DUWAMISH RIVER CLEANUP COALITION/TECHNICAL ADVISORY GROUP (DRCC/TAG)

Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program

APPLICATION – WORKPLAN

I. Project Title and Purpose Statement

Duwamish Community Action for Clean Air

Air quality in Seattle's Duwamish Valley is poor and there is strong evidence that it is harming the health of the valley's low-income and diverse residents. A recent Cumulative Health Impacts Analysis shows that diesel particulate concentrations and childhood asthma hospitalization rates in the Duwamish Valley are among the highest in the city, contributing to a disproportionate "cumulative health impact" suffered by local residents.[1] The proposed project will (1) compile existing information on the sources of diesel and other air pollution in the Duwamish Valley, (2) identify and fill data gaps with new monitoring and mapping efforts, and (3) take action to reduce exposure to air pollutants and the frequency and severity of asthma among local residents.

The proposed project is located in the Duwamish Valley neighborhoods of South Park and Georgetown in Seattle, WA (ZIP code 98108). It relates to the Clean Air Act by monitoring air quality, preventing exposure to air pollution, and taking action to reduce health impacts.

The project partners are: DRCC/TAG, Public Health–Seattle & King County Environmental Health Services, Puget Sound Clean Air Agency, the American Lung Association, Just Health Action, Georgetown Community Council, the South Park Neighborhood Association, and Western Washington University's Huxley College of the Environment Peninsula Program.

II. Environmental and/or Public Health Information about the Affected Community

A recent Cumulative Health Impacts Analysis (CHIA) for the Duwamish Valley ranked the local 98108 ZIP code as having the highest cumulative health impacts citywide.[2] Environmental exposures identified include the highest air concentrations of diesel particulates and benzene citywide, and the highest rankings for number of Toxic Release Inventory (TRI) sites and number and severity of contaminated waste sites. Likewise, an *American Journal of Public Health* study found that gentrification in Seattle has led to the concurrent concentration of populations along socio-economic and racial/ethnic lines, and the location of polluting industry within the Duwamish Valley communities.[3] The evidence of likely health effects related to these exposures is strong. The scientific literature links air pollution to asthma, low birth weight, lung disease, and stroke, among other health effects.

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[1] Gould L, Cummings BJ. Duwamish Valley Cumulative Health Impacts Analysis. Seattle, WA: Just Health Action and Duwamish River Cleanup Coalition/Technical Advisory Group. March 2013.

[2] The study used the CalEPA cumulative impacts ranking methodology, which calculates Cumulative Impact = (socioeconomic factors + sensitive populations) x (environmental exposures + environmental effects + public health effects). OEHHA, 2010.

[3] Abel, T. and J. White. Skewed riskscapes and gentrified inequities: environmental exposure disparities in Seattle, Washington. *American Journal of Public Health* 101(s1): 246-254.

Asthma is of particular concern in the Duwamish Valley, which exhibits childhood asthma hospitalization rates more than twice the county average. The WA Department of Health has conducted a Health Consultation for the Duwamish Valley and found that cancer risks are elevated in residential areas nearest the three highways that run the length of the valley, primarily due to diesel emissions from cars and trucks.

The Duwamish Valley neighborhoods of South Park and Georgetown are among the lowest-income and most diverse communities in Seattle. Originally farming and suburban areas, the neighborhoods were engulfed by industrial rezoning during WWII. Today, South Park and Georgetown are islands in Seattle's densest industrial district and transportation hub. In the 98108 ZIP code, more than 70% of residents are non-white minorities, including Asian, Pacific Islander, Hispanic, African, African-American, and Native American. Forty-two percent of residents are foreign-born, and more than 20 languages are spoken. Nearly a third (32%) of residents live below 200% of the poverty level and 78% of children at the local elementary school qualify for free or reduced price lunch. Compared to the city average, these neighborhoods also have a significantly higher percentage of elderly residents (>65) and children (<5) than the city average, groups that are considered particularly vulnerable to harmful environmental exposures.

