



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

November 12, 2013

FINDING OF NO SIGNIFICANT IMPACT  
TO ALL INTERESTED CITIZENS, ORGANIZATIONS,  
AND GOVERNMENT AGENCIES

Village of Cadiz  
Harrison County  
South and Central Trunk Lines Phase II  
Loan No. CS390214-0008

The purpose of this notice is to seek public input and comments on the Ohio EPA's preliminary decision that a Supplemental Environmental Study is not required to implement the recommendations discussed in the attached Environmental Assessment of the sewer rehabilitation and replacement project submitted by the municipality mentioned above.

How were environmental issues considered?

The Water Pollution Control Loan Fund program requires the inclusion of environmental factors in the decision-making process. Ohio EPA has done this by incorporating a detailed analysis of the environmental effects of the proposed alternatives in its review and approval process. Environmental information was developed as part of the facility plan and associated documents, as well as through the facility plan review process and during site inspections. The Agency's preliminary Environmental Assessment found that the project does not require the preparation of a Supplemental Environmental Study.

Why is a Supplemental Environmental Study not required?

Our environmental review concluded that significant environmental impacts will not result from the action. Any adverse impacts have either been eliminated by changes in the facilities plan or have been reduced by the implementation of the mitigative measures discussed in the attached Assessment.

How do I get more information?

A map depicting the location of the project is included as part of the Environmental Assessment. The Environmental Assessment presents additional information on the project, alternatives that were considered, impacts of the action and the basis for our decision. Further information can be obtained by calling or writing the contact person listed in the back of the Environmental Assessment.

How do I submit comments?

Any comments supporting or disagreeing with this preliminary decision should be submitted to me at the letterhead address. We will not take any action on this facilities plan for 30 calendar days from the date of this notice in order to receive and consider any comments.

What happens next?

In the absence of substantive comments during this period, our preliminary decision will become final. The municipality will then be eligible to receive loan assistance from this agency.

Please bring any information that you feel should be considered to our attention. We appreciate your interest in the environmental review process.

Sincerely,



*for*  
Alauddin A. Alauddin, Chief  
Division of Environmental &  
Financial Assistance

AAA/JB/jb

Attachment

## Environmental Assessment

### Project Identification:

Project Name: Village of Cadiz, South and Central Trunk Lines, Phase II Rehabilitation and Replacement

Applicant and Address: The Honorable Kenneth Zitko, Mayor  
Village of Cadiz  
128 Court Street  
Cadiz, OH 43907

WPCLF Loan Number: CS390214-0008

Project Summary: Cadiz' wastewater is collected and treated in a village-owned system of gravity sanitary sewers and a trickling-filter wastewater treatment plant (WWTP). This system was installed in 1939 and has remained largely unchanged except for sanitary sewer extensions. Due to age and poor original design, the sewer system admits large quantities of wet-weather infiltration and inflow (I/I)<sup>1</sup> through cracks, offset joints and other pipe defects. I/I inflates the wastewater flows, leading to overflows from sanitary manholes (sanitary sewer overflows, or SSOs) and surges at the WWTP. Cadiz is under Ohio EPA Director's Final Findings and Orders to abate the SSOs. In 2010, Cadiz completed a facilities plan that recommended a phased program to eliminate as much I/I as is cost-effective from the sewers and thereby increase peak WWTP capacity to treat the wet-weather flows remaining in the system. The first phase is the rehabilitation of the North Trunk line, which requires the most frequent repairs, followed by the rehabilitation of the South and Central Trunk lines as Phase II, and the WWTP expansion as Phase III. Phase I is currently under construction.



Figure 1: Cadiz General Location

The estimated total project cost of Phase II is \$3,998,950. Debt for Phase II will be repaid from the addition of approximately \$6.00 onto the bi-monthly sewer debt surcharge. The village proposes to borrow the construction cost from the Ohio Water Pollution Control Loan Fund (WPCLF).

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<sup>1</sup> Infiltration is clear water that enters sewers through cracks and other pipe defects. Inflow is the storm runoff that enters pipes through direct connections such as downspouts and area drains.

