

**NOTES:**

- The process flows shown are average flow rates from July through December 2016.
- gpm = gallons per minute ml/min = milliliters per minute OOS = Out of Service
- 1) Extraction wells began operating in November 2016 as part of the AP Area Soil Flushing Treatability Study.
- 2) The ferrous sulfate (FeSO<sub>4</sub>) drip system at Lift Station 3 ceased operation in August 2014.
- 3) Groundwater Treatment Plant (GWTP) for hexavalent chromium removal. Ferrous sulfate (FeSO<sub>4</sub>) added to chemically reduce hexavalent chromium. Clarifier settles solids. Sludge is removed and landfilled.
- 4) Carbon treatment to remove organic compounds consists of three 20,000-pound granular activated carbon (GAC) vessels.
- 5) Fluidized Bed Reactor (FBR) Biological Treatment Plant for removal of perchlorate consists of five 33,000 gallon first-stage FBRs, four 28,800 gallon second-stage FBRs, aeration (air and hydrogen peroxide, H<sub>2</sub>O<sub>2</sub>), dissolved air flotation (DAF), two plate and frame filter presses, and a sand filter.
- 6) GW-11 did not operate as an equalization basin and was bypassed during the reporting period from June 29 through August 14, September 13 through October 11, October 21 through November 1, November 27 through December 18, and December 25 through the end of the reporting period. During these bypass events, groundwater entered the equalization tanks directly from lift station 2 and the GWTP.



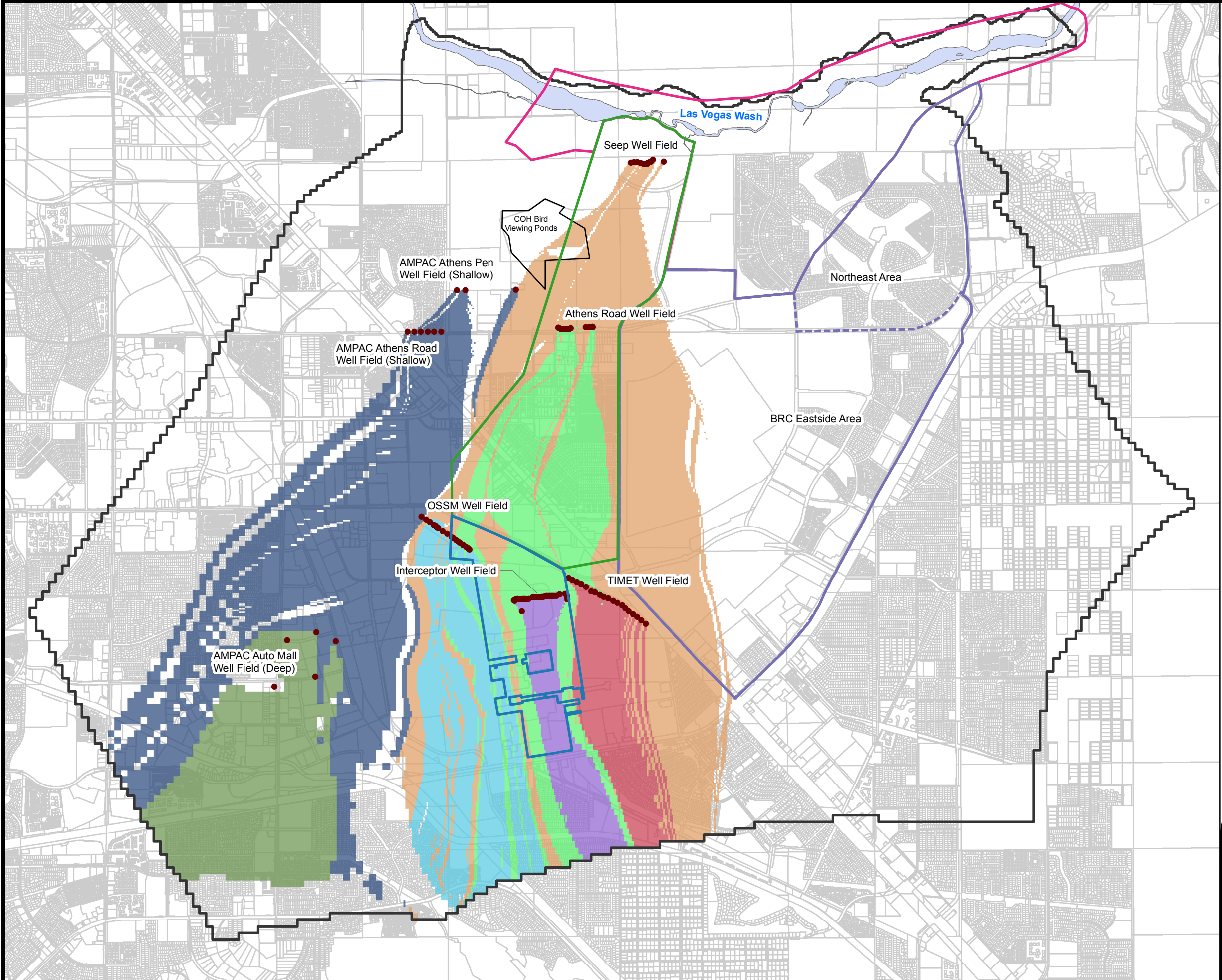
**Groundwater Extraction and Treatment System (GWETS) Flow Diagram**  
 Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