The CHIA found that the Duwamish neighborhoods are disproportionately impacted by diesel particulate and benzene exposures, and that residents have disproportionately higher rates of childhood asthma hospitalization and stroke and a higher than average percentage of vulnerable populations, including children, the elderly, and foreign-born residents. In addition to the evidence of poor air quality and high rates of associated diseases in the 98108 ZIP code, localized data on the South Park and Georgetown neighborhoods show that their life expectancy is eight years shorter than the Seattle average, and a full 13 years shorter than the comparatively wealthy and "white" neighborhood of Laurelhurst in North Seattle.

III. Organization's Historical Connection to the Affected Community

DRCC/TAG was founded by community-based organizations in the Duwamish Valley, including the South Park Neighborhood Association (SPNA), Georgetown Community Council (GCC), Environmental Coalition of South Seattle (ECOSS), IM-A-PAL Foundation, and the Duwamish Tribe. SPNA and GCC are comprised of and represent Duwamish Valley residents; ECOSS is based in South Park and serves the residents and businesses of the Duwamish Valley; IM-A-PAL was founded by South Park residents to steward the neighborhood's urban streams; and the Duwamish Tribe is native to the area and manages the Duwamish Tribal Longhouse and Cultural Center. Each of these founding organizations serve on the DRCC/TAG Advisory Council, helping to direct and manage the programs and services we deliver in the affected community. Additional Advisory Council members include the Community Coalition for Environmental Justice and several regional pollution prevention and environmental health organizations.

Since 2001, DRCC/TAG has been providing programs and services in response to and in consultation with our founding Advisory Council members, including:

- multilingual educational presentations and tours of the Duwamish River Superfund Site;
- meals, child care and transportation services for toxic cleanup-related public meetings;

• interpretation and translation of environmental information for non-English speakers;
• expert consultants to review local environmental studies and advise the community;
• service learning opportunities for local non-English speaking and at-risk youth;
• development of the Duwamish Valley Vision and an interpretive map of the Duwamish Valley with environmental, cultural and way-finding features;
• air, water and solid waste cleanup programming to promote a healthy community;
• securing a city-funded "Duwamish Opportunity Fund" to promote community health and revitalization efforts; and
• an annual Duwamish River Festival to provide multilingual, family-friendly information on environmental health issues, including toxic cleanup, fish advisories, air quality, etc.

Since 2010, DRCC/TAG has worked with the Duwamish communities to conduct the "Duwamish Community Health Initiative" – a trio of projects to conduct community health research, develop and advocate for policies to promote environmental justice and health equity, and take action to improve local community health. Each of these projects was conducted in partnership with and/or under the guidance of the local community e.g., via community involvement in research, community advisory committees, or community selection and execution of environmental health action projects). DRCC/TAG's programs have increased residents' capacity to access and understand environmental health information and take informed action to reduce their exposures and improve their environment. DRCC/TAG and its Advisory Council serve as EPA's Community Advisory Group for the Duwamish River/LDW Superfund Site and are widely recognized as the voice of the community in Duwamish Valley cleanup and environmental health issues.

Most recently, Duwamish Valley residents have identified air pollution as a priority for action. In resident surveys of environmental health concerns conducted by DRCC/TAG and Antioch University in 2010, 40% of residents identified air pollution as their highest priority concern. Likewise, residents identified concerns about air pollution as part of the Community Based Participatory Research (CBPR) conducted as part of the 2013 CHIA. In community meetings held in the Duwamish Valley neighborhoods of South Park and Georgetown in late 2013, residents requested DRCC/TAG's assistance in compiling information about local sources of air pollution and available programs, tools and resources for addressing their air quality concerns. In response, DRCC/TAG hosted a meeting of community representatives and public agencies in January 2014 to discuss the available data, additional information needs, and potential strategies for addressing the community's concerns. The project partnership for this proposal is the result of that meeting, and this application has been compiled in consultation with all project partners.

