

PROPOSED REMEDIAL OBJECTIVES REPORT

Broadway-Pantano WQARF Site

Landfill Operable Unit

Tucson, Arizona



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1.0 INTRODUCTION

The Arizona Department of Environmental Quality prepared this Proposed Remedial Objectives (ROs) Report for the Broadway-Pantano Water Quality Assurance Revolving Fund (WQARF) Site (Site) Landfill Operable Unit (LOU). This report is based upon the Broadway-Pantano WQARF Site Land Use Study, which is Appendix A of the Draft LOU Remedial Investigation (RI) Report. A Groundwater Remedial Objectives Report dated June 1, 2012 was appended to the Groundwater Operable Unit RI Report (Stantec, 2012). The LOU is composed of the Broadway North Landfill (BNL), the Broadway South Landfill (BSL) and the vadose zone beneath each landfill.

Proposed ROs were developed according to R18-16-406(I) of the Remedy Selection rules of the Arizona Administrative Code (A.C.C.). These rules require that ROs be established for the current and reasonably foreseeable uses of land that have been threatened or are threatened to be affected by the release of a hazardous substance above the regulatory or risk-based standard. The rule specifies that the reasonably foreseeable uses of land are those likely to occur at the site.

According to A.A.C. R18-16-404(I)(4), the RO Report shall state the ROs for each listed use in the following terms:

- a. Protecting against the loss or impairment of each listed use that is threatened to be lost or impaired as a result of a release of a hazardous substance;
- b. Restoring, replacing or otherwise providing for each listed use to the extent that it has been or will be lost or impaired as a result of a release of a hazardous substance;
- c. Time-frames when action is needed to protect against or provide for the impairment or loss of the use; and
- d. The projected duration of the action needed to protect or provide for the use.

On February 20, 2014, ADEQ held a public meeting to obtain community and stakeholder input on the proposed ROs. This Proposed LOU RO Report will be issued for a 30-day public comment period. Comments from the public, stakeholders, the Broadway-Pantano Community Advisory Board (CAB) and/or other government agencies and ADEQ responses to those comments will be incorporated in the Final LOU RO Report. The Final LOU RO Report will be an appendix to the Final LOU RI Report.

2.0 REMEDIAL OBJECTIVES FOR LAND USE

2.1 CURRENT AND REASONABLY FORESEEABLE USES OF LAND

The BNL and BSL are located within the City of Tucson (COT) and are under the jurisdiction of COT for zoning and planning purposes. As such, future uses at the LOU are guided by COT's General Plan (2001). In addition, at the BNL, future uses are guided by the Gateway Centre Planned Area Development (PAD) adopted by the Mayor and Council (COT Planning Department, 1983). Future uses at BSL are guided by the Broadway Proper Redevelopment Plan as adopted by the Mayor and Council (COT Planning Department, 1984). Development at both the BNL and BSL must also be conducted in accordance with the COT Landfill Ordinance (Tucson City Code, 2004).

At the BNL, current uses include vacant land, an electrical substation and transmission line, and commercial use (retail goods and services at the Broadway Star Plaza). Future possible uses in the PAD include office, commercial recreation, commercial service, commercial general, residential, research and development, and golf course. The approved COT General Plan allows for residential uses in all of the PAD areas within the BNL. The owner of the vacant BNL parcels plans for mixed development, focusing on multi-family residential and non-industrial commercial development, which is consistent with COT's General Plan. According to the owner of the Broadway Star Plaza, which is located at the BNL just south of the PAD, commercial use is expected to continue at this retail strip mall, which is a consistent use with COT's General Plan.

At the BSL, current uses include a hotel, restaurant, a retirement community, and a COT-owned park (Gollob Park). The future foreseeable uses of the vacant land, according to the Broadway Proper Redevelopment Plan, include office, business, and multi-family residential. The owner of the vacant BSL parcels plans to sell the parcels for development but the owner has not indicated a specific kind of development. Uses at Gollob Park, the hotel, restaurant, and retirement community are not anticipated to change significantly according to information provided to ADEQ by the owners. These uses are consistent with COT's General Plan and the Broadway Proper Redevelopment Plan.