Figure

**2**



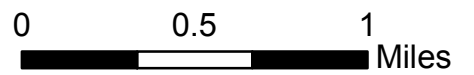
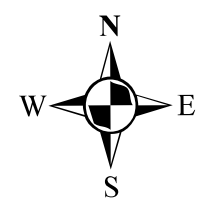
Path: H:\LePermanet\NERT\GWM\Annual Performance Reports\2016 Semi-Annual\Figures\GIS\Fig 3a - Capture Zones\_NERT\_PhasesS\_201604\_v2\_S.mxd



- EXPLANATION**
- Site Boundary
  - Off-Site NERT RI Study Area
  - NERT Eastside Study Area
  - NDEP Downgradient Study Area
  - Extraction Wells
  - Phase 5 Model Boundary
  - Las Vegas Wash

- Shallow Capture Zones**
- Interceptor Well Field
  - Athens Road Well Field
  - Seep Well Field
  - OSSM Well Field
  - TIMET Well Field
  - AMPAC - Shallow Extraction Wells
  - AMPAC - Deep Extraction Wells

AMPAC = American Pacific Corporation  
 OSSM = Olin/Stauffer/Syngenta/Montrose  
 TIMET = Titanium Metals Corporation  
 COH = City of Henderson



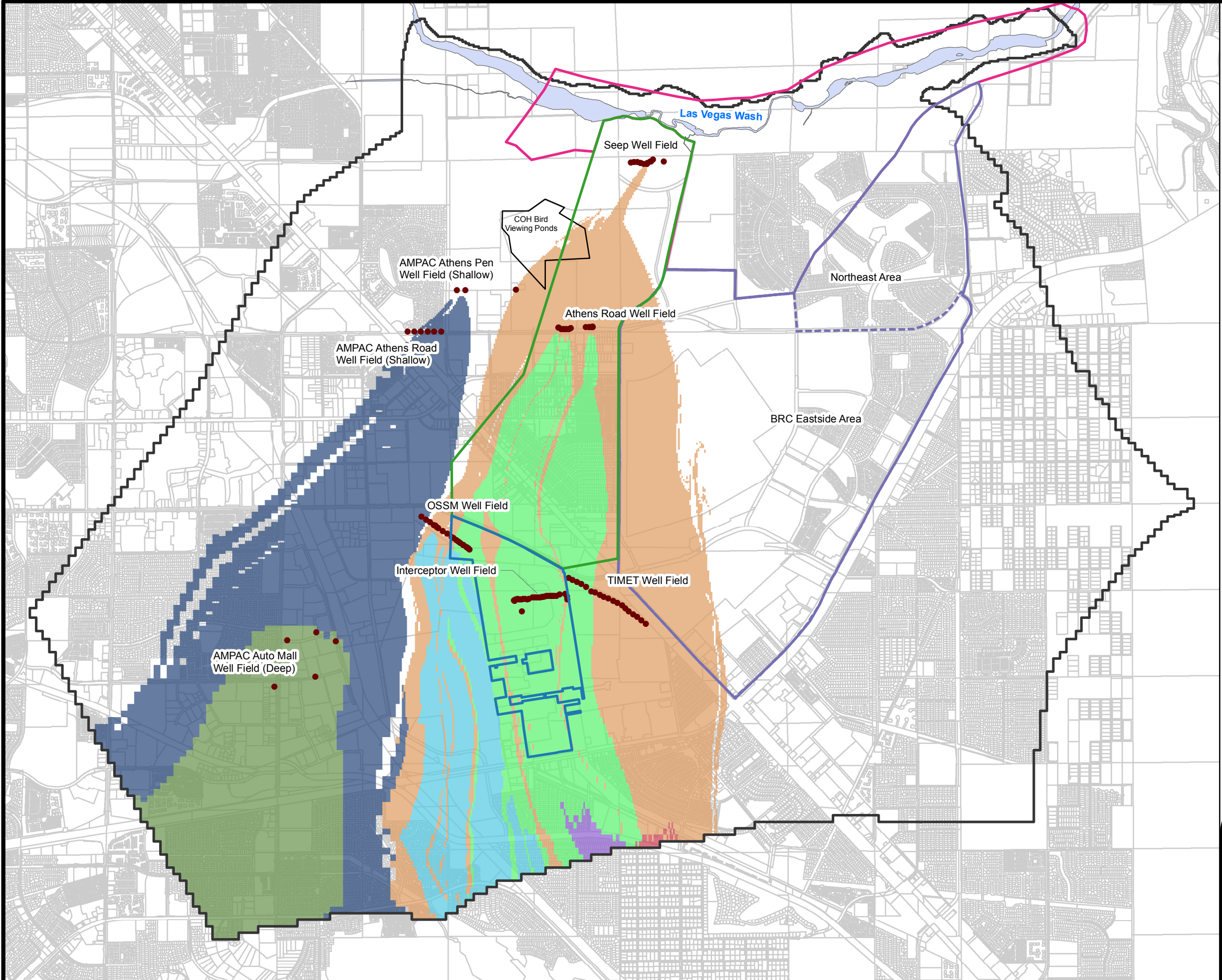
**SHALLOW CAPTURE ZONES**  
 Nevada Environmental Response Trust Site  
 Henderson, Nevada