The partnership, including the representative South Park and Georgetown community organizations, will serve as the steering committee guiding implementation of the project and will meet (at least) quarterly; review and provide input on all project deliverables; actively participate in community workshops, presentations and open houses to inform and involve community residents; participate in project evaluation; and provide the resources, programs and services described in the Project Description below and Logic Model on page 11.

IV. Project Description

i. Describe the activities the project will undertake to examine and address the environmental and/or public health issue(s)

Based on input from the affected community, the project seeks to achieve three primary results:
• Improve the communities' understanding of the primary sources and their relative contribution of diesel particulate and other air pollutants in South Park and Georgetown.
• Reduce exposures to diesel particulate pollution and determine if other air pollutants are also a significant threat to residents' health.
• Reduce the frequency and severity of asthma among local residents, especially children.

Several project components will be integrated to achieve these results:

1. Compile and, if necessary, collect the monitoring, permitting, modeling and other available data and information needed to identify the existing air pollution sources and assess their relative contributions to diesel particulate concentrations and other pollutants of concern to the local community.

The Puget Sound Clean Air Agency (PSCAA) and Public Health Seattle-King County Environmental Health Services (PHSKC EHS) are partnering on this project in order to provide technical assistance to the community. PSCAA will provide research (data and analysis) and technical assistance throughout the project, including applicable air quality monitoring, monitoring training for local residents, and related monitoring support for the project. PSCAA will compile available existing information into a summary report and provide relevant community education regarding air pollution that is within the project scope and the agency's expertise.

PHSKC EHS will provide assistance in the technical review of existing air monitoring studies and/or provide input during the planning of new air quality studies within the project location. In addition, PHSKC EHS staff will participate in an advisory committee to identify possible research and pilot project(s) to better understand and/or address air quality sources of diesel particulate pollution and other pollutants of concern to the local community (e.g., benzene, cPAHs). In addition, PHSKC EHS will provide support in translating technical information into community education and outreach materials.

Western Washington University's Huxley College of the Environment Peninsula Program (HCEPP) will provide geographic research, cartography and technical assistance throughout the project, and will compile and map existing spatial data on air pollution sources and trends for the area, including information available from PSCAA's monitoring stations and EPA's Toxic Release Inventory (TRI) and Risk Screening Environmental Indicators (RSEI) databases. HCEPP will produce a user-friendly web-based and mobile device accessible map of the compiled and collected monitoring and facility data. This will provide community members with a spatial representation of data to enhance their understanding of the local sources and distribution of air pollution. HCEPP will build on the growing field of "participatory" or "community-oriented" Geographic Information Systems (GIS) to create a spatial data platform that will allow residents to enter "Volunteered Geographic Information" with mobile devices and computers and train the project team and local residents on its use and applications.

The Georgetown Community Council and South Park Neighborhood Association will co-host and conduct community outreach for neighborhood workshops, presentations, and open houses to display and explain the air pollution findings, answer questions, consult with the community on desired actions, and actively engage neighborhood residents in the next phases of the project. Building on DRCC/TAG's experience conducting effective multi-lingual and culturally appropriate community engagement events, the forums will be designed to be accessible and facilitate meaningful input from a wide diversity of local residents. Anticipated forums include monthly SPNA and GCC community meetings, presentations and facilitated discussions with the Concord Elementary School PTSA, house "parties" at Vietnamese community leaders' homes, and youth outreach events at the local Community Center. All forums will seek to inform and empower residents to take an active role in understanding the problem and helping to design and select effective and sustainable local solutions.

The project team will compile all of the information collected above into reports maps, as described, and DRCC/TAG will develop easy to understand Fact Sheets for the community to aid in their ongoing efforts to understand the sources and effects of air pollution and take action to reduce air pollutants and associated health impacts. The Fact Sheets will be translated and distributed in English, Spanish, and Vietnamese (the three largest language groups in the neighborhoods).