Existing Conditions: Cadiz is located at the intersection of State Route (SR) 9 and US Routes 22 and 250. Its mix of residential and commercial development is concentrated on the spine of a north-south running ridge at elevation 1,260 feet above mean sea level (msl). It is about equally divided between the east and west sides of this topographic high, with elevations dropping to about 1,060 feet (msl) in the valleys. Geologically, the area consists of shale, sandstone, limestone and coal overlain by thin soil. It is deeply dissected by streams, of which the main ones are Liming Creek, Sally Buffalo Creek and Mill Run. These streams join Short Creek and the Ohio River.

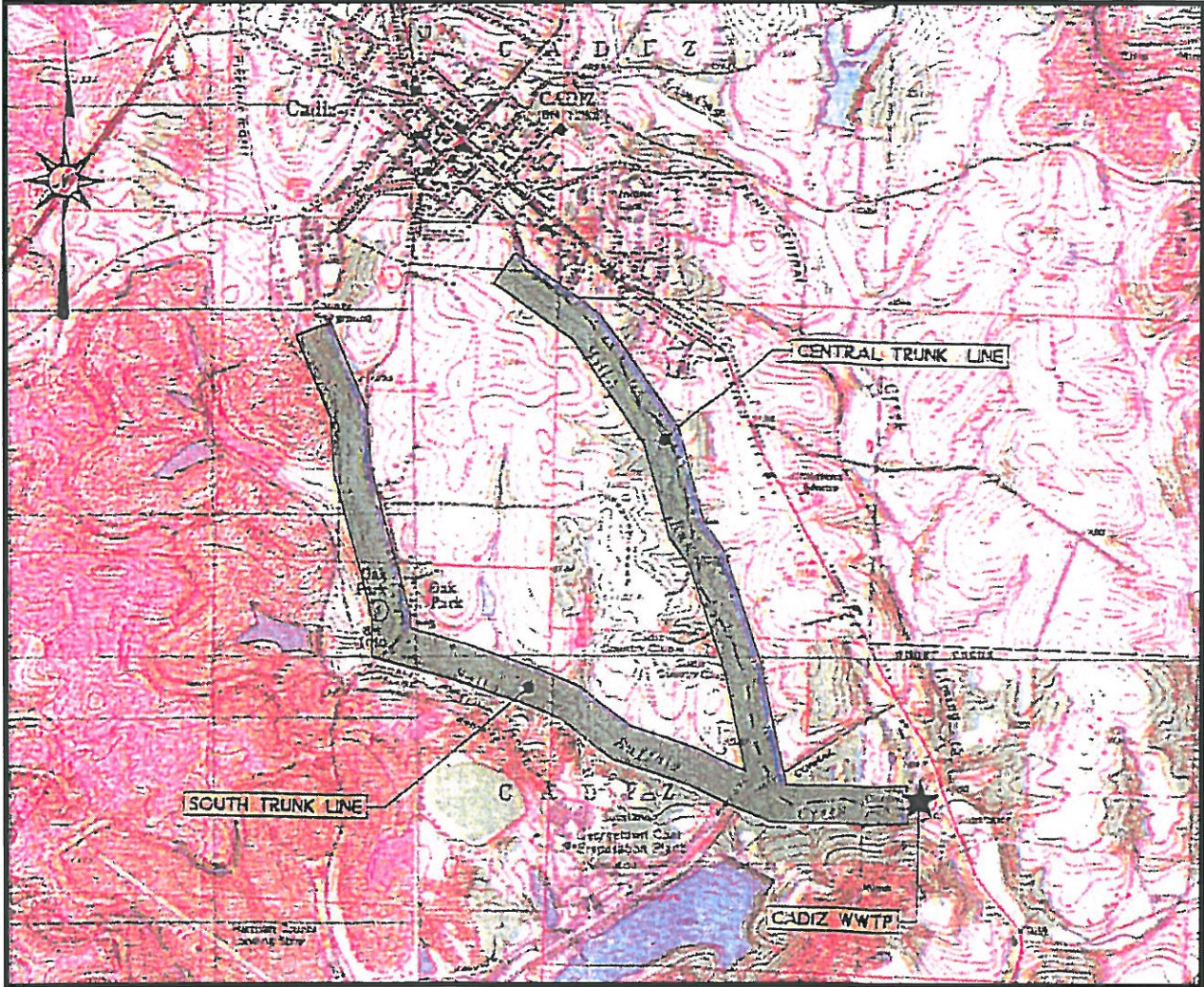


Figure 2: Cadiz Wastewater System Layout

Cadiz' 2000 census median household income (MHI) was \$29,518. Cadiz provides sewer service to approximately 1,390 residential and light manufacturing or commercial customers. It has no industrial users. The collection system includes approximately 219,753 feet of 4-inch to 15-inch diameter sewer line, nine pump stations and 794 manholes. The WWTP is located south of the village proper at the intersection of Country Club Road and US Route 250. The service area falls into three sub-basins.

The sub-basin east of the ridge is connected to the WWTP by the North Trunk Line<sup>2</sup>; those west of the ridge, by the South Trunk Line and the Central Trunk Line (Figure 2). The North Trunk Line parallels Liming Creek. The South Trunk Line parallels Sally Buffalo Creek and SR 9 from the Harrison County fairgrounds south, before it turns and runs east, cross-country to the WWTP. The Central Trunk Line parallels Mill Run and Country Club Road from a point near Belmont College, joining the South Trunk Line upstream from the WWTP.

Flow monitoring studies indicated that I/I causes wet-weather WWTP influent flows to reach over 2.5 times the normal daily flow of 0.554 million gallons per day (MGD - design average daily flow is 0.60 MGD) and 12 percent over the peak design capacity. WWTP flow records and water consumption records show that I/I averages 3.5 times the non-excessive I/I estimate of 0.070 MGD. Reports of SSOs and the continual wet-weather surges at the WWTP are evidence that I/I overloads the system to the point of producing a health hazard from potential public exposure to raw sewage. Inflow tends to be produced in the collector sewers, where there are numerous connections to storm runoff sources. The trunk lines are suspected of contributing the most infiltration, based on their age, construction type, frequency of repair and their lengths.