According to A.C.C. R18-16-406(G), the landowner may establish the current and reasonably foreseeable uses of its land, provided that the ROs for the Site are not required to address land uses impaired by properties of materials located on or under the land other than the current or potential exposure to the hazardous substances contained in that material.

Environmental conditions considered in the formulation of ROs for the Site are:

- The approximately 100 acres of subsurface waste at the BNL (excluding the dross site) and approximately 40 acres of subsurface waste at the BSL are composed of mixed wastes—residential, industrial, construction, commercial, landscaping, medical, and other wastes—that cannot feasibly be characterized sufficiently to allow for evaluation of potential risk. These landfill wastes have been determined to be the source of volatile organic compounds (VOCs) detected in the vadose zone and in groundwater below the landfills. Exposure to landfill waste could result in exposures to hazardous substances above acceptable levels.
- A dross disposal site is located at the southern portion of the BNL, partially underneath the Broadway Star Plaza. An investigation conducted in 2000 found that the dross site had soil concentrations of arsenic and lead exceeding the non-residential Soil Remediation Levels (SRLs); soil concentrations of cadmium exceeding the residential SRL; and soil concentrations of cadmium, chromium, and lead exceeding the ADEQ minimum Groundwater Protection Levels (GPLs).
- With the exception of the dross site, investigations of soil and soil gas at the Site do not indicate the presence of hazardous substances above an SRL or GPL.
- The results from modeling soil gas data from a single sampling event at each landfill indicate no unacceptable risk from potential exposure to VOCs in shallow soil gas. However, evaluation of the same soil gas data for the indoor air pathway using an alternate method (assuming an attenuation factor of 0.03 applied to shallow soil gas concentrations) indicate that potential indoor air concentrations for residences adjacent to the BNL exceed the United States Environmental Protection Agency (EPA) Region IX Regional Screening Levels (RSLs) for residential indoor air for trichloroethene; chloroform; 1,4-dichlorobenzene; 1,2-dichloropropane; and naphthalene. A similar evaluation performed for the BSL indicated that potential indoor air concentrations for residences adjacent to the BSL exceeded EPA Region IX RSLs for benzene and chloroform.

2.2 REMEDIAL OBJECTIVES

As indicated in section 1.0, ROs need to be proposed for each kind of property use.. “Residential” is defined [per Arizona Revised Statute (A.R.S.) § 49-151(6)] as *those uses of remediated property where natural persons are reasonably expected to be in frequent, repeated contact with soil*. “Non-residential” is defined [per A.R.S. § 49-151(3)] as *those uses of properties other than residential uses*. Based on these definitions, the undeveloped LOU properties are considered “non-residential.”

Based upon this information, current and reasonable foreseeable uses at both the BNL and BSL include residential and non-residential use. The following ROs are proposed for the LOU:

LOU Residential— The RO for existing and future residential use LOU properties is to protect against possible exposure to hazardous substances within or on the LOU properties. This action is needed at the present time and for as long as the landfill and dross waste remains at the property.

LOU Non-Residential— The RO for existing and future non-residential use LOU properties) is to protect against possible exposure to hazardous substances within or on the LOU properties. This action is needed at the present time and for as long as the landfilled and dross waste remains at the property.

3.0 REFERENCES

- City of Tucson Planning Department, 1983. Gateway Centre Planned Area Development, adopted by Mayor and Council – January 17, 1983 – Resolution 12133. <http://cms3.tucsonaz.gov/sites/default/files/imported/plans/redevelopment/gw1.pdf>.
- City of Tucson Planning Department, 1984. Broadway Proper Redevelopment Plan, adopted by Mayor and Council – October 22, 1984 – Resolution 12910. <http://cms3.tucsonaz.gov/sites/default/files/imported/plans/redevelopment/bpall.pdf>.
- City of Tucson, 2001. City of Tucson General Plan, December 6, 2001.
- Stantec, 2012. Remedial Investigation Report, Groundwater Operable Unit, Arizona Department of Environmental Quality Broadway-Pantano Water Quality Assurance Revolving Fund Registry Site, Tucson, Arizona, June 1, 2012.
- Tucson City Code, 2004. Chapter 29, Article IX, Sections 29-20 through 29-29, Ordinance 10037, Adopted September 13, 2004.

