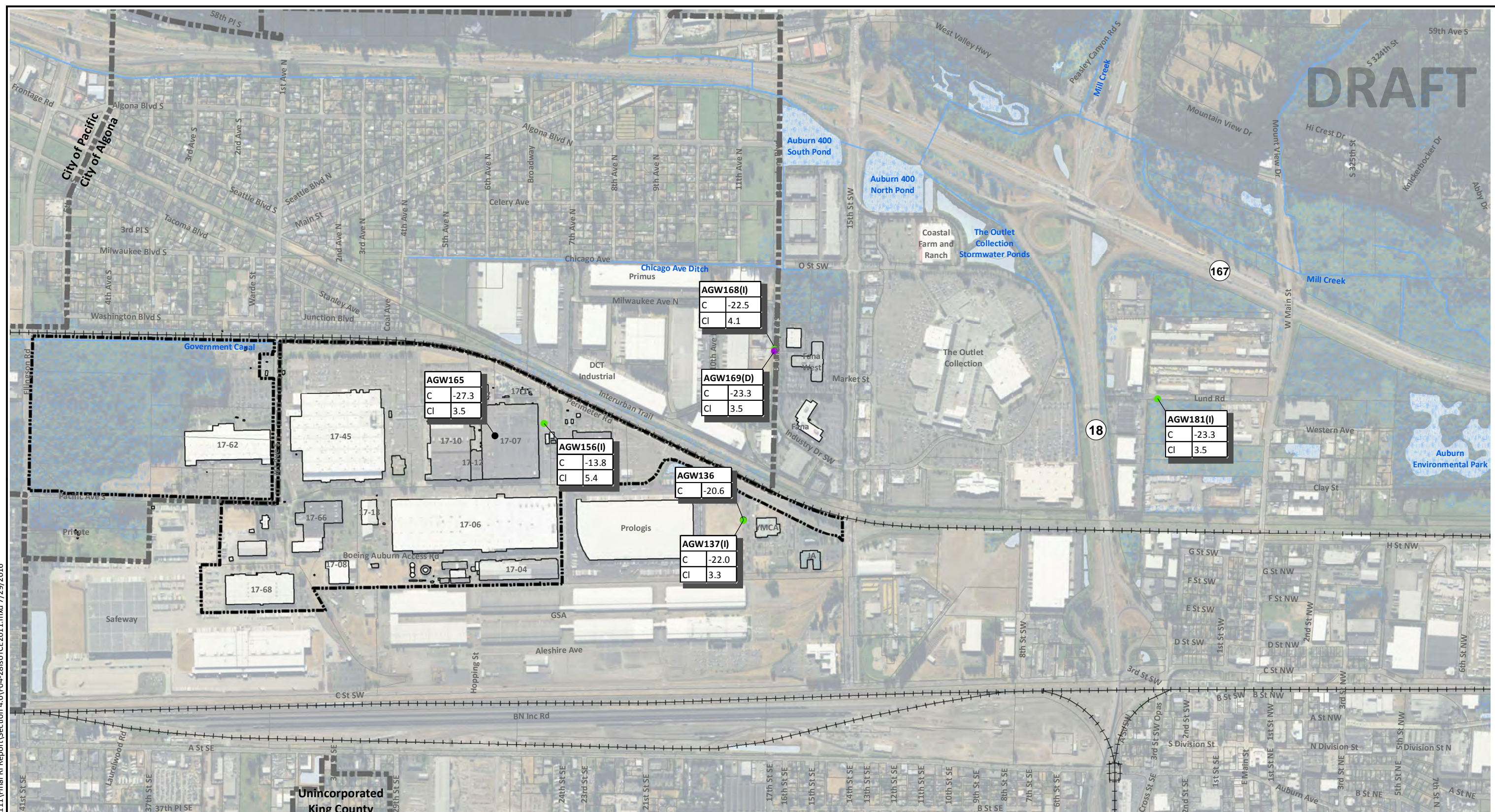
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn
Remedial Investigation
Auburn, Washington

**Maximum Total Organic Carbon
Concentrations**

Figure
4-27

DRAFT

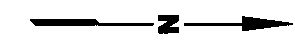
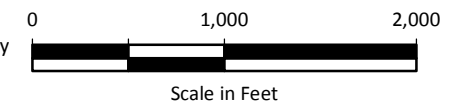


Notes

1. All chlorine data references SMOC (Standard Mean Ocean Chloride). All carbon data references VPDB (Vienna Pee Dee Belemnite.)
2. Chlorine Units: $\delta^{37}\text{Cl}/35\text{Cl} \text{‰} = \frac{((37\text{Cl}/35\text{Cl})_{\text{sample}} - (37\text{Cl}/35\text{Cl})_{\text{SMOC}})}{(37\text{Cl}/35\text{Cl})_{\text{SMOC}}} * 1000$.
Carbon Units: $\delta^{13}\text{C} \text{‰} = \frac{((13\text{C}/12\text{C})_{\text{sample}} - (13\text{C}/12\text{C})_{\text{VPDB}})}{(13\text{C}/12\text{C})_{\text{VPDB}}} * 1000$.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Compound Specific Carbon and Chlorine Isotopes for TCE
- Shallow Zone
 - Intermediate Zone
 - Deep Zone
- Boeing Property
 - - - City Limits



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

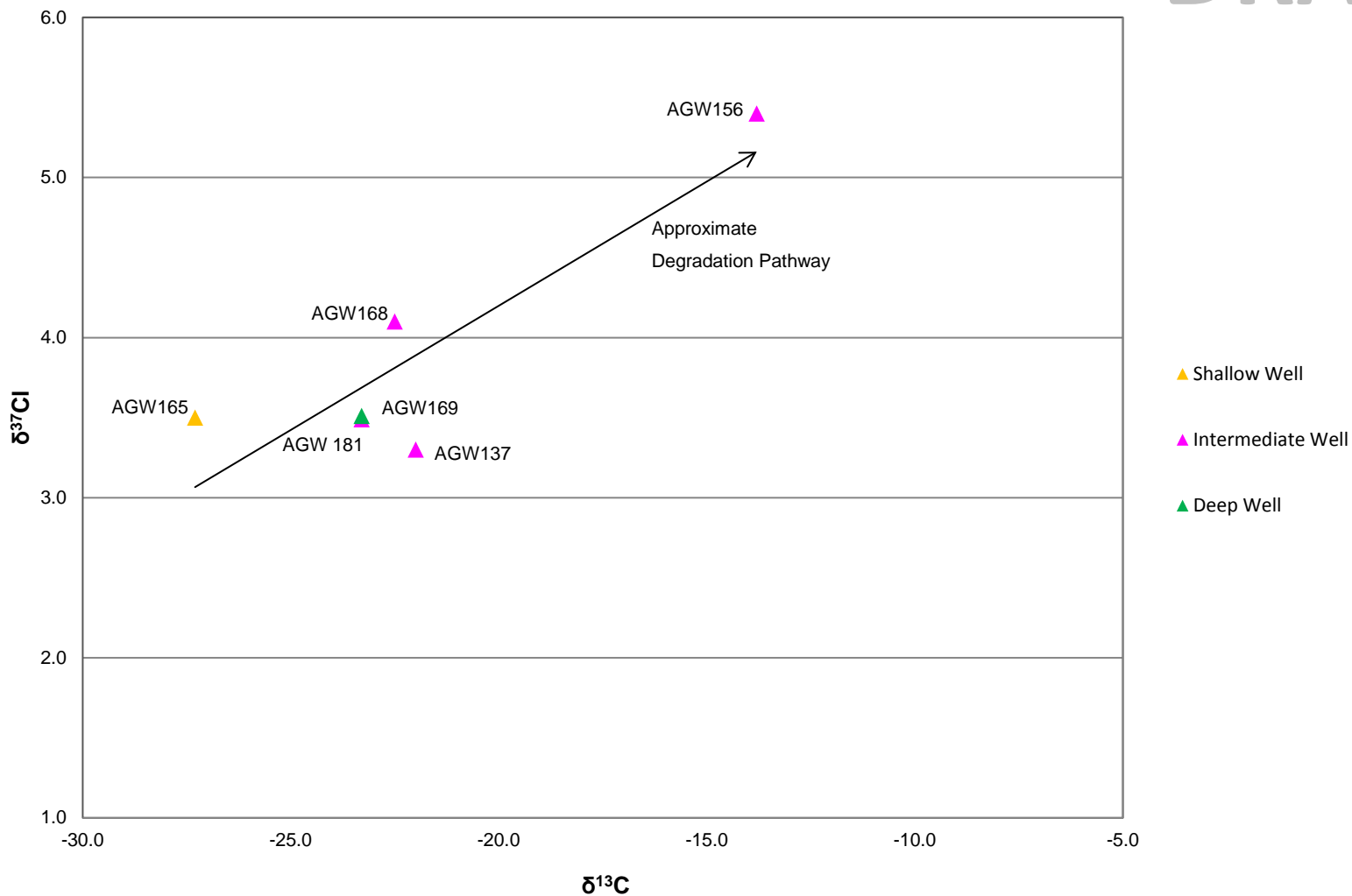
Boeing Auburn
Remedial Investigation
Auburn, Washington

**Compound Specific Carbon and
Chlorine Isotopes for TCE**
June 2011

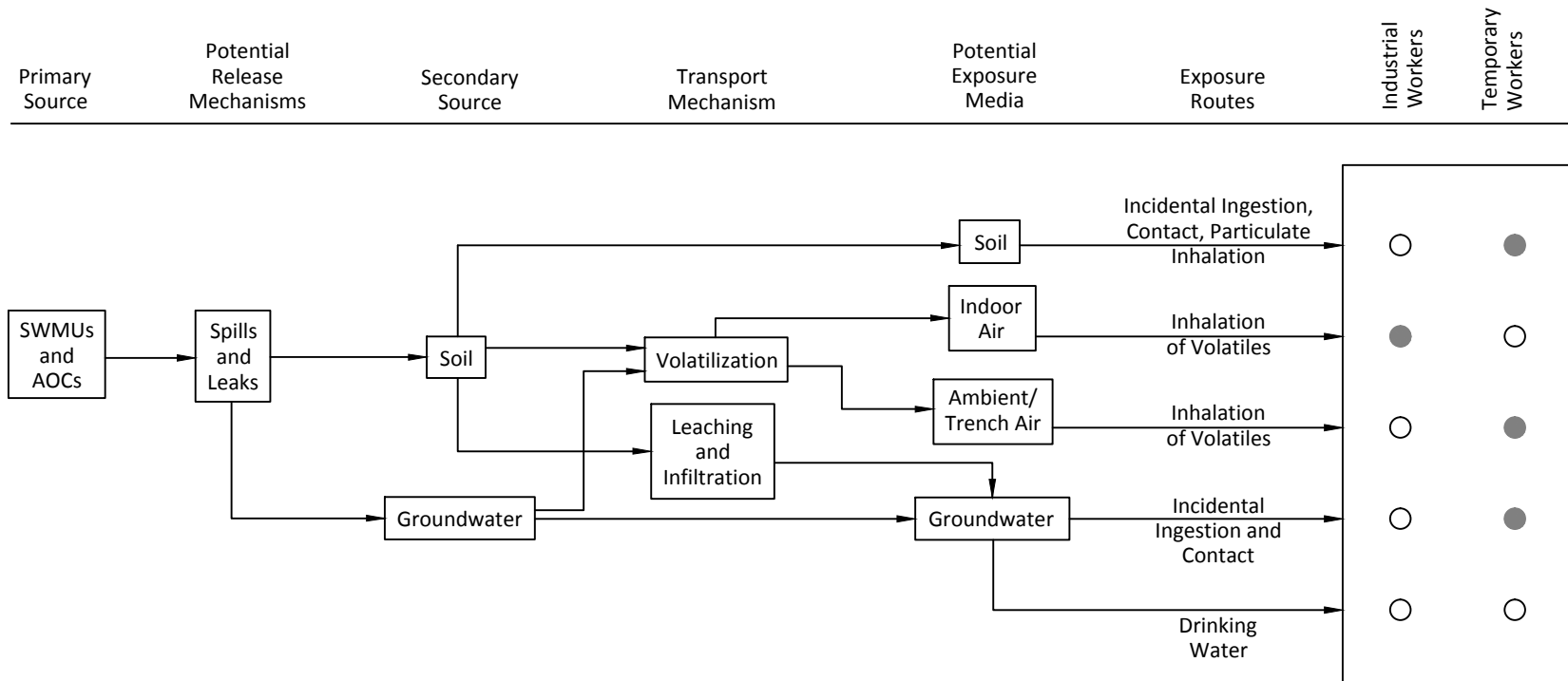
Figure
4-28

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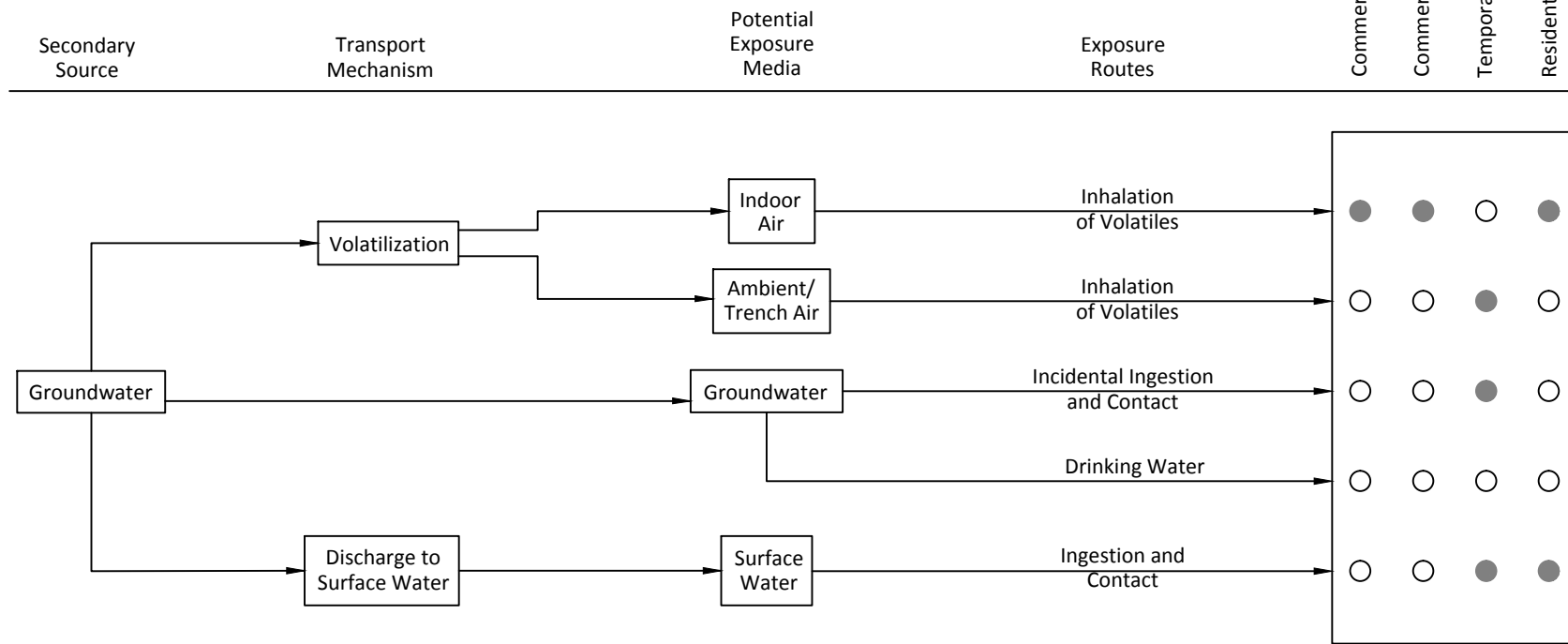
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Legend

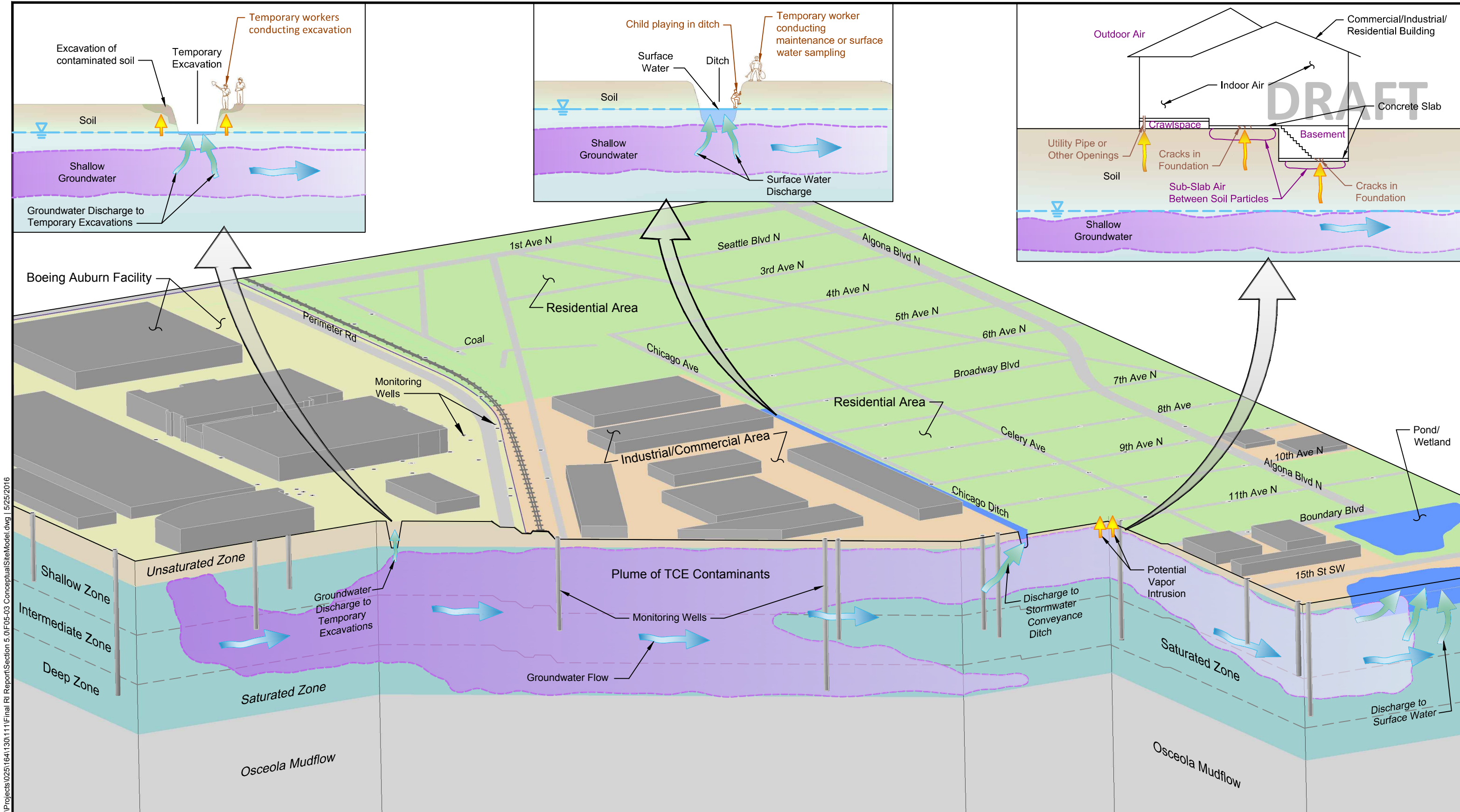
- Potentially complete exposure pathway
- Incomplete exposure pathway
- Complete exposure pathway

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Legend

- Potentially complete exposure pathway
- Incomplete exposure pathway
- Complete exposure pathway



- Legend**
- Groundwater Flow
 - Surface Water Discharge
 - Potential Vapor Intrusion

Not to scale

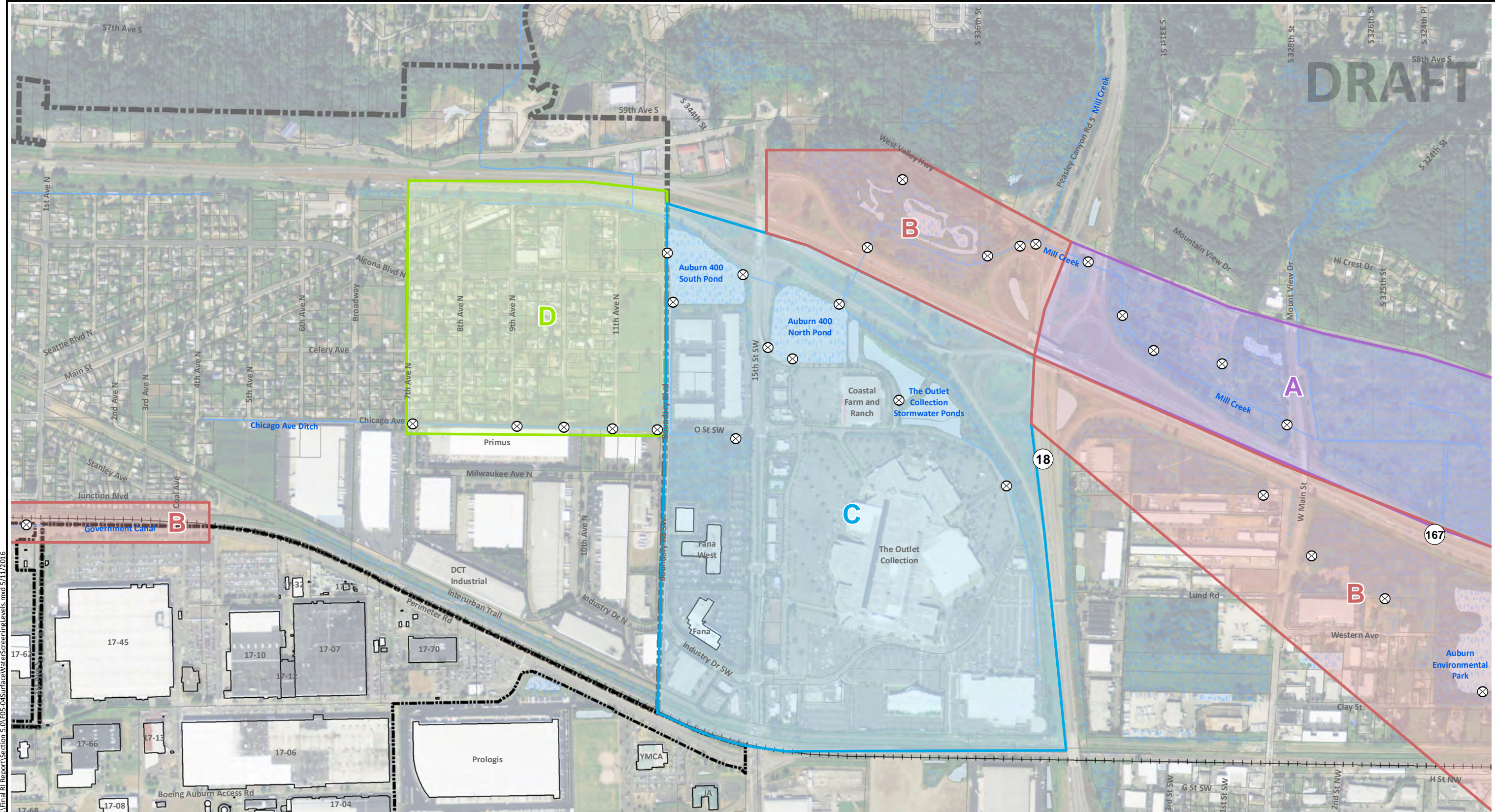
Boeing Auburn
Remedial Investigation
Auburn, Washington

**Site-Wide Conceptual
Site Model**

Figure
5-3

Landau Associates | C:\Projects\025164130\11\Final RI Report\Section 5.0\F05-03 ConceptualSiteModel.dwg | 5/25/2016

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- Legend**
- ⊗ Surface Water Sample
 - Wetland Areas
 - Open Waterways
 - Piped Waterways
 - City Limits
 - Area A
 - Area B
 - Area C
 - Area D

	Screening Levels (µg/L)		
	TCE	VC	cis-1,2-DCE
Area A	0.6	0.022	16
Area B	7.0	1.6	N/A
Area C	58	98	N/A
Area D	58	15	N/A

- Notes**
- The locations of surface water features are approximate.
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.





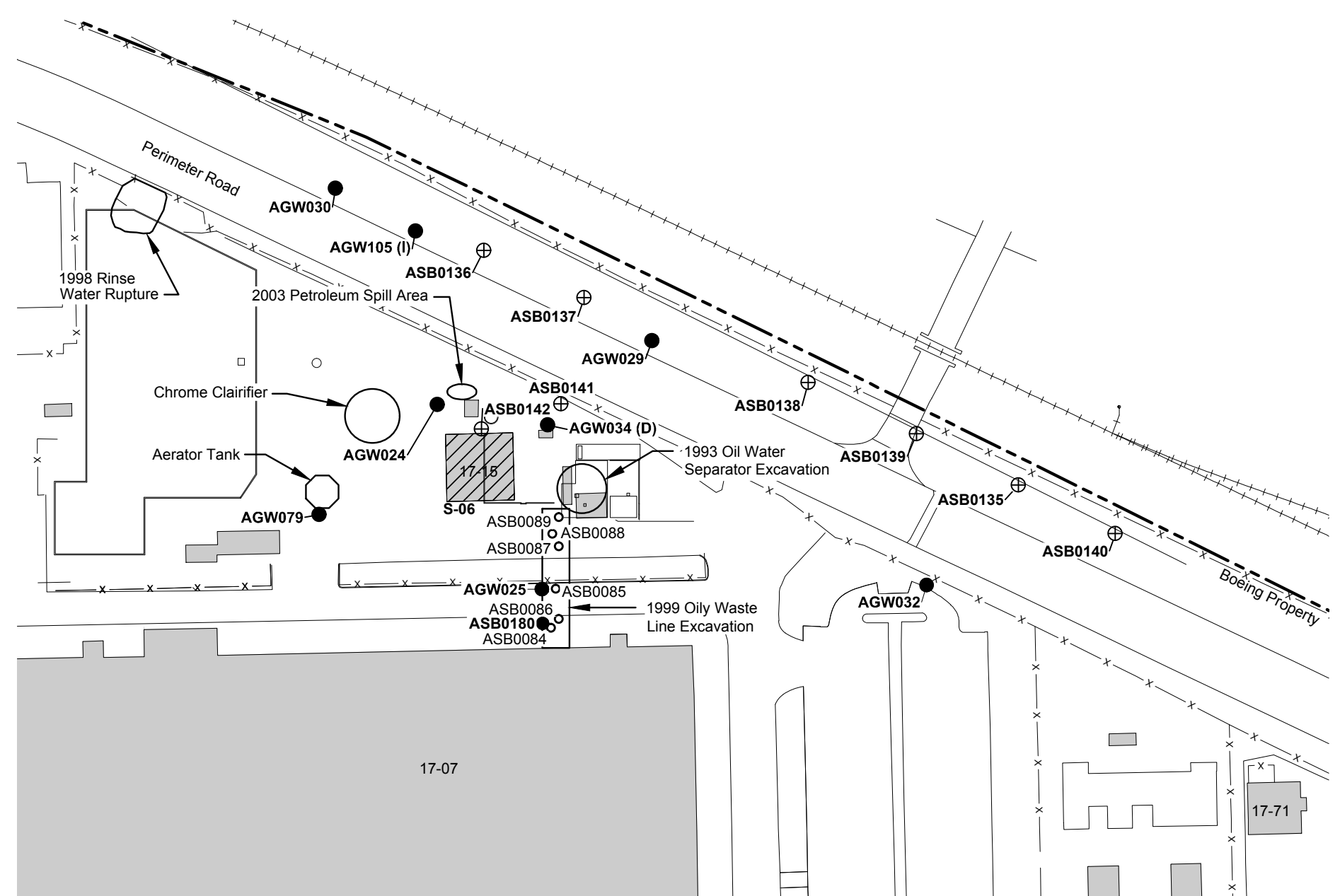
Base Map Source: Geomatrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Surface Water Screening Levels	Figure 5-4
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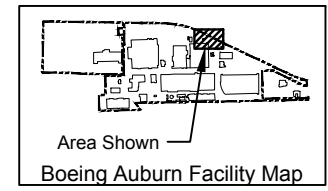
DRAFT

Legend

- AGW016 ● Monitoring Well Location and Designation
- ASB0149 ⊕ Soil Boring Location and Designation
- ASB0089 ○ Pre-RI Sample Boring Location and Designation (Locations are Approximate)
-  S-126 Solid Waste Management Unit (SWMU)
-  17-05 Current Building and Number
- - - Facility Boundary
- x - Fence



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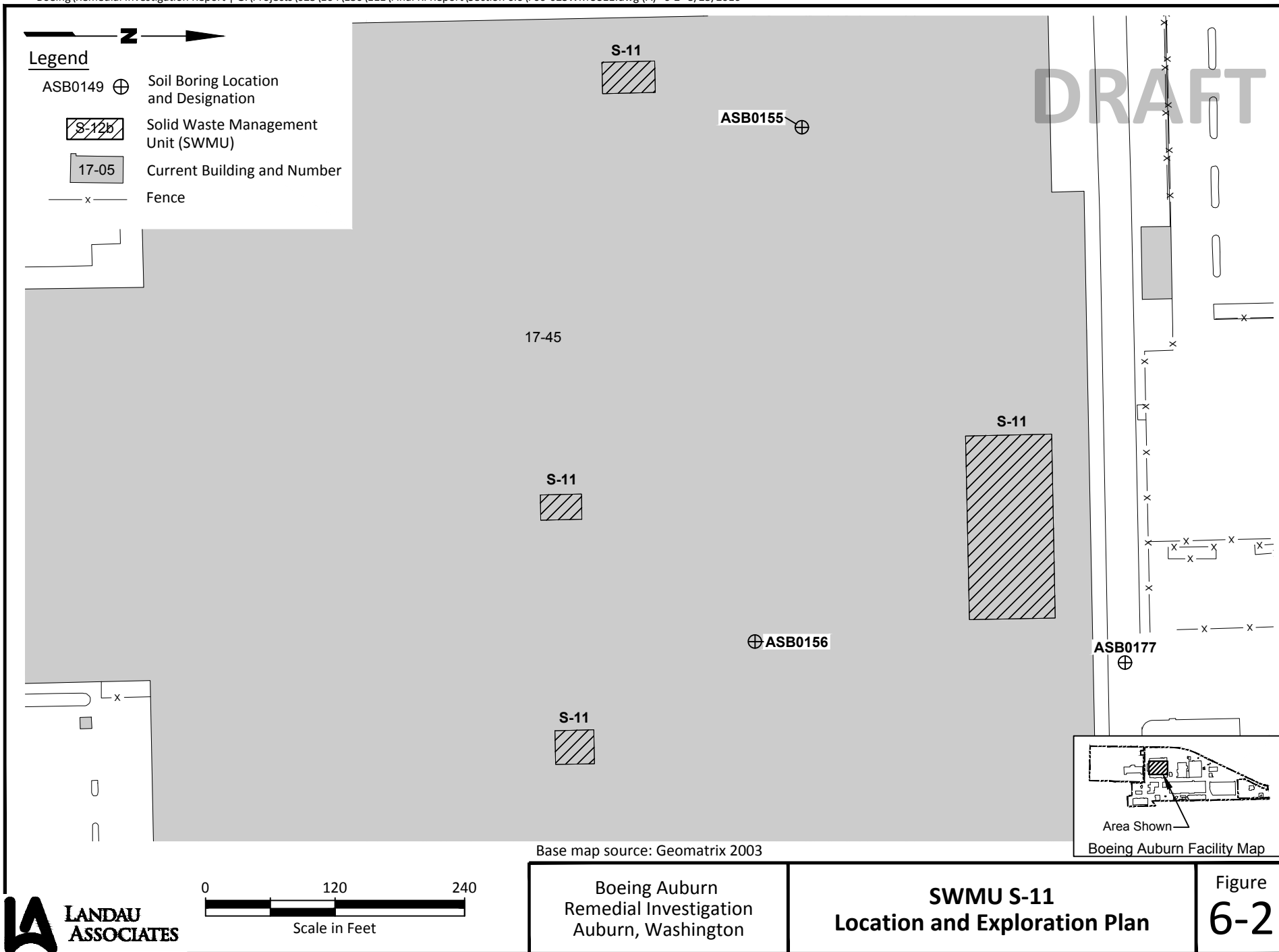


Base map source: Geomatrix 2003





Boeing Auburn Remedial Investigation Auburn, Washington	SWMU S-06 Location and Exploration Plan	Figure 6-1
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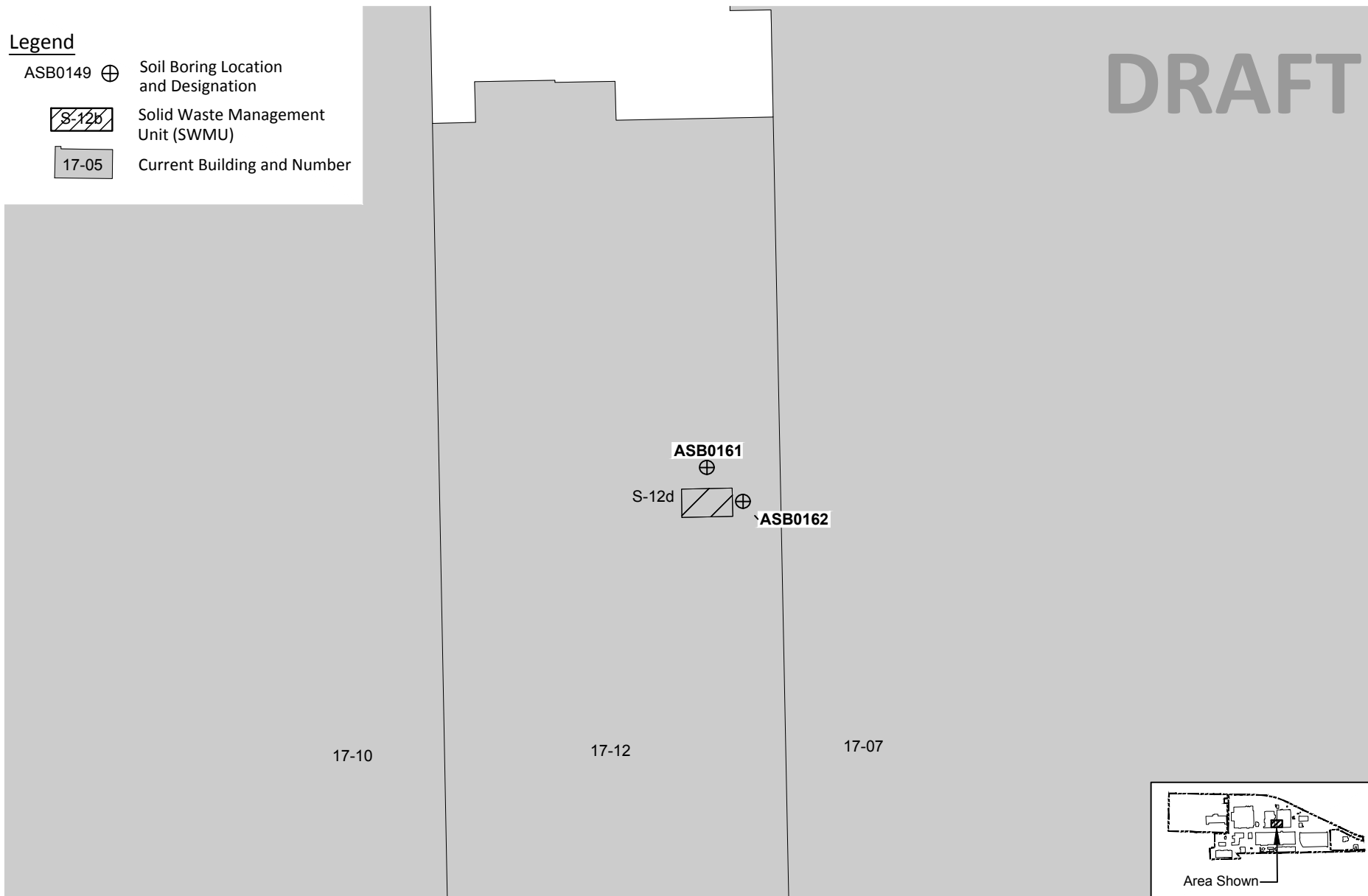




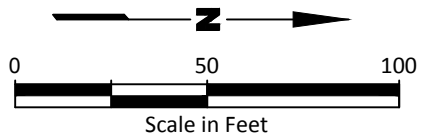
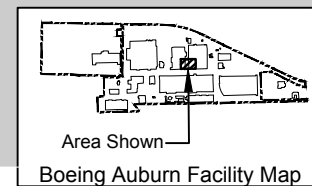
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Legend

- ASB0149 ⊕ Soil Boring Location and Designation
-  S-12b Solid Waste Management Unit (SWMU)
-  17-05 Current Building and Number



Base map source: Geomatrix 2003



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Auburn, Washington


SWMU S-12d
Location and Exploration Plan


Figure
6-3



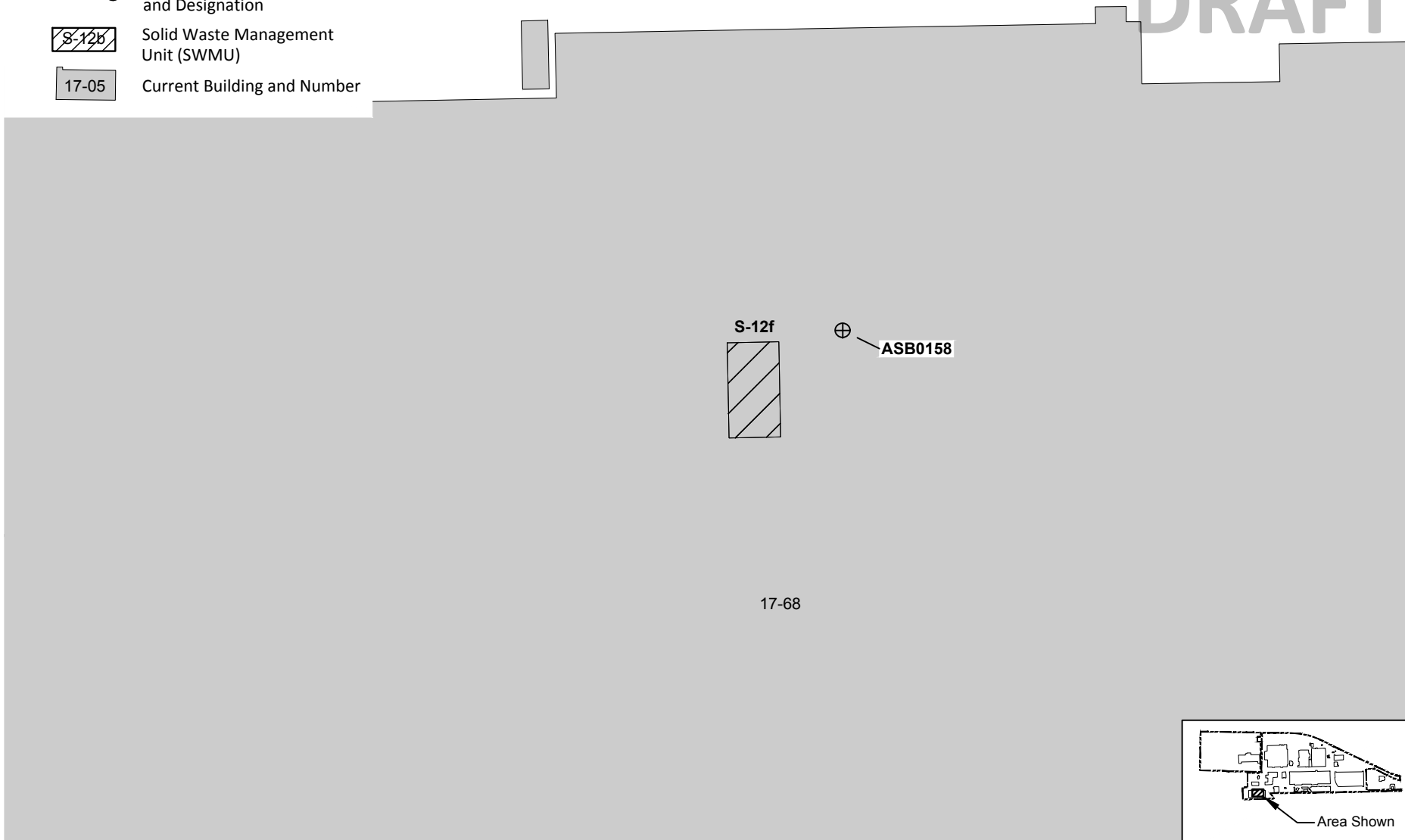
Legend

ASB0149 ⊕ Soil Boring Location and Designation

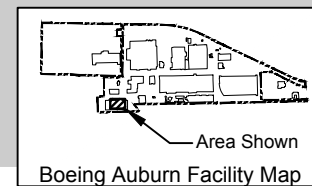
 S-12b Solid Waste Management Unit (SWMU)