The wet-weather performance of the overall system is limited by insufficient capacity at the WWTP and not by pipe capacity. The capacity of an eight-inch diameter pipe with the WWTP operating at 0.60 MGD is well above twice the peak normal flows expected in any of the trunk lines.

Cadiz is under a sewer connection ban that prohibits additional sources of wastewater from being allowed to use the sewer system until a sufficient amount of the existing sources of I/I have been eliminated.

Future Needs: Cadiz is planning its wastewater infrastructure for the following future needs:

|   |             |
|---|-------------|
| Flows from current population:                      | 304,466 gpd |
| Twenty percent increase plus 15% I/I:               | 70,049 gpd  |
| Existing allowable I/I                              | 70,000 gpd  |
| Escalation of I/I over twenty year life of project: | 70,000 gpd  |
| Total   | 514,515 gpd |

The village rounded the design average daily flow amount to 0.60 MGD. This figure assumes the removal of excessive I/I. Sewer improvements will be designed for this amount, plus peak flows of 1.2 MGD.

Cadiz is planning for the imminent location of a grocery store, a hotel, a bus garage and an energy processing facility in the village. The businesses are expected to add

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<sup>2</sup> The North Trunk Line was the subject of an Environmental Assessment in 2012. Its rehabilitation and replacement is underway. Reference will only be made to it to establish context because its conditions are similar to the other trunk lines.

approximately 7,570 gallons per day to average daily flows in the near term. Because of the connection ban, Cadiz had to – and did - demonstrate that enough wastewater has been or will be removed by the demolition or vacating of existing residences to allow the acceptance into the collection system of the wastewater that will be generated by the new businesses.

Feasible Alternatives and Recommendation: Cadiz has chosen an approach to wet-weather control that involves first replacing and/or rehabilitating all three trunk lines, eliminating inflow sources in the collector sewers, then determining from the amount of I/I this removes how much wet-weather flow at the end of the twenty-year planning period the WWTP will need to handle. This will help refine the estimates of additional WWTP design capacity that have been made in the 2010 facilities plan.