Date: 4/28/2017	Contract Number: 21-41400A	Figure
Drafter: AS	Approved:	Revised:

**3a**



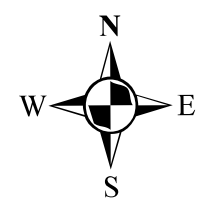
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- EXPLANATION**
- Site Boundary
  - Off-Site NERT RI Study Area
  - NERT Eastside Study Area
  - NDEP Downgradient Study Area
  - Extraction Wells
  - Phase 5 Model Boundary
  - Las Vegas Wash

- Middle Capture Zones**
- Interceptor Well Field
  - Athens Road Well Field
  - Seep Well Field
  - OSSM Well Field
  - TIMET Well Field
  - AMPAC - Shallow Extraction Wells
  - AMPAC - Deep Extraction Wells

AMPAC = American Pacific Corporation  
 OSSM = Olin/Stauffer/Syngenta/Montrose  
 TIMET = Titanium Metals Corporation  
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0 0.5 1 Miles



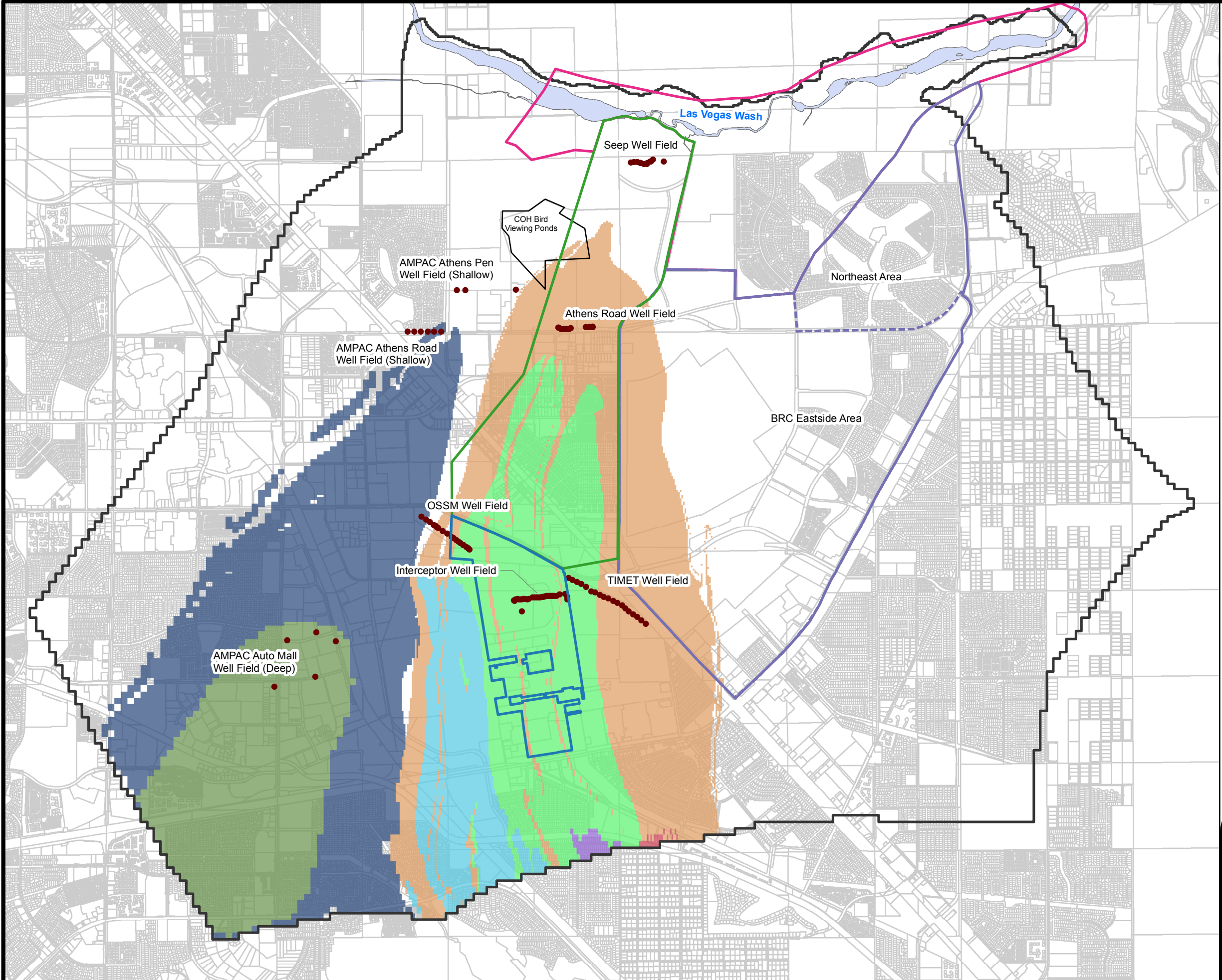