2. Identify and apply promising tools, resources, programs and models for reducing exposure to diesel and related pollution sources, including those that (a) minimize common exposure pathways and (b) reduce local sources of air pollution.

a) Minimize common exposure pathways:

The American Lung Association's (ALA) Master Home Environmentalist (MHE) program works to educate residents and families with asthmatic children about how to reduce exposures to in-home pollutants and asthma triggers (e.g. dust). It provides resources regarding indoor and outdoor pollutant identification and mitigation, human responses to exposure, no cost or low cost interventions, behavior change principles, and education regarding environmental justice and cultural sensitivity. ALA will partner with the project to conduct healthy homes assessments and devise individualized Home Action Plans with asthma management strategies, provide "walk off" door mats (to remove outdoor soil) and green cleaning kits to South Park and Georgetown residents. A limited number of HEPA vacuums, dust mite pillows and mattress covers will be available for residents who have children with asthma. HEPA air purifiers may also be available to residents with chronic lung conditions and whose primary exposure is determined to be from outdoor air intrusion. ALA will also participate in community workshops, presentations and open houses associated with the project to provide community education on indoor air pollution and asthma management strategies. If requested by the community, ALA will provide a three-hour Indoor Air Quality Training for South Park and Georgetown residents interested in serving or educating the local community. The availability of ALA's home assessments will be included in the community outreach and education about the project, and will be made available to the SeaMar Community Health Clinic to facilitate physician referrals for local residents with asthma and related health complaints.

(b) Reduce local sources of air pollution:

Based on information about primary sources of diesel and related air pollution sources in proximity to local residential neighborhoods that is generated by the project, project partner Just Health Action, in collaboration with HealthCorps volunteers from the SeaMar Community Health Clinic, will research and identify available tools, programs or resources for reducing identified sources (e.g., develop a Good Neighbor Agreement with a high impact industrial source, seek funding for diesel retrofits for bus fleets impacting local neighborhoods, or pilot green infrastructure barriers for high pollution corridors along local highways). JHA Executive Director Linn Gould is an educator for the SeaMar HealthCorps program, and will supervise and mentor HealthCorps volunteers assigned to conduct research for the proposed project.

The project team will work together to select (with guidance from community workshops) and undertake pollution reduction strategies and/or identify resources and funding to support the selected strategies. For strategies implemented during the project period, PSCAA will provide air quality monitoring, modeling, and/or analysis before and after project implementation to determine the effectiveness of the selected strategy in reducing localized air pollution. PHSKC EHS Division will provide advice on prioritizing strategies to address health concerns related to air quality issues, particularly as they relate to indoor housing quality and healthy communities planning.

3. The project aims to reduce the frequency and severity of asthma in the Duwamish neighborhoods of South Park and Georgetown, and particularly among local children.

In order to determine the effectiveness of the strategies undertaken by the project team, pre- and post-intervention surveys will be conducted with all households receiving indoor air assessments and assistance, and with residents in areas served by selected air pollution reduction strategies (e.g., homes adjacent to a local industry implementing a Good Neighbor Agreement, or along bus routes benefiting from diesel retrofits). American Lung Association and trained volunteers will conduct surveys for in-home interventions, and JHA will supervise SeaMar HealthCorps members to research sources of available data on asthma rates in the community prior to the beginning of the project. If available, data will be compared to rates at the close of the two-year project, to provide a larger population level indicator of any change in local asthma rates. Based on applicable outdoor air pollution reduction strategies selected for the project, the project team will develop and conduct surveys to evaluate the strategies selected and implemented by the project team.

Additional information on inputs and the anticipated schedule for the activities described above are summarized in the Logic Model on page 11.

The community will benefit from the proposed project by convening the agencies, academic institutions, and non-profit organizations with relevant expertise and resources in a coordinated effort to reduce residents' exposure to local sources of air pollution. The project directly addresses the community's request for assistance addressing air pollution related health concerns, empowering the local community to prioritize and take action to improve local environmental health threats. The community's direct involvement in guiding the project through representation on the project steering committee and input via multilingual and culturally appropriate community workshops will build community

capacity by increasing their information and understanding of local air pollution sources and exposures and actively engaging residents in choosing, implementing and evaluating the selected solutions.

ii) How will the organization and its partners will work together to address the issue?