All three trunk lines run parallel to streams and through extensive wetlands on the valley floors, collecting flows from areas on the ridgetops and the side slopes. Rehabilitating or replacing the trunk lines using traditional methods in or near their present locations would require a Clean Water Act Section 404/401 permit to discharge fill into waters of the state, a process that can be protracted and expensive depending on the extent of the fill and related activities occurring in the streams and wetlands. An alternative that would eliminate stream and wetland impacts, re-locating the sewers to upland locations, has limited feasibility because it would require capturing the flows that currently drop by gravity to the trunk sewers and pumping them uphill to the new trunk sewer. Also associated with this option would be the costs for excavating, backfilling, pavement replacement and the maintenance costs of multiple small pump stations. In a village where recent MHI estimates are little higher than the 2000 census estimate of \$29,518, there is significant concern about adding a large debt repayment to sewer bills, especially with future WWTP improvements to build.

Primarily driven by the need for cost control and the feasibility of lining at least part of the existing pipe to reduce the environmental impacts of construction, Cadiz made a similar decision for the South and Central Trunk Lines that it did for the North Trunk Line, which is to leave the existing trunk lines in the stream valleys, perform a mix of rehabilitation and replacement depending on the condition of the pipe, and design the project to minimize the discharge of fill and related activities in wetlands and streams.

Proposed Project: The South Trunk Line will be lined by cured-in-place pipe (CIPP) from its uppermost manhole to SR 9. A pump station (the South Pump Station) will be installed at SR 9 with a force main extending roughly parallel to the existing gravity sewer, then joining the Central Trunk Line, with this section of the South Trunk Line gravity sewer to be abandoned. The Central Trunk Line will be lined from its uppermost manhole to a point about 500 feet north of its joining with the South Trunk Line. This lower 500 feet will be abandoned and replaced with new gravity sewer. The existing gravity line that carries the flows from the South and Central Trunk Lines to the WWTP will be lined.



Figure 3: Phase II Project Location

The CIPP lining process is a trenchless (non-excavation) technology in which a resin-impregnated sleeve is inserted into the host pipe between manholes. Steam is used to melt the resin and press the sleeve to the pipe interior, covering the defects and forming a watertight seal. Existing manholes on both lines will be rehabilitated by replacing frames and covers and applying epoxy sealant to the interiors. The new force mains and gravity sewers will be installed using open-cut methods, except where they will cross water resources and railroads, then they will be jacked and bored or directional drilled.

Included in project design is a system of access routes and staging areas to allow the passage of equipment, materials and personnel to the work areas. Work will be conducted in a public utility right-of-way around the pipelines and, where it departs from the right-of-way, in private property easements secured for this purpose.

The upper third of the South Trunk Line project corridor passes the Oak Park subdivision and other light development mixed with woods, pastures and wetlands. Below the location of the proposed South Pump Station the corridor passes more rugged, undeveloped terrain and skirts the Cadiz Country Club Golf Course before connecting with the Central Trunk Line. The Central Trunk Line corridor features a consistent mix of sparse development, wooded areas, wetlands and pastures. The corridor from the confluence of the South and Central Trunk Lines to the WWTP passes through rugged, undeveloped upland.

Implementation: Cadiz is conducting its Phase II project under a design-build agreement with the Kokosing Construction Company, Inc. (Kokosing). Cadiz is working to secure funding from the following sources:

|                             |                    |
|-----------------------------|--------------------|
| WPCLF Principal Forgiveness | \$1,077,291        |
| WPCLF 1% loan               | <u>\$2,921,659</u> |
| Total                       | \$3,998,950        |

With all these sources secured, debt associated with the South and Central Trunk Lines improvements will be recovered through the addition of \$6.00 onto the bi-monthly debt surcharge. This will add \$36.00 annually onto the current average annual sewer bill in Cadiz for a total annual average residential sewer bill of \$342.

The South and Central Trunk Line project is scheduled to begin in winter, 2014 with initiation of operation in August, 2014.

