

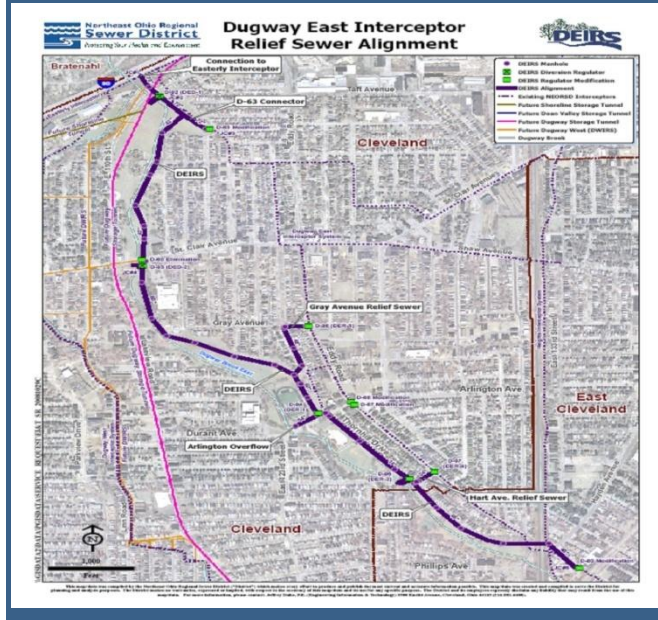


Northeast Ohio Regional Sewer District

Protecting Your Health and Environment



Dugway East Interceptor Relief Sewer



Project Highlights

- Project located in the cities of Cleveland, East Cleveland, & the Village of Bratenahl
- Provide wet weather relief conveyance capacity in the cities of East Cleveland and Cleveland
- Overflows to Dugway Brook will be controlled to 4 or fewer in a typical year of rainfall (from the current average of 77 times each year).
- Estimated Cost- \$23 million

Sewer overflow volumes at location are currently measured at 85 million gallons per year. Upon completion of the project, sewer overflow volume will be reduced to 23 million gallons per year.

Project Details:

The Northeast Ohio Regional Sewer District (NEORS) is the agency with primary responsibility for the Northeast Ohio region's compliance with Clean Water Act requirements and EPA mandates for reducing water pollution into Lake Erie. NEORS is a political subdivision of the State of Ohio and operates three wastewater treatment facilities and all of the interceptor sewers serving the Greater Cleveland area. Our service area encompasses the City of Cleveland and all or parts of 60 suburban municipalities in Cuyahoga, Summit, Lake and Lorain Counties, where we serve over 1 million residents.

The Dugway East Interceptor Relief Sewer project (Dugway) is located in the cities of Cleveland, East Cleveland and the Village of Bratenahl. The primary purpose of Dugway is to provide wet weather relief conveyance capacity to the impacted cities. In doing so, the project will significantly reduce overflows to Dugway Brook from less than four occurrences a year as opposed to current average of seventy times a year.

Local Benefits:

The existing Dugway-area sanitary sewers are not large enough to carry the flow, particularly when it rains. Residents experience basement and/or street flooding on a frequent basis. To remedy this problem NEORS will build another sewer, called a relief sewer, parallel to the original one.

Interceptor relief system separates sanitary and storm sewer areas that are comprised of two sets of pipes that

transport wastewater and storm water separately and are not connected. Storm water is directed to the creeks, rivers and Lake Erie during rain events, while sanitary wastewater flows to the treatment plants.

The work of NEORS is of paramount importance to the northeast Ohio region because it substantially mitigates water pollution into Lake Erie.



For more information visit:
www.neorsd.org/intercommunity_relief_sewers.php

www.neorsd.org

www.gcpartnership.com



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Fluidized Bed Incinerators



Project Background:

In January 2005, the District implemented a *Long-Term Residuals Management Plan* that included the replacement of four existing multiple hearth incinerators (MHIs) with new state-of-the-art fluidized bed incinerators (FBIs). The aging MHIs, constructed in 1964, operate at 1,500 degrees-F, 24 hours per day, seven days per week and combust about 80,000 wet tons of biosolids per year. Although the current equipment meets federal and state regulations, the incinerators are nearing their useful life and must be replaced.

The District will install the new incinerators at the Southerly treatment plant located in Cuyahoga Heights. The planned FBI project is energy efficient, environmentally friendly, and cost effective. It will utilize the heat contained within the solid biological waste (also known as biosolids) – instead of natural-gas fired burners to combust the materials. FBIs will reduce the District's comprehensive carbon footprint by 15,000 metric tons per year under the modified fluidized bed approach. The estimated \$82 million project will be completed in several phases – construction will commence in 2009.

Regional Benefits:

Incineration consists of the burning of biosolids removed from wastewater during the treatment process. The hot air produced during the fluidized bed incineration heats water to generate steam. That steam powers a turbine which will generate about three megawatts of electricity - enough to sustain the electrical needs of new incinerator complex.

The NEORS D anticipate the FBIs will reduce natural gas consumption by 98 percent (about \$1 million savings per

year) compared to the existing system. The project will also reduce the District's overall operation and maintenance cost. The fluidized bed unit contains no moving parts, which translates to less maintenance and lower cost of the systems life.

The FBI project is unique and significant because it combines the wastewater treatment work that the District performs with an increasingly important purpose of intertwining the abatement of air pollution.

Project Highlights

- Replacement of 4 old multiple hearth incinerators with 3 fluidized bed incinerators at Southerly facility
- Completion of project will result in a 30,000 ton per year reduction in green house emissions
- Project is carbon neutral
- Estimated cost- \$82 million
- Est. Construction Period: Nov 2009- Dec 2013

Southerly facility is one of the largest plants of its kind in the country serving over 601,000 residents in the Greater Cleveland area.



For more information visit: www.neorsd.org