The project partners' individual roles and commitments are summarized in the project description above and table below (as well as the Logic Model in section 8), along with the nature of each organization and the resources they bring to the partnership. Each of the project partners brings substantial resources to the project, substantially leveraging funding for the project with the partner organizations' contributed staff, volunteer time, materials, services, and equipment (conservatively valued at a minimum of $80,000).

PARTNER	TYPE/SECTOR	ROLE/ACTIVITIES	RESOURCES
Puget Sound Clean Air Agency	Government agency	Data compilation, research/monitoring	Staff, data, air monitors
Public Health–Seattle/King County Environmental Health Division	Government agency	Technical assistance, public education, translation services	Staff, translation
Huxley College of the Environment Peninsula Program, Western Washington University	Academic institution	GIS mapping services	Staff (faculty), GIS platform, interns
Duwamish River Cleanup Coalition/ TAG	Non-profit organization	Project Management	Staff, volunteers, materials
American Lung Association	Non-profit organization	Healthy home assessments, materials	Staff, materials
South Park Neighborhood Association	Non-profit organization	Community outreach and engagement	Volunteers
Georgetown Community Council	Non-profit organization	Community outreach and engagement	Volunteers
Just Health Action	Non-profit organization	Research, volunteer coordination	Staff, volunteers

A project Steering Committee comprised of all project partners (the "project team") will guide and advise implementation of the project and contribute specific resources and tasks as summarized in this Project Description and the Logic Model on page 11. The project team also expects to collaborate with EPA if awarded funding by the EPA EJ CPS Program.

The project team will meet at least quarterly to review progress and trouble-shoot any challenges or barriers to completing project tasks, activities, or broader goals. A project partnership listserve will be established to maintain timely communication and provide updates between meetings. The Project Manager will serve as the primary point of contact for any other necessary communications and partner needs. The first meeting of the project team will include a definition of project goals; establishment of the partnership structure, processes, and dispute resolution strategy; and project decision-making policy, with the goal of establishing consensus on each of the above. The majority of the project team have partnered with DRCC/TAG on past projects in the South Park and Georgetown communities, providing a strong base for effective collaboration on the proposed project.

Project management will be provided by DRCC/TAG, in consultation with EPA and the project partners. DRCC/TAG will convene quarterly, and, if necessary, monthly project team meetings, to ensure timely communication, coordination, and problem-solving as the project progresses. DRCC/TAG will ensure that all project partners receive shared drafts of communications materials, reports, maps etc. for review and editorial suggestions. The individual roles and responsibilities of each project partner is summarized in the project description and table above, and in the partner MOAs accompanying this project proposal. DRCC/TAG will be responsible for grant administration, including timely filing of all invoices, financial reports, progress reports, and other deliverables to EPA.

The partnership model to be used by the project team is further informed by EPA's Collaborative Problem Solving Model and incorporates each of the following elements:
1. Issue Identification, Community Vision, Strategic Goal Setting (complete)
2. Community Capacity–Building, Leadership Development (built into project design)
3. Consensus Building, Dispute Resolution (to be developed at first project team meeting)
4. Multi-Stakeholder Partnerships, Leveraging of Resources (largely complete+1st meeting)
5. Constructive Engagement by Relevant Stakeholders (built into project design)
6. Sound Management and Implementation (build into project design, to be refined as nec.)
7. Evaluation, Lessons Learned, Replication of Best Practices (partially built into project design, to be further refined and updated at start of and throughout project execution)