 17-05 Current Building and Number

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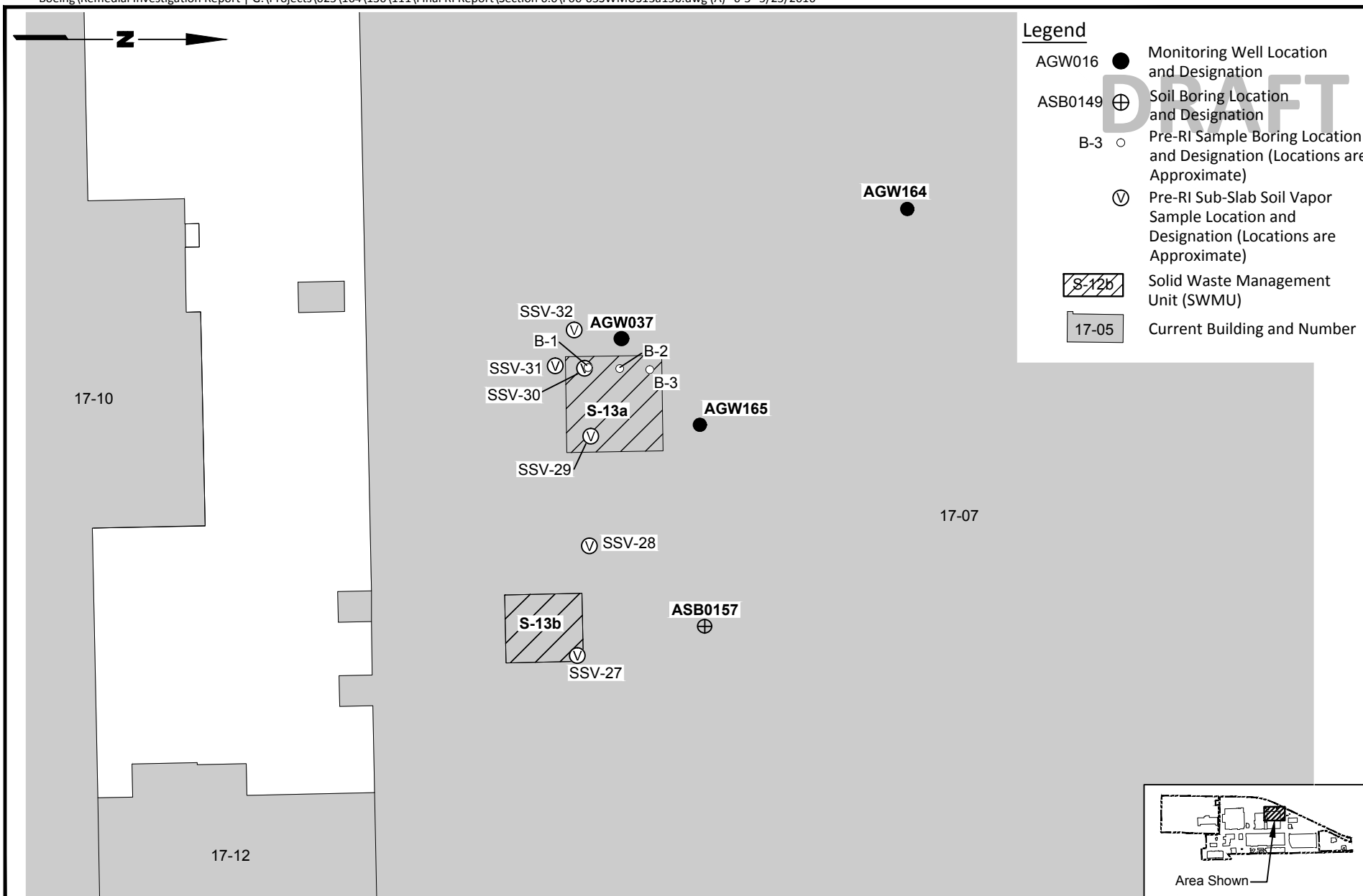
Base map source: Geomatrix 2003





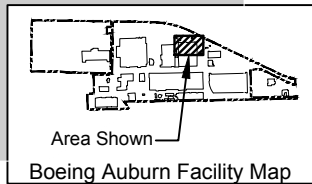
Boeing Auburn
Remedial Investigation
Auburn, Washington

**SWMU S-12f
Location and Exploration Plan**

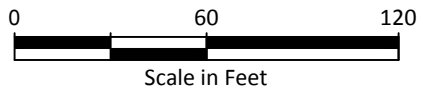
Figure
6-4



- Legend**
- AGW016 ● Monitoring Well Location and Designation
 - ASB0149 ⊕ Soil Boring Location and Designation
 - B-3 ○ Pre-RI Sample Boring Location and Designation (Locations are Approximate)
 - Ⓧ Pre-RI Sub-Slab Soil Vapor Sample Location and Designation (Locations are Approximate)
 -  S-12b Solid Waste Management Unit (SWMU)
 -  17-05 Current Building and Number



Base map source: Geomatrix 2003



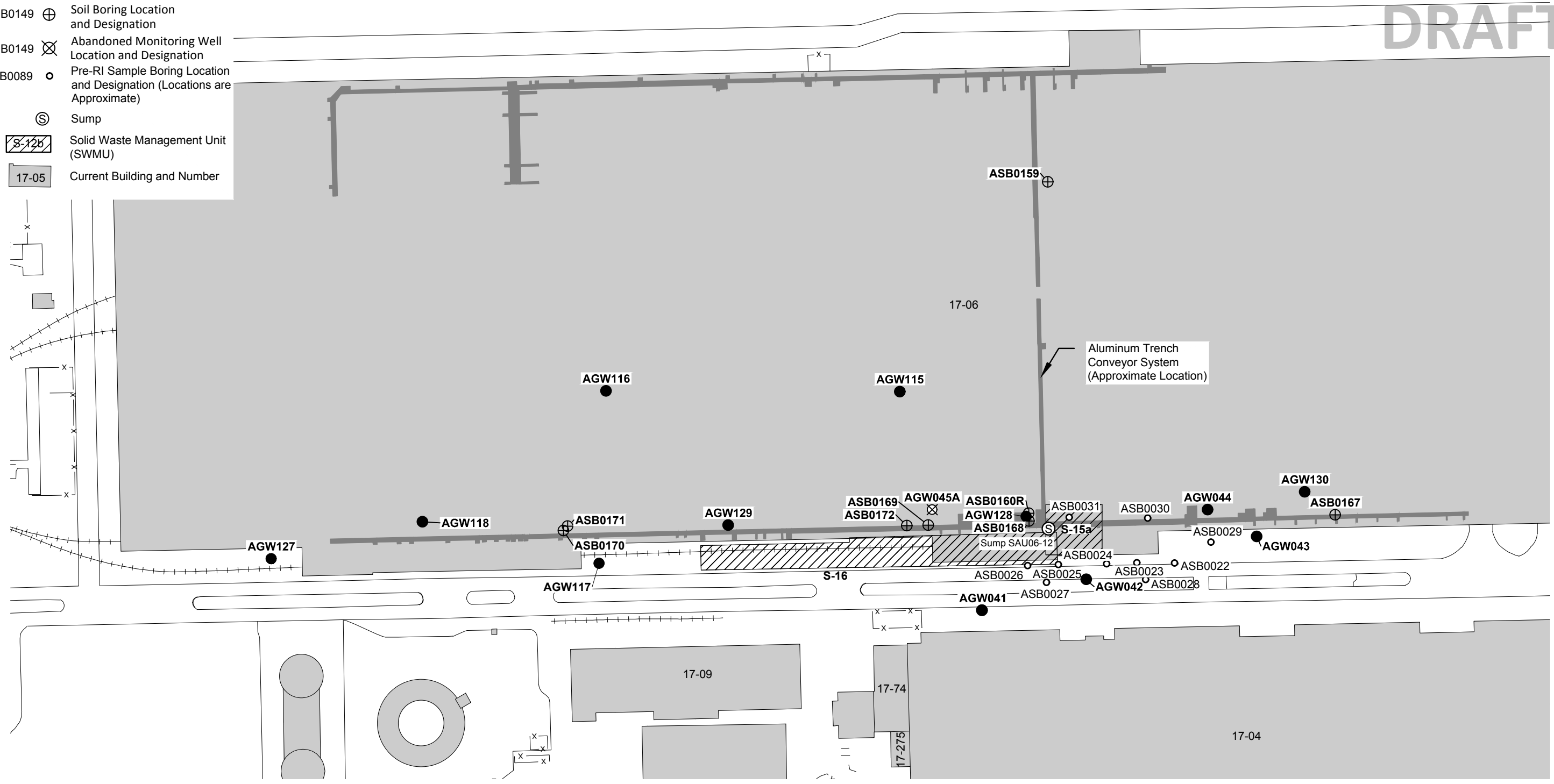
Boeing Auburn
Remedial Investigation
Auburn, Washington

**SWMU S-13a/13b
Location and Exploration Plan**

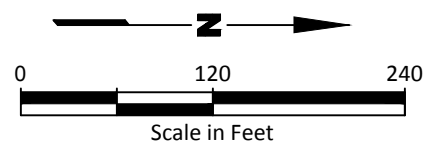
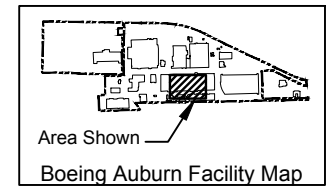
Figure
6-5

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- Legend**
- AGW016 ● Monitoring Well Location and Designation
 - ASB0149 ⊕ Soil Boring Location and Designation
 - ASB0149 ⊗ Abandoned Monitoring Well Location and Designation
 - ASB0089 ○ Pre-RI Sample Boring Location and Designation (Locations are Approximate)
 - Ⓢ Sump
 - ▨ S-12b Solid Waste Management Unit (SWMU)
 - 17-05 Current Building and Number



Boeing\Remedial Investigation Report | G:\Projects\025164\130\111\Final RI Report\Section 6.0\F06-06bSWMU1516.dwg (A) "Figure 6-6" 5/25/2016





Base map source: Geomatrix 2003



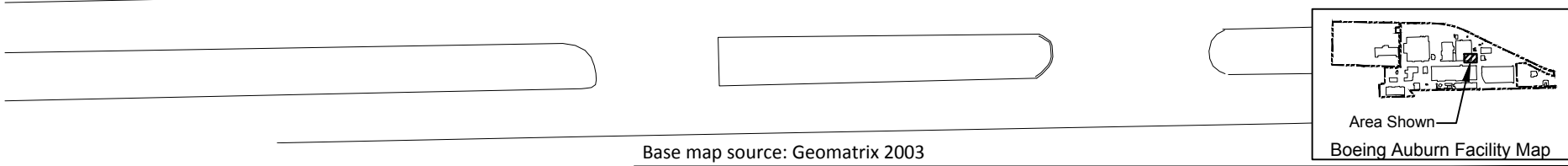
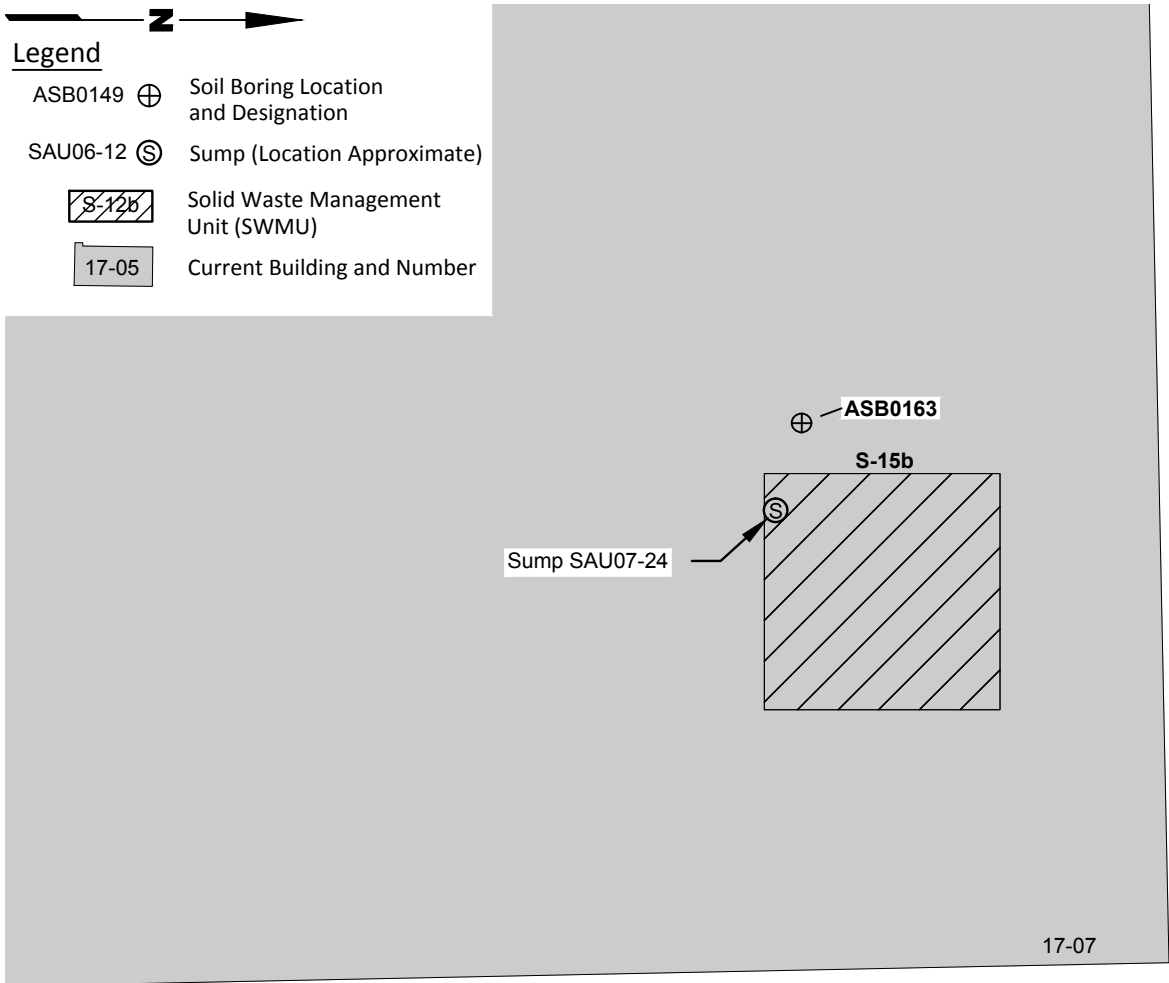
Boeing Auburn Remedial Investigation Auburn, Washington	SWMU S-15a/S-16 Location and Exploration Plan	Figure 6-6
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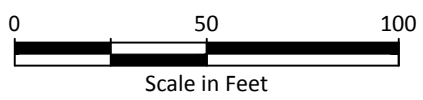
Legend

- ASB0149 ⊕ Soil Boring Location and Designation
- SAU06-12 ⊙ Sump (Location Approximate)
-  S-12b Solid Waste Management Unit (SWMU)
-  17-05 Current Building and Number

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Base map source: Geomatrix 2003





Boeing Auburn
Remedial Investigation
Auburn, Washington

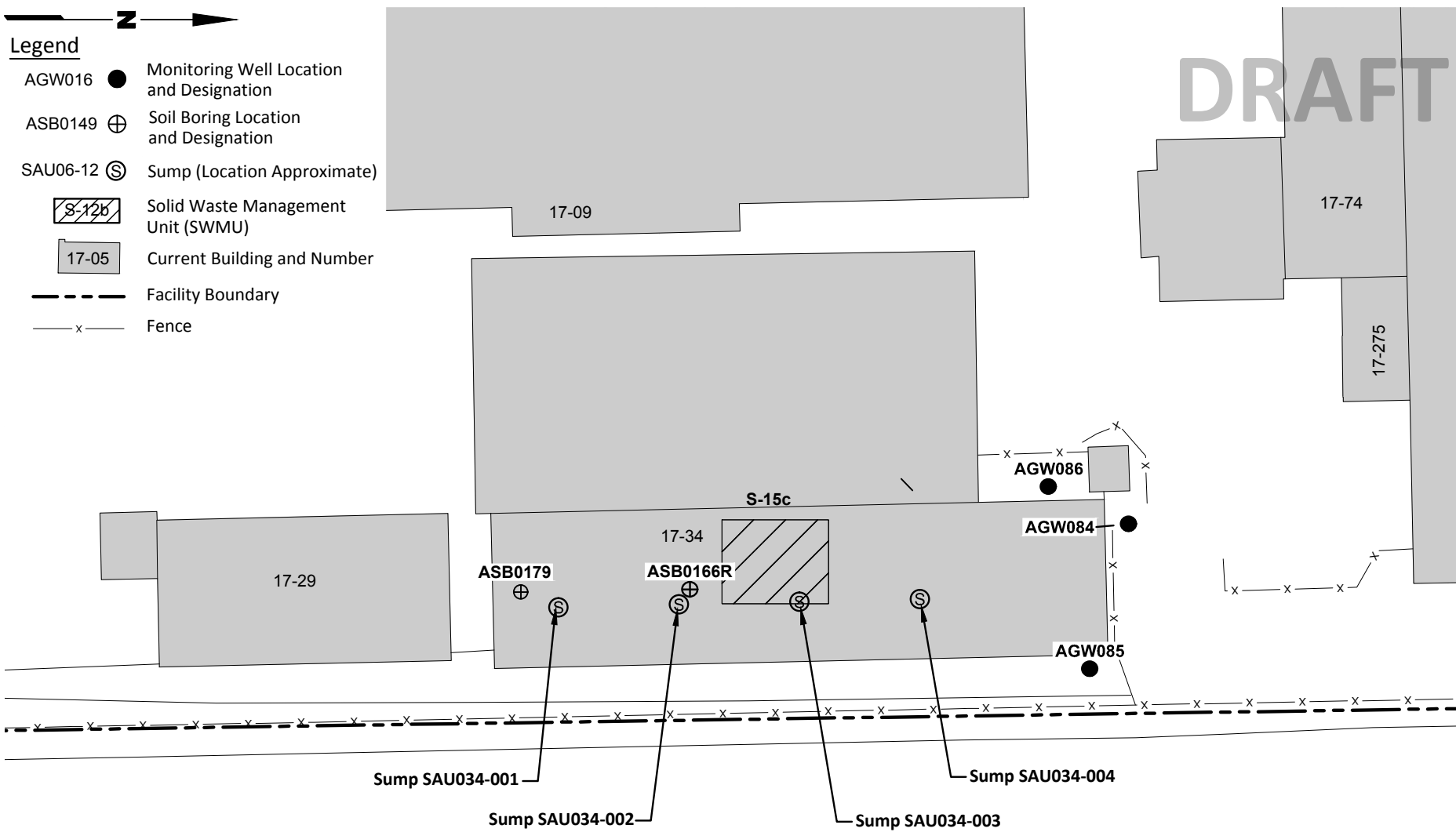
**SWMU S-15b
Location and Exploration Plan**

Figure
6-7



Legend

- AGW016 ● Monitoring Well Location and Designation
- ASB0149 ⊕ Soil Boring Location and Designation
- SAU06-12 ⊙ Sump (Location Approximate)
-  S-12b Solid Waste Management Unit (SWMU)
-  17-05 Current Building and Number
- Facility Boundary
- x— Fence

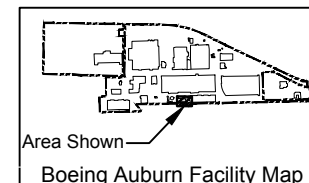


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Note

Based on results of explorations at SAU034-001 and SAU034-002, SAU034-003 and SAU034-004 were not investigated.



Base map source: Geomatrix 2003

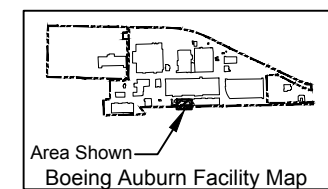
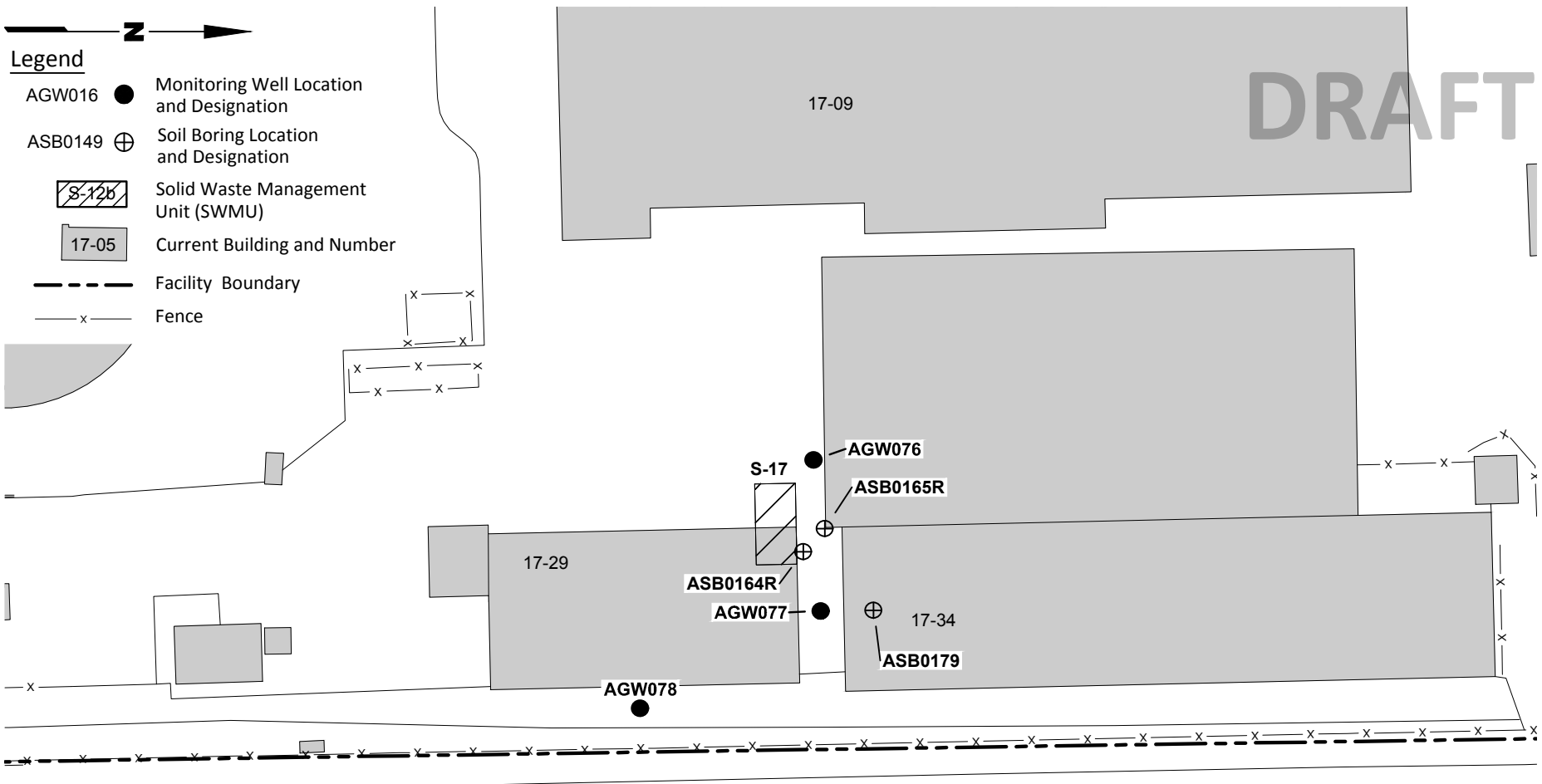


Boeing Auburn Remedial Investigation Auburn, Washington	SWMU S-15c Location and Exploration Plan	Figure 6-8
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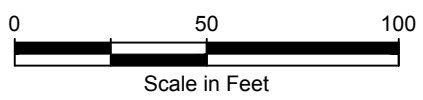


Legend

- AGW016 ● Monitoring Well Location and Designation
- ASB0149 ⊕ Soil Boring Location and Designation
-  S-12b Solid Waste Management Unit (SWMU)
-  17-05 Current Building and Number
- Facility Boundary
- x-x- Fence



Base map source: Geomatrix 2003



Boeing Auburn Remedial Investigation Auburn, Washington	SWMU S-17 Location and Exploration Plan	Figure 6-9
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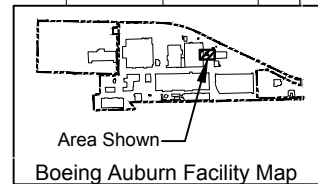
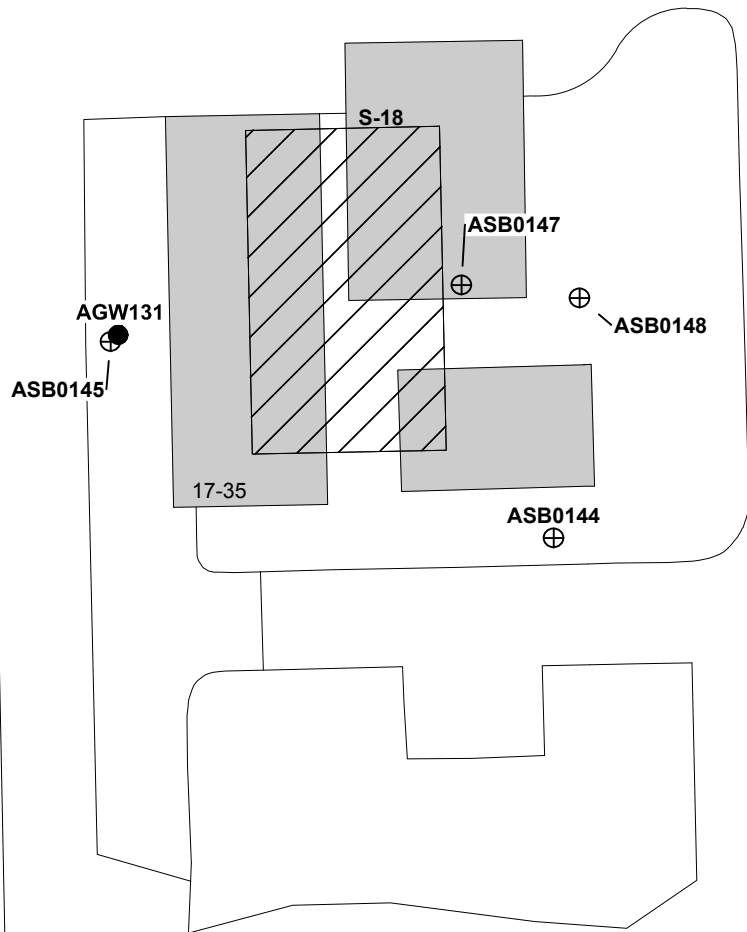
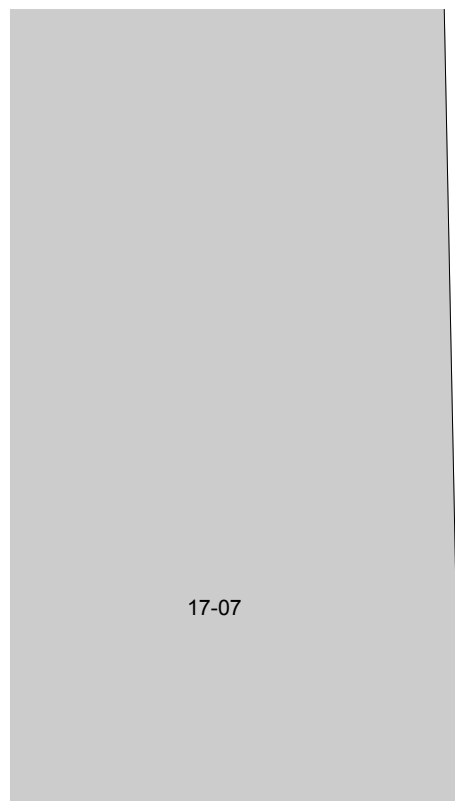




Legend

- ASB0149 ⊕ Soil Boring Location and Designation
- S-12b Solid Waste Management Unit (SWMU)
- 17-05 Current Building and Number

DRAFT



Base map source: Geomatrix 2003



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SWMU S-18
Location and Exploration Plan

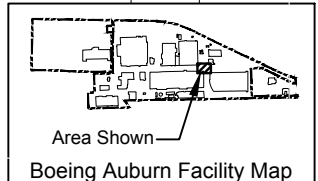
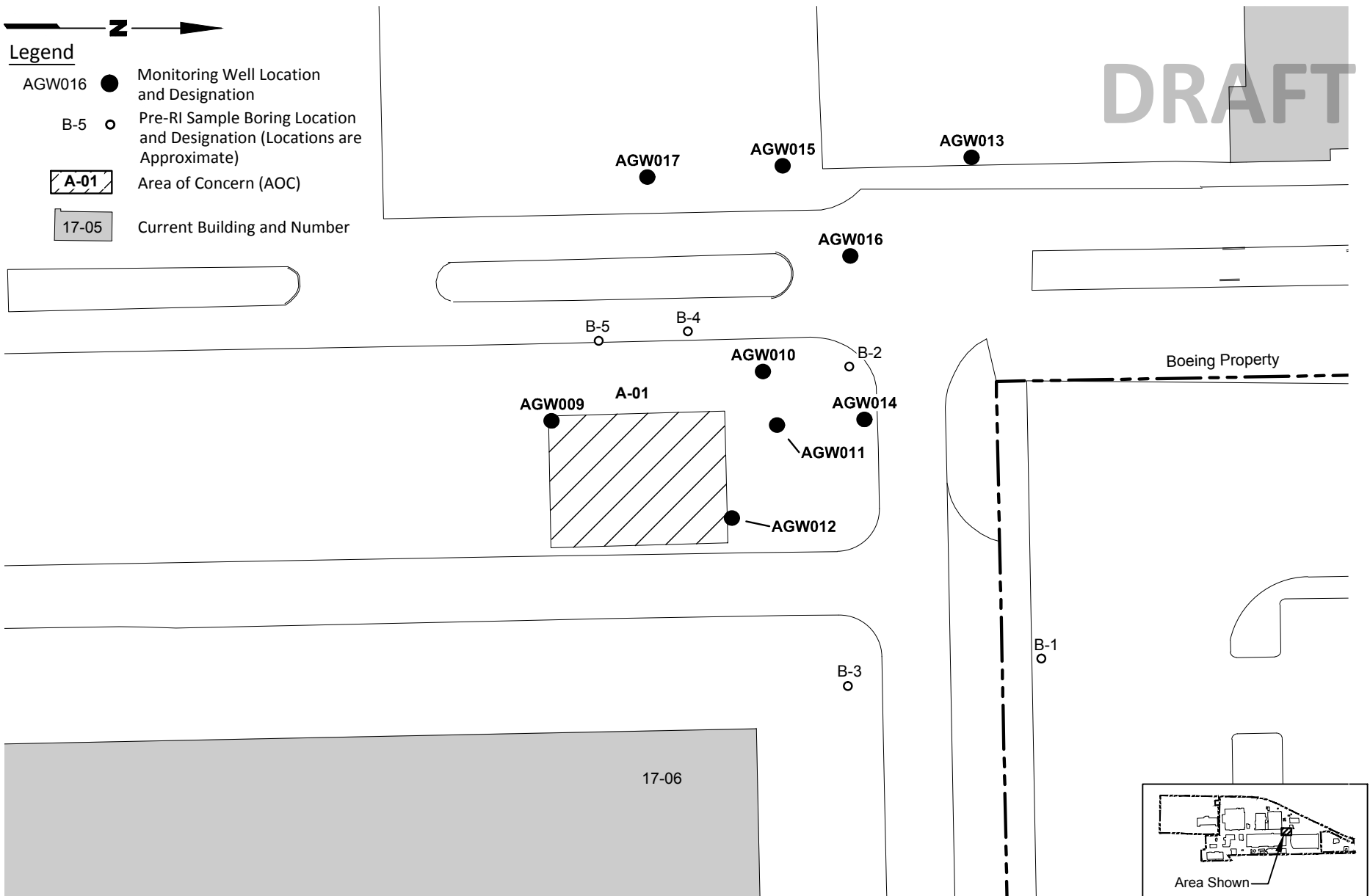
Figure
6-10



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Legend

- AGW016 ● Monitoring Well Location and Designation
- B-5 ○ Pre-RI Sample Boring Location and Designation (Locations are Approximate)
- A-01** Area of Concern (AOC)
- 17-05 Current Building and Number



Base map source: Geomatrix 2003

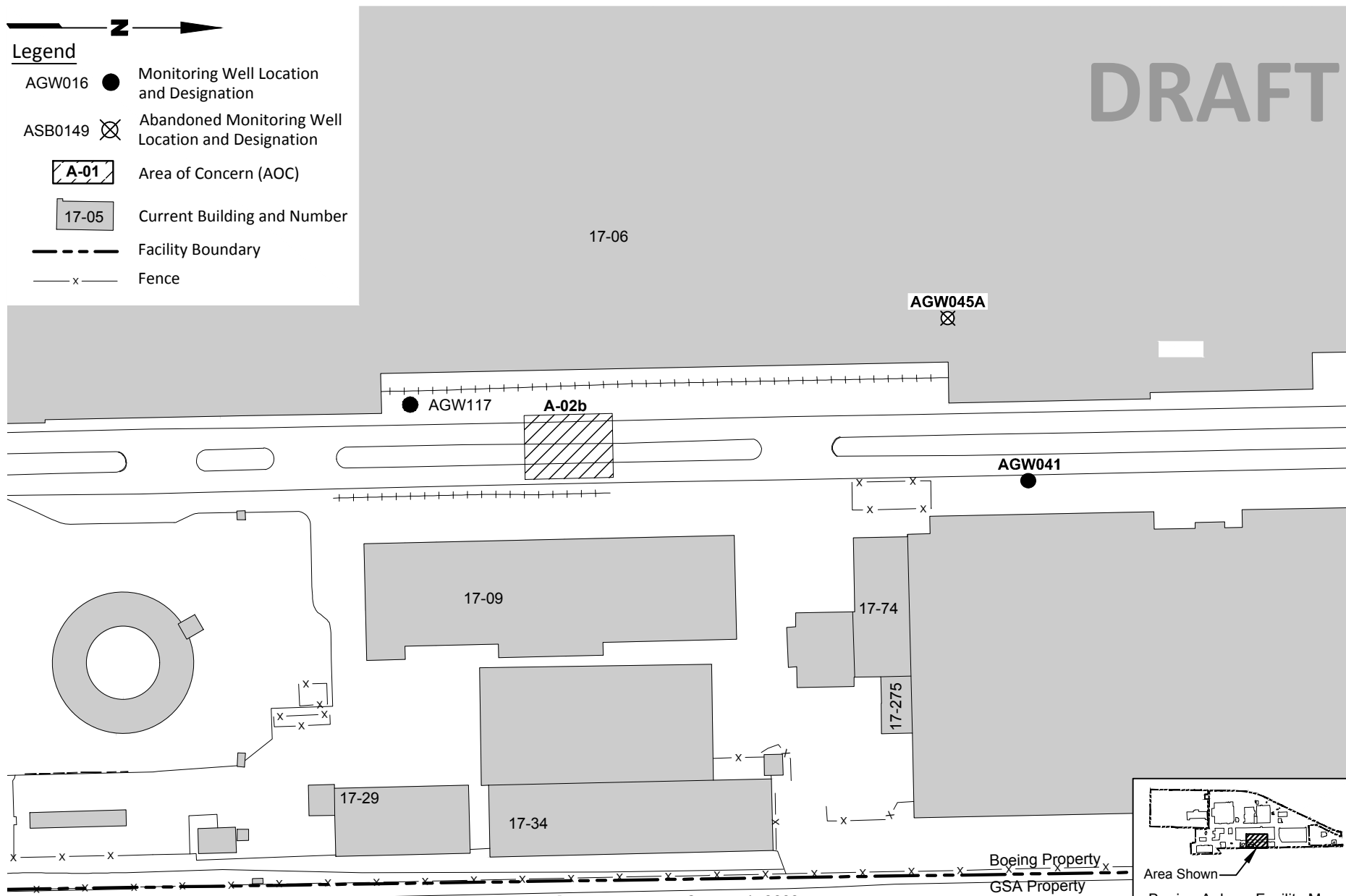


<p>Boeing Auburn Remedial Investigation Auburn, Washington</p>	<p>AOC A-01 Location and Exploration Plan</p>	<p>Figure 6-12</p>
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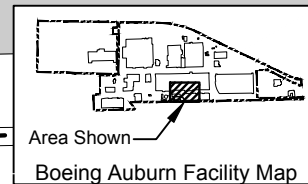
DRAFT

Legend

- AGW016 ● Monitoring Well Location and Designation
- ASB0149 ⊗ Abandoned Monitoring Well Location and Designation
- A-01 Area of Concern (AOC)
- 17-05 Current Building and Number
- Facility Boundary
- x — Fence