**MIDDLE CAPTURE ZONES**  
 Nevada Environmental Response Trust Site  
 Henderson, Nevada

Date: 4/28/2017	Contract Number: 21-41400A	Figure
Drafter: AS	Approved:	Revised:

**3b**



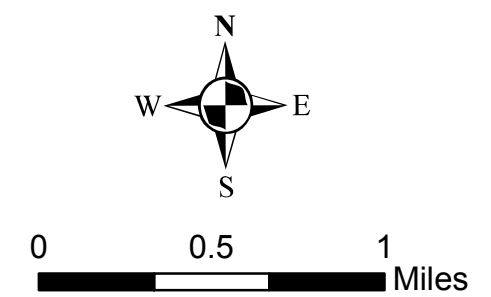
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**EXPLANATION**

- Site Boundary
- Off-Site NERT RI Study Area
- NERT Eastside Study Area
- NDEP Downgradient Study Area
- Extraction Wells
- Phase 5 Model Boundary
- Las Vegas Wash
- Deep Capture Zones**
- Interceptor Well Field
- Athens Road Well Field
- Seep Well Field
- OSSM Well Field
- TIMET Well Field
- AMPAC - Shallow Extraction Wells
- AMPAC - Deep Extraction Wells

AMPAC = American Pacific Corporation  
 OSSM = Olin/Stauffer/Syngenta/Montrose  
 TIMET = Titanium Metals Corporation  
 COH = City of Henderson