V. Organizational Capacity and Programmatic Capability

DRCC/TAG has a strong track record of engaging multilingual communities in river cleanup, community planning, and environmental health projects in the Duwamish Valley. DRCC/TAG serves as EPA's Community Advisory Group for the LDW Superfund Site, and has secured improvements in cleanup plans in order to support community priorities. DRCC/TAG facilitated development of the community's Duwamish Valley Vision in 2009, and manages an EPA CARE funded program to take action on community health needs not addressed by the river cleanup. Last year, DRCC/TAG completed an Cumulative Health Impacts Analysis of the local neighborhoods with EPA Environmental Justice Research Grant funding, and partnered with the UW School of Public Health to conduct a Health Impact Assessment (HIA) of EPA's proposed cleanup plan with funding from the Pew Charitable Trusts and Robert Wood Johnson Foundation. DRCC/TAG has also managed five Public Participation Grants from the Washington State Department of Ecology since 2005. All programmatic and financial reports on our EPA, State and privately funded projects have been timely and thorough. All grant expenditures are individually tracked with a

QuickBooks accounting system maintained by an professional bookkeeper with oversight from the Executive Director and DRCC/TAG Board of Directors.

DRCC/TAG's staff has managed the complex intersection of technical and community-based research, analysis and action to achieve the accomplishments summarized above. DRCC/TAG Director, James Rasmussen, served for 30 years on the Duwamish Tribal Council and as the founding Director of the Tribe's Longhouse and Cultural Center, directing its public and tribal projects and services during its first two years. Program Manager Alberto Rodriguez directs DRCC/TAG's community outreach, education and engagement programs, manages the organization's internship programs, and partners with project staff to ensure that environmental justice goals are met. BJ Cummings is the organization's founding Director, serving in that capacity from 2001–09. As Project Manager for the proposed project, her qualifications are outlined further below.

VI. Qualifications of the Project Manager

BJ Cummings is DRCC/TAG's Development and Policy Advisor, and has served since 2010 as the organization's Community Health Projects Manager. Cummings tracks and reports on all of DRCC/TAG's state and federal grant programs and manages DRCC/TAG's community health and planning projects, including the Healthy Communities action projects, Duwamish Valley Vision, Cumulative Health Impacts Analysis and DRCC/TAG's roles and responsibilities under the UW-led Duwamish Health Impact Assessment. Cummings has been with DRCC/TAG since 2001 and has worked with the Duwamish communities and several current project partners in a variety of roles since 1994. Ms. Cumming has a M.A. in Geography/Environment and Development Studies from UCLA.

VII. Past Performance in Reporting on Outputs and Outcomes

DRCC/TAG currently holds an EPA Technical Assistance Grant (TAG) [#1-96026701] which we have managed since 2005 for a current total of $150,000, and an EPA CARE Program Cooperative Agreement award (#RE00J46001) for $100,000. In 2013, we completed implementation of an EPA Environmental Justice Research Grant (#EQ00J46801) for $50,000 (final report to be submitted this month). We have maintained timely and thorough programmatic and financial reporting for each of these grants. DRCC/TAG has also been awarded six Washington State Department of Ecology Public Participation Grants, including a current award (#G1400366), for $120,000 and has consistently met all programmatic and financial reporting requirements.

DRCC/TAG tracks and reports on all technical, educational, and public involvement activities, outputs, outcomes and expenditures related to our state, federal and privately funded projects. Reporting on outputs and outcomes related to our EPA funded projects is conducted using EPA's required forms and formats for each grant and cooperative agreement program. EPA's TAG program requires quarterly progress reports, EPA's Environmental Justice Research Grant requires mid-project and final progress reports, and EPA's CARE Program requires completion of Excel forms reporting on project output and outcome metrics as well as quarterly narrative progress reports based on agreed outputs.

VIII. Expenditure of Awarded Grant Fund

DRCC/TAG uses QuickBooks-based grant tracking accounting software to ensure that all expenditures are properly allocated to the applicable funding source and within in the budget limitations and scope of the funding agency and contract.