Base map source: Geomatrix 2003

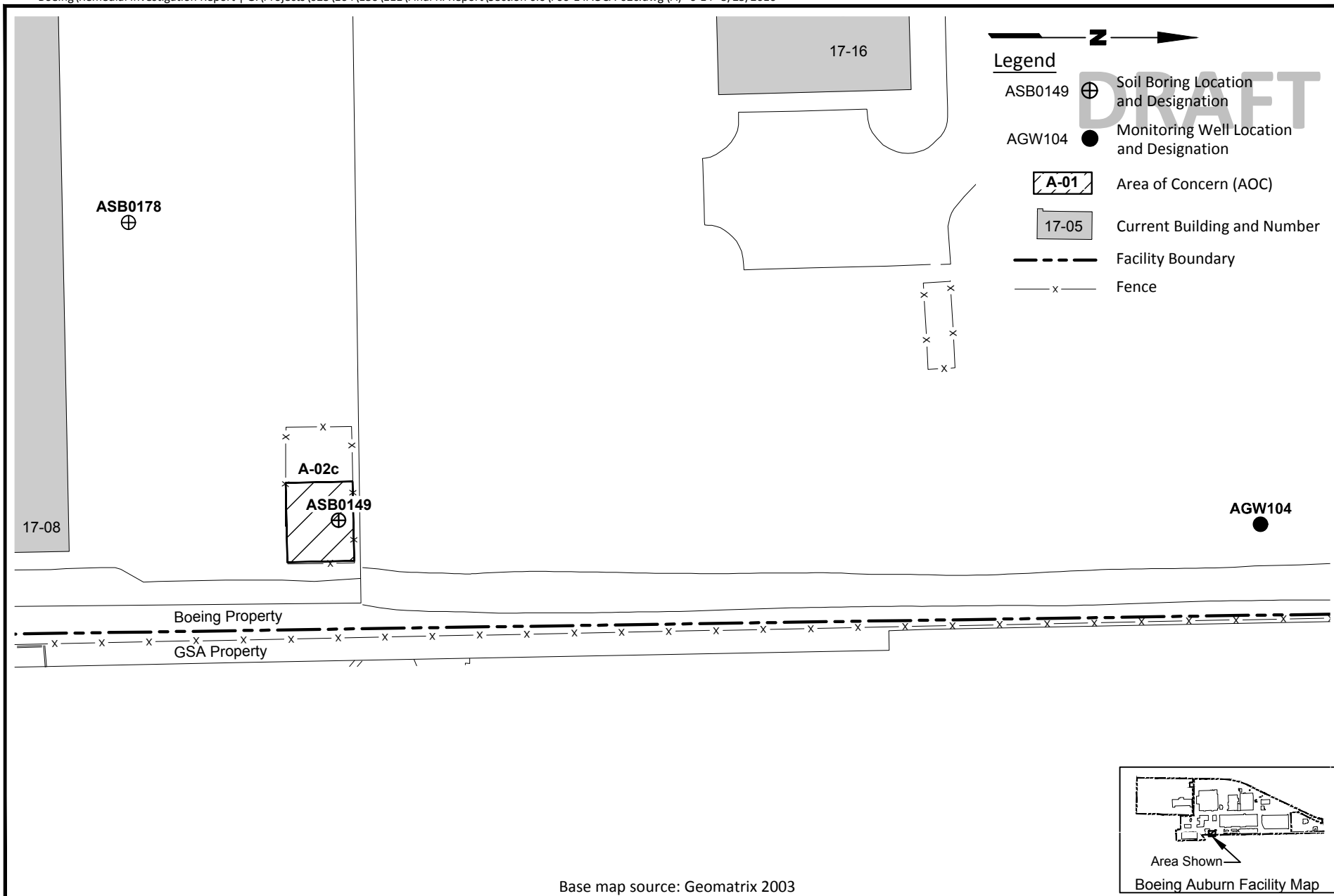


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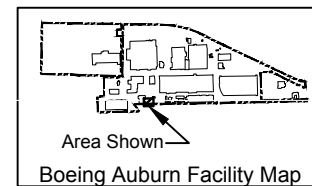
AOC A-02b
Location and Exploration Plan

Figure
6-13





Base map source: Geomatrix 2003



Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-02c
Location and Exploration Plan

Figure
6-14



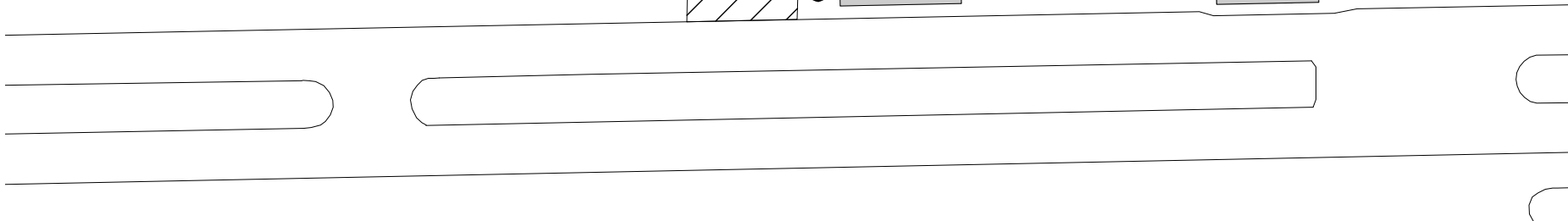
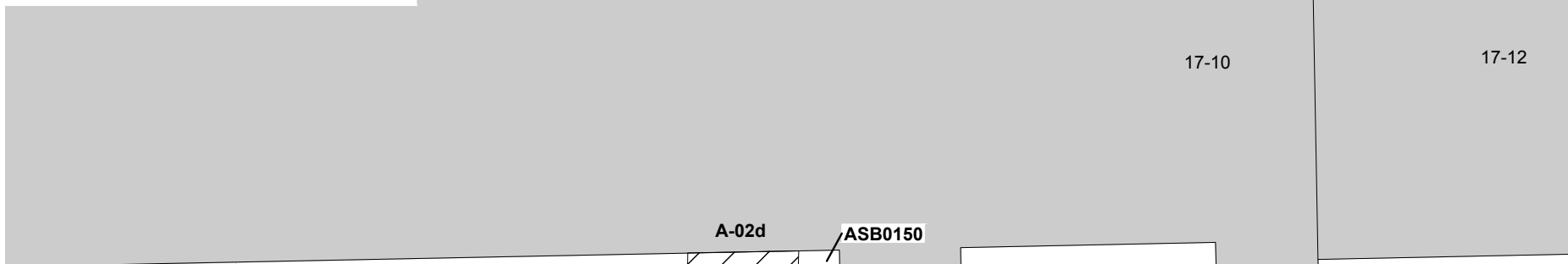
Legend

ASB0149 ⊕ Soil Boring Location and Designation

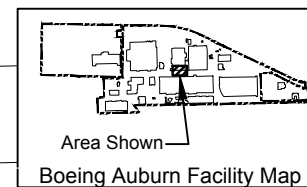
A-01 Area of Concern (AOC)

17-05 Current Building and Number

DRAFT



Base map source: Geomatrix 2003



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Remedial Investigation
Auburn, Washington

**AOC A-02d
Location and Exploration Plan**

Figure
6-15

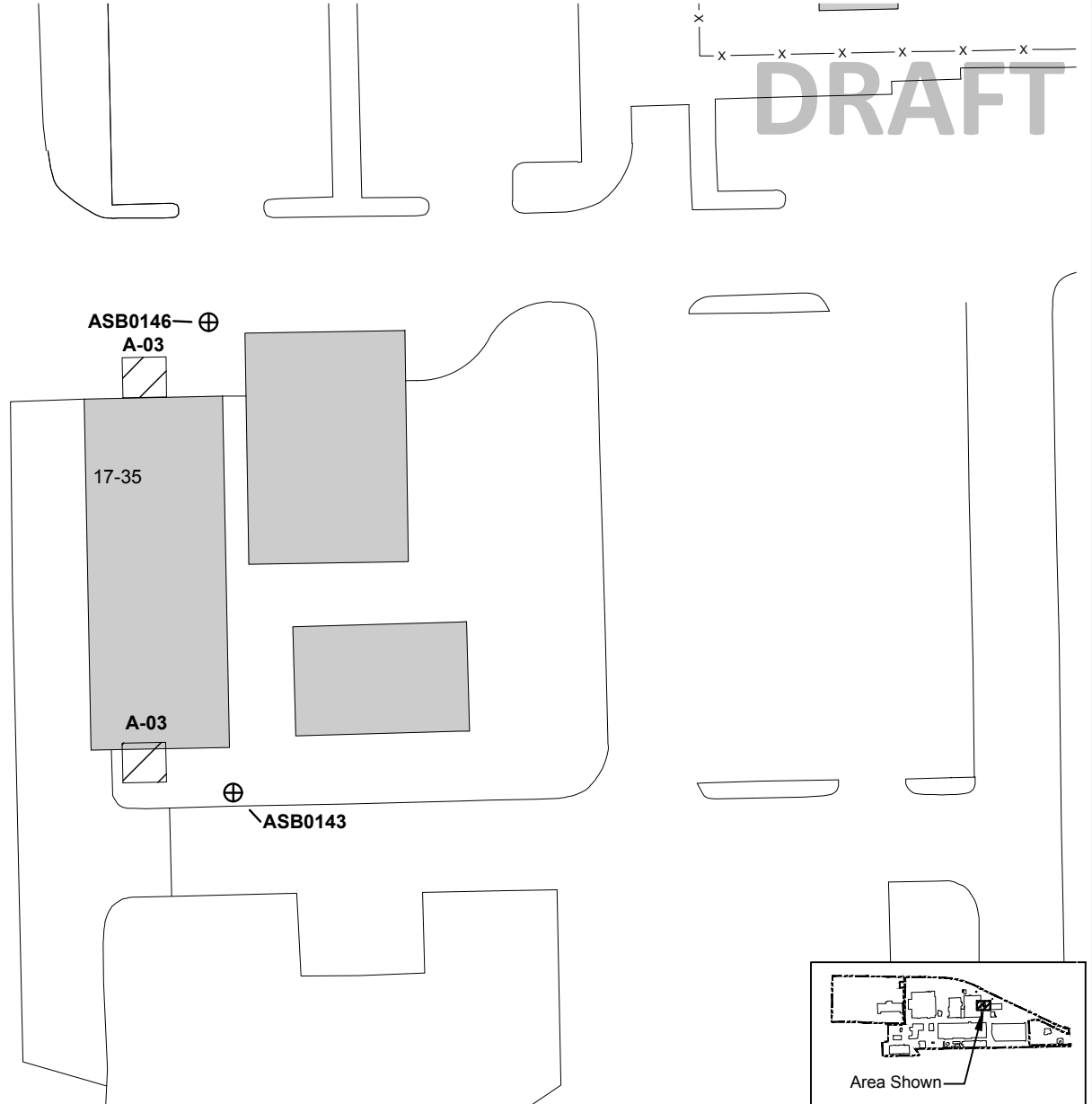
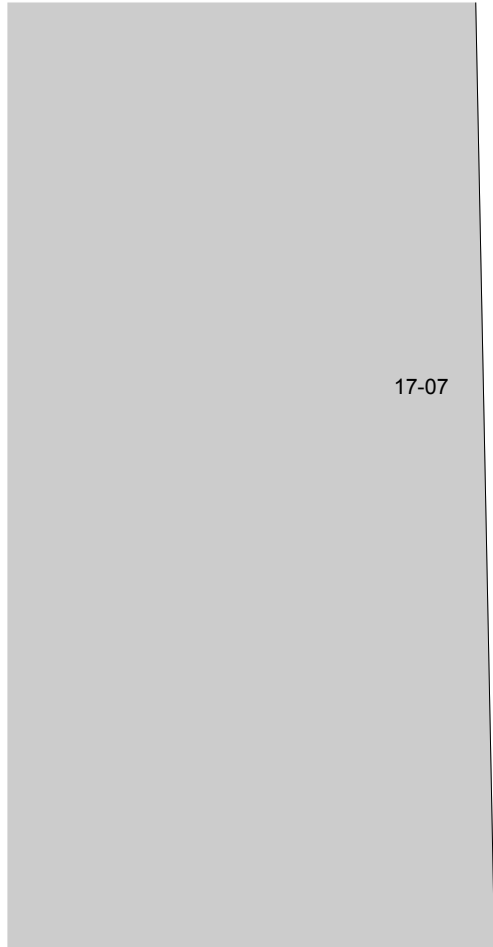


Legend

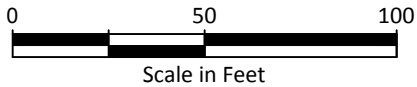
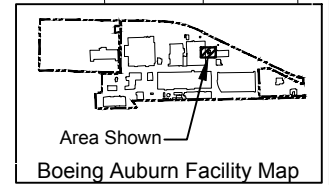
ASB0149 ⊕ Soil Boring Location and Designation

A-01 Area of Concern (AOC)

17-05 Current Building and Number



Base map source: Geomatrix 2003



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Remedial Investigation
Auburn, Washington

AOC A-03
Location and Exploration Plan


Figure
6-16


DRAFT



Legend

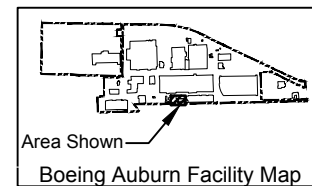
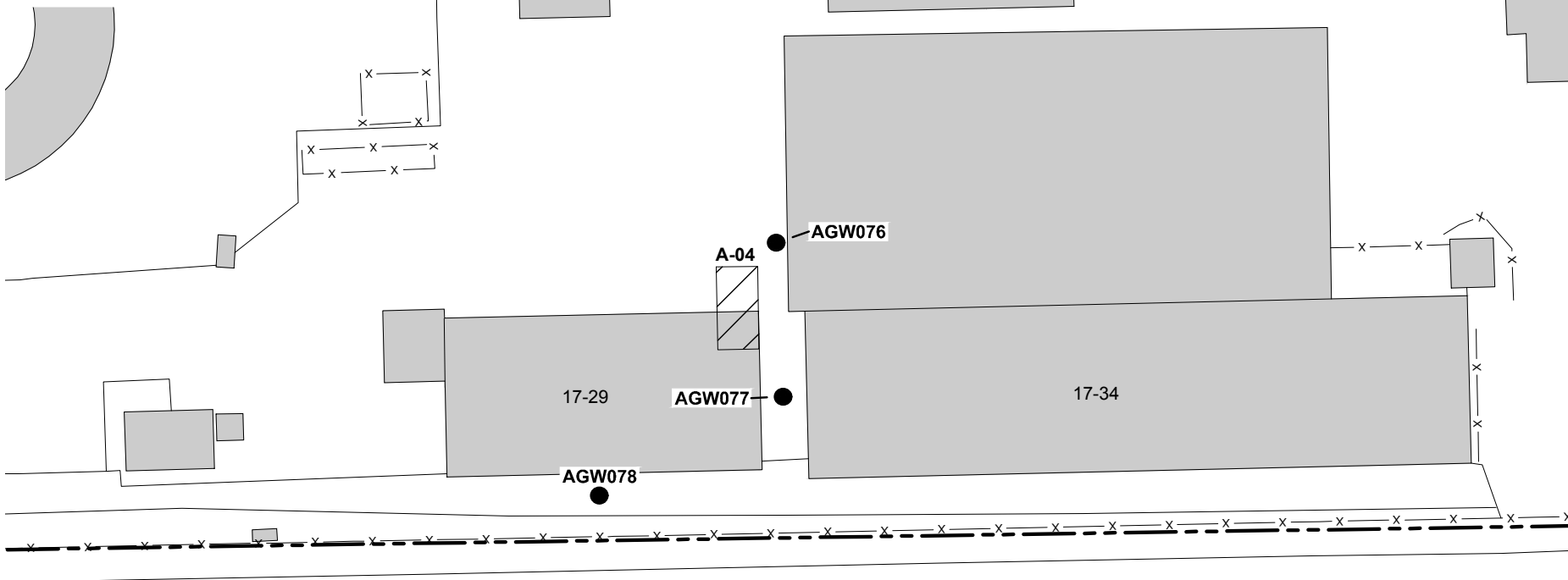
AGW016 ● Monitoring Well Location and Designation

 A-01 Area of Concern (AOC)

 17-05 Current Building and Number

--- Facility Boundary

—x— Fence



Base map source: Geomatrix 2003



Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-04
Location and Exploration Plan

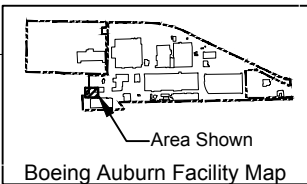
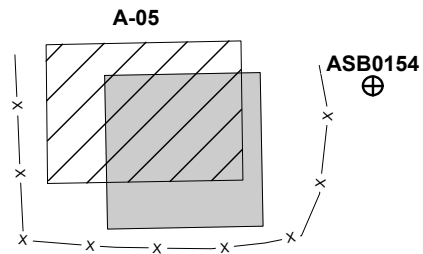
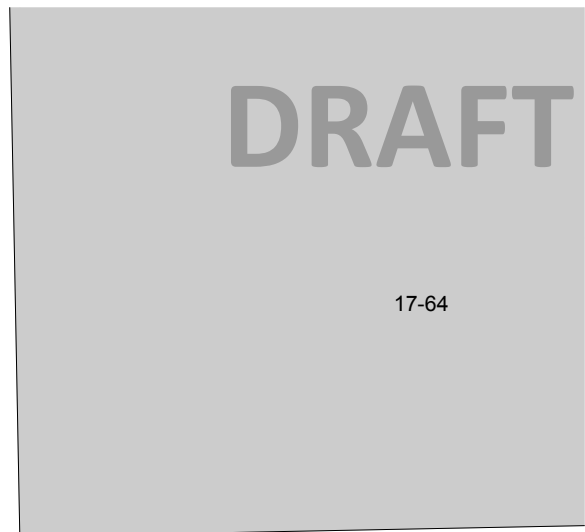
Figure
6-17

Legend

- ASB0149 ⊕ Soil Boring Location and Designation
- A-01 Area of Concern (AOC)
- 17-05 Current Building and Number
- Facility Boundary
- x — Fence

Undeveloped Land

Boeing Property





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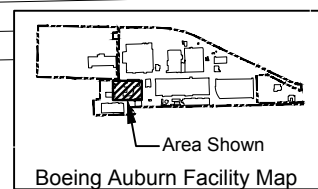
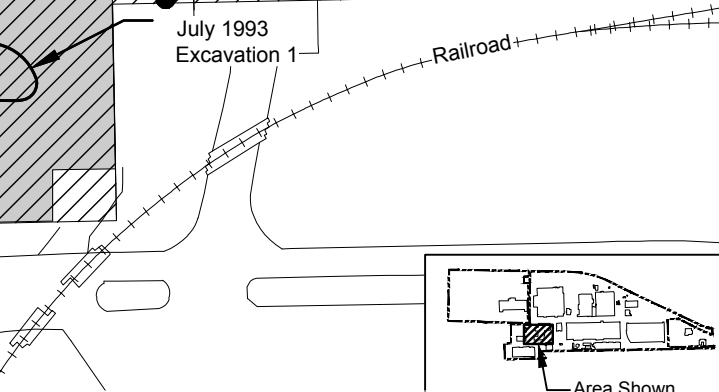
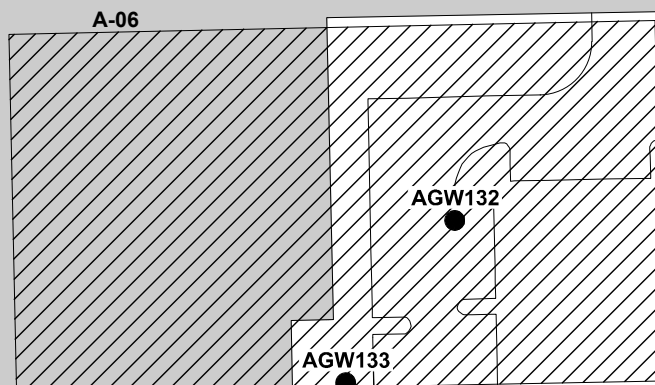
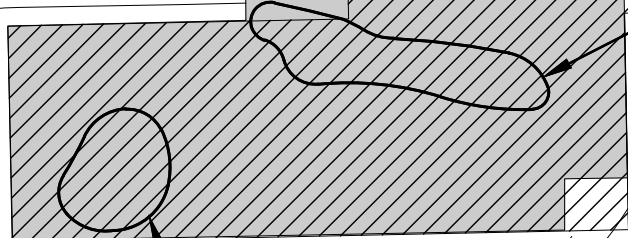
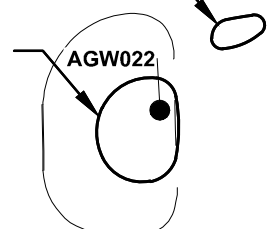
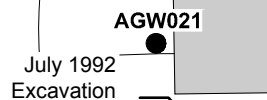
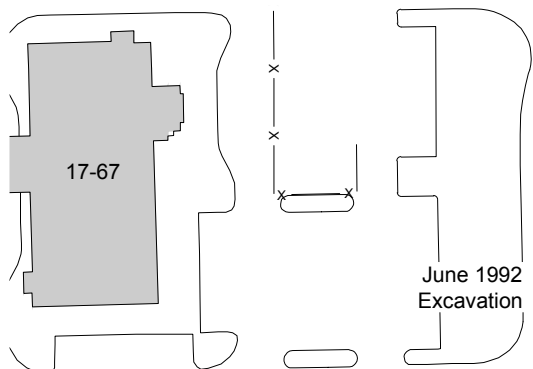


Boeing Auburn Remedial Investigation Auburn, Washington	AOC A-05 Location and Exploration Plan	Figure 6-18
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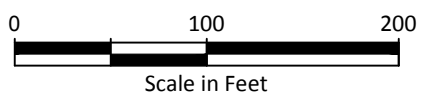
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Legend

- AGW016 ● Monitoring Well Location and Designation
-  A-01 Area of Concern (AOC)
-  17-05 Current Building and Number



Base map source: Geomatrix 2003



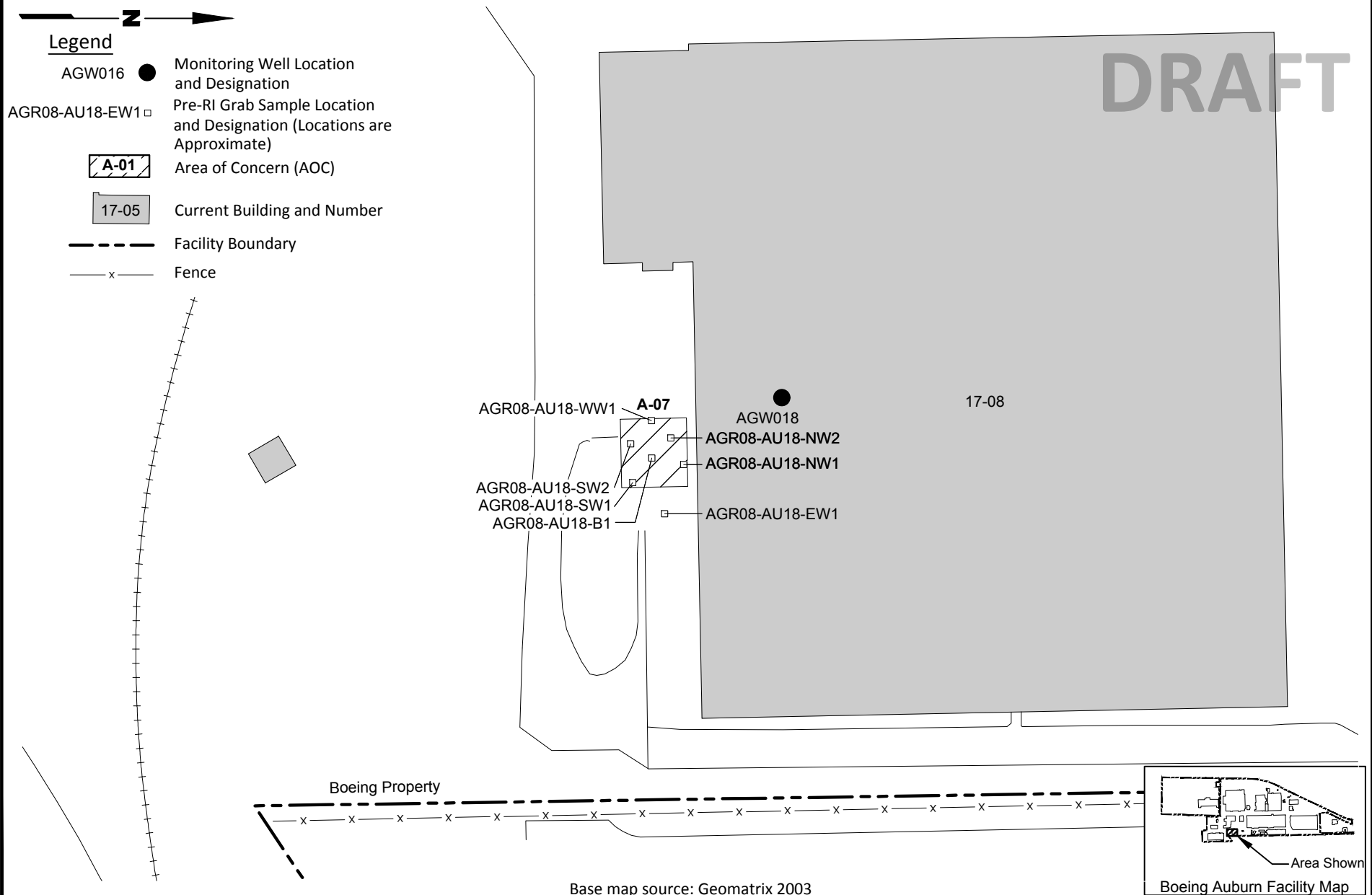
Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-06
Location and Exploration Plan

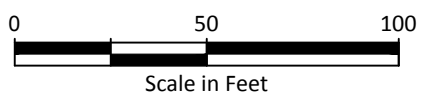
Figure
6-19



DRAFT



Base map source: Geomatrix 2003

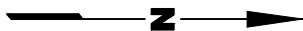


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Remedial Investigation
Auburn, Washington

AOC A-07
Location and Exploration Plan

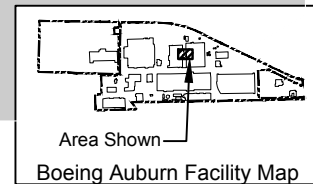
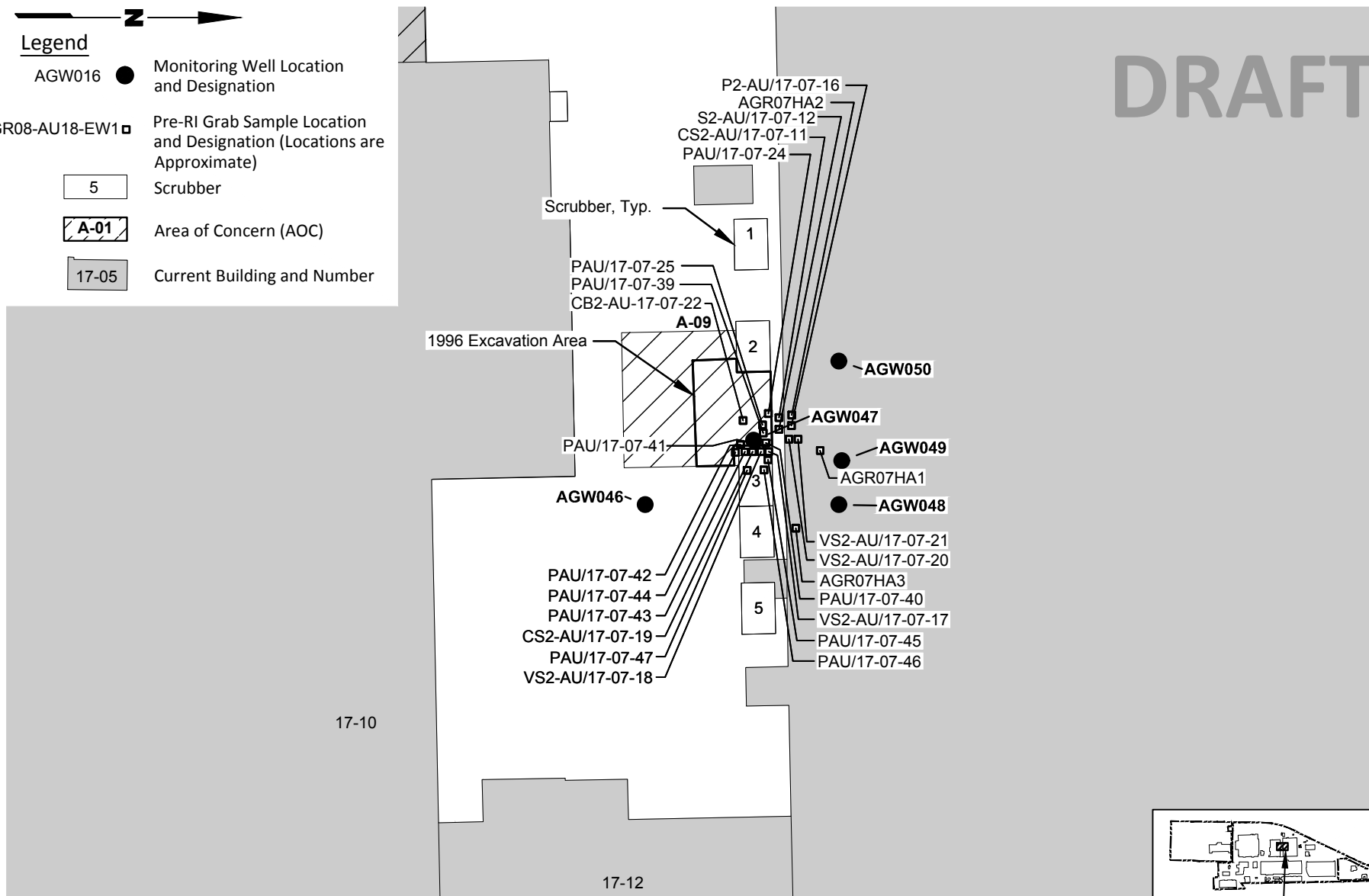
Figure
6-20

DRAFT



Legend

- AGW016 ● Monitoring Well Location and Designation
- AGR08-AU18-EW1 □ Pre-RI Grab Sample Location and Designation (Locations are Approximate)
- 5 Scrubber
- A-01 Area of Concern (AOC)
- 17-05 Current Building and Number



Base map source: Geomatrix 2003



Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-09
Location and Exploration Plan

Figure
6-21

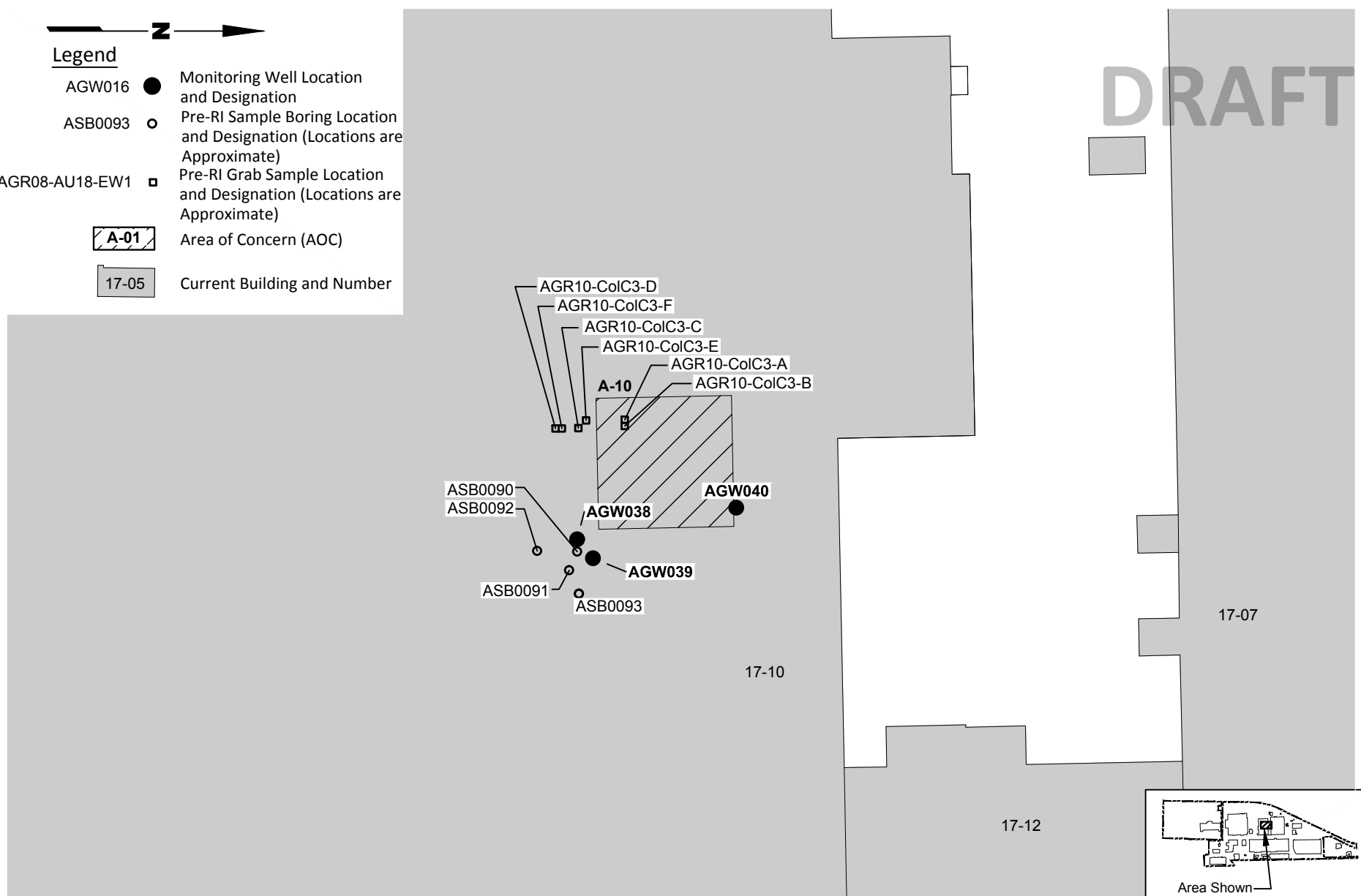


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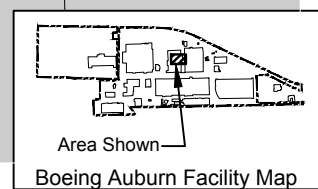


Legend

- AGW016 ● Monitoring Well Location and Designation
- ASB0093 ○ Pre-RI Sample Boring Location and Designation (Locations are Approximate)
- AGR08-AU18-EW1 □ Pre-RI Grab Sample Location and Designation (Locations are Approximate)
- A-01 Area of Concern (AOC)
- 17-05 Current Building and Number



Base map source: Geomatrix 2003



Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-10
Location and Exploration Plan

Figure
6-22



Legend

ASB0149 ⊕ Soil Boring Location and Designation

A-01 Area of Concern (AOC)

17-05 Current Building and Number

DRAFT

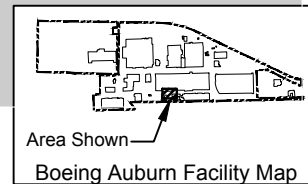
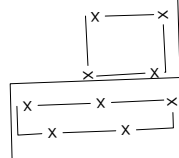
17-06

⊕ - ASB0152

A-12

⊕ - ASB0151

17-09



Base map source: Geomatrix 2003



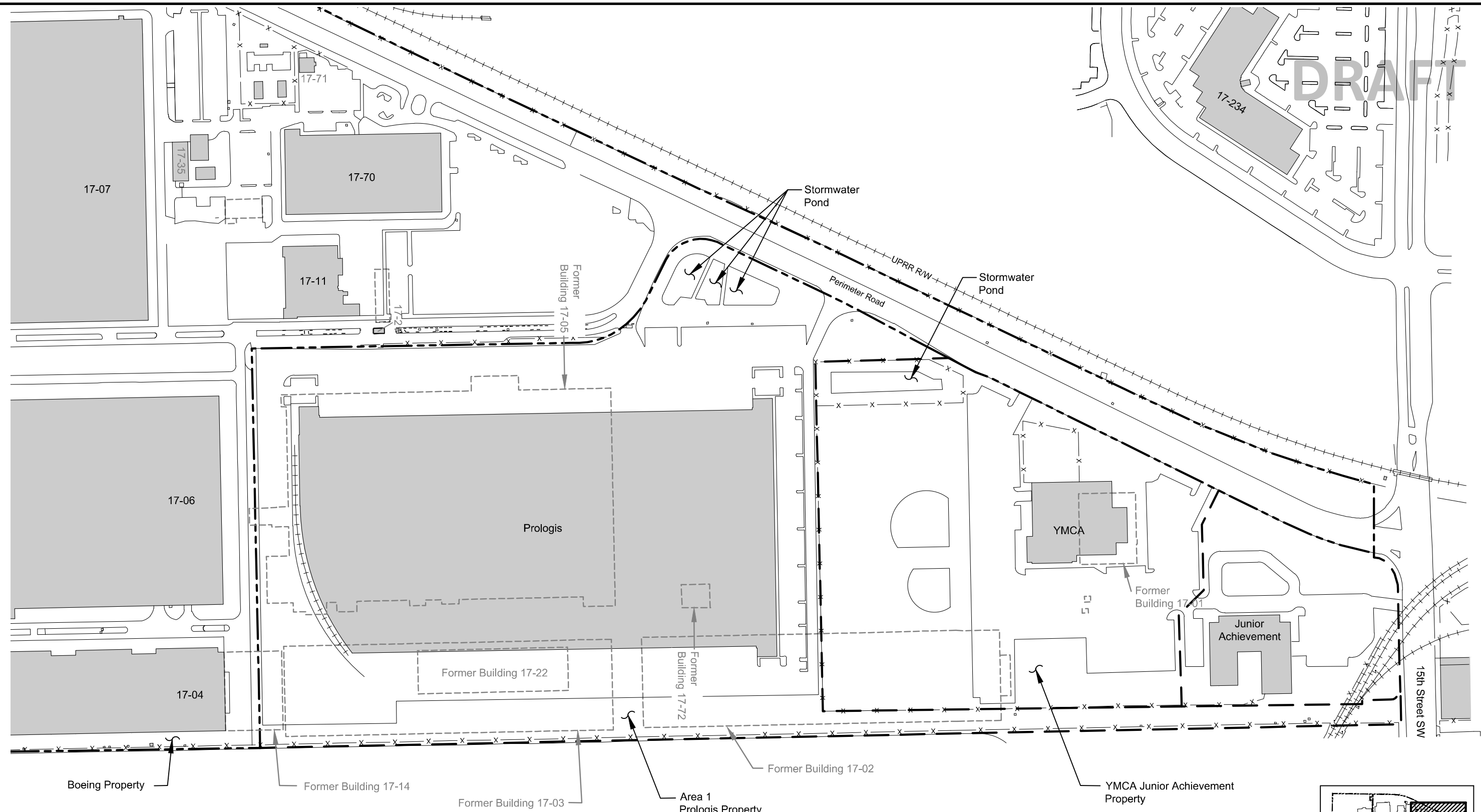
Boeing Auburn
Remedial Investigation
Auburn, Washington

AOC A-12
Location and Exploration Plan

Figure
6-23

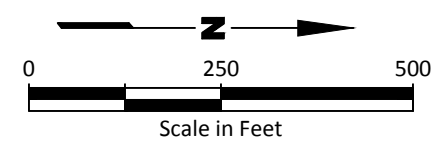
LANDAU ASSOCIATES, INC. | G:\Projects\025164130\11\Final RI Report\Section 7.0\F07-01.dwg (A) "Figure 7-1" 5/6/2016

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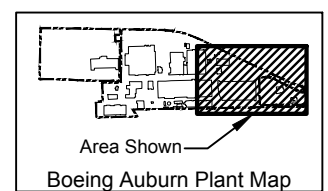


Legend

- Current Building and Number
- Boeing Property Boundary
- Adjacent Property Boundary
- Former Building