Environmental Impacts: The project will not affect the following environmental features, for the reasons given. The proposed South Pump Station will be outside the 100-year flood elevation, so there will be no effect to floodplains or floodways. The project is not designed to accommodate significant increases in population and building development. Therefore, it will not result in the conversion of farmed areas to more intensive uses, nor will it be associated with adverse secondary environmental impacts of development. No



state-designated scenic rivers, state or federal parks and wildlife preserves are in or near the work areas.

The project will affect the following features. Significant long-term adverse effects to them have been avoided, reduced or mitigated as described below.

*Surface Water.* Sally Buffalo Creek carries an aquatic life use designation of modified warmwater habitat. This means it cannot function as a typical warmwater habitat stream in the eco-region in which it is located due to irreversible habitat modifications. Mining effects are the reason for Sally Buffalo Creek's low aquatic life use designation. Mill Run has no beneficial use designations.

Cadiz' proposed sewer project has been designed to keep construction-related sediment from entering and further impairing these waterways. The use of CIPP or directional boring in two-thirds of the proposed work areas significantly reduces the potential for sedimentation. The open-cut installations will involve three crossings of Sally Buffalo Creek, one by jack and bore and two by open-cut; and one crossing of Mill Run by jack and bore. No stream crossing access points are proposed. All work in or near waterways will comply with a Construction General Storm Water Permit (Construction General Permit) from Ohio EPA and a Storm Water Pollution Prevention Plan (SWPPP), which establish the goals and prescriptions for controlling sediment runoff to the water resources. Additionally, the village will prohibit activities that could harm natural resources such as unnecessary operation of equipment in or near the streams and wetlands, the deposition of excess excavated material in wetlands, streams, or 100-year floodplains even at landowners' requests, prohibiting the staging of materials within the driplines of trees, etc.

Based on this, the project will have no significant adverse long-term or short-term impact to surface water quality.

*Ground Water and Drinking Water.* Homes in Oak Park and on Country Club Road depend on private wells in productive sand and gravel aquifers along the streams. The potential exists for the aquifers and wells to be contaminated by liquid materials used in construction, notably fuels and, in this case, CIPP resin and epoxy. The CIPP process does not lend itself to accidental releases to begin with because the resin is applied off-site, is transported and used in a controlled environment, and cures to a neutral product. Other materials will be handled in accordance with the General Construction Permit, the SWPPP and manufacturers' recommendations to prevent and clean up spills.

Based on this, the project as designed will have no long-term adverse impact to ground water or drinking water supplies.

*Wetlands:* The village delineated 17 Category 2 and Category 3 wetlands located adjacent to or within the proposed work areas. The crossing of wetlands by CIPP installations will involve no discharge of fill into the wetlands. The discharge of fill associated with open-cut construction will be avoided by directional boring under the

wetlands. Only at one site will an access route cross a wetland, and the village is seeking ways to avoid even that crossing. In a number of places, however, contractors will need to access existing manholes in wetlands to perform the rehabilitations. That means passing 25 to 50 feet through the wetlands to reach and work around the manholes. The village is considering ways to access these manholes without churning up soil and plants, which would constitute a discharge of fill into a wetland. Finally, the village requires the immediate cleanup of any directional drilling fluid that inadvertently comes to the surface in a wetland or any other unintended place. The foregoing avoidance measures are being included in design to minimize the discharge of fill into wetlands, thus eliminating the need to go through the protracted permitting process that would be required should the cumulative fill in wetlands – including that associated with Phase I construction - be over 0.5 acres.

While the village is still working on design details that will help keep the discharge of fill into wetlands under 0.5 acres, we are satisfied that the level of avoidance it has already achieved will keep the project from having any significant short-term or long-term adverse effect on wetlands.

*Endangered Species and Habitat:* The Ohio Department of Natural Resources indicates that the project is within the ranges of the following endangered species: the bald eagle, a bird species protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act; the Indiana bat, a federal endangered mammal species; and the upland sandpiper, a state endangered bird species.

US Fish and Wildlife Service (the Service) notes that the nearest known bald eagle nest is several miles from the project site. Therefore, due to the project size, type and location, the project as designed will not adversely affect the bald eagle or its habitat. The upland sandpiper utilizes dry grasslands, grazed and ungrazed pasture, and hayfields. None of this habitat is present in the proposed work areas.