IX. Quality Assurance Project Plan (QAPP) Information

The project is likely to involve the use of existing environmental data and the collection of new data. Where possible, the project will draw from existing approved quality assurance procedures for pollution measurement from the Puget Sound Clean Air Agency and Washington State Department of Ecology. We will develop a quality assurance plan to ensure data quality for the appropriate monitoring technology needed for the study.

LOGIC MODEL: DUWAMISH COMMUNITY ACTION FOR CLEAN AIR

DUWAMISH RIVER CLEANUP COALITION/TAG – EPA EJ CPS APPLICATION

ACTIVITY	OUTPUT	OUTCOME	TIMELINE
1. Compile existing air quality and pollution source data	a) Summary report to project team	(i) Project team gains understanding of extent/source of air pollutants in Duwamish Valley	Summer–Fall 2014
2. Identify data gaps, possible new air monitoring needs	a) Develop/approve/ implement new monitoring plan(s)	(i) Project team gains greater understanding of air pollutants/ sources	Winter 2015–ongoing
"	b) Train resident volunteers to participate in monitoring effort (data collection and analysis)	(ii) Build capacity of residents to independently gather and understand air quality data	Winter 2015–ongoing
3. Inform/educate residents about air pollution findings	a) Publish Fact Sheets in English, Spanish, Vietnamese	(i) Residents gain understanding of extent/source of local air pollution; build capacity to address problem and craft solutions	Winter 2015 (repeat for #4–6, etc. as necessary.)
"	b) Produce GIS maps of air quality and pollution source data collected	(ii) Improve residents understanding of the distribution of air quality variations and pollution sources	Winter–Spring 2015
"	c) Host community workshops/ presentations/open houses in English, Spanish, Vietnamese	(i), (ii) + (iii) Residents provide input on desired actions, become engaged in next phase of project	Winter–Spring 2015 (repeat for #4–6, etc. as necessary)
4. Research/identify promising tools/ resources/programs for addressing air pollutants and sources	a) Prioritized list of promising and available actions to reduce air pollution and/or exposures	(i) Project team and residents evaluate and agree on actions to reduce air pollution sources and/or exposures, including anticipated actions	Summer–Fall 2015

		below	
5. Minimize common air pollution exposure pathways (via agreed actions)	a) Conduct Indoor Air Quality Training for local resident volunteers	(i) Residents learn how to minimize exposure to pollutants in indoor air; build capacity within community	Fall 2015
"	b) Conduct healthy home assessments, provide individualized action plans and materials (green cleaning kits, 'walk-off' door mats, filters, etc.)	(ii) Residents exposure to indoor air pollutants (including intrusion of outdoor air pollution) is reduced	Fall 2015–Spring 2016
"	c) Conduct additional exposure minimization strategies identified in #4, if applicable	(iii) Residents exposure to outdoor air pollutants is reduced	Winter 2015–Spring 2016
6. Reduce sources of local air pollution	a) Assess feasibility/available funding for air pollution reduction strategies identified in #4, if applicable	(i) Project team and residents develop/approve plan for pollution reduction pilot project(s)	Fall 2015–Winter 2016
"	a) Select/fund/ implement pollution reduction pilot project(s)	(i) Air pollutants in local residential neighborhoods are reduced	Winter–Summer 2016
7. Reduce frequency/severity of asthma	a) Conduct healthy homes assessment component of project (#5b above).	(i) Reduce exposure to pollutants that contribute to asthma-related health risks	Fall 2015–Spring 2016
"	b) Develop and administer pre- and post-surveys regarding frequency/severity of asthma in households receiving healthy homes assessments	(iI) Determine effectiveness of project in reducing asthma in local households	Fall 2015–Spring 2016

8. Evaluate project effectiveness	a) Report on completion of project deliverables (e.g., Fact Sheets); project metrics (e.g., # of homes served); air monitoring results; pre/post asthma surveys	(i) Determine project successes, lessons learned, replicable models	Summer 2016

A Logic Model with Project Performance Measures is provided as an attachment per the requirements of Section 8 of this application.