Base map source: Geomatrix 2003



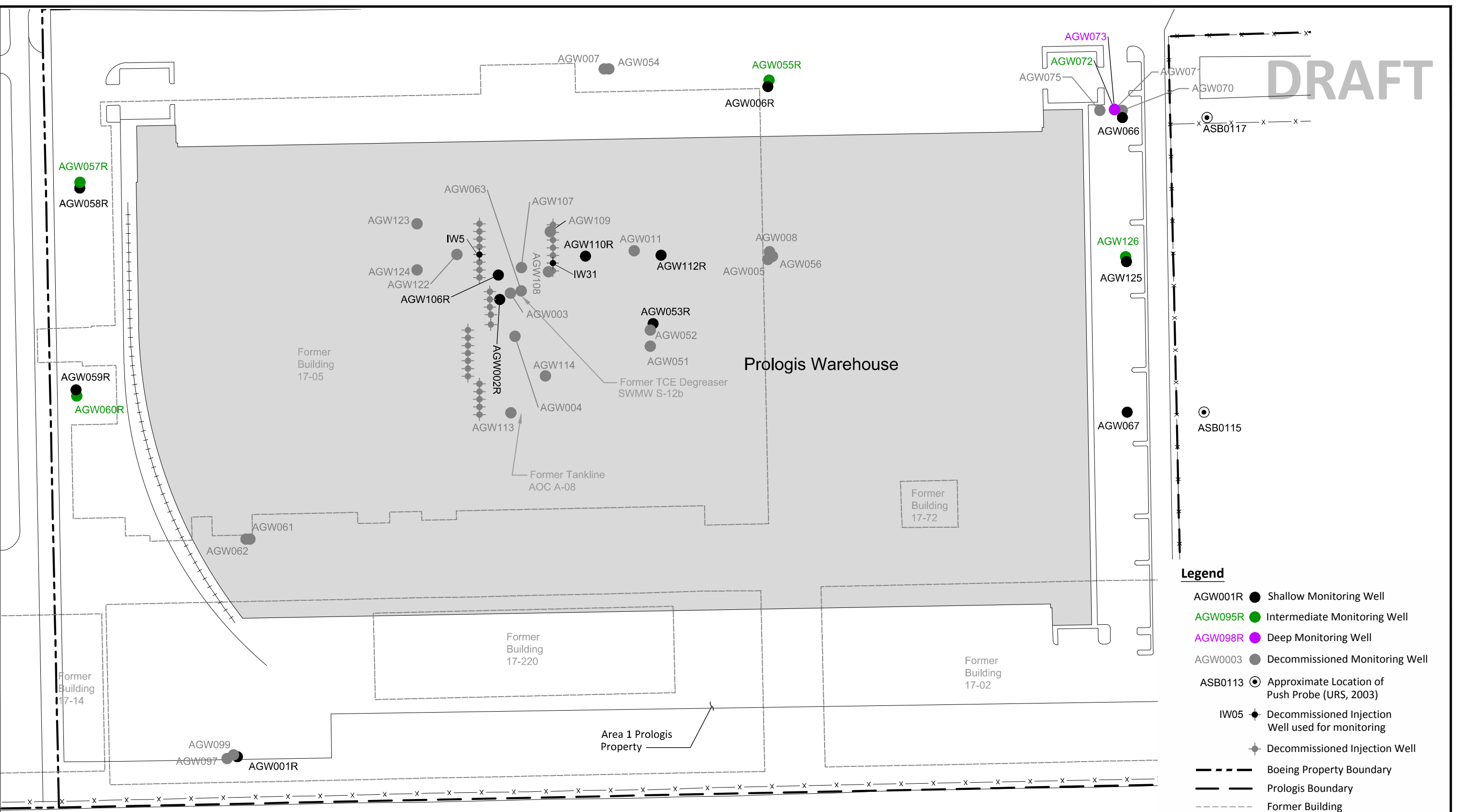
Boeing Auburn
Remedial Investigation
Auburn, Washington

Area 1 Site Plan

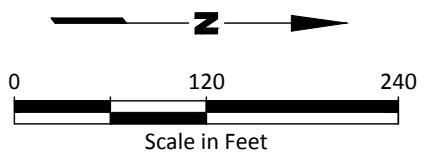
Figure
7-1

DRAFT

LANDAU ASSOCIATES, INC. | G:\Projects\025164130\11\Final RI Report\Section 7.0\F07-03.dwg (A) "Figure 7-3" 5/24/2016



- Legend**
- AGW001R ● Shallow Monitoring Well
 - AGW095R ● Intermediate Monitoring Well
 - AGW098R ● Deep Monitoring Well
 - AGW0003 ● Decommissioned Monitoring Well
 - ASB0113 ⊙ Approximate Location of Push Probe (URS, 2003)
 - IW05 ◆ Decommissioned Injection Well used for monitoring
 - ◆ Decommissioned Injection Well
 - Boeing Property Boundary
 - Prologis Boundary
 - - - Former Building



Base map source: Geomatrix 2003



Boeing Auburn Remedial Investigation Auburn, Washington

Area 1 Groundwater Monitoring Wells

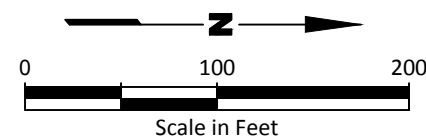
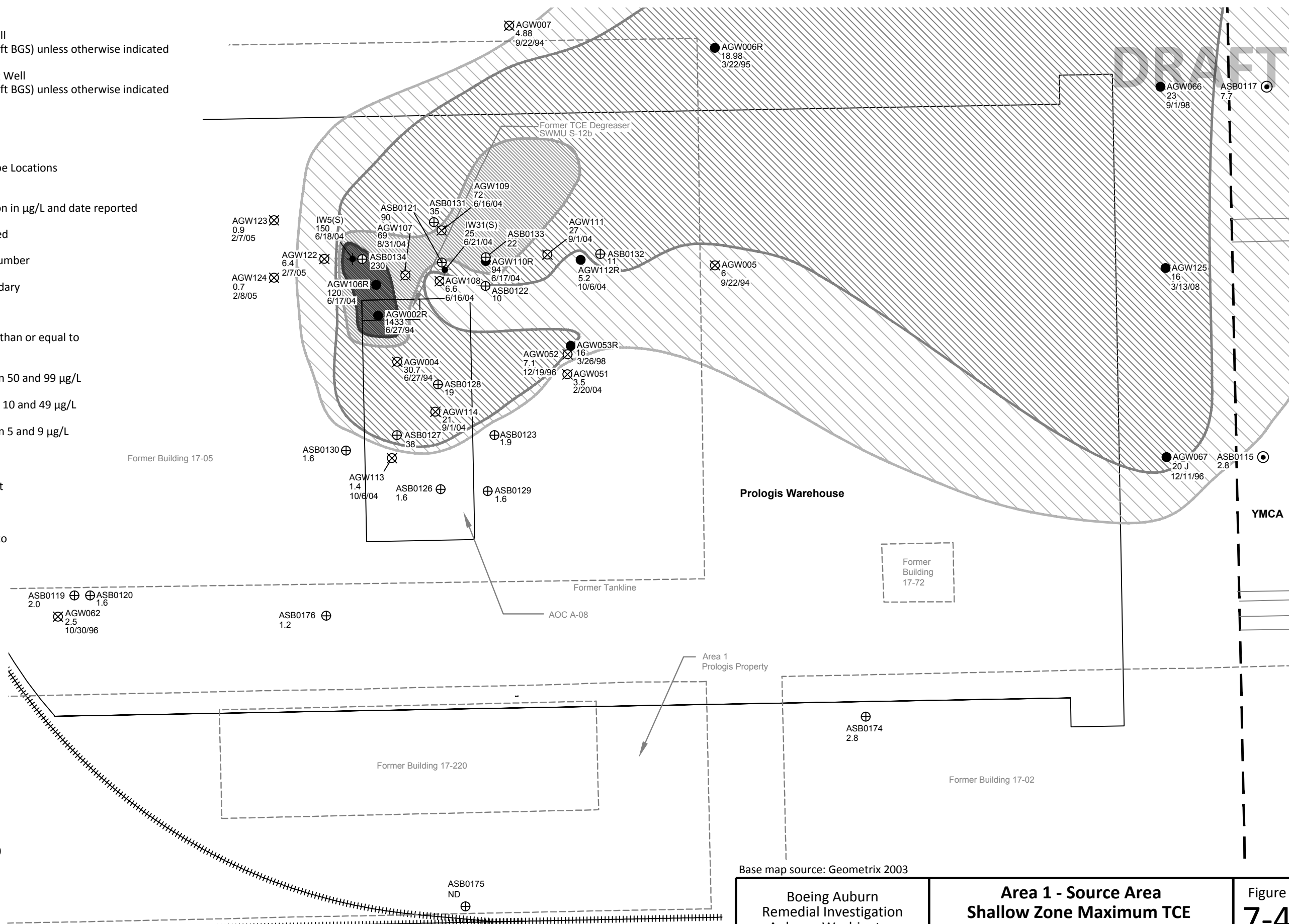
Figure 7-3

Legend

- AGW001R ● Current Monitoring Well
Shallow Zone (10 to 30 ft BGS) unless otherwise indicated
- AGW005 ☒ Abandoned Monitoring Well
Shallow Zone (10 to 30 ft BGS) unless otherwise indicated
- IW5(S) ◆ Injection Well
- ASB0120 ⊕ RI Boring
- ASB0115 ⊙ Approximate Push Probe Locations
URS, 2003
- 5.64
6/28/94 Maximum Concentration in µg/L and date reported
- ND Compound Not Detected
- 17-68 Current Building and Number
- Prologis Property Boundary
- - - Former Building
- Concentrations greater than or equal to 100 µg/L
- Concentrations between 50 and 99 µg/L
- Concentration between 10 and 49 µg/L
- Concentrations between 5 and 9 µg/L

Notes

1. Intermediate and deep wells are not shown.
2. Isoconcentration contours are approximate and are not intended to represent the actual groundwater concentration at a specific location.
3. ASB Well TCE Concentrations were collected at the time of drilling.

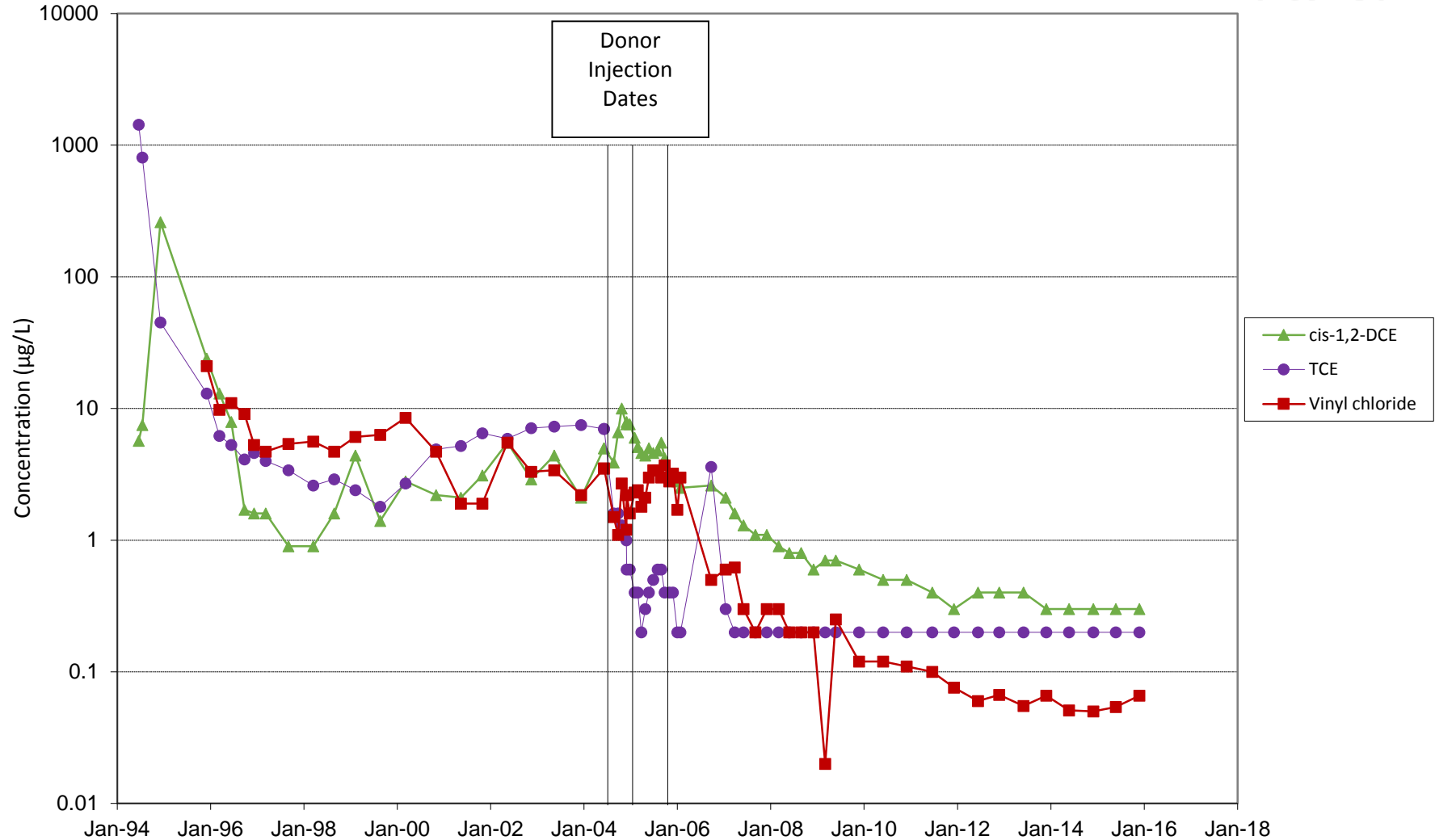


Base map source: Geometrix 2003

Boeing\Report | G:\Projects\025\164\130\111\Final RI Report\Section 7.0\F07-04.dwg (A) Figure 8-7 5/24/2016



DRAFT



Notes

1. Data presented includes both the original well (AGW002) and the replacement well (AGW002R).

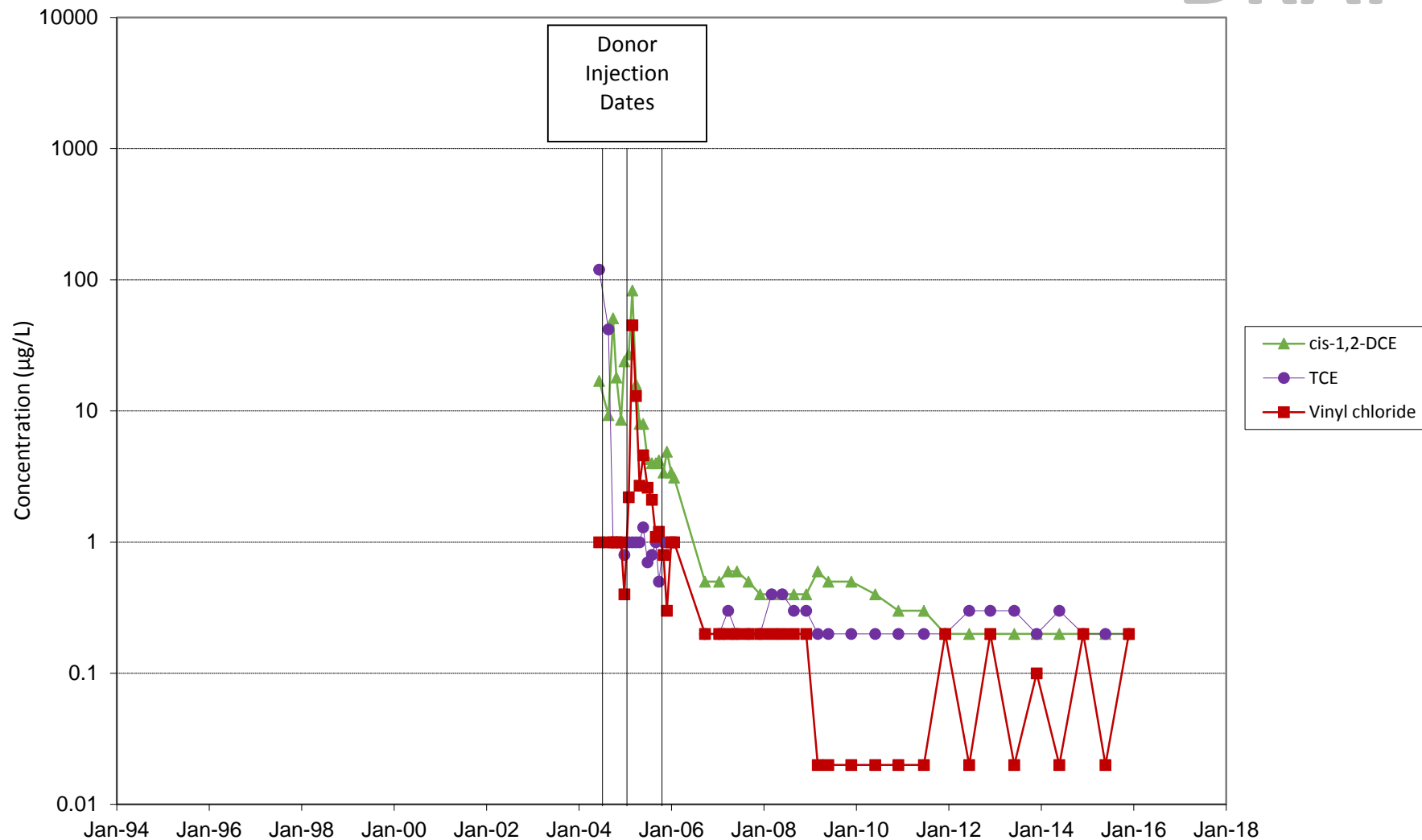


Boeing Auburn
Remedial Investigation
Auburn, Washington

**Volatile Organic Compound Time
Series Plot AGW002**

Figure
7-5

DRAFT



Notes

1. Data presented includes both the original well (AGW106) and the replacement well (AGW106R).

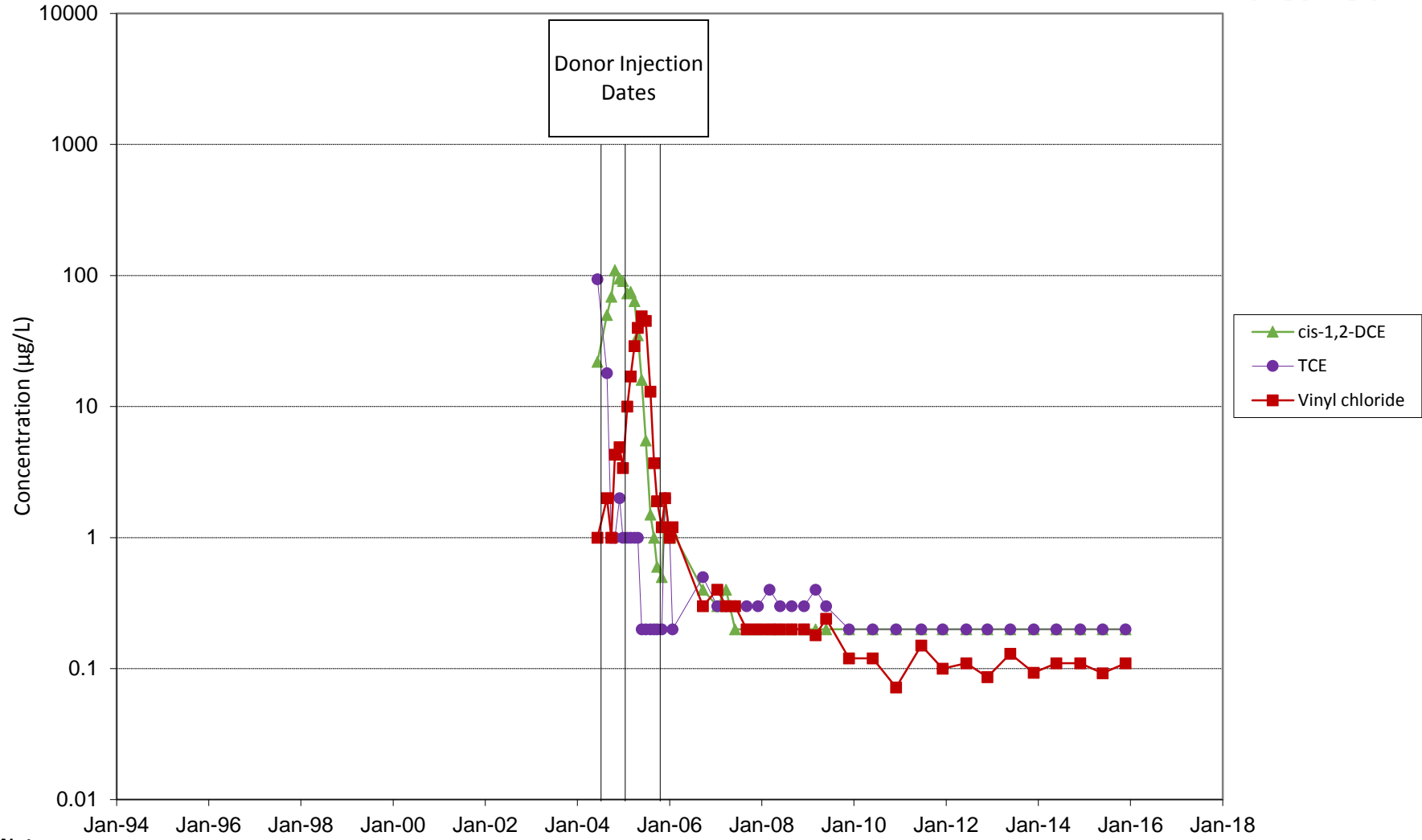


Boeing Auburn
Remedial Investigation
Auburn, Washington

**Volatile Organic Compound Time
Series Plot AGW106**

Figure
7-6

DRAFT



Notes

1. Data presented includes both the original well (AGW110) and the replacement well (AGW110R).

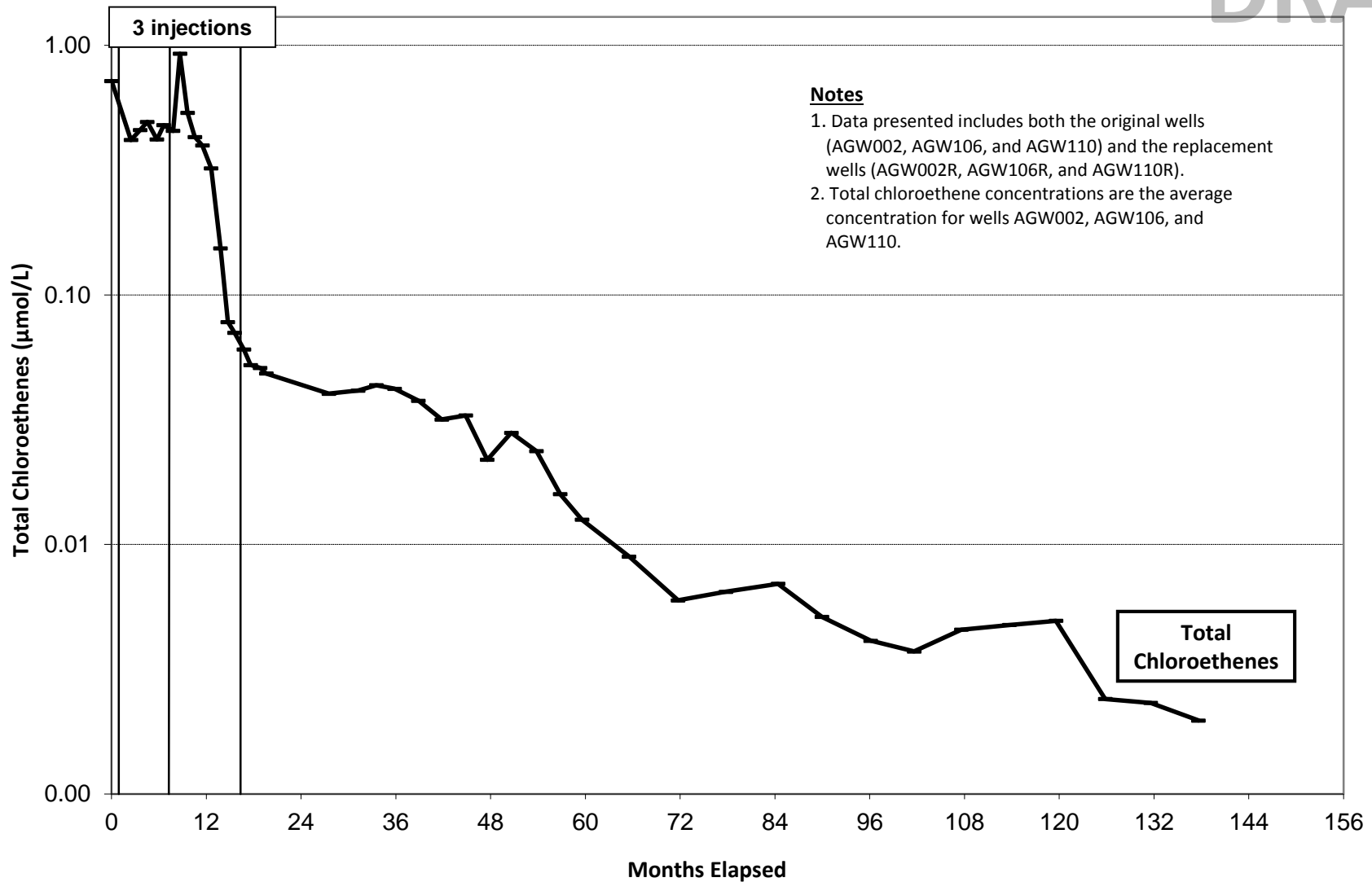


Boeing Auburn
Remedial Investigation
Auburn, Washington

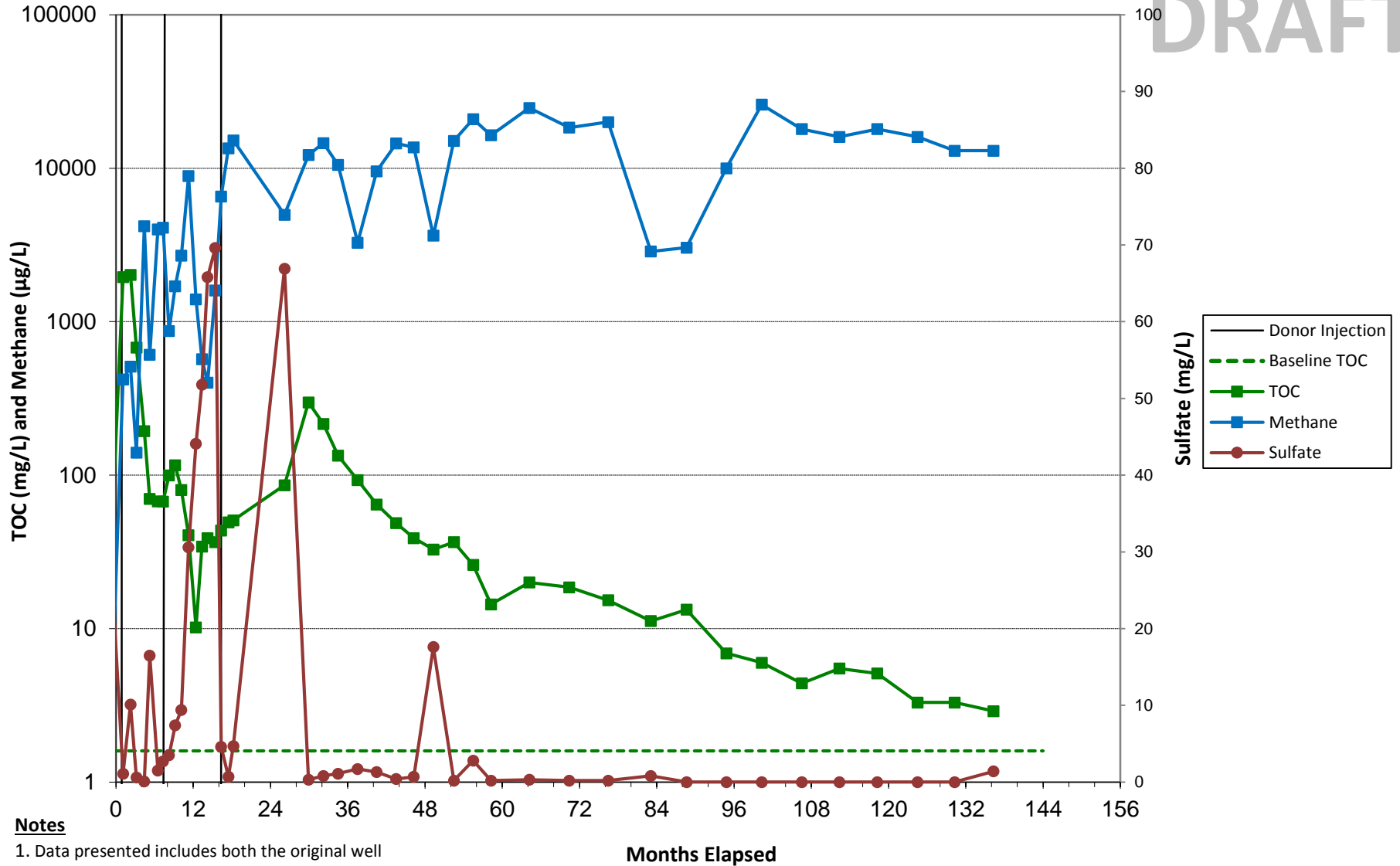
**Volatile Organic Compound Time
Series Plot AGW110**

Figure
7-7

DRAFT



DRAFT



Notes

1. Data presented includes both the original well (AGW002) and the replacement well (AGW002R).
2. Natural attenuation parameters presented include total organic carbon (TOC), methane, and sulfate.

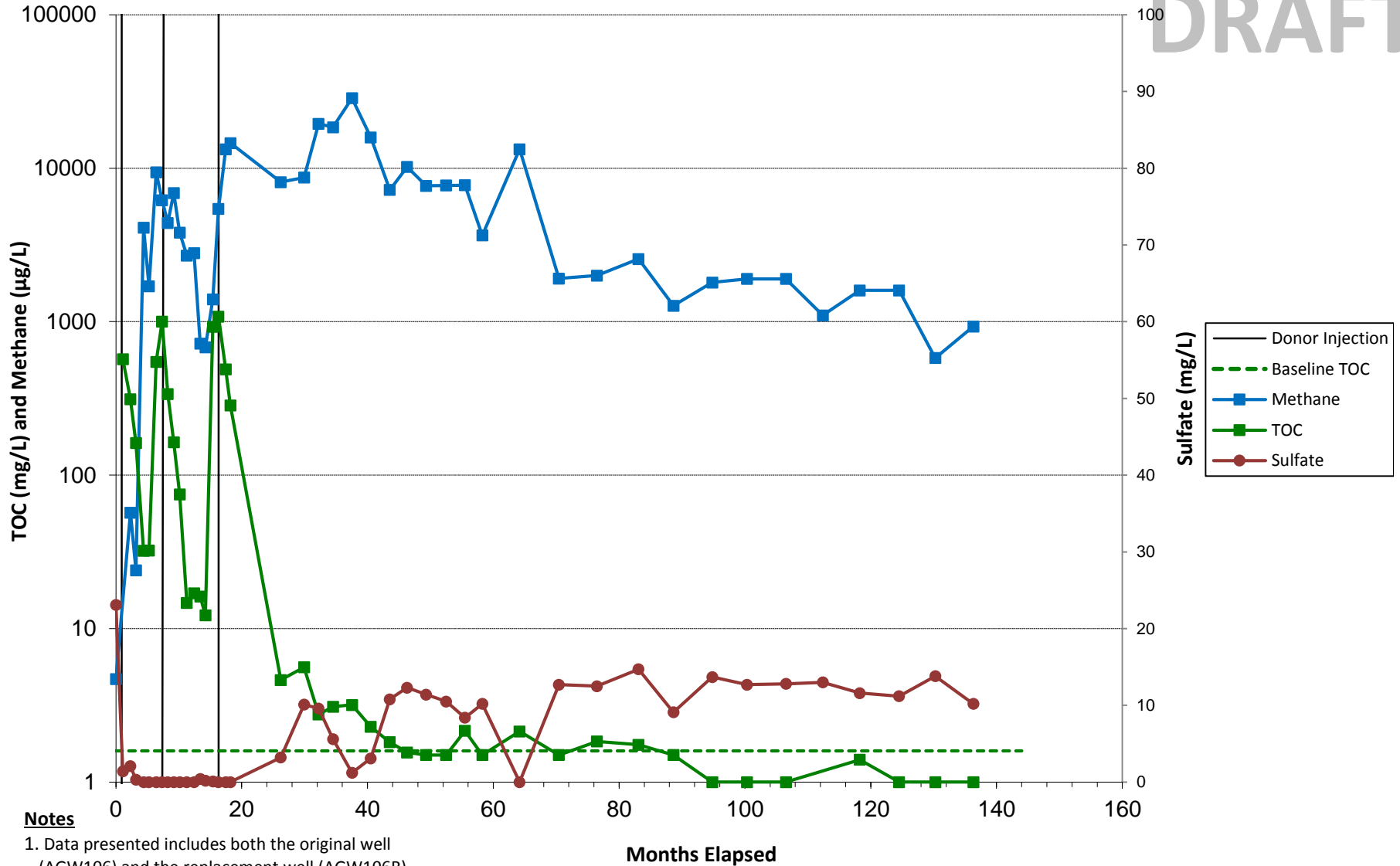
Boeing Auburn
Remedial Investigation
Auburn, Washington

Natural Attenuation Time Series Plot
AGW002

Figure
7-9



DRAFT



Notes

1. Data presented includes both the original well (AGW106) and the replacement well (AGW106R).
2. Natural attenuation parameters presented include total organic carbon (TOC), methane, and sulfate.

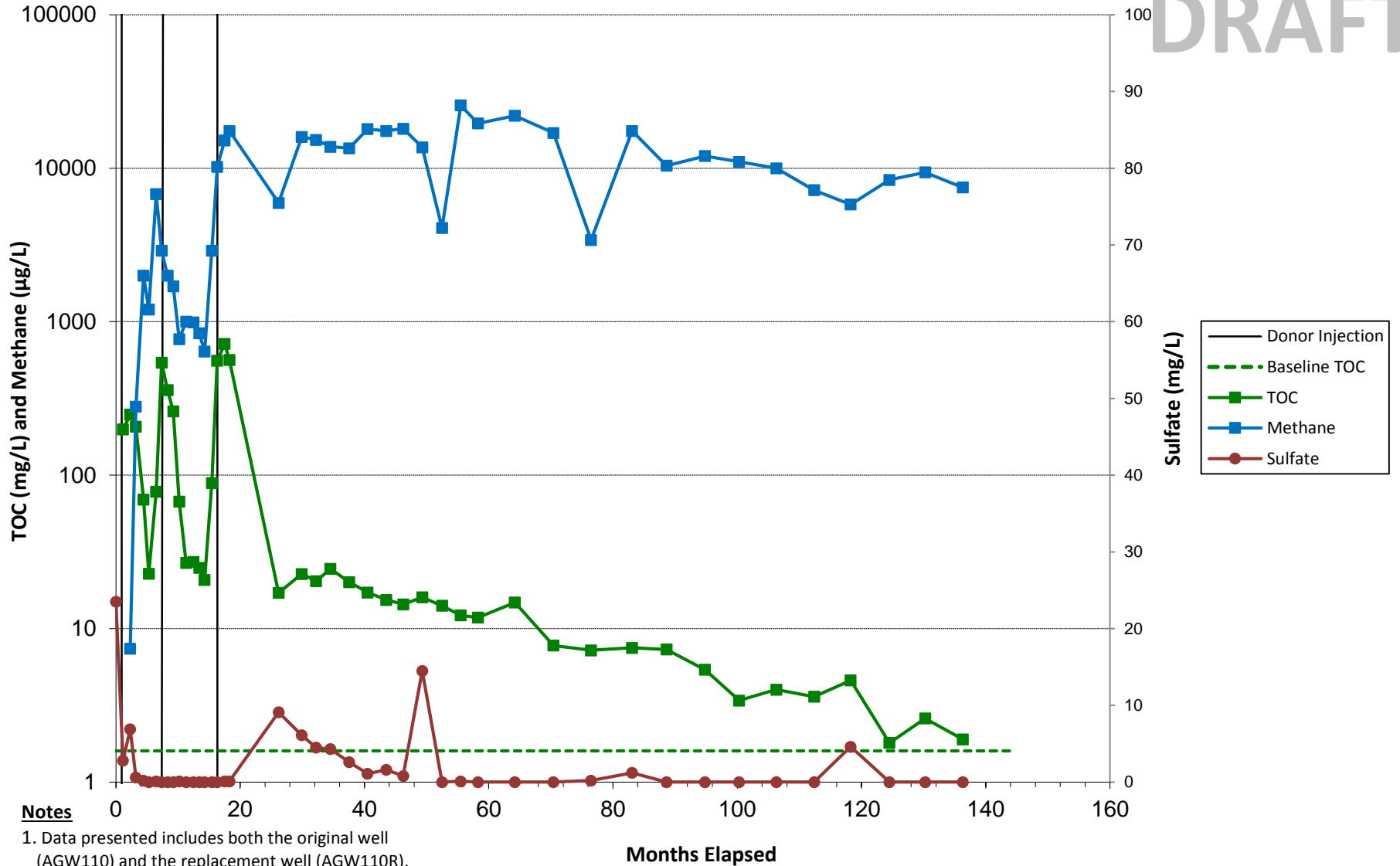
Boeing Auburn
Remedial Investigation
Auburn, Washington

Natural Attenuation Time Series Plot
AGW106

Figure
7-10



DRAFT



- Notes**
1. Data presented includes both the original well (AGW110) and the replacement well (AGW110R).
 2. Natural attenuation parameters presented include total organic carbon (TOC), methane, and sulfate.