The project is within the range of the Indiana bat, a federal endangered species. The Indiana bat prefers wooded riparian and upland habitat that provides crevices for maternal roosting, such as split tree limbs and exfoliating bark, clear flyways, and low-growing understory to provide forage habitat. This habitat type is present in the proposed work areas, and a few trees will need to be removed to accommodate equipment. The village conducted a biological assessment of the habitat present for Indiana bats. Based on the study and on the number of trees proposed for removal, the US Fish and Wildlife Service, recommends seasonal tree cutting outside the maternal roosting season.

Based on this, the project will have no significant adverse long-term impact to endangered species.

*Cultural Properties:* In August, 2013, the village conducted a *Phase I Archaeological Survey for the Approximately 4.1 kilometer (2.6 mile) Southern Trunk Line Sewer Construction Project in Cadiz Township, Harrison County, Ohio*. The Central Trunk Line

was not surveyed because most of it involves no ground disturbance. The survey focused on the portions of the South Trunk Line that will involve disturbance during construction, that consist of slopes less than 15 percent, and that have not visibly undergone past ground disturbance. One previously-unrecorded archaeological site was found on an upland area and recorded as archaeological site 33HN122. The survey found, and the Ohio Historic Preservation Office concurs, that 33HN122 is not eligible for listing on the National Register of Historic Places.

Based on this, the project will have no significant long-term or short-term adverse effect on cultural properties.

*Air Quality:* Harrison County is in attainment of the national ambient air quality standards for regulated pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, lead, ozone and particulate matter). During construction, mechanized equipment will emit volatile organic compounds and oxides of nitrogen, which are ozone precursors. Emission controls on construction equipment will lessen this impact. The project will not last long enough to place the county out of attainment of the air quality standards.

Based on this, the project will have no significant long-lasting adverse impacts to air quality.

*Noise, Dust and Odors:* These effects of construction will be unavoidable but temporary, and can be controlled by the use of emissions control equipment and silencers on mobile construction equipment and by applying dust suppressant as needed. Odors will be slight and temporary. The CIPP resin will come refrigerated and will be installed underground. Bypass pumping of sewage around work areas during rehabilitation of existing lines will generate few if any odors.

Based on this, the project will have no significant adverse long-term impacts with respect to noise, dust and odors.

*Traffic:* The specifications require the contractor to conduct the work in a manner that interferes as little as possible with public or private travel by vehicles or pedestrians. Traffic controls such as illuminated barricades, signs and other devices will be used as outlined in Section 12 of the Technical Specifications.

Based on this, the project will have no significant adverse effects related to traffic patterns and vehicle access.

*Local Economy:* The average annual sewer bill in Cadiz after the debt charge for the South and Central Trunk Lines project is applied (\$342) will be 1.2 percent of Cadiz' 2009 census median household income. This is considered affordable.

Public and Governmental Oversight: The following agencies have provided technical comments on the Phase II project: The US Fish and Wildlife Service, the Ohio

Department of Natural Resources, the United States Army Corps of Engineers, and Ohio EPA.

The need to upgrade the wastewater system has been covered in public meetings and the local newspaper since 2006, and appears to be well understood by the public. On October 28, 2013, Cadiz held a public meeting specifically to discuss Phase II. It was attended by three members of public. This indicates a low overall concern with the proposed project.

Conclusion: Based on the planning information provided in the 2010 facilities plan and other planning documents, associated studies and comments by interested agencies and the public, we find that the construction and operation of the South and Central Trunk Line rehabilitation and replacement as described herein will have no significant adverse short-term or long-term impact on surface waters, wetlands, floodplains, ground water, aquatic and terrestrial habitat, cultural properties, air quality, traffic or the local economy. It will have no adverse secondary (development-related) effects such as prime farmland loss, nor will it have adverse long-term effects with respect to noise, dust and odors.

The project will, along with the earlier improvements to the North Trunk Line, have significant long-term health benefits through the elimination of public exposure to SSOs and sewage exfiltration. It will protect surface water quality by reducing surcharging at the WWTP.

For further questions, please contact:

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Ohio EPA  
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Columbus, OH 43215

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