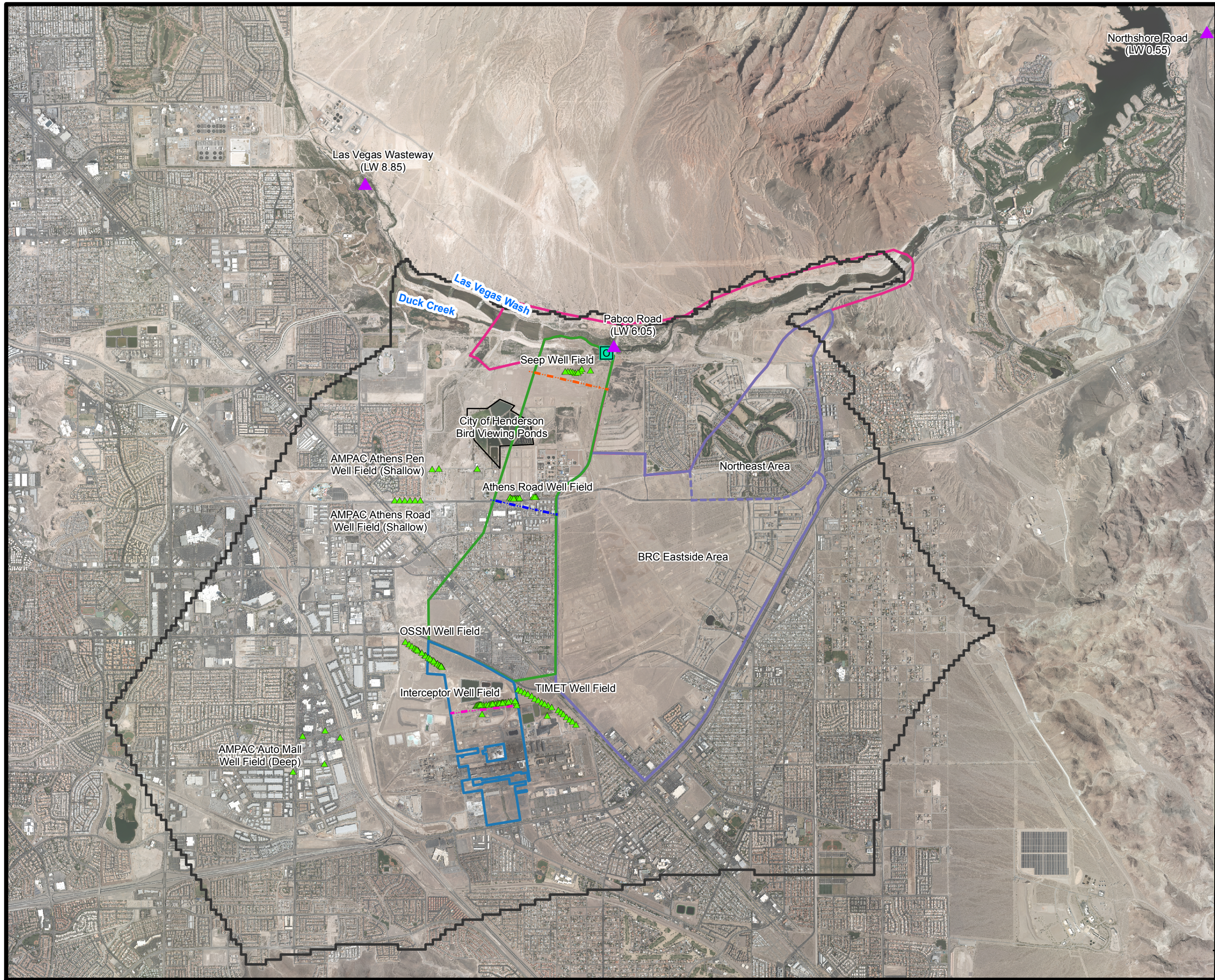


**DEEP CAPTURE ZONES**  
 Nevada Environmental Response Trust Site  
 Henderson, Nevada

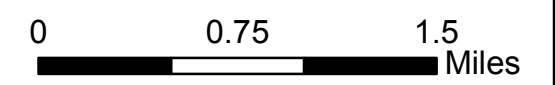
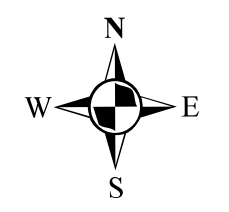
Date: 4/28/2017	Contract Number: 21-41400A	Figure
Drafter: AS	Approved:	Revised:
		<b>3c</b>



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- EXPLANATION**
- USGS Stream Gauge Station
  - NERT/AMPAC/TIMET Outfall Location
  - Extraction Wells
  - Phase 5 Model Boundary
  - Transect - Athens Road Well Field
  - Transect - Interceptor Well Field
  - Transect - Seep Well Field
  - Site Boundary
  - Off-Site NERT RI Study Area
  - NERT Eastside Study Area
  - NDEP Downgradient Study Area



**Mass Flux Transects and  
Las Vegas Wash Sample Locations**  
Nevada Environmental Response Trust Site  
Henderson, Nevada

Date: 4/28/2017	Contract Number: 21-41400A	Figure
Drafter: AS	Approved:	Revised:
		<b>4</b>