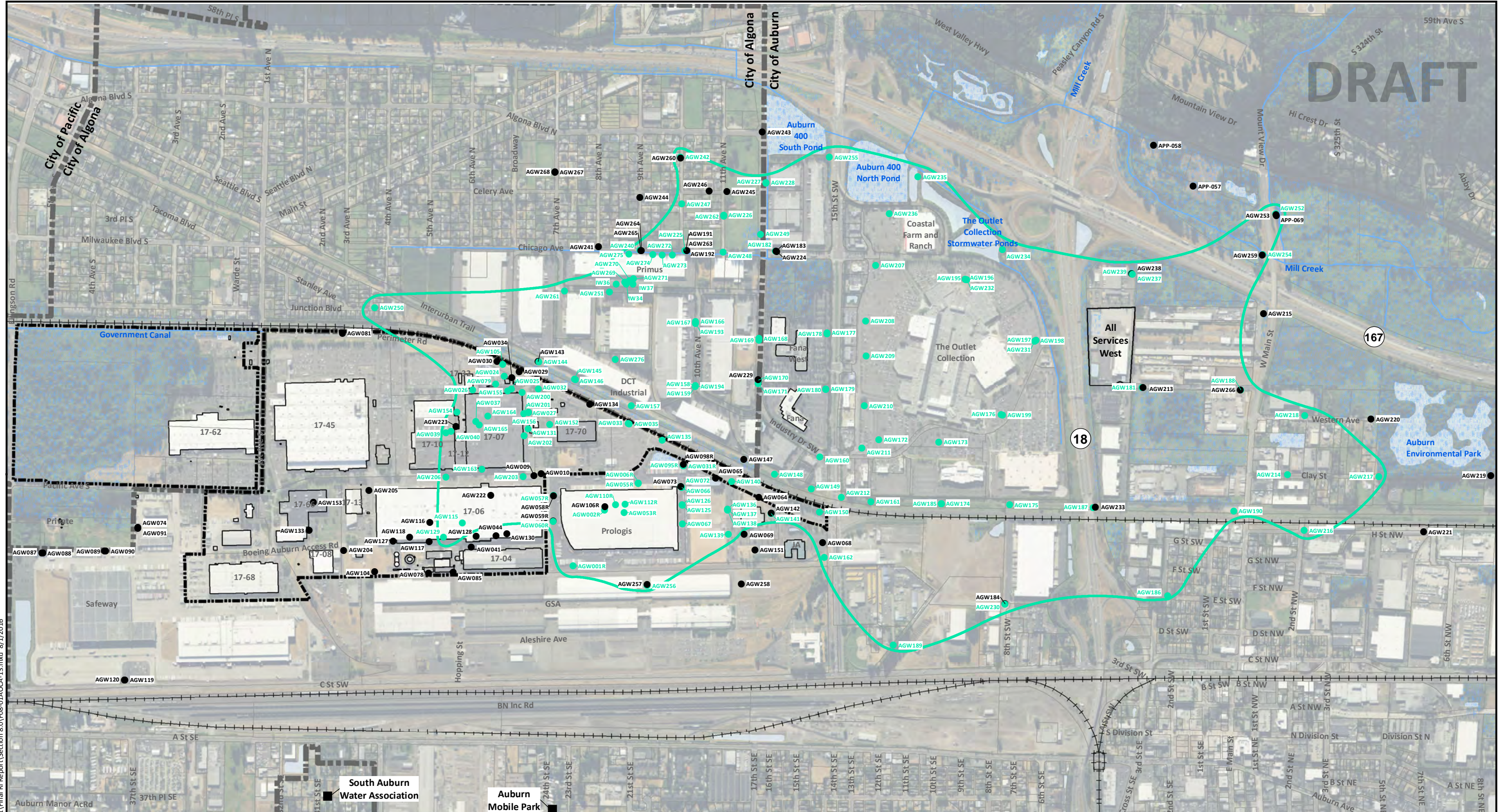
Boeing Auburn
Remedial Investigation
Auburn, Washington

**Natural Attenuation Time Series Plot
AGW110**

Figure
7-11

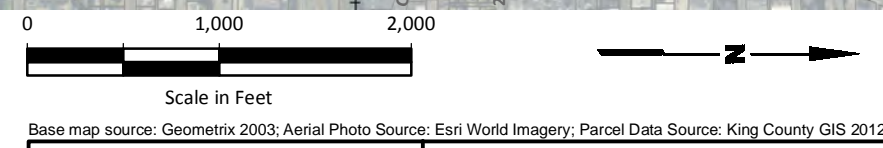


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- Notes**
1. Most recent monitoring well data as of December 2015.
 2. SL = Screening Level
 3. SL Exceedance = TCE and/or VC exceed their respective SL (TCE = 0.54 µg/L, VC = 0.029 µg/L).
 4. Exceedances shown at multilevel wells reflect an exceedance in any channel.
 5. The All Services West property is a possible contributing source of VOCs.
 6. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- No Exceedance
 - SL Exceedance
 - Group A Wells
 - SL Exceedance
 - ▬ City Limits
 - ▬ Boeing Property
 - Wetland Areas
 - Water Bodies
 - Waterways

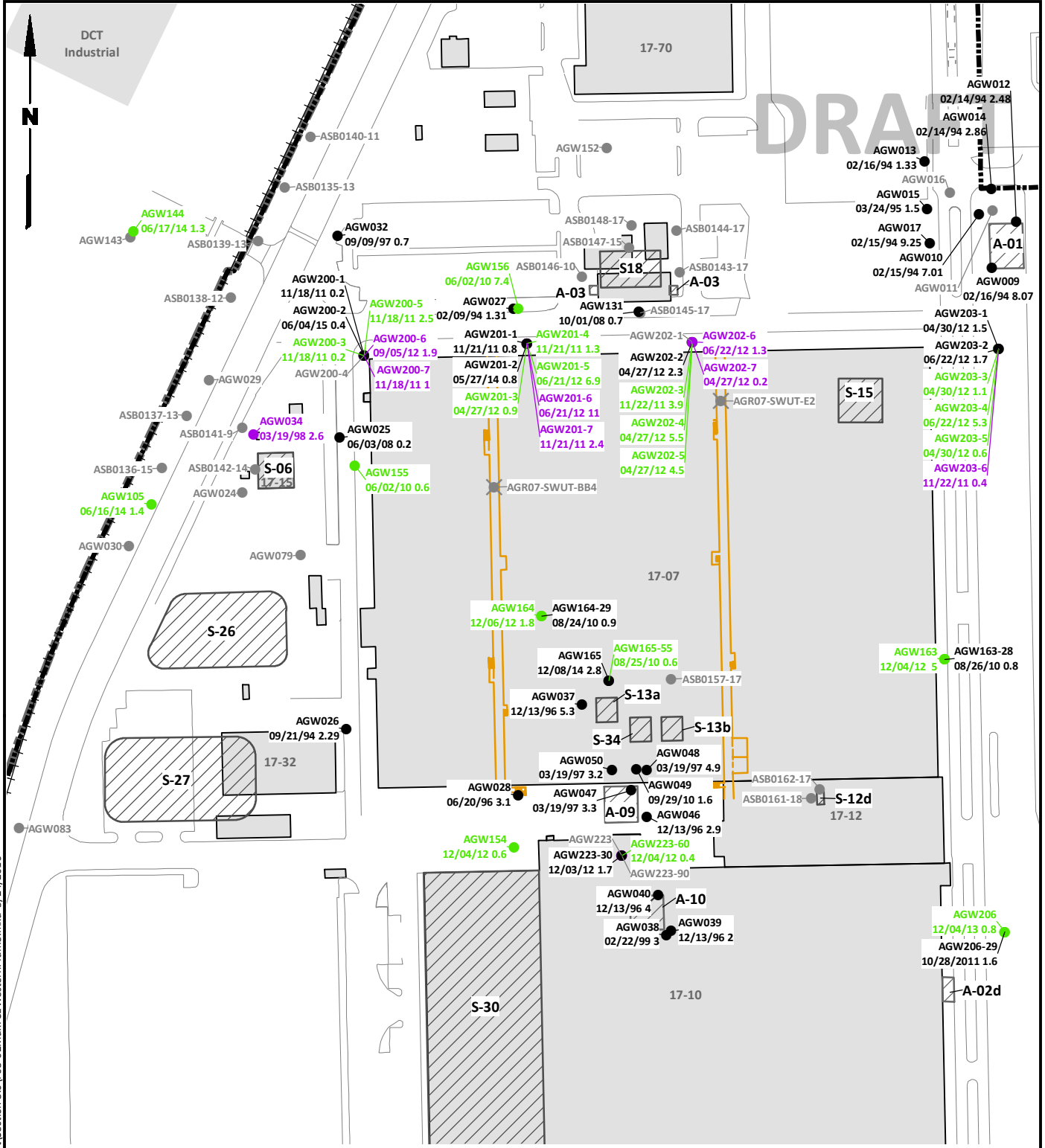


Boeing Auburn Remedial Investigation Auburn, Washington

Extent of AOC A-13

Figure 8-1

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Legend

- Shallow Monitoring Well or Soil Boring
- Intermediate Monitoring Well or Soil Boring
- Deep Monitoring Well or Soil Boring
- Monitoring Location where TCE was Never Detected
- ⊗ Utility Tunnel Samples where TCE was Never Detected
- Boeing Property
- City Limits

Solid Waste Management Unit (SWMU) or Area of Concern (AOC)

Utility Tunnel

0 200 400

Scale in Feet

Base Map Source: Geometrix 2003

Notes

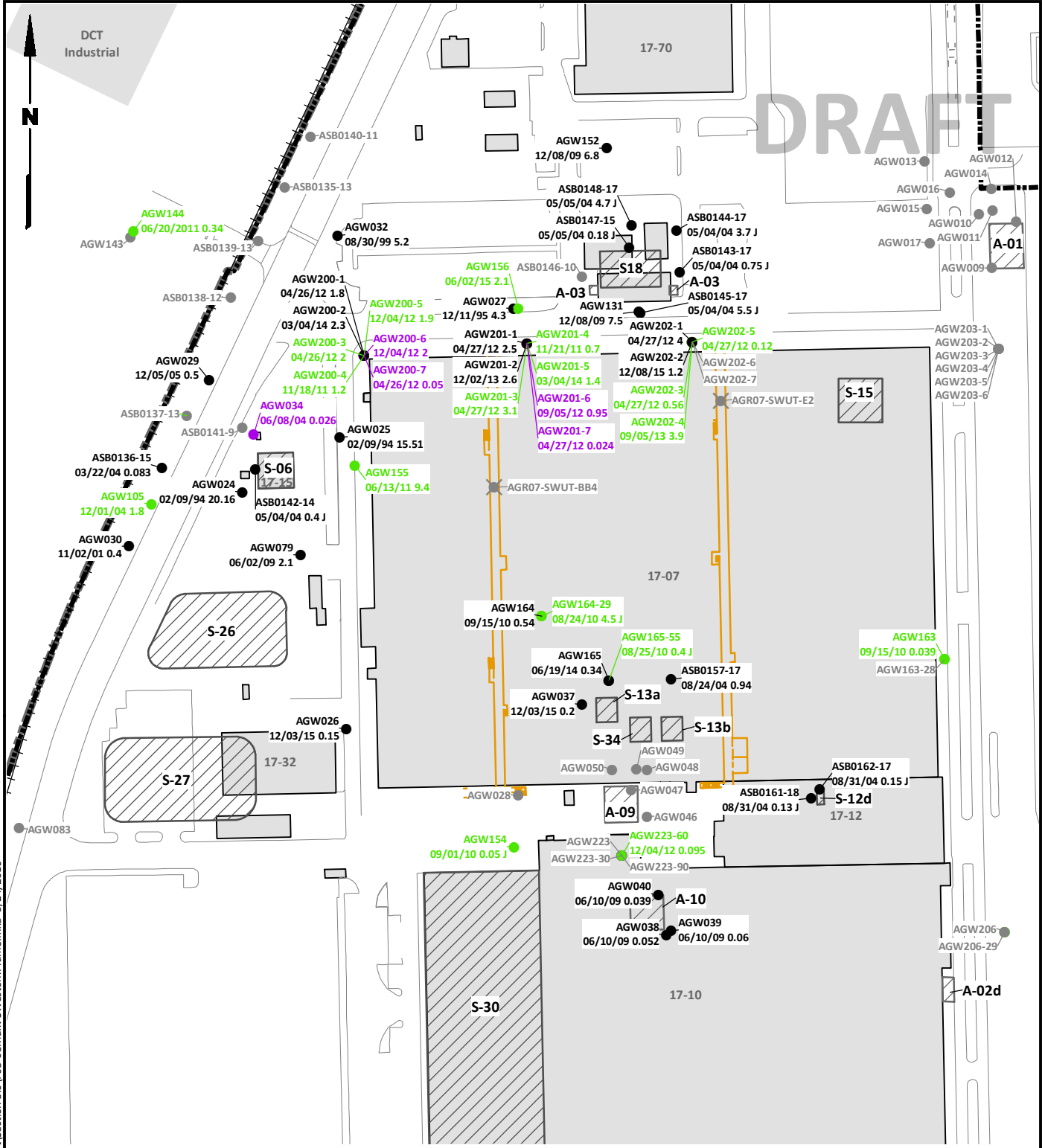
1. All concentration shown in µg/L.
2. Monitoring wells or soil borings not shown were never analyzed for VOCs.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Boeing Auburn
Remedial Investigation
Auburn, Washington

**Maximum TCE Concentrations:
Western Plume Source Area**

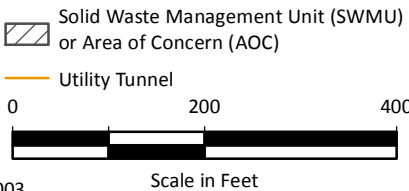
Figure
8-2



DRAFT

Legend

- Shallow Monitoring Well or Soil Boring
- Intermediate Monitoring Well or Soil Boring
- Deep Monitoring Well or Soil Boring
- Monitoring Location where VC was Never Detected
- ⊗ Utility Tunnel Samples where VC was Never Detected
- Boeing Property
- ▬ City Limits



Base Map Source: Geometrix 2003

Notes

1. All concentration shown in µg/L.
2. Monitoring wells or soil borings not shown were never analyzed for VOCs.
3. J = Estimated concentration.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

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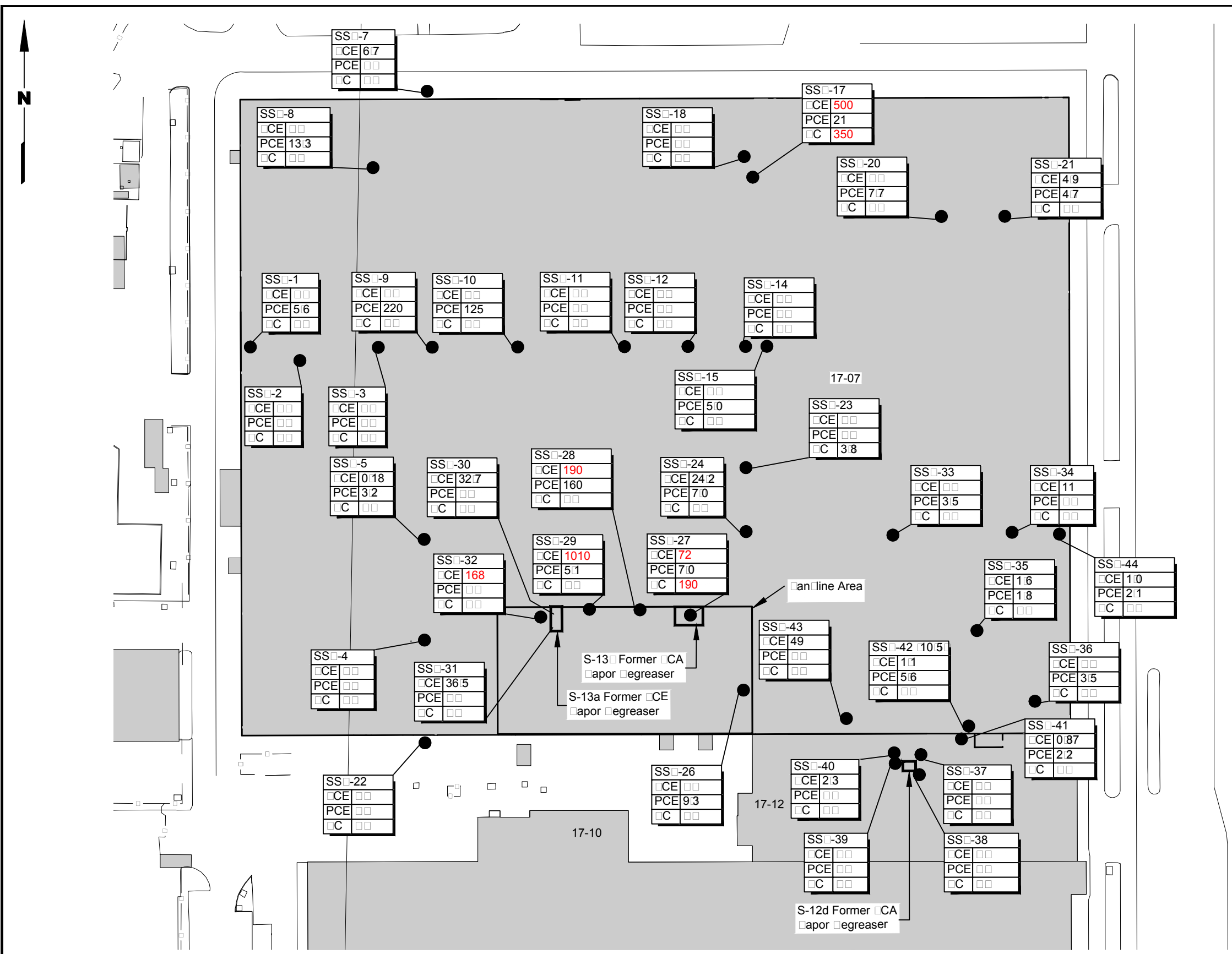


Boeing Auburn
Remedial Investigation
Auburn, Washington

**Maximum VC Concentrations:
Western Plume Source Area**

Figure
8-3

Boeing Proposed Well Locations | G:\Projects\025\164\130\111\Final RI Report\Section 8.0\F08-4 Bldg17-07 SubSlabVaporSampling.dwg (A) "Figure 8-4" 7/28/2016



Legend

- Sub-slab Gas Sampling Location
- Sample Designation
- TCE Result shown in $\mu\text{g}/\text{m}^3$
- PCE Result shown in $\mu\text{g}/\text{m}^3$
- VC Result shown in $\mu\text{g}/\text{m}^3$

Notes

1. Samples Collected on April 22, 2011, October 6, 2011 or August 16, 2011
2. Detected concentrations of Trichloroethene (TCE), Tetrachloroethene (PCE), and Vinyl Chloride (VC) results are shown in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)
3. Results shown in **Red** are above MTCA Method C screening levels (SLs) for industrial soil gas. The SLs for TCE, PCE, and VC are 67 $\mu\text{g}/\text{m}^3$, 1,300 $\mu\text{g}/\text{m}^3$, and 95 $\mu\text{g}/\text{m}^3$, respectively.
4. Locations SSV-6, SSV-13, SSV-16, SSV-19 and SSV-25 were not sampled due to wetted slab conditions in the underground tunnels.
5. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Source: Boeing 2011; © Google Earth Pro 2016

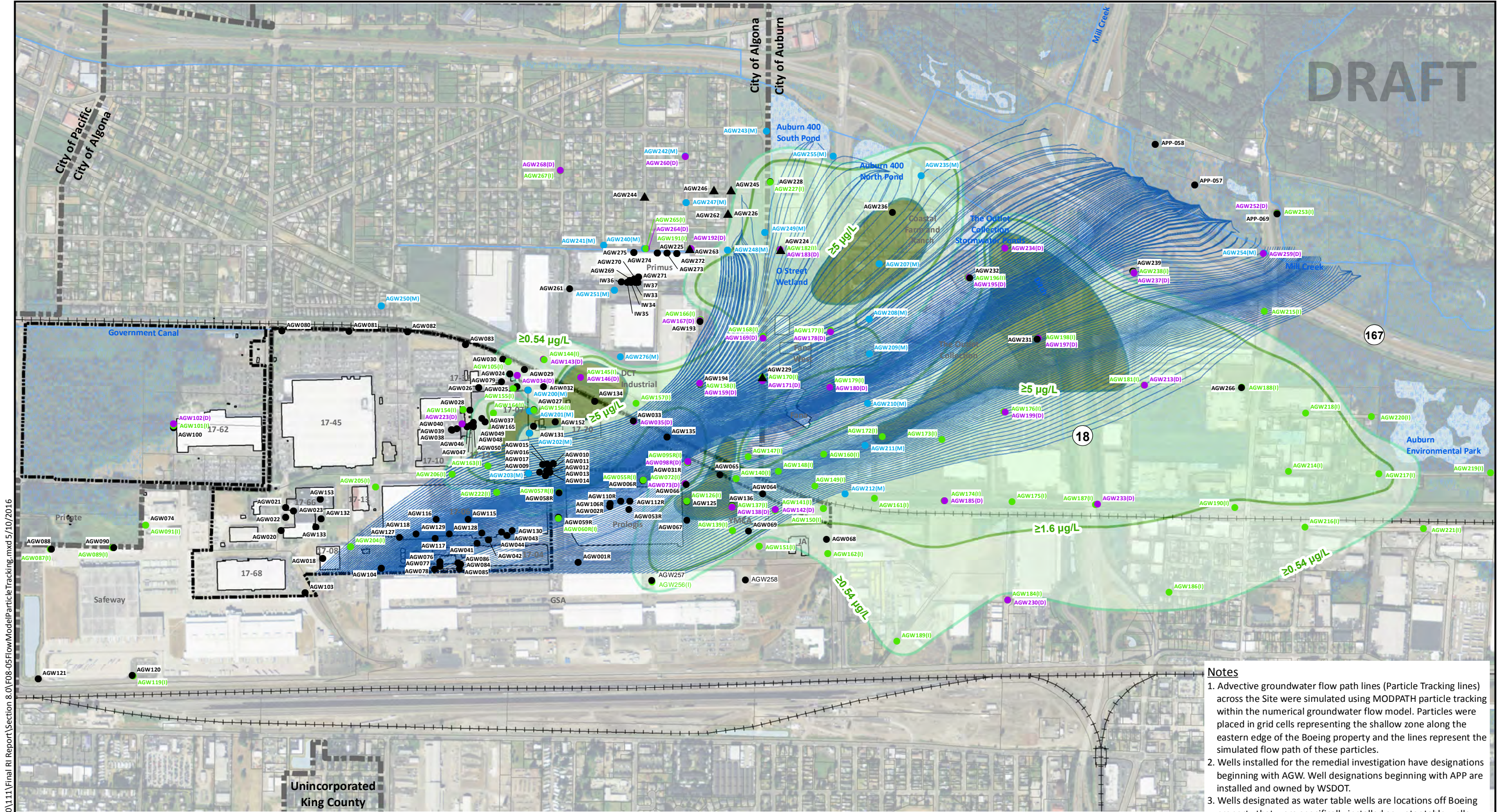


Boeing Auburn
Remedial Investigation
Auburn, Washington

**Building 17-07 Sub-Slab
Soil Gas Sampling Locations**

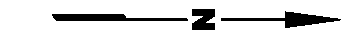
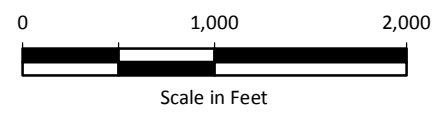
Figure
8-4

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- Legend**
- | | | |
|---|---|----------------------|
| Groundwater Monitoring Wells | Intermediate Zone Plume | Wetland Areas |
| ▲ Water Table Well | ■ TCE Contour ($\geq 5.0 \mu\text{g/L}$) | ■ Wetland Areas |
| ● Shallow Zone Monitoring Well | ■ TCE Contour ($\geq 1.6 \mu\text{g/L}$) | ■ Water Bodies |
| (I) ● Intermediate Zone Monitoring Well | ■ TCE Contour ($\geq 0.54 \mu\text{g/L}$) | ■ Waterways |
| (D) ● Deep Zone Monitoring Well | — Particle Tracking Lines | |
| (M) ● Multi-Level Well | | |

- Notes**
1. Advective groundwater flow path lines (Particle Tracking lines) across the Site were simulated using MODPATH particle tracking within the numerical groundwater flow model. Particles were placed in grid cells representing the shallow zone along the eastern edge of the Boeing property and the lines represent the simulated flow path of these particles.
 2. Wells installed for the remedial investigation have designations beginning with AGW. Well designations beginning with APP are installed and owned by WSDOT.
 3. Wells designated as water table wells are locations off Boeing property that were specifically installed as water table wells.
 4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



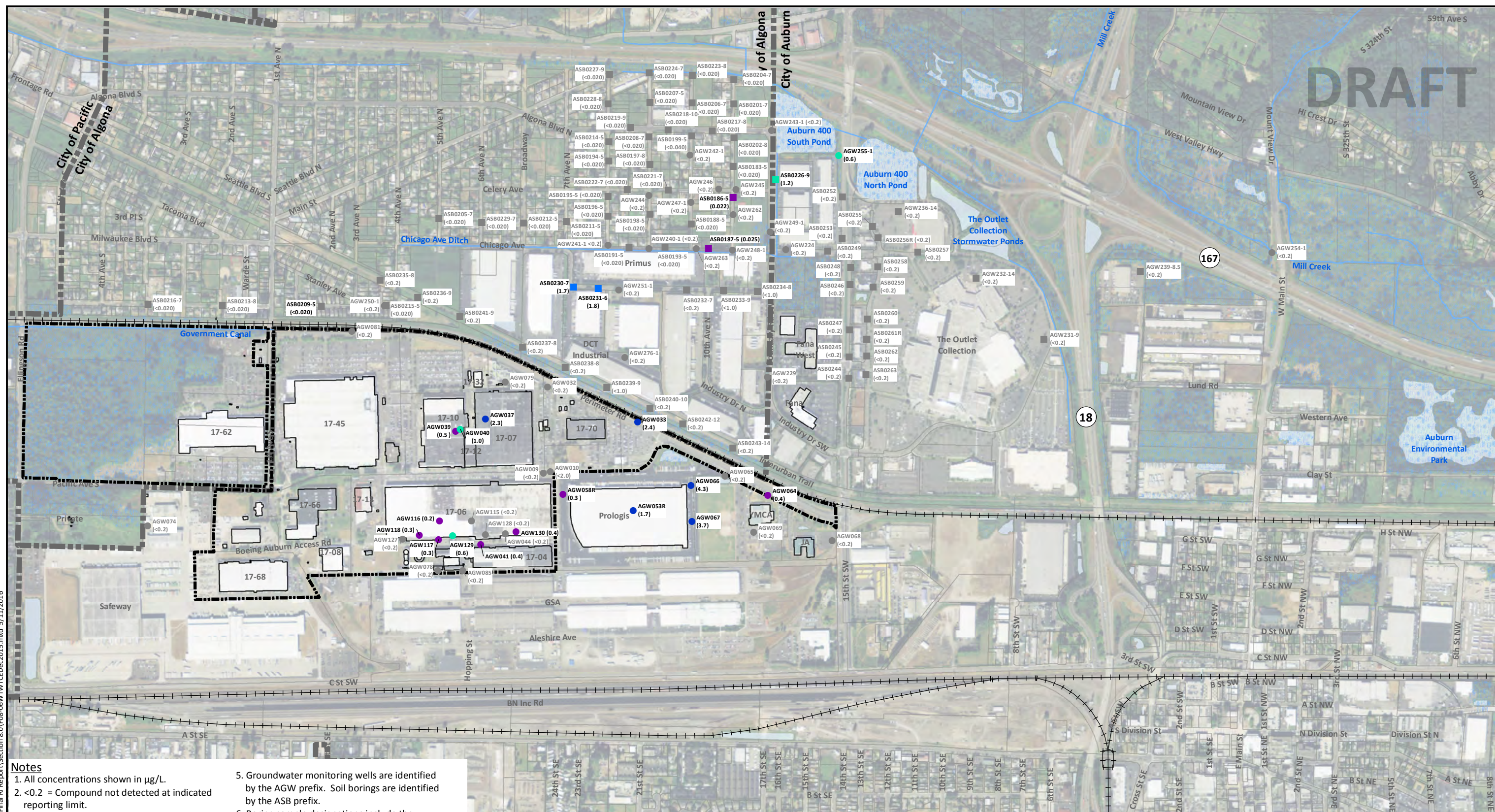
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Numerical Groundwater Flow Model Particle Tracking	Figure 8-5
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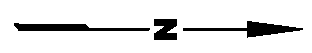
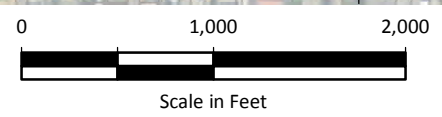


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- Notes**
1. All concentrations shown in $\mu\text{g/L}$.
 2. <0.2 = Compound not detected at indicated reporting limit.
 3. Water table wells are screened across the water table. Borehole water table samples are collected from screens across the water table.
 4. Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 5. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 6. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 7. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW240-1). Channel 1 is screened across the water table.
 8. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- Water Table Well Location
 - Water Table Borehole Grab Sample Location
 - TCE Detection (>5 $\mu\text{g/L}$)
 - TCE Detection (>1.6-5 $\mu\text{g/L}$)
 - TCE Detection (0.54-1.6 $\mu\text{g/L}$)
 - TCE Detection (<0.54 $\mu\text{g/L}$)
 - Non-Detect
 - ▬ City Limits
 - ▬ Boeing Property
 - Wetland Areas
 - Water Bodies
 - Waterways



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn
Remedial Investigation
Auburn, Washington

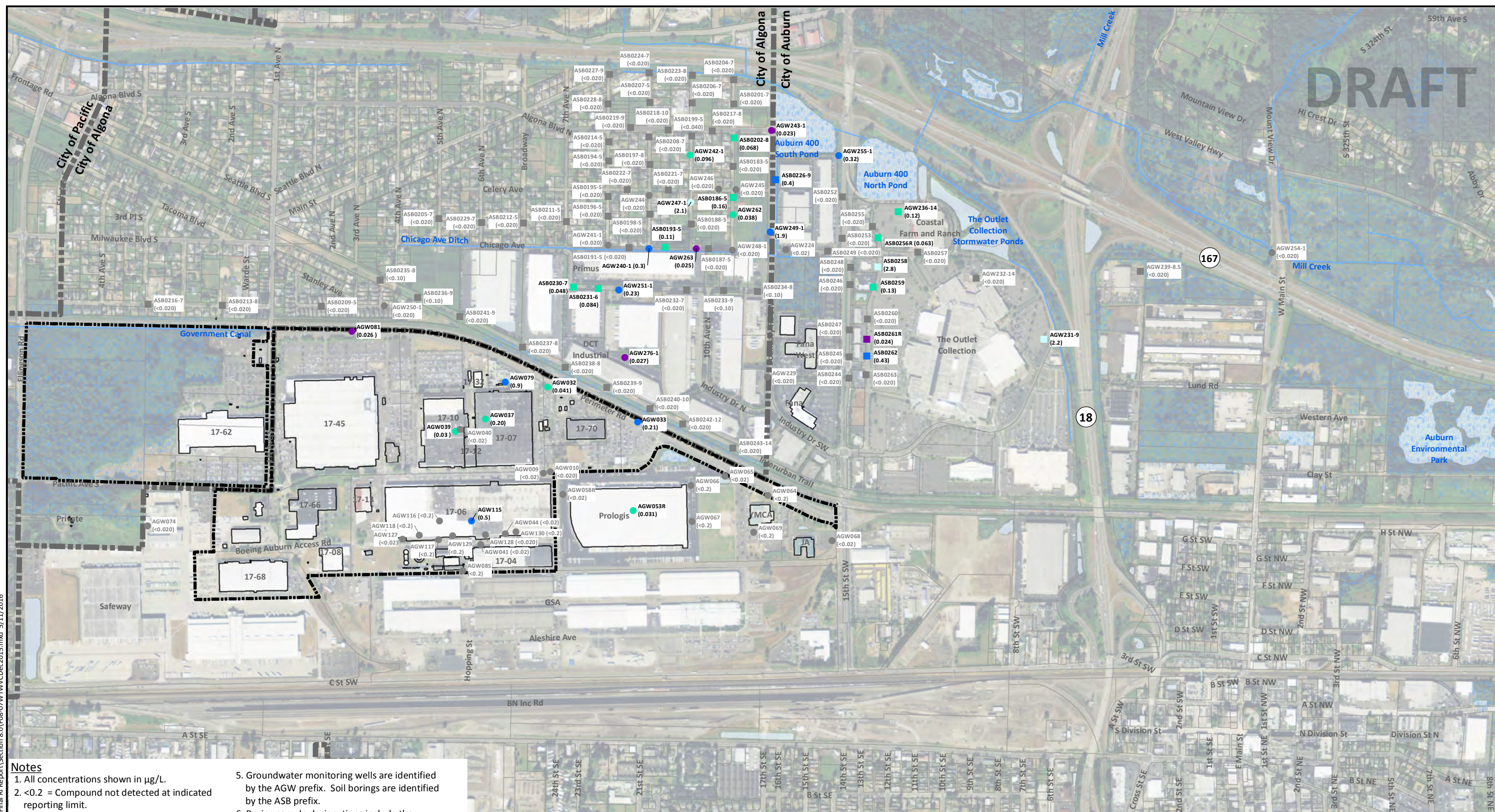
**Water Table
TCE Concentrations
Most Recent – December 2015**

Figure
8-6

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DRAFT



- Notes**
- All concentrations shown in $\mu\text{g/L}$.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Water table wells are screened across the water table. Borehole water table samples are collected from screens across the water table.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW240-1). Channel 1 is screened across the water table.
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Water Table Well Location
- Water Table Borehole Grab Sample Location
- Vinyl Chloride Detection (>2.0 $\mu\text{g/L}$)
- Vinyl Chloride Detection (>0.2-2.0 $\mu\text{g/L}$)
- Vinyl Chloride Detection (>0.029-0.2 $\mu\text{g/L}$)
- Vinyl Chloride Detection (<0.029 $\mu\text{g/L}$)
- Non-Detect
- ▬ City Limits
- ▬ Boeing Property
- ▬ Wetland Areas
- ▬ Water Bodies
- ▬ Waterways

0 1,000 2,000
Scale in Feet

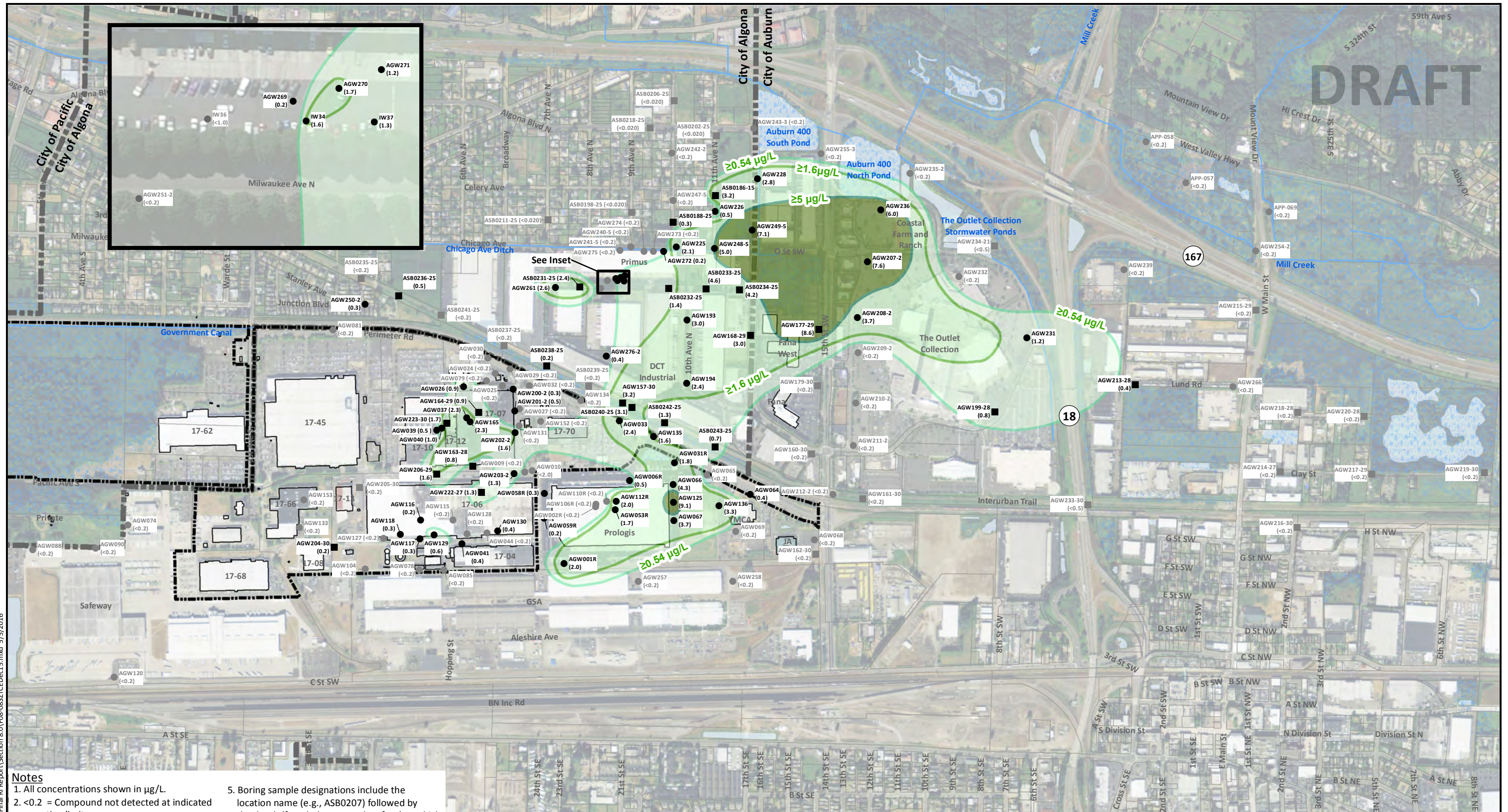
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Water Table Vinyl Chloride Concentrations Most Recent – December 2015	Figure 8-7
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- Notes**
1. All concentrations shown in µg/L.
 2. <0.2 = Compound not detected at indicated reporting limit.
 3. Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 4. Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 5. Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 6. Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 7. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

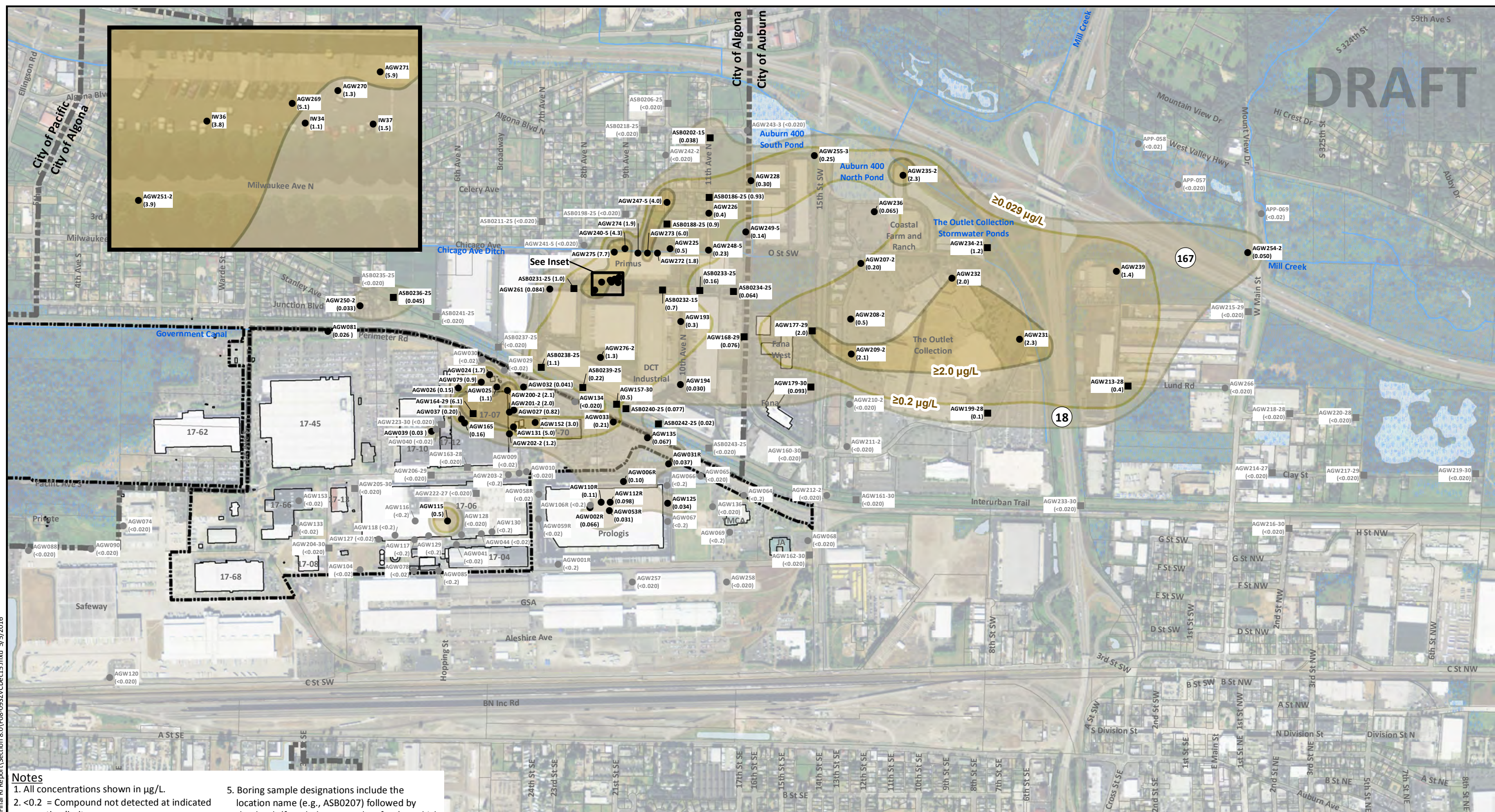
- Monitoring Well Location
- Borehole Grab Sample Location
- City Limits
- Boeing Property
- TCE Contour (≥5.0 µg/L)
- TCE Contour (≥1.6 µg/L)
- TCE Contour (≥0.54 µg/L)
- Wetland Areas
- Water Bodies
- Waterways

0 1,000 2,000
Scale in Feet

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

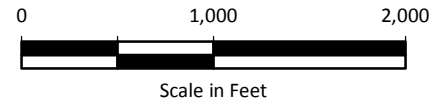
G:\Projects\025\164\130\111\Final RI Report\Section 8.0\F08-08SZTCEDec15.mxd 5/15/2016

DRAFT



- Notes**
- All concentrations shown in µg/L.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- Monitoring Well Location
 - Borehole Grab Sample Location
 - Vinyl Chloride Contour (≥2.0 µg/L)
 - Vinyl Chloride Contour (≥0.2 µg/L)
 - Vinyl Chloride Contour (≥0.029 µg/L)
 - ▬ City Limits
 - ▬ Boeing Property
 - ▬ Wetland Areas
 - ▬ Water Bodies
 - ▬ Waterways



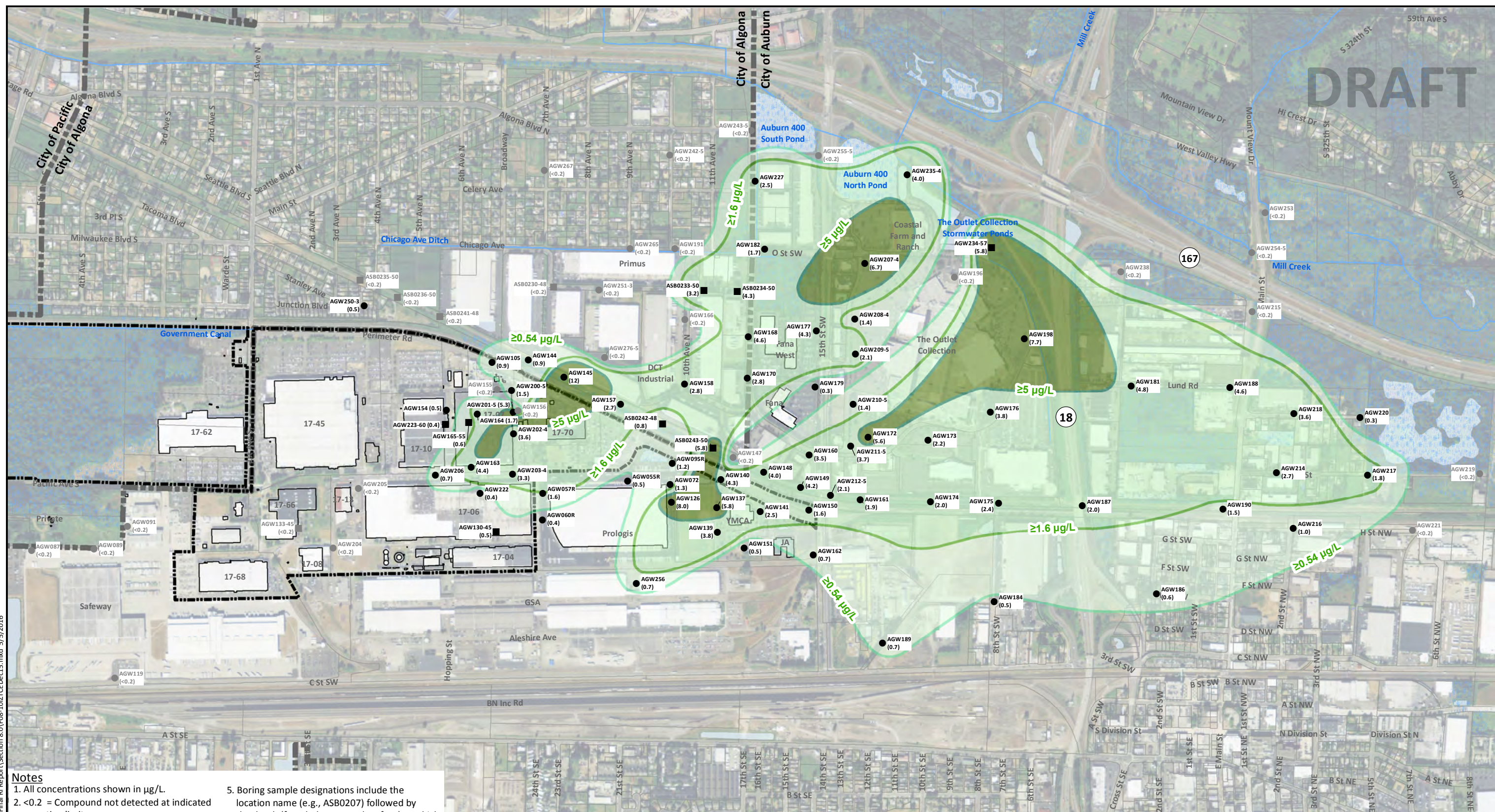
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone Vinyl Chloride Concentrations Most Recent – December 2015	Figure 8-9
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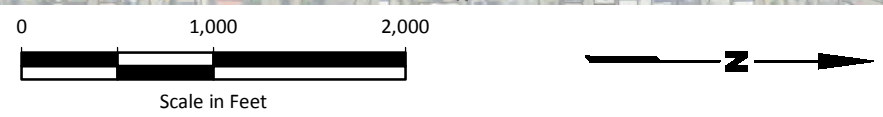
DRAFT



- Notes**
- All concentrations shown in µg/L.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- City Limits
- Boeing Property
- TCE Contour (≥5.0 µg/L)
- TCE Contour (≥1.6 µg/L)
- TCE Contour (≥0.54 µg/L)
- Wetland Areas
- Water Bodies
- Waterways



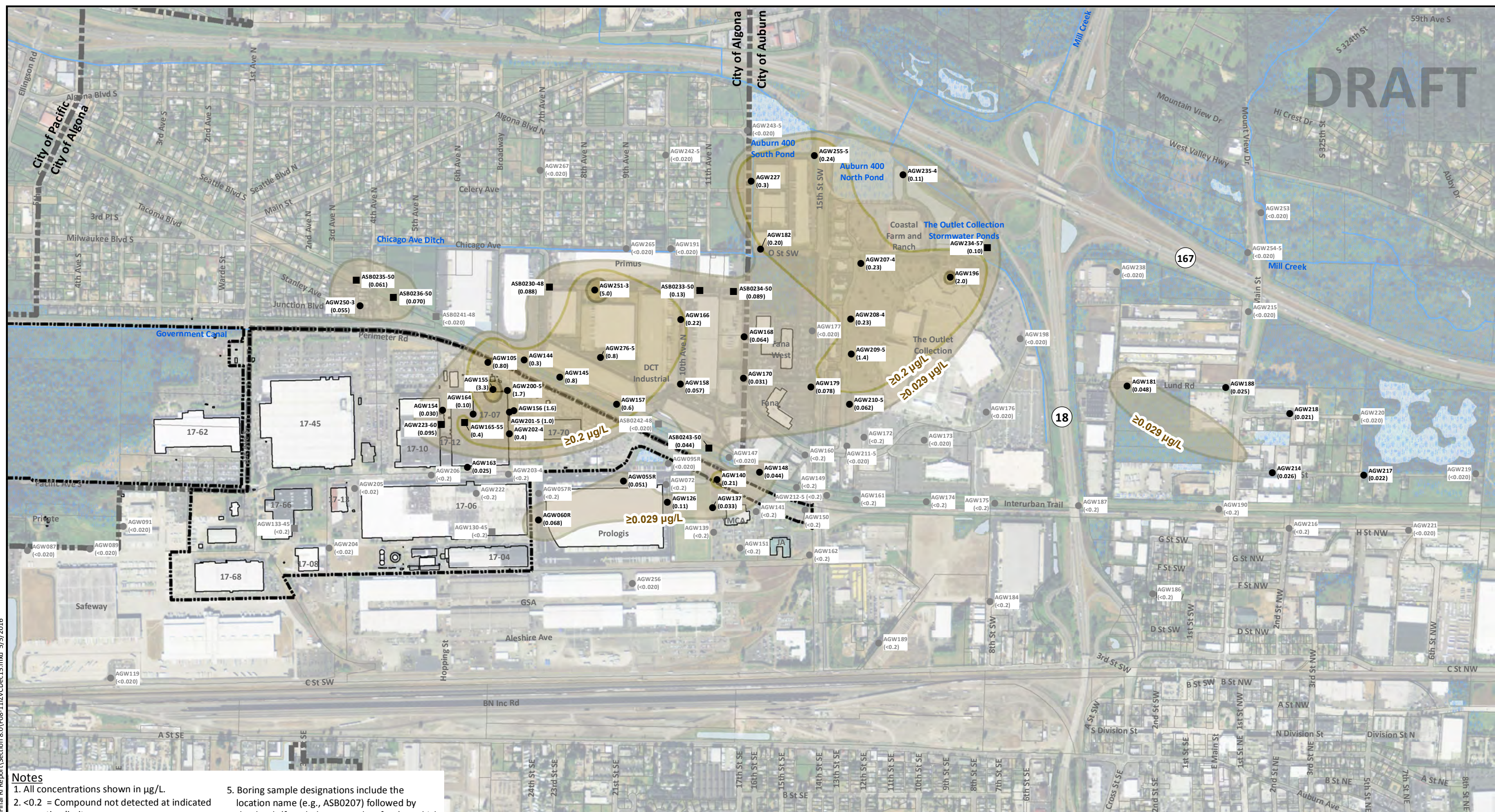
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Intermediate Zone TCE Concentrations Most Recent – December 2015	Figure 8-10
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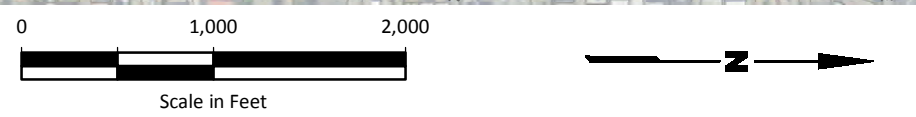


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- Notes**
- All concentrations shown in µg/L.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- Monitoring Well Location
 - Borehole Grab Sample Location
 - Vinyl Chloride Contour (≥2.0 µg/L)
 - Vinyl Chloride Contour (≥0.2 µg/L)
 - Vinyl Chloride Contour (≥0.029 µg/L)
 - ▬ City Limits
 - ▬ Boeing Property
 - Wetland Areas
 - Water Bodies
 - Waterways



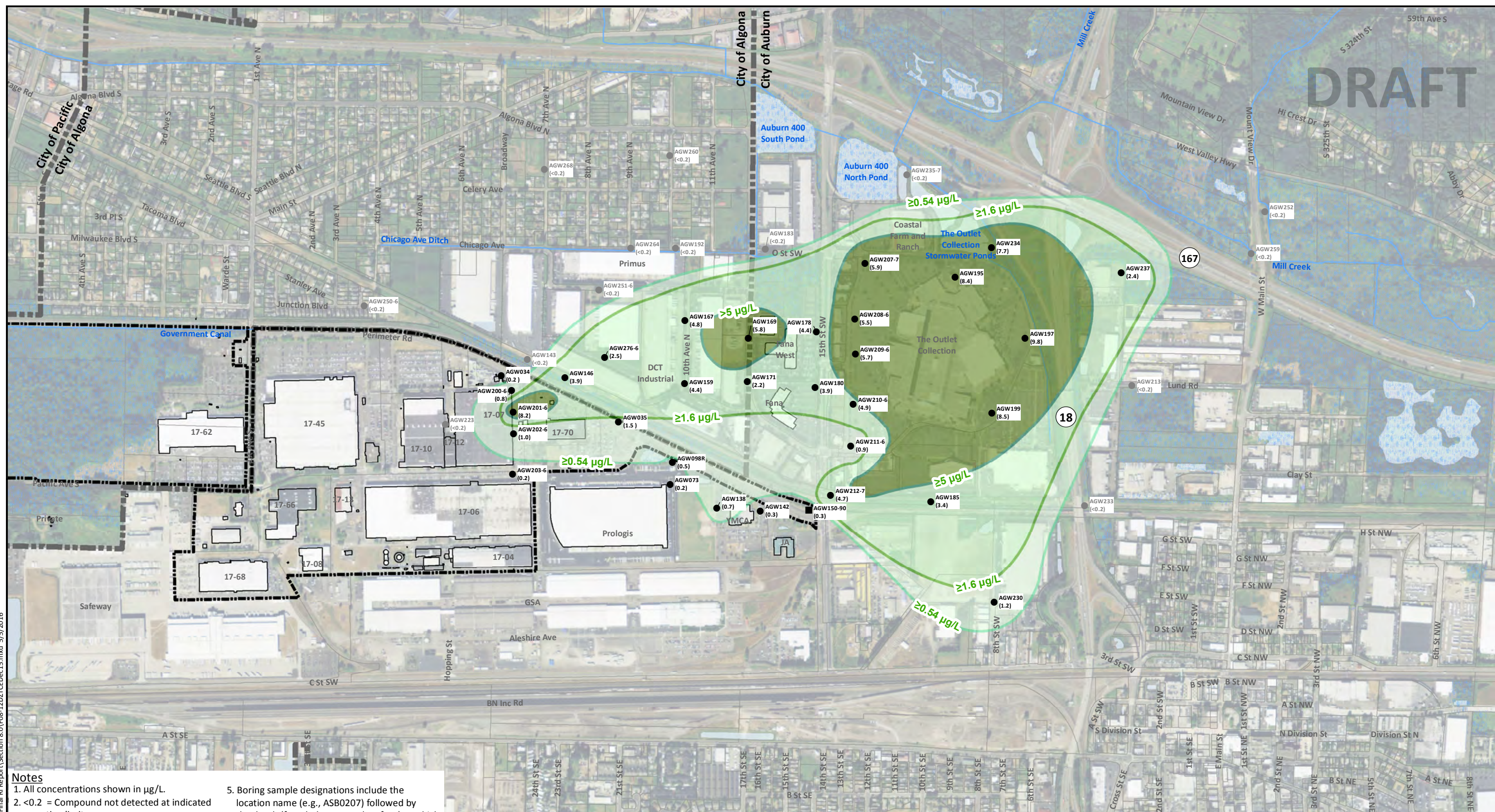
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Intermediate Zone Vinyl Chloride Concentrations Most Recent – December 2015	Figure 8-11
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DRAFT



- Notes**
- All concentrations shown in µg/L.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- Borehole Grab Sample Location
- City Limits
- Boeing Property
- TCE Contour (≥5.0 µg/L)
- TCE Contour (≥1.6 µg/L)
- TCE Contour (≥0.54 µg/L)
- Wetland Areas
- Water Bodies
- Waterways

0 1,000 2,000
Scale in Feet

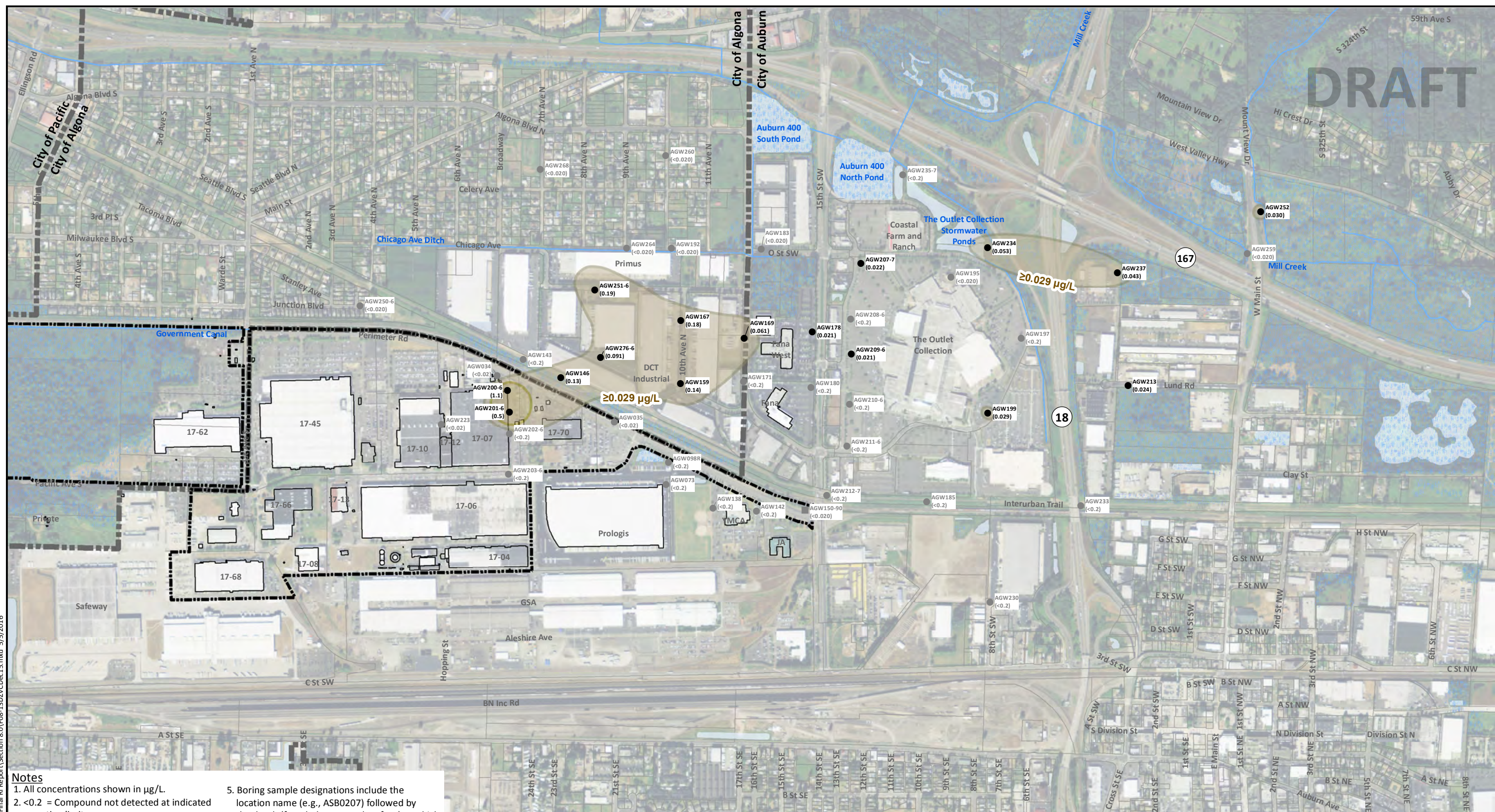
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone TCE Concentrations Most Recent – December 2015	Figure 8-12
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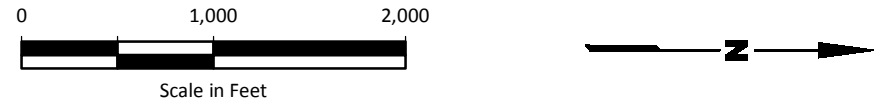


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- Notes**
- All concentrations shown in µg/L.
 - <0.2 = Compound not detected at indicated reporting limit.
 - Monitoring well results are the most recent. Borehole grab samples include direct-push borings and samples collected from monitoring wells at time of drilling.
 - Groundwater monitoring wells are identified by the AGW prefix. Soil borings are identified by the ASB prefix.
 - Boring sample designations include the location name (e.g., ASB0207) followed by the depth (feet, below ground surface) at which the sample was collected (e.g., 7).
 - Multilevel wells have multiple channels. Channel designations are included in the well ID (e.g., AGW208-2).
 - Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Legend**
- Monitoring Well Location
 - Borehole Grab Sample Location
 - Vinyl Chloride Contour (≥2.0 µg/L)
 - Vinyl Chloride Contour (≥0.2 µg/L)
 - Vinyl Chloride Contour (≥0.029 µg/L)
 - ▬ City Limits
 - ▬ Boeing Property
 - Wetland Areas
 - Water Bodies
 - Waterways



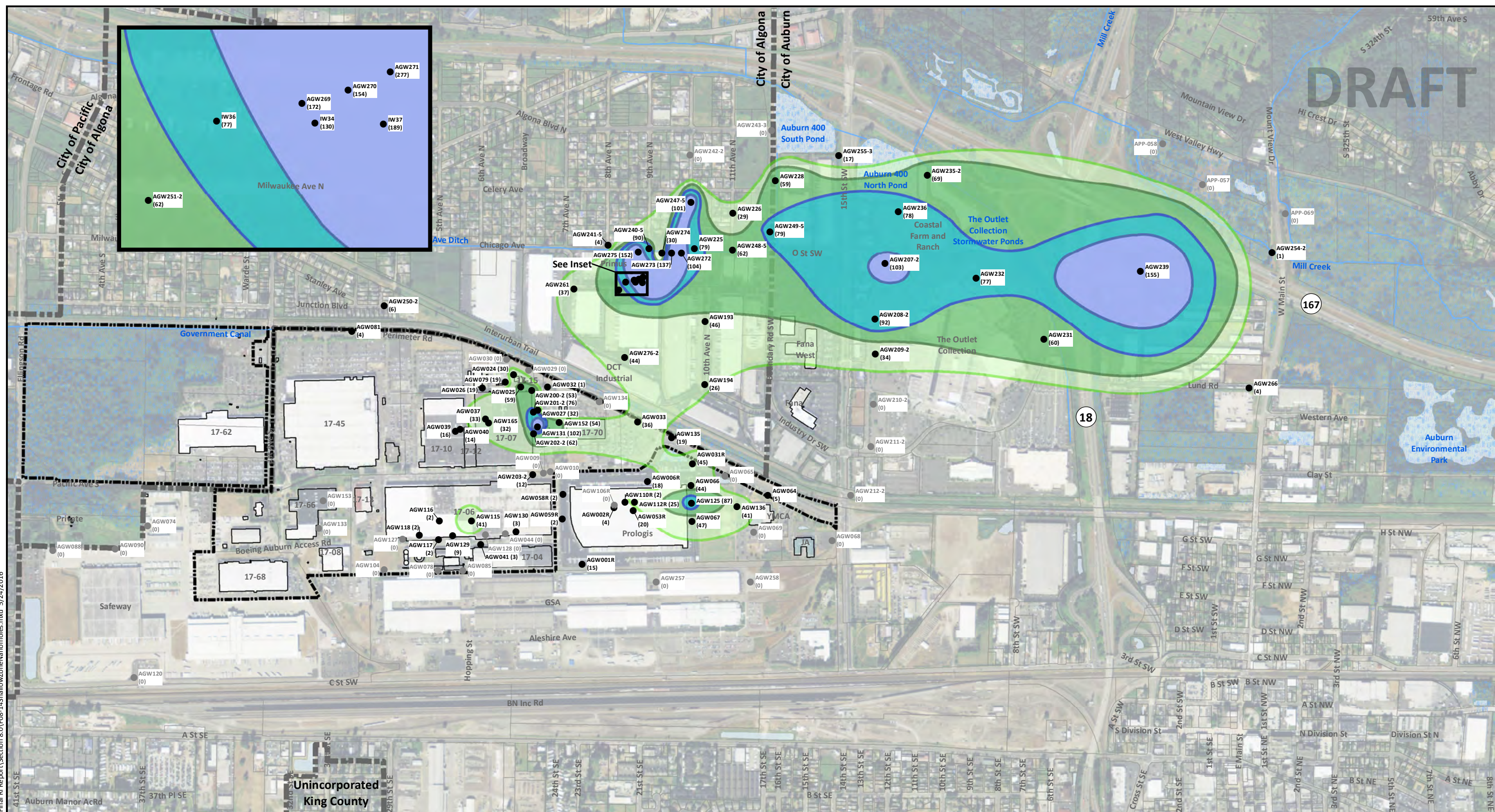
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone Vinyl Chloride Concentrations Most Recent – December 2015	Figure 8-13
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Notes

1. All concentrations shown in nmol/L.
2. Data provided is from June and December 2015.
3. Multilevel wells have seven well channels. Channel designations are included in the well ID (ex: AGW208-1).
4. Total chloroethenes include TCE, DCE, and VC.
5. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- City Limits
- Nanomole Contour ≥ 100 nmol/L
- Nanomole Contour ≥ 75 nmol/L
- Nanomole Contour ≥ 50 nmol/L
- Nanomole Contour ≥ 25 nmol/L
- Boeing Property
- Wetland Areas
- Water Bodies
- Waterways

0 1,000 2,000



Scale in Feet



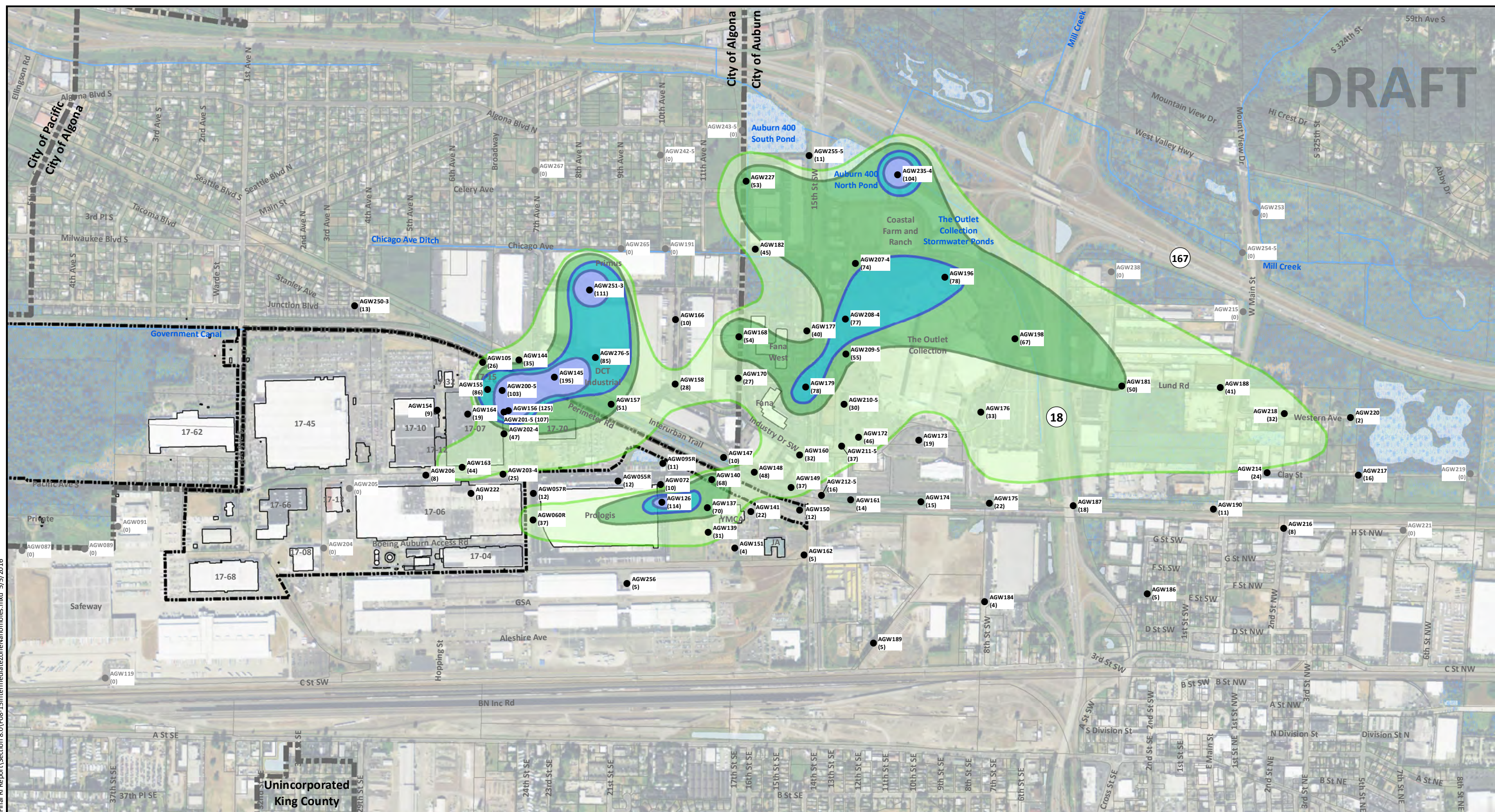
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone Total Chloroethene Molar Equivalents	Figure 8-14
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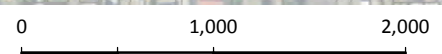


Notes

- All concentrations shown in nmol/L.
- Data provided is from June and December 2015.
- Multilevel wells have seven well channels. Channel designations are included in the well ID (ex: AGW208-1).
- Total chloroethenes include TCE, DCE, and VC.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- City Limits
- Nanomole Contour ≥ 100 nmol/L
- Nanomole Contour ≥ 75 nmol/L
- Nanomole Contour ≥ 50 nmol/L
- Nanomole Contour ≥ 25 nmol/L
- Boeing Property
- Wetland Areas
- Water Bodies
- Waterways



Scale in Feet

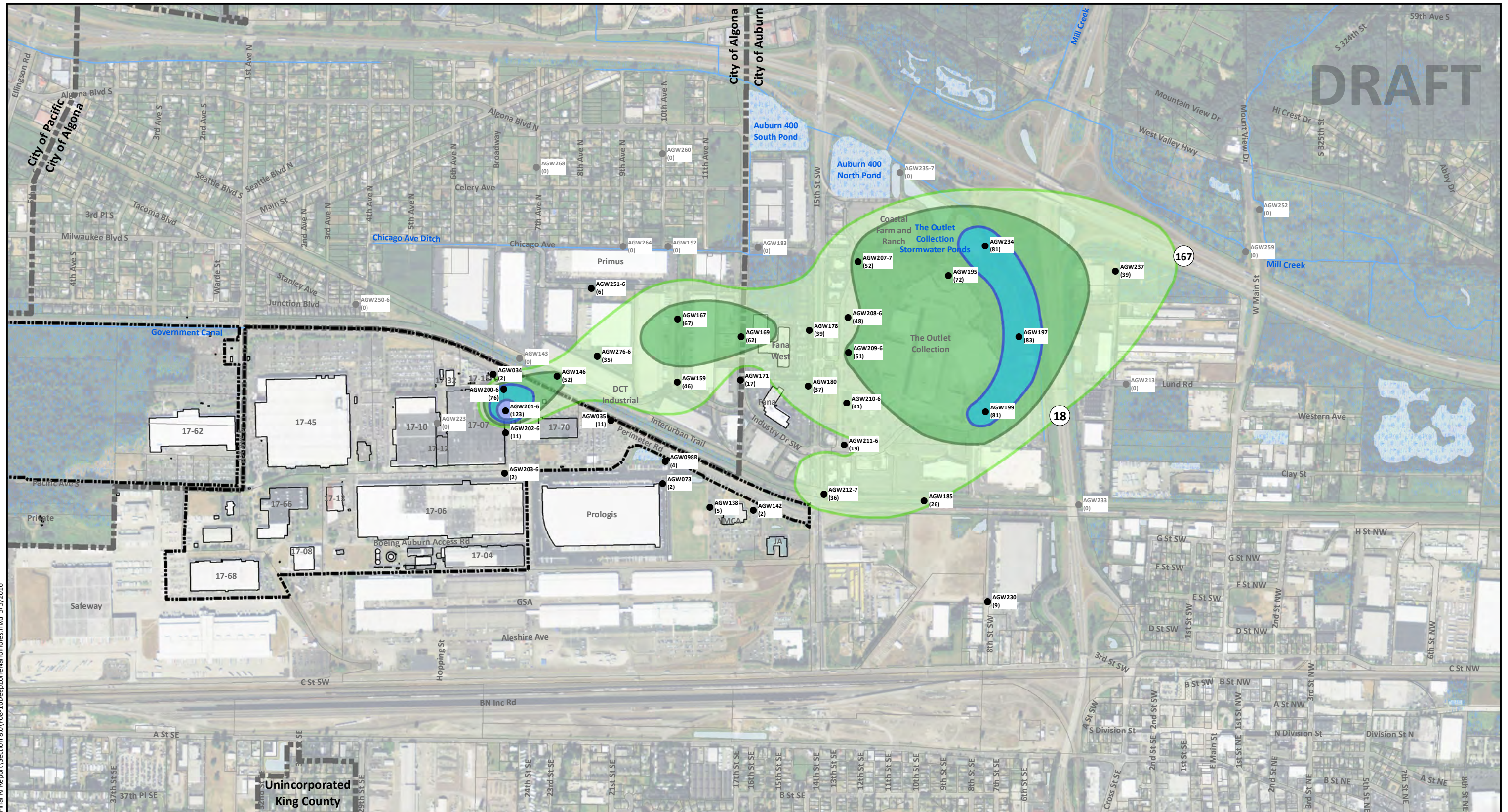
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Intermediate Zone Total Chloroethene Molar Equivalents	Figure 8-15
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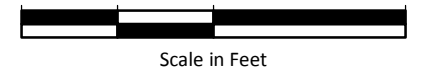
Notes

- All concentrations shown in nmol/L.
- Data provided is from June and December 2015.
- Multilevel wells have seven well channels. Channel designations are included in the well ID (ex: AGW208-1).
- Total chloroethenes include TCE, DCE, and VC.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Monitoring Well Location
- City Limits
- Nanomole Contour ≥ 100 nmol/L
- Nanomole Contour ≥ 75 nmol/L
- Nanomole Contour ≥ 50 nmol/L
- Nanomole Contour ≥ 25 nmol/L
- Boeing Property
- Wetland Areas
- Water Bodies
- Waterways

0 1,000 2,000



Scale in Feet



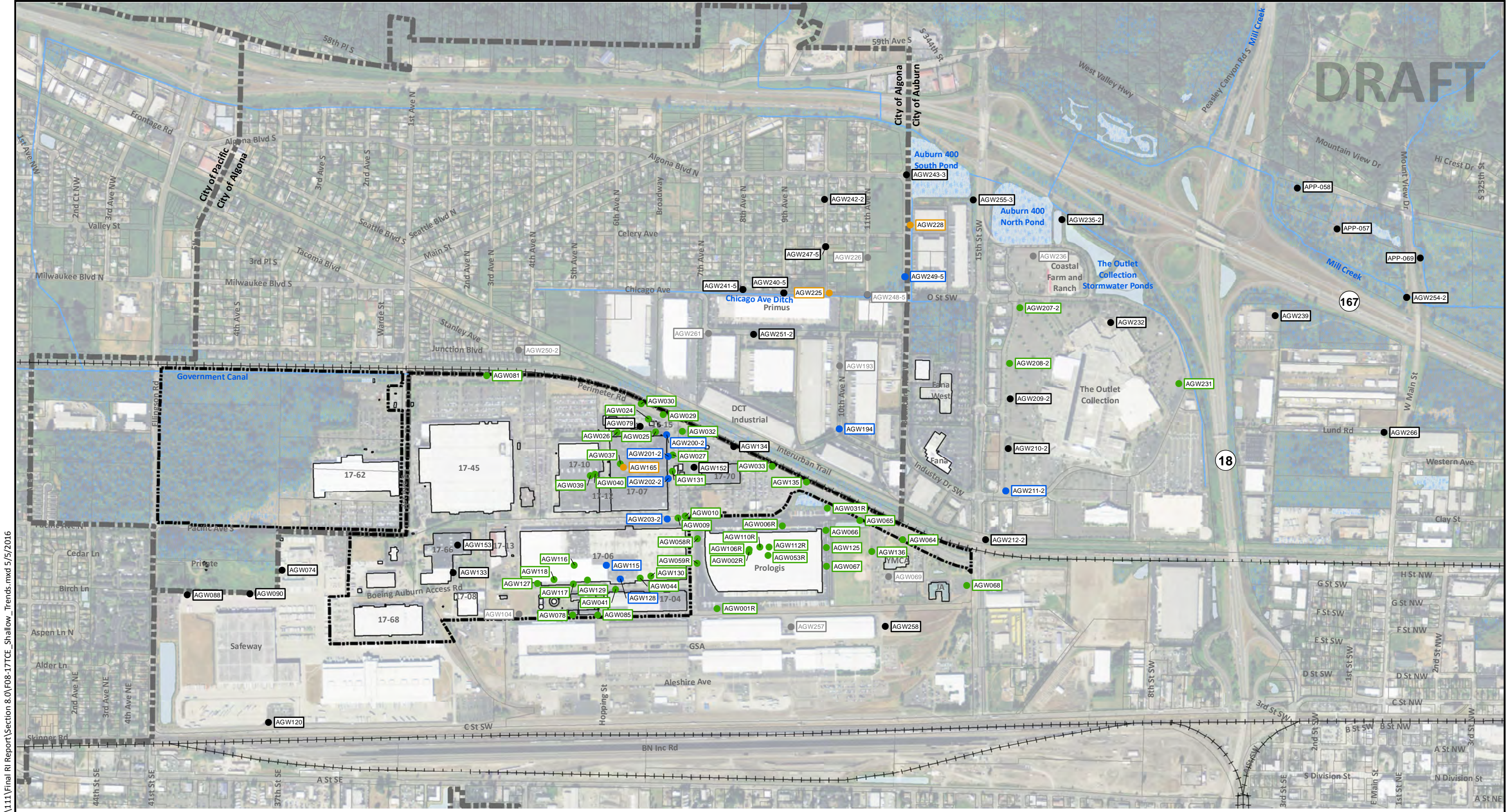
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone Total Chloroethene Molar Equivalents	Figure 8-16
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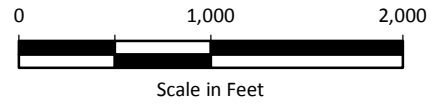


Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone -Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.
3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- ▨ Wetland Areas
- Boeing Property
- City Limits



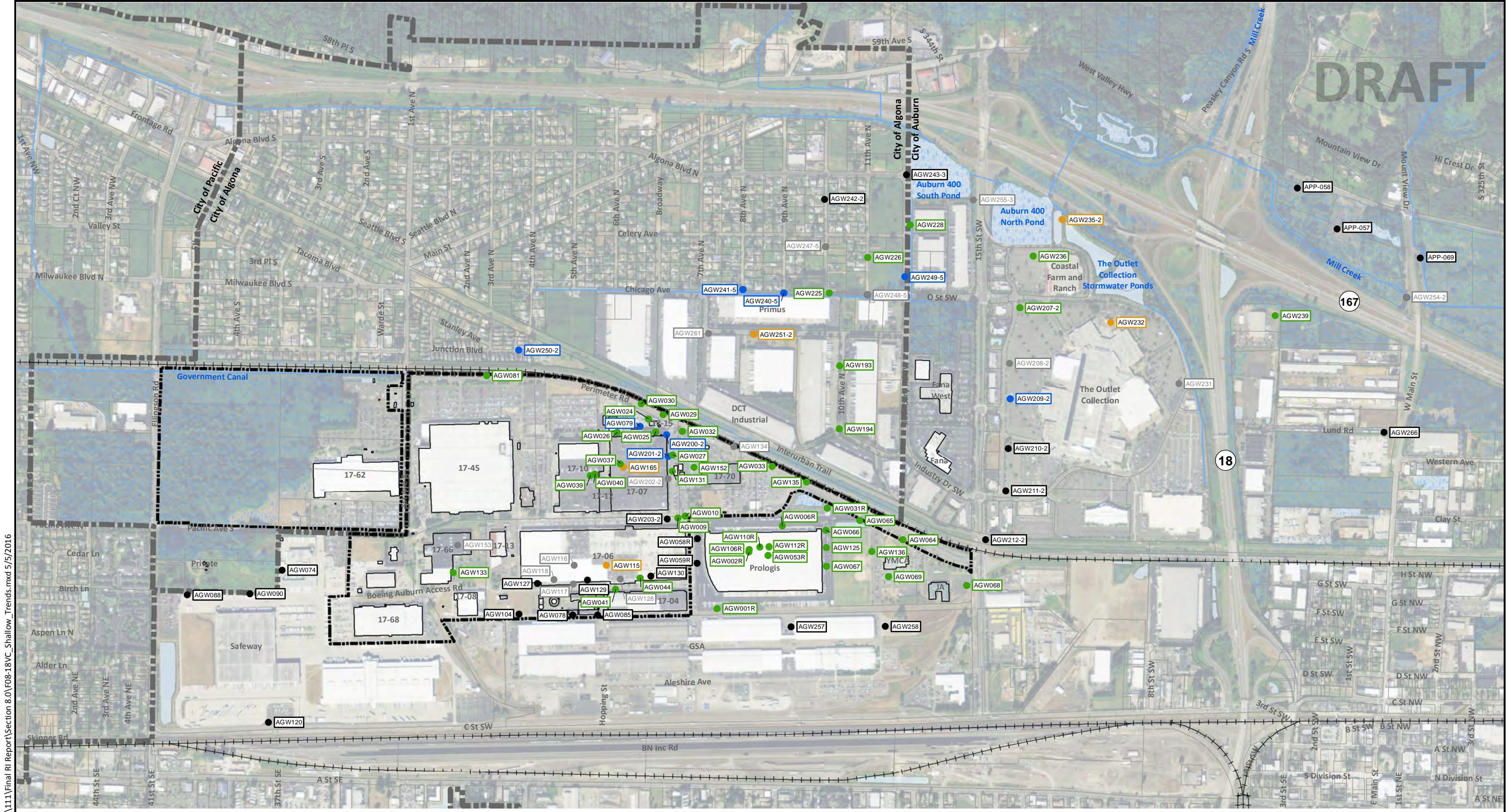
Base map source: Geomatrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone TCE Concentration Trends	Figure 8-17
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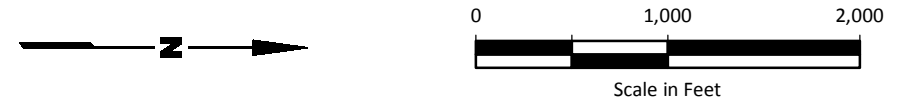
Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone - Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.

Legend

3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- Wetland Areas
- Boeing Property
- City Limits



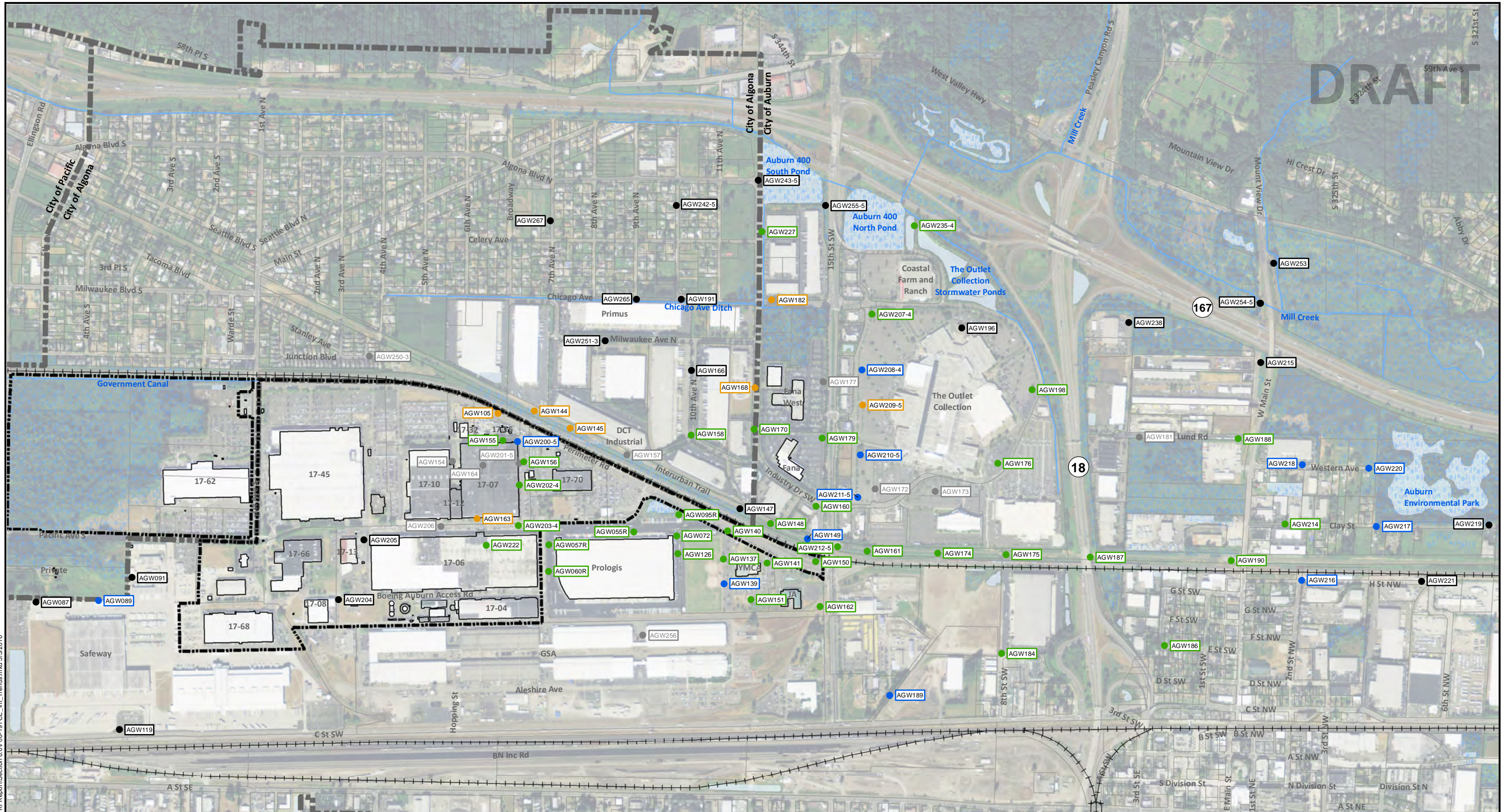
Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

Boeing Auburn Remedial Investigation Auburn, Washington	Shallow Zone VC Concentration Trends	Figure 8-18
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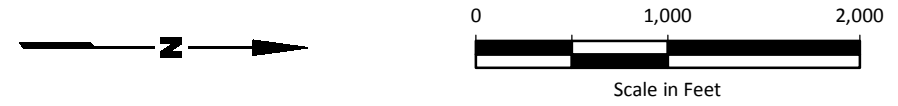
Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone - Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.

3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- ▨ Wetland Areas
- Boeing Property
- City Limits



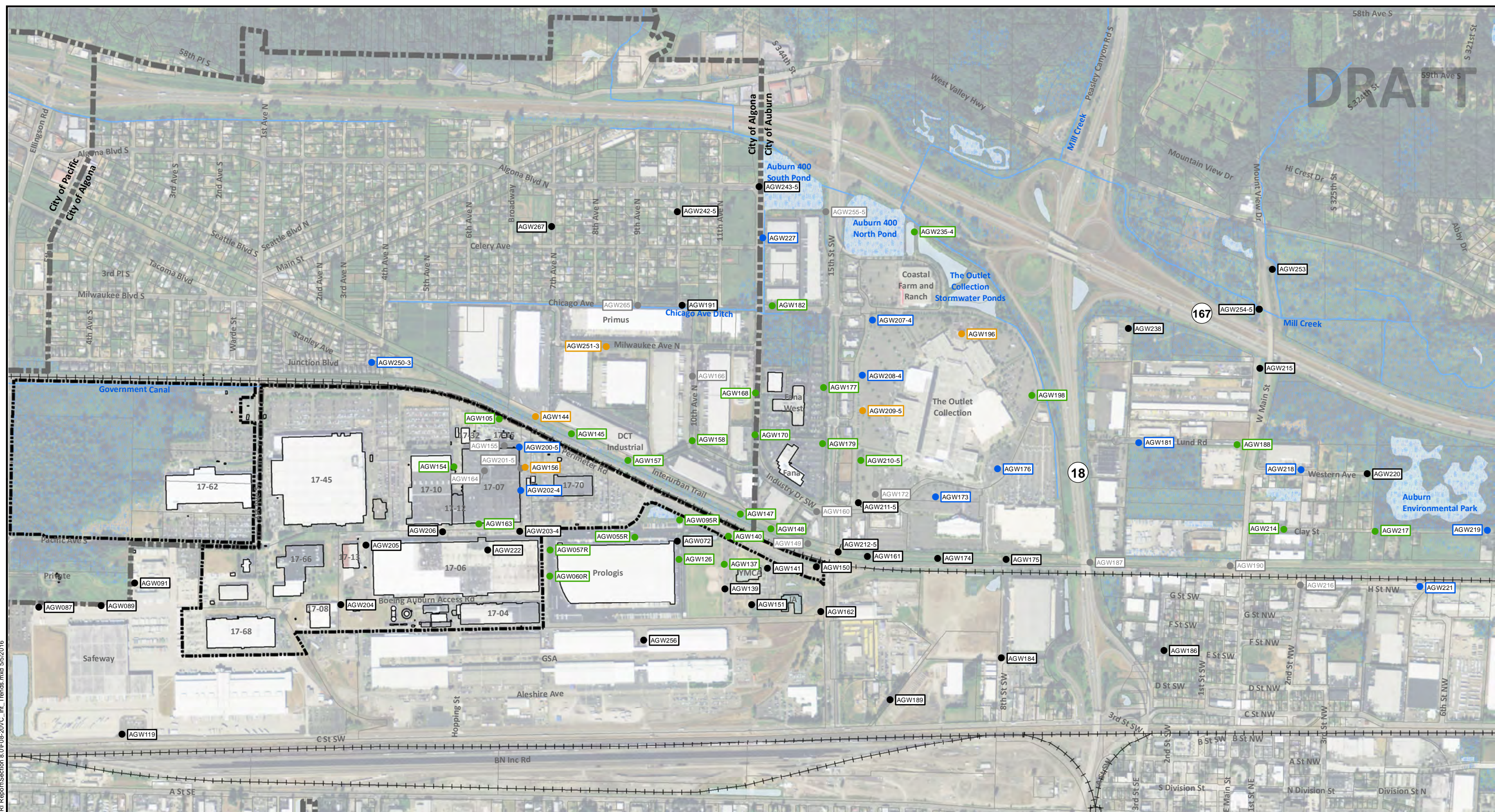
Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

<p>Boeing Auburn Remedial Investigation Auburn, Washington</p>	<p>Intermediate Zone TCE Concentration Trends</p>	<p>Figure 8-19</p>
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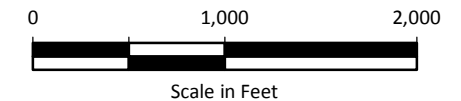
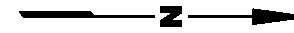
Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone - Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.

3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- Wetland Areas
- Boeing Property
- City Limits



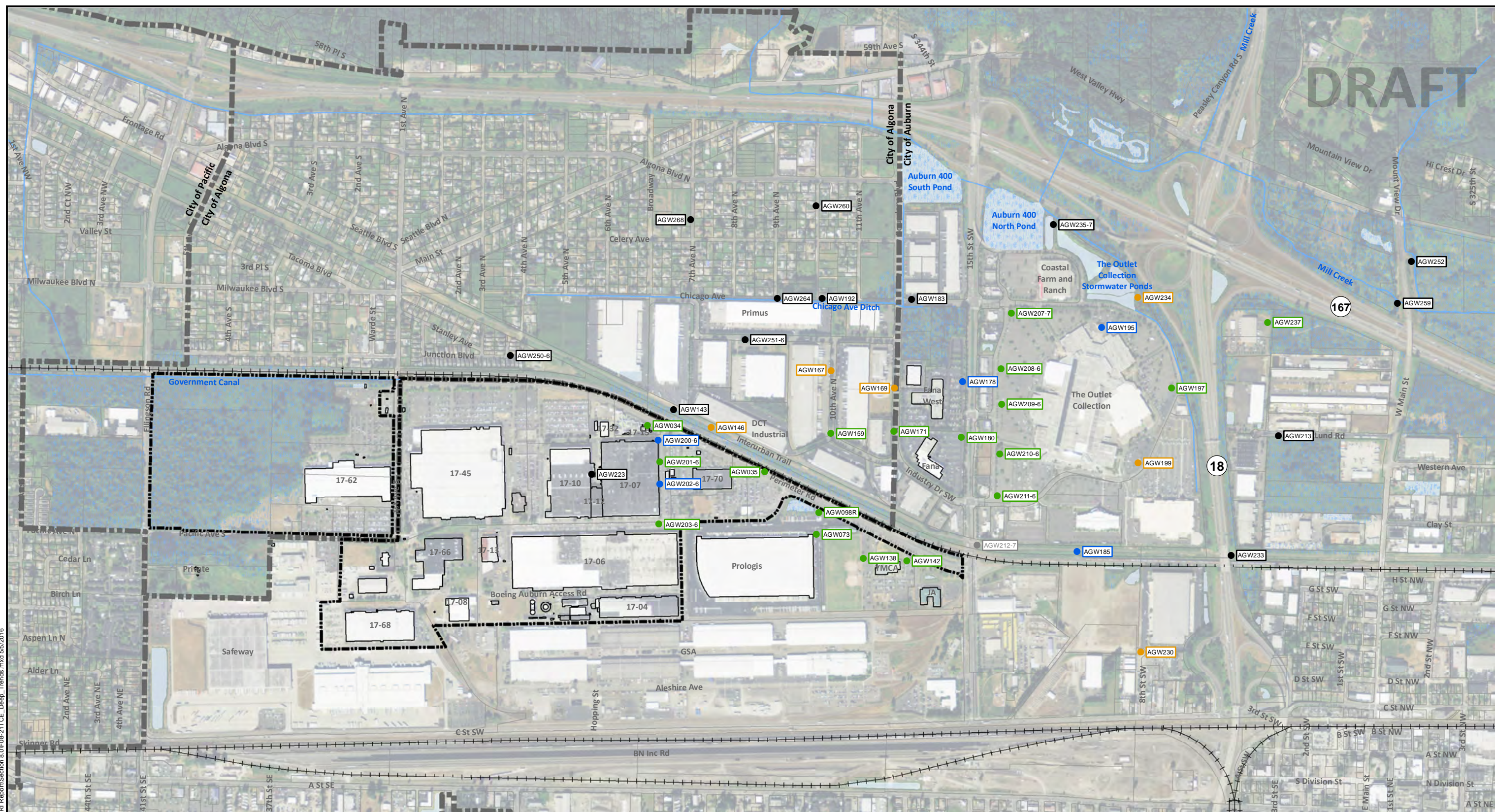
Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

Boeing Auburn
Remedial Investigation
Auburn, Washington

Intermediate Zone
VC Concentration Trends

Figure
8-20

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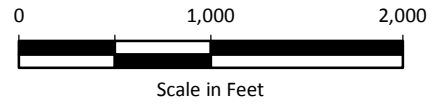


Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone - Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.
3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples
- Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- Wetland Areas
- Boeing Property
- City Limits



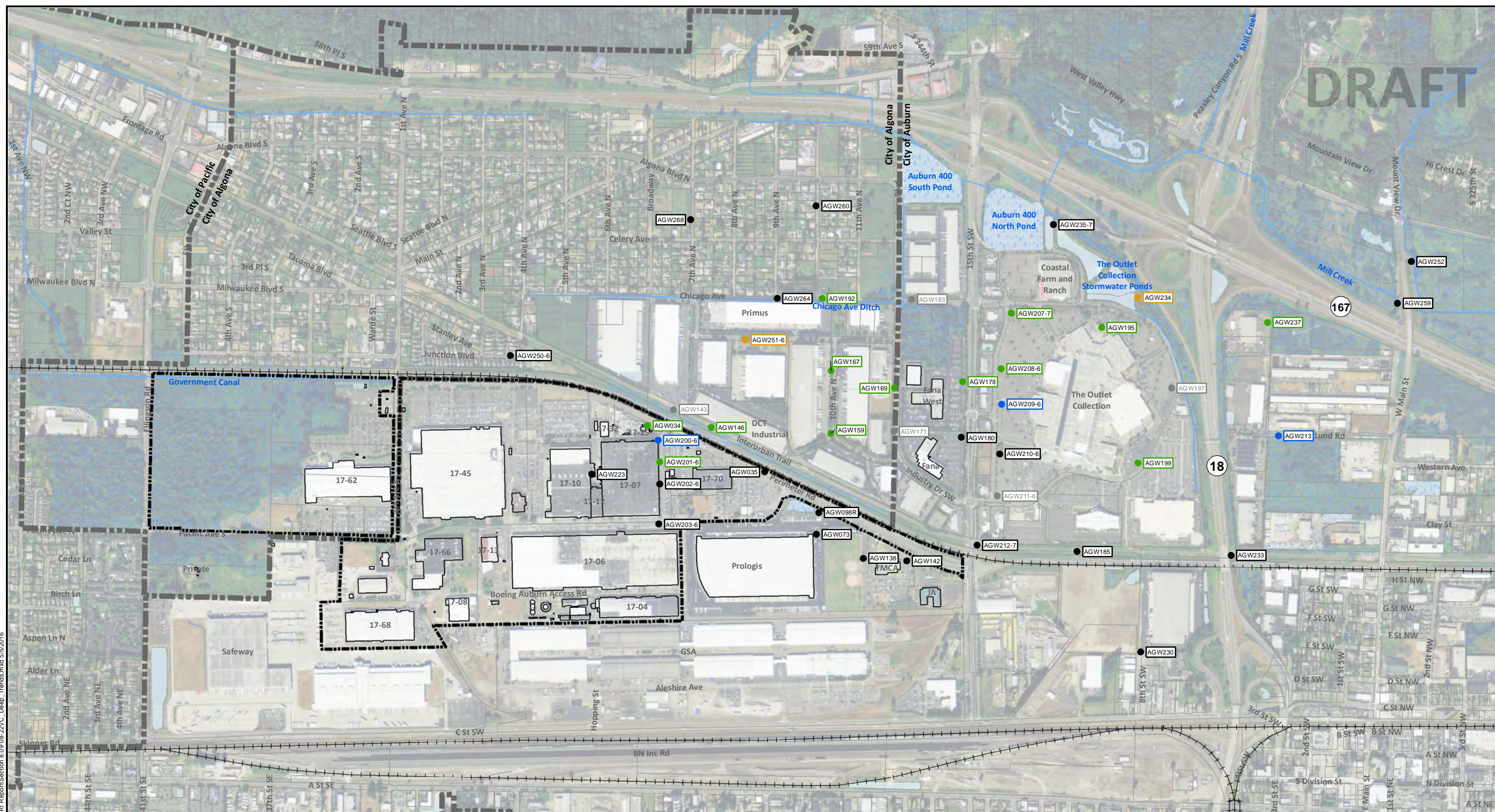
Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone TCE Concentration Trends	Figure 8-21
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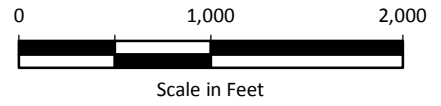
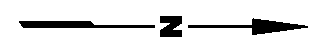


Notes

1. TCE and VC concentration trends were determined using the Mann-Kendall test and a trend criterion established by Monitoring and Remediation Optimization System (MAROS) Software.
2. TCE and VC data collected between (Water table and Shallow Zone - Aug 1990; Intermediate Zone - Oct 1996; Deep Zone - Dec 1995) and Jun 2015.
3. Multilevel wells have multiple channels. Channel designations are included in the well ID (ex: AGW208-2).
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Increasing
- Stable
- Decreasing
- Non-Detect; All Samples Collected Non-Detect
- No Trend/Insufficient Data
- Waterways
- Wetland Areas
- Boeing Property
- City Limits

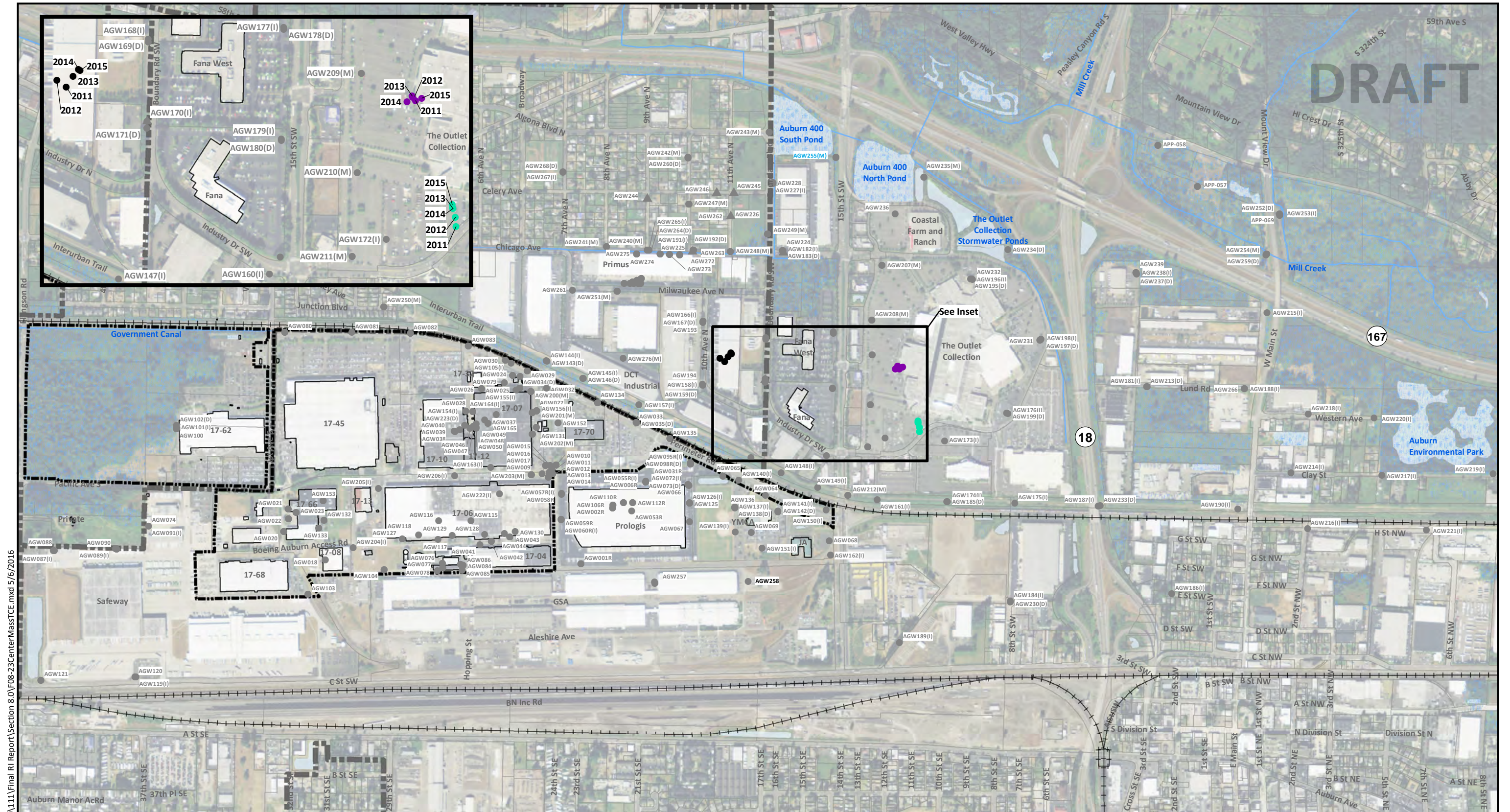


Base map source: Geometrix 2003; Aerial Photo Source: Esri World Imagery; Parcel Data Source: King County GIS 2013

Boeing Auburn Remedial Investigation Auburn, Washington	Deep Zone VC Concentration Trends	Figure 8-22
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Notes

- Center of Mass locations were calculated using Monitoring and Remediation Optimization System (MAROS) software.
- Well designations beginning with APP are installed and owned by WSDOT.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Shallow Zone Center of Mass
- Intermediate Zone Center of Mass
- Deep Zone Center of Mass
- ▲ Offsite Water Table Well
- Monitoring Well
- (I) Intermediate Monitoring Well (40 to 60 ft BGS)
- (D) Deep Monitoring Well (80 to 100 ft BGS)
- (M) Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways



0 1,000 2,000



Scale in Feet

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

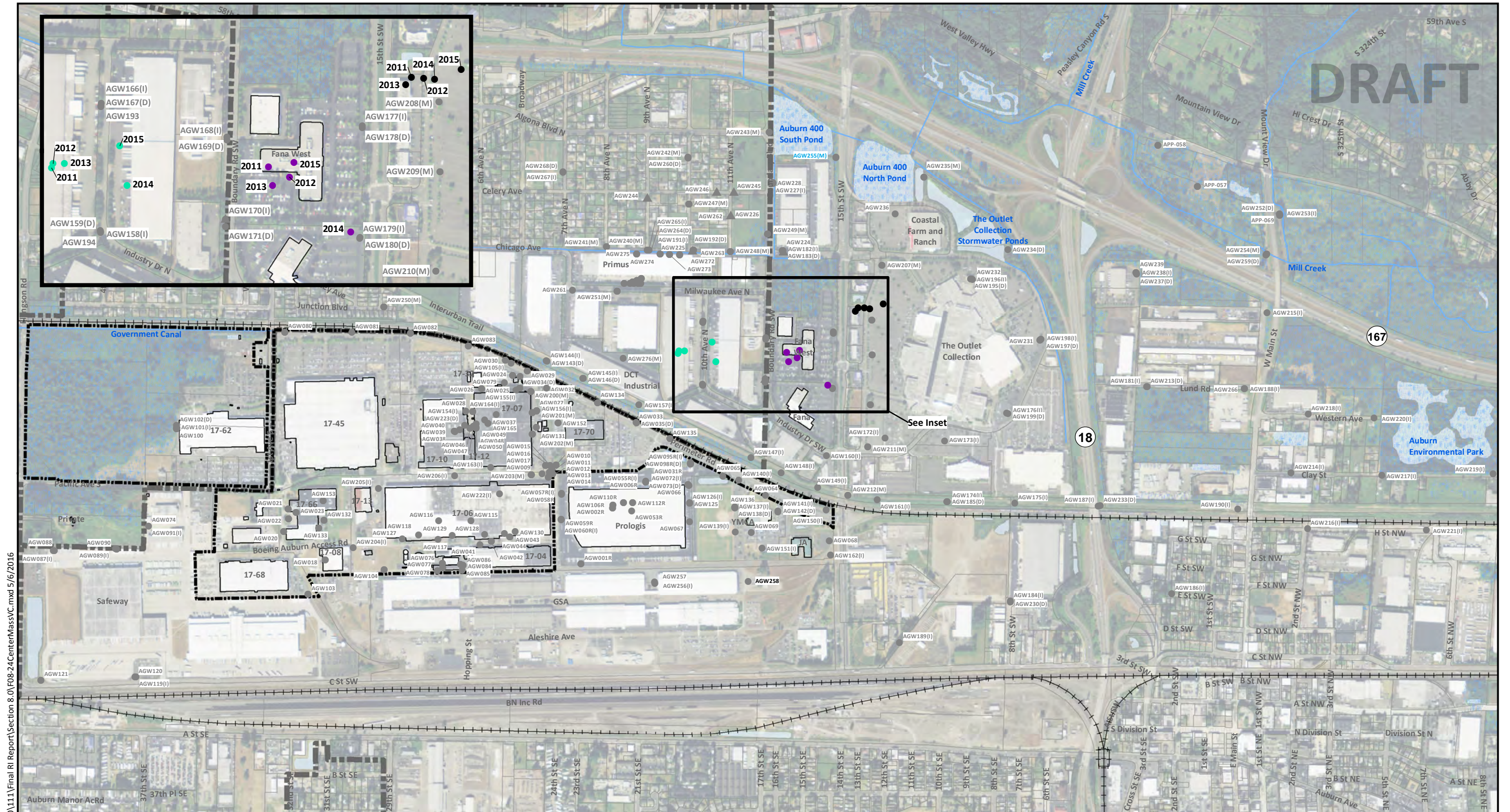
Boeing Auburn
Remedial Investigation
Auburn, Washington

Estimated TCE Center of Mass Location
by Groundwater Zone 2011-2015

Figure
8-23

G:\Projects\025\164\130\111\Final RI Report\Section 8.0\F08-23CenterMassTCE.mxd 5/6/2016





Notes

- Center of Mass locations were calculated using Monitoring and Remediation Optimization System (MAROS) software.
- Well designations beginning with APP are installed and owned by WSDOT.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Shallow Zone Center of Mass
- Intermediate Zone Center of Mass
- Deep Zone Center of Mass
- ▲ Offsite Water Table Well
- Monitoring Well
- (I) Intermediate Monitoring Well (40 to 60 ft BGS)
- (D) Deep Monitoring Well (80 to 100 ft BGS)
- (M) Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn
Remedial Investigation
Auburn, Washington

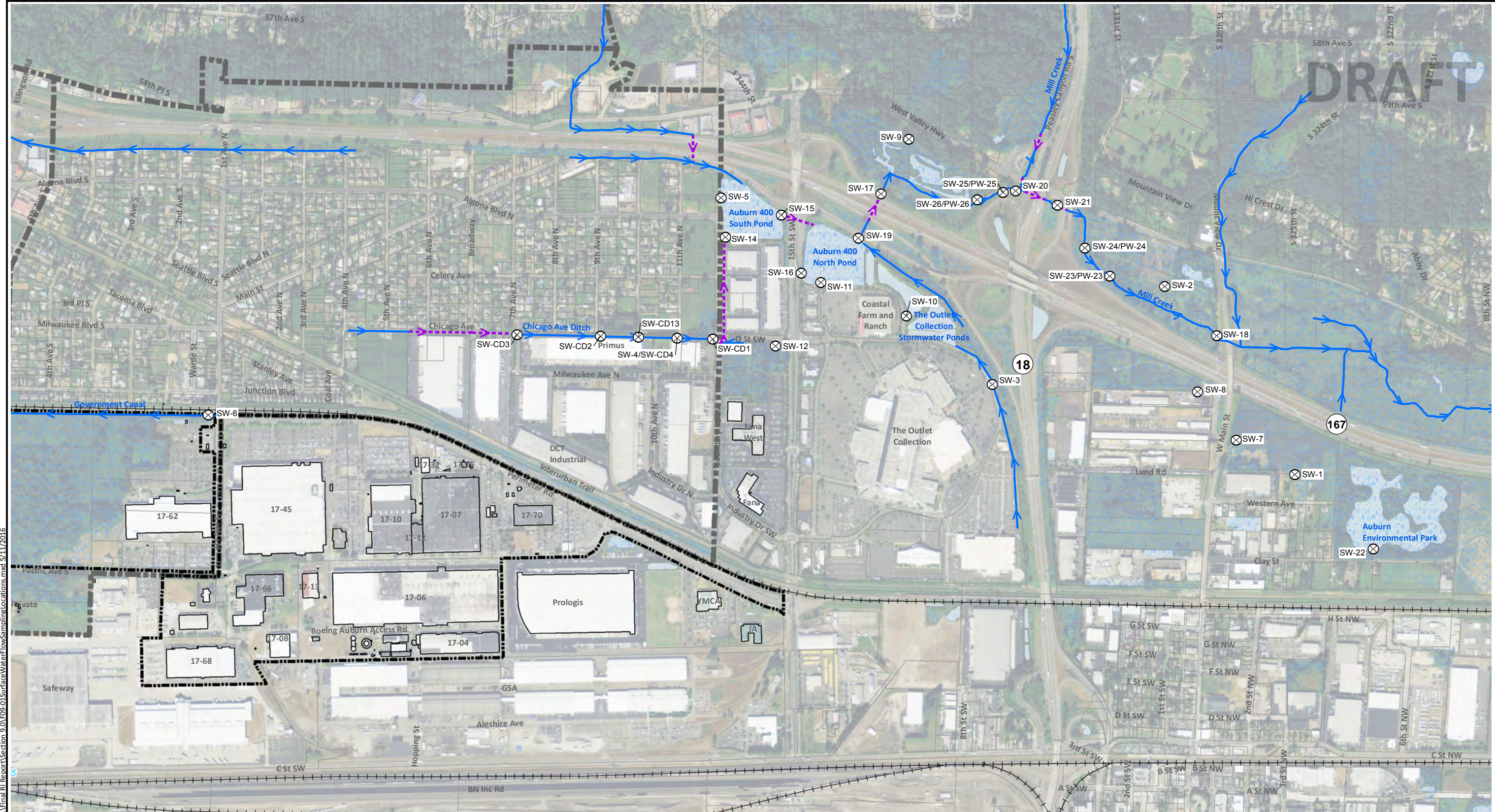
Estimated VC Center of Mass Location
by Groundwater Zone 2011-2015

Figure
8-24

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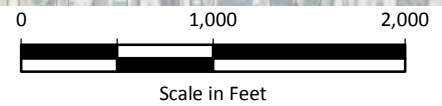
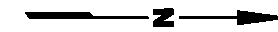


Legend

- ⊗ Surface Water Sample
- Wetland Areas
- Open Waterways
- Piped Waterways
- Boeing Property
- City Limits

Notes

1. Surface water sampling locations are designated by SW. Pore water sampling locations are designated by PW.
2. The locations of surface water features are approximate.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn
Remedial Investigation
Auburn, Washington

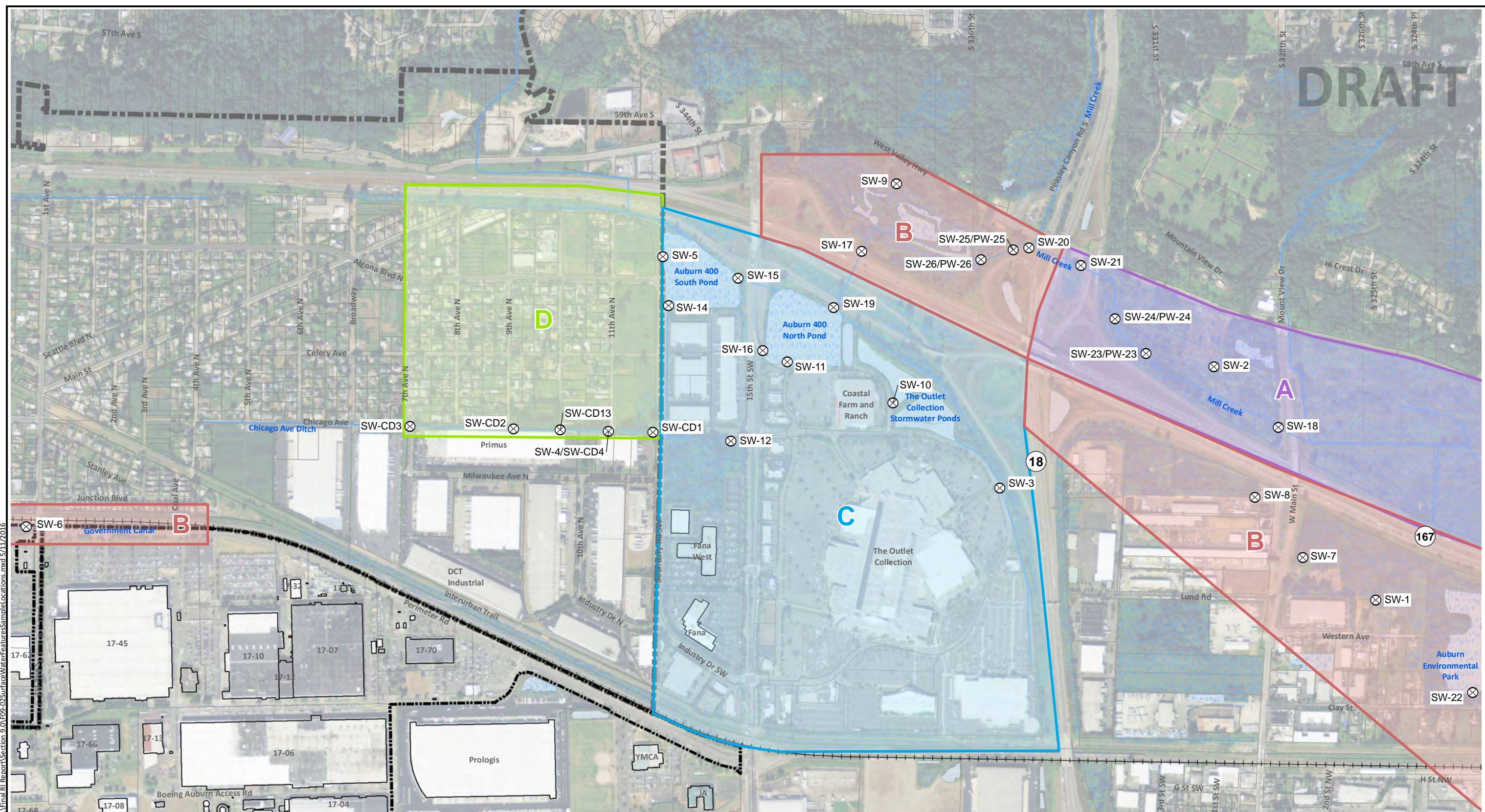
Surface Water Flow and
Sampling Locations

Figure
9-1

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Legend

- ⊗ Surface Water Sample
- ▬ City Limits
- ▬ Wetland Areas
- ▬ Waterways
- ▬ Area A
- ▬ Area B
- ▬ Area C
- ▬ Area D

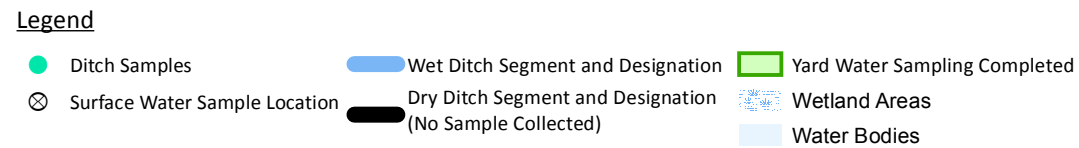
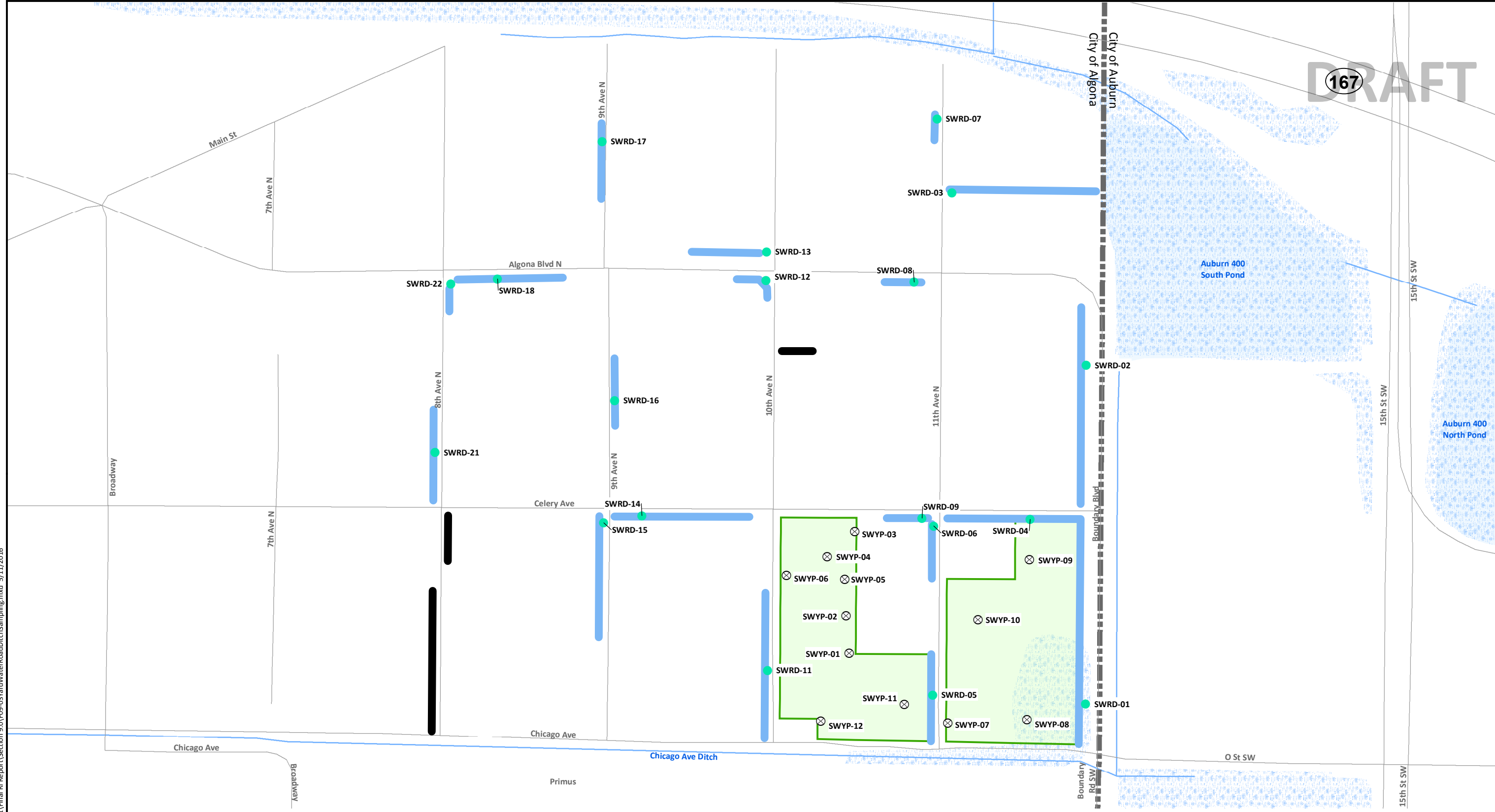
	Screening Levels (µg/L)		
	TCE	VC	cis-1,2-DCE
Area A	0.6	0.022	16
Area B	7.0	1.6	N/A
Area C	58	98	N/A
Area D	58	15	N/A

- Notes**
1. Surface water sampling locations are designated by SW. Pore water sampling locations are designated by PW.
 2. The locations of surface water features are approximate.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Scale in Feet

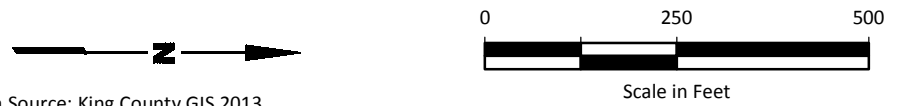
Base Map Source: Geomatrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn Remedial Investigation Auburn, Washington	Surface Water Features and Sample Locations	Figure 9-2
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Notes

1. Yard water sampling locations are designated by SWYP. Roadside ditch sampling locations are designated by SWRD.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

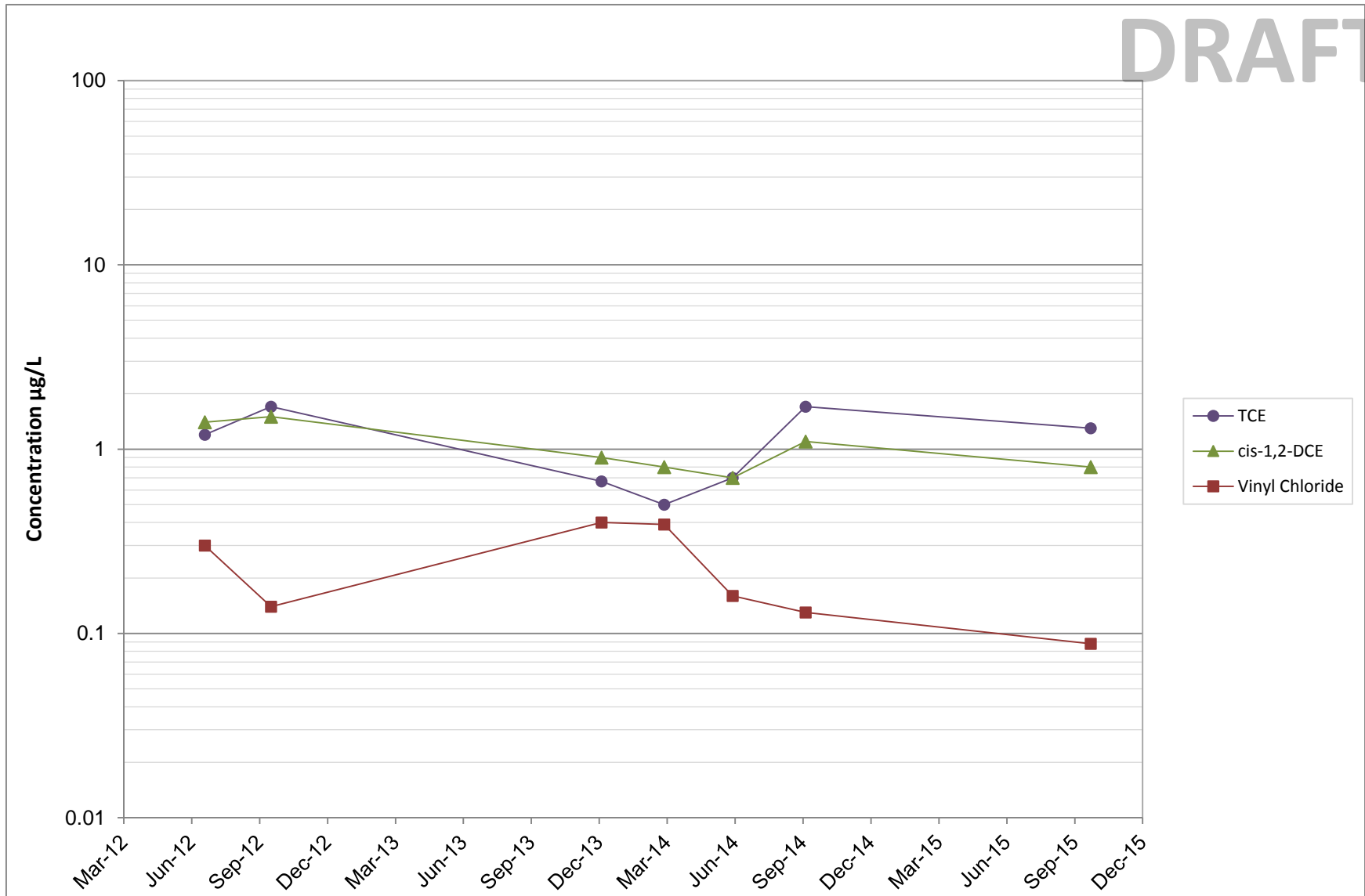


Data Source: King County GIS 2013.

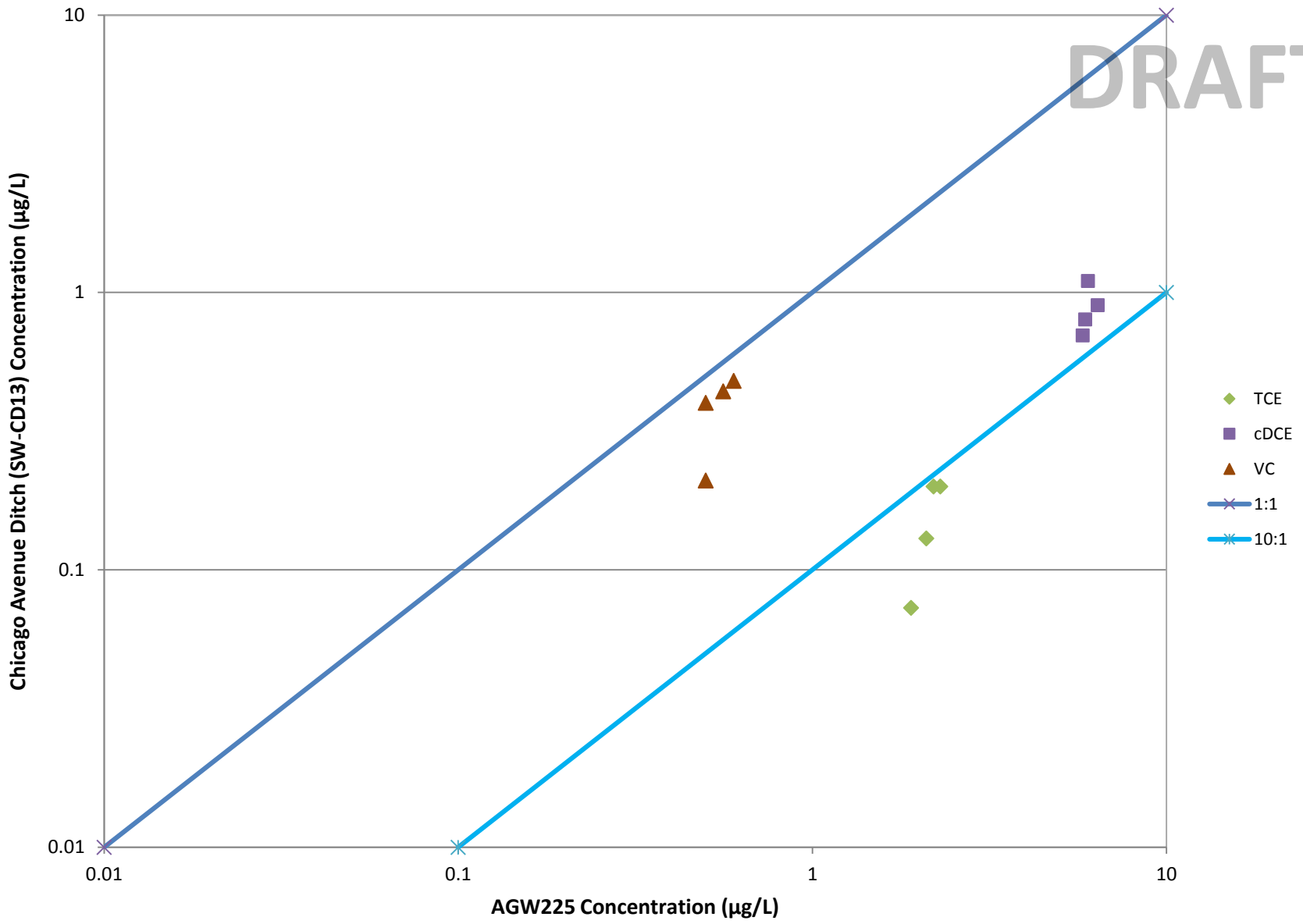
Boeing Auburn Remedial Investigation Auburn, Washington	Yard Water and Roadside Ditch Sampling	Figure 9-3
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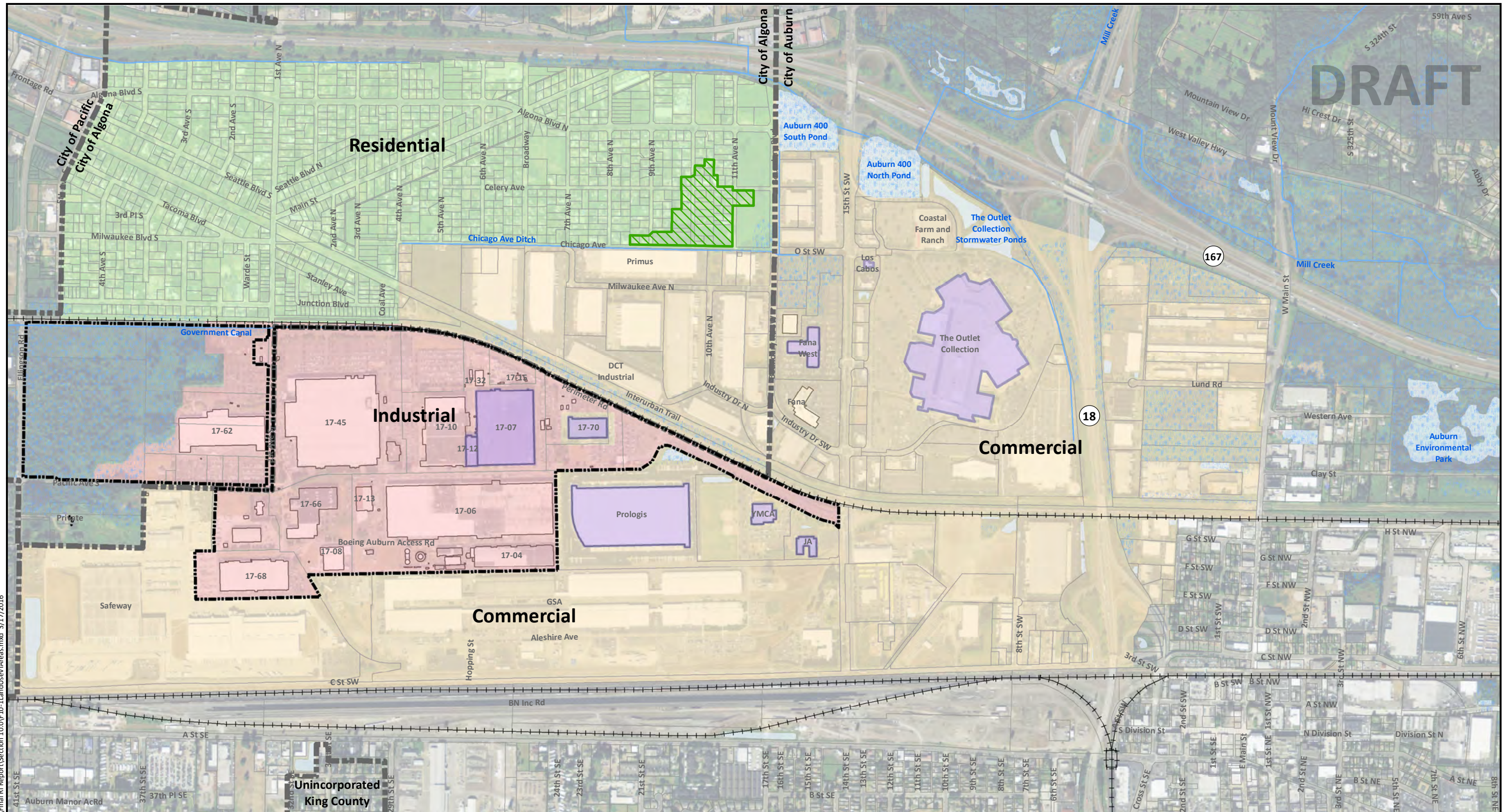
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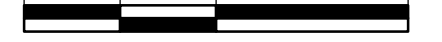
Note

1. The land use areas delineated here represent those land use areas near to or at which shallow groundwater is impacted by trichloroethene and vinyl chloride.
2. The industrial land use area consists of the Boeing Auburn property, which includes some commercial office buildings.
3. Commercial and industrial vapor intrusion assessments were conducted in 2012, 2013, 2015, and 2016. Residential vapor intrusion assessments were conducted in 2013 and 2014.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Commercial Land Use Area
- Industrial Land Use Area
- Residential Land Use Area
- Building(s) Where Vapor Intrusion Assessments were Conducted (2012, 2013, 2015, and 2016)
- 2013/2014 Residential Vapor Intrusion Assessment Area
- Boeing Property
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

0 1,000 2,000



Scale in Feet



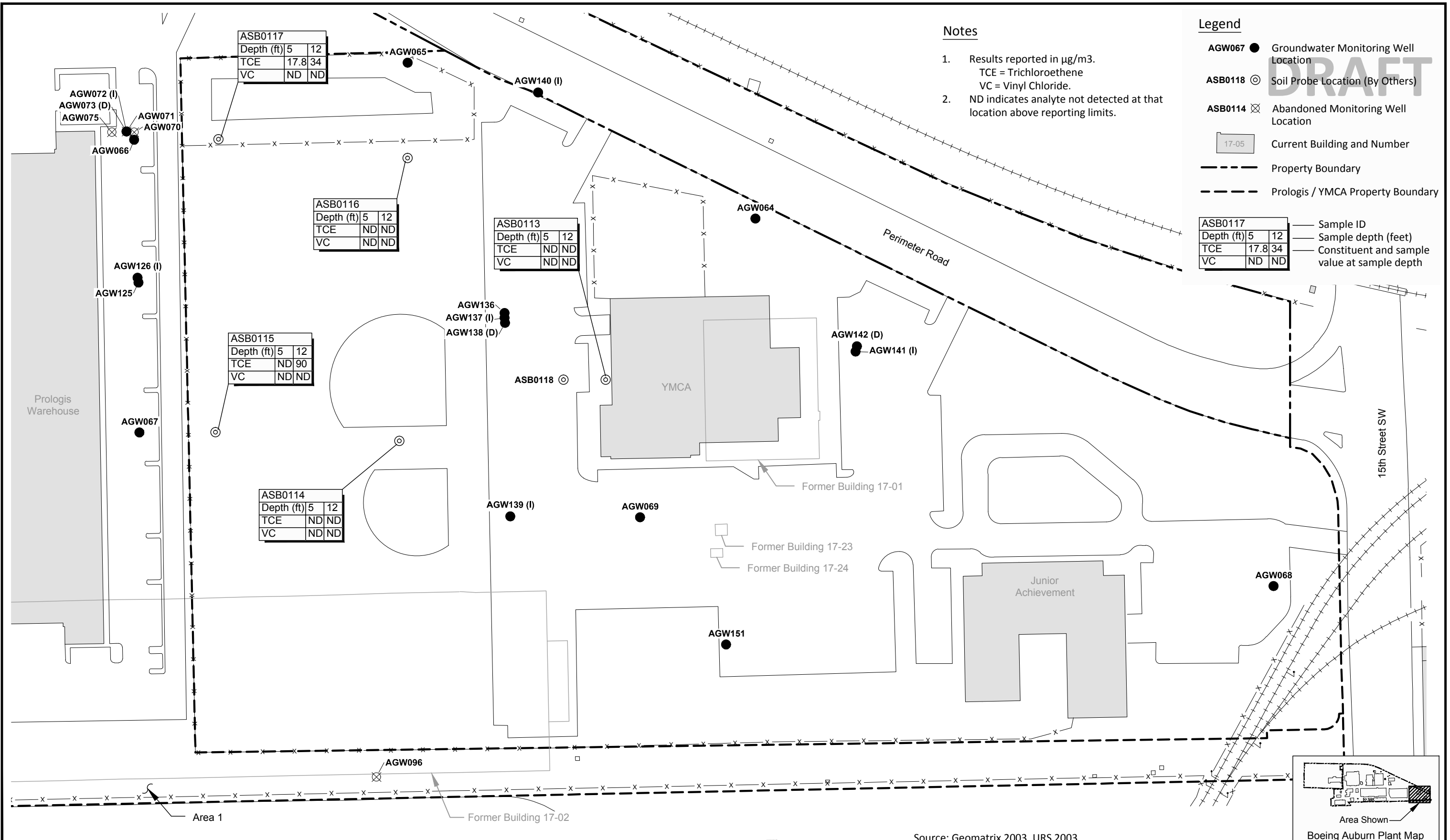
Base Map Source: Geomatrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

<p>Boeing Auburn Remedial Investigation Auburn, Washington</p>	<p>Land Use Areas and Vapor Intrusion Assessments Conducted</p>	<p>Figure 10-1</p>
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Boeing Remedial Investigation Report | G:\Projects\025164\130\111\Final RI Report\Section 10.0\F10-2TCEsoilGasAssessment.dwg (A) Figure 10-2" 3/31/2016



Notes

1. Results reported in µg/m3.
TCE = Trichloroethene
VC = Vinyl Chloride.
2. ND indicates analyte not detected at that location above reporting limits.

Legend

- AGW067 ● Groundwater Monitoring Well Location
- ASB0118 ⊙ Soil Probe Location (By Others)
- ASB0114 ⊗ Abandoned Monitoring Well Location
- 17-05 Current Building and Number
- Property Boundary
- - - Prologis / YMCA Property Boundary

ASB0117	—	Sample ID
Depth (ft) 5	12	Sample depth (feet)
TCE	17.8 34	Constituent and sample value at sample depth
VC	ND ND	

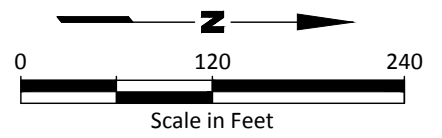
ASB0117	Depth (ft) 5	12
TCE	17.8	34
VC	ND	ND

ASB0116	Depth (ft) 5	12
TCE	ND	ND
VC	ND	ND

ASB0113	Depth (ft) 5	12
TCE	ND	ND
VC	ND	ND

ASB0115	Depth (ft) 5	12
TCE	ND	90
VC	ND	ND

ASB0114	Depth (ft) 5	12
TCE	ND	ND
VC	ND	ND

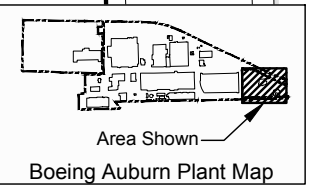


Source: Geomatrix 2003, URS 2003

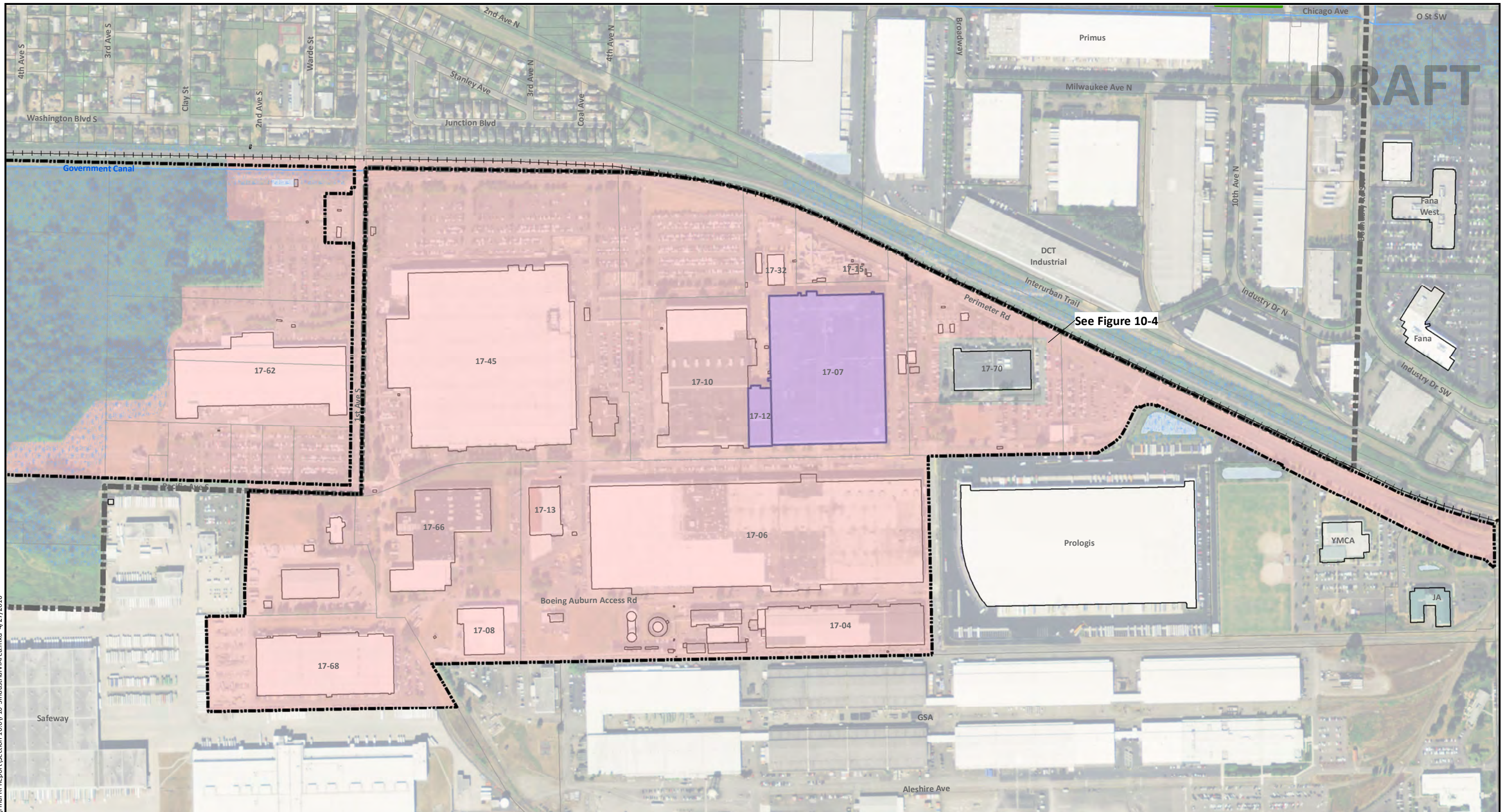
Boeing Auburn
Remedial Investigation
Auburn, Washington

**Historical TCE and VC Soil Gas
Concentrations at YMCA and
Junior Achievement**

Figure
10-2



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Note

1. The land use areas delineated here represent those land use areas near to or at which shallow groundwater is impacted by trichloroethene and vinyl chloride.
2. The industrial land use area consists of the Boeing Auburn property, which includes some commercial office buildings.
3. Commercial and industrial vapor intrusion assessments were conducted in 2012, 2013 and 2015.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- Industrial Building(s) Where Vapor Intrusion Assessments were Conducted (2012-2013)
- Industrial Land Use Area
- Boeing Property
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

0 500 1,000



Scale in Feet



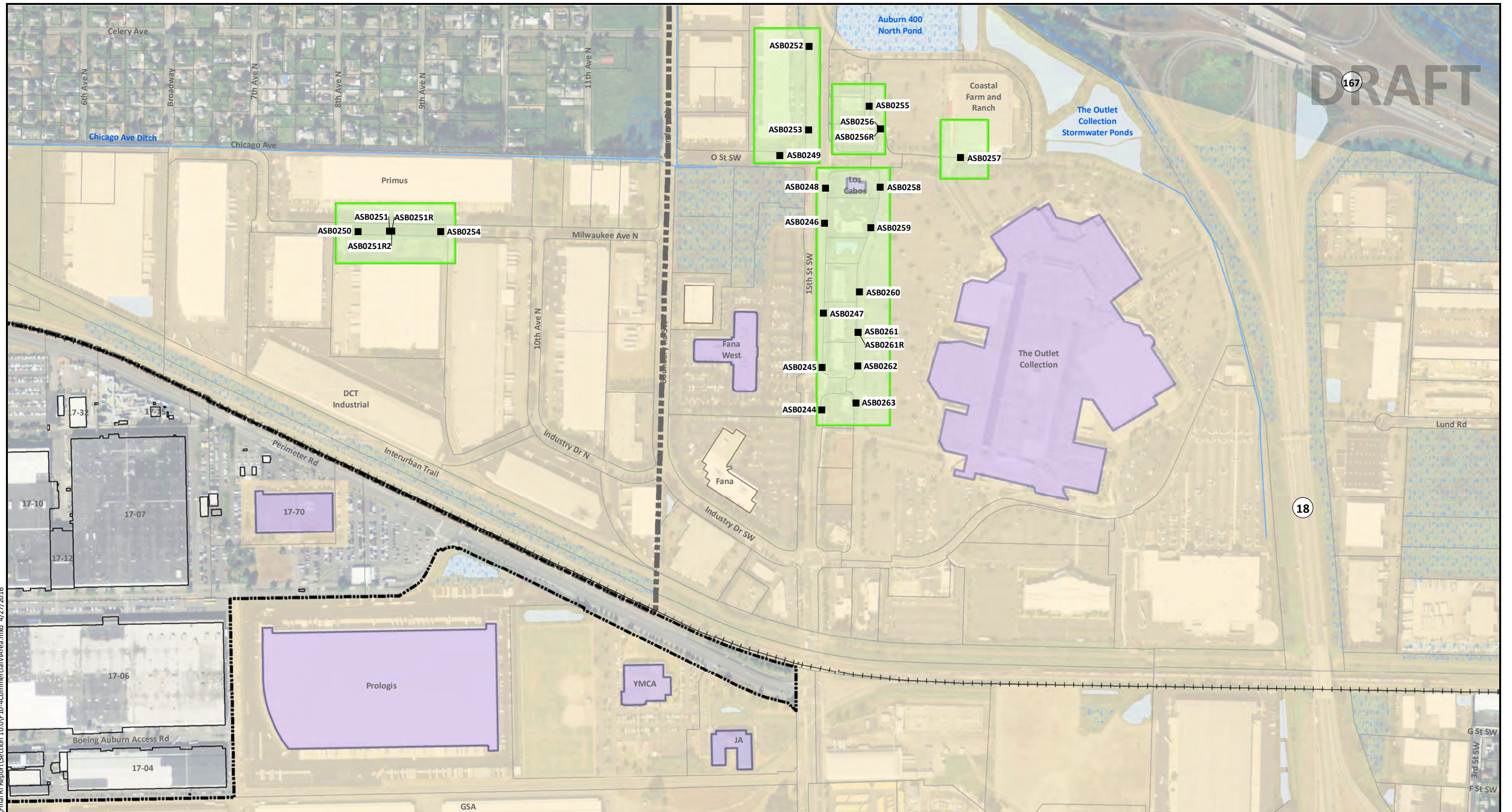
Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

Boeing Auburn
Remedial Investigation
Auburn, Washington

Industrial Vapor Intrusion
Assessment Area

Figure
10-3

DRAFT



Note

1. The land use areas delineated here represent those land use areas near to or at which shallow groundwater is impacted by trichloroethene and vinyl chloride.
2. Commercial and industrial vapor intrusion assessments were conducted in 2012, 2013, 2015 and 2016.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

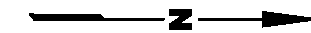
Legend

- Soil Gas Boring Location
- Commercial Building(s) Where Vapor Intrusion Assessments were Conducted (2012, 2013, 2015 and 2016)
- Additional Tier 1 Vapor Intrusion Assessment Area (2015)
- Commercial Land Use Area
- Boeing Property
- City Limits
- Wetland Areas
- Water Bodies
- Waterways

0 500 1,000



Scale in Feet



Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

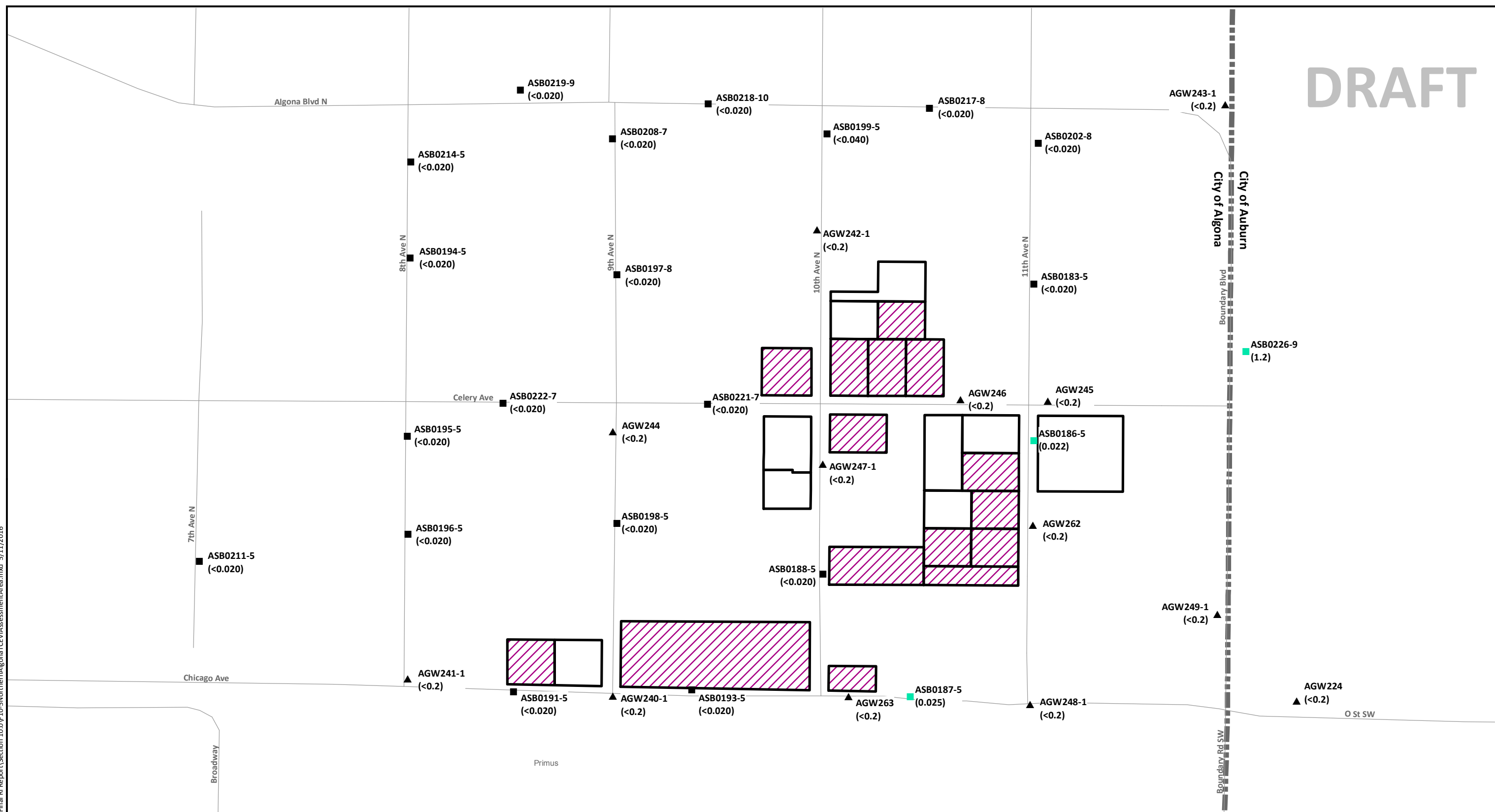
Boeing Auburn
Remedial Investigation
Auburn, Washington

Commercial Vapor Intrusion
Assessment Area

Figure
10-4

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Legend

- ▲ Water Table Well Location
- Borehole Sample at Water Table
- ▲ TCE is Not Detected
- ▲ TCE is Detected (Below SL)
- Initial Vapor Intrusion Assessment Residences
- ▨ Participating Residence

- Notes**
1. All results shown are in µg/L
 2. MTCA Method B air cleanup level derived groundwater screening level (SL): Trichloroethene (TCE) > 1.6 µg/L.
 3. Multi-level wells have multiple channels, channel designations are included in the well ID (ex: AGW240-1). Channel 1 is screened at the water table.
 4. Boring sample designations include the location name (ex: ASB0202) followed by the depth (feet, below ground surface) at which the sample was collected (ex: 6).
 5. Monitoring well results are the most recent. Borehole samples were collected at time of drilling.
 6. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

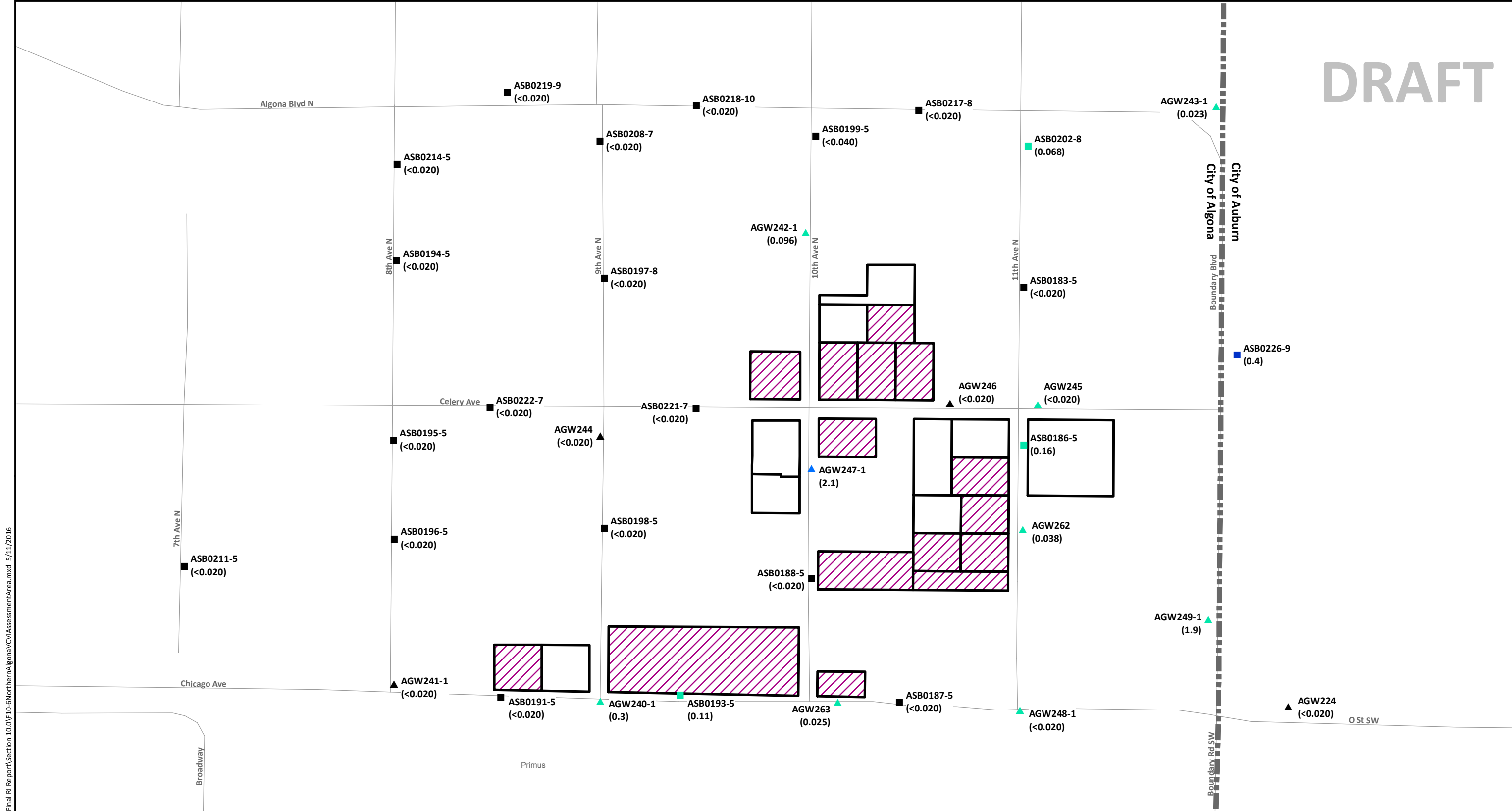
Data Source: Data Source: King County GIS 2013.

Scale in Feet

Boeing Auburn Remedial Investigation Auburn, Washington	Northern Residential Algora Vapor Intrusion Assessment Area and TCE Water Table Data Most Recent - December 2015	Figure 10-5
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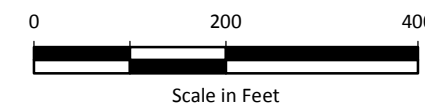
Legend

- ▲ Water Table Well Location
- Borehole Sample at Water Table
- ▲ VC is Not Detected
- ▲ VC is Detected (Below SL)
- ▲ VC Exceeds SL
- Initial Vapor Intrusion Assessment Residences
- ▨ Participating Residence

Notes

- All results shown are in µg/L
- MTCA Method B air cleanup level derived groundwater screening level (SL): Vinyl Chloride (VC) > 0.35 µg/L
- Multi-level wells have multiple channels, channel designations are included in the well ID (ex: AGW240-1). Channel 1 is screened at the water table.
- Boring sample designations include the location name (ex: ASB0202) followed by the depth (feet, below ground surface) at which the sample was collected (ex: 6).
- Monitoring well results are the most recent. Borehole samples were collected at time of drilling.
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Source: Data Source: King County GIS 2013.



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Remedial Investigation
Auburn, Washington

**Northern Residential Algonia
Vapor Intrusion Assessment Area and
VC Water Table Data
Most Recent - December 2015**

Figure
10-6