

NO: R065

COUNCIL DATE: April 8, 2024

REGULAR COUNCIL

TO: Mayor & Council **DATE: April 4, 2024**

**FROM: General Manager, Social Infrastructure and
Community Investments** **FILE: 4710-01**
General Manager, Parks, Recreation & Culture
General Manager, Corporate Services
Fire Chief, Emergency Planning Coordinator
Chief Librarian

SUBJECT: Surrey Extreme Weather Action Plan – Summer 2024 Update

RECOMMENDATION

The Social Infrastructure and Community Investments Department, Parks, Recreation & Culture Department, Corporate Services Department, the Fire Chief and the Chief Librarian recommend that Council receive this report for information.

INTENT

The intent of this report is to update Council on the City's preparations for potential extreme weather events and to provide the confirmed extreme heat and smoke relief location for Summer 2024.

BACKGROUND

In June 2022, Council approved the Surrey Extreme Weather Action Plan (the "Action Plan"). Corporate Report No. R127; 2022 is attached to this report as Appendix "I". The Action Plan coordinates responses to cold, heat and smoke events to ensure residents are adequately informed year-round of risks and required actions to prepare for and protect themselves during extreme cold, heat and smoke events.

An extreme heat emergency occurs when daytime and nighttime temperatures are well above seasonal norms and are forecast to increase above the regional recommended thresholds for three consecutive days. Instances of extreme heat and alerts regarding air quality frequently coincide. The frequency of air quality alerts, particularly due to wildfire smoke, is dynamic and predicated by jet stream patterns and either La Nina or El Nino ocean events.

Data from previous heat events indicates that vulnerable seniors face the highest risk during extreme temperatures, especially those residing in homes with inadequate ventilation, limited or no cooling options, and those facing significant health risks. The City has recently revised the Age-Friendly Strategy which includes communication initiatives targeted at seniors to let them know the risks associated with extreme heat and where to seek refuge.

DISCUSSION

The Action Plan is aligned with the Provincial alert structure, following two alert levels: Warning and Emergency. The Action Plan also outlines how ongoing activities related to raising awareness and providing information to our residents will function in tandem with the two alert levels. The Action Plan provides details on the ongoing awareness communications and provides a matrix outlining the criteria that triggers each alert level and the actions that the City will take at each alert level. The Summer 2024 Action Plan Matrix for heat and smoke events is attached as Appendix "II".

The Surrey Fire Service Emergency Program regularly updates Surrey's Extreme Heat Response Guidelines which outline the activities taken with partner agencies during periods of extreme heat. Surrey's Extreme Heat Response Guidelines for 2024 is attached as Appendix "III".

Extreme Weather Communications and Responses

Throughout the year, the City utilizes social media and web-based communication to increase awareness amongst residents of the health and well-being risks related to weather extremes. In times of extreme weather, staff create a web presence to ensure residents know how to access civic facilities. Communication efforts will involve posters, advertising, brochures, in-facility and on-street communications, and signage. In addition to broadly communicated messages, targeted messages are shared for seniors in the 55+ e-newsletter.

Information will guide residents on using the Surrey Fire Services "Alertable" system for emergency alerts during critical incidents or extreme heat events. The communication plan also includes travel advisories and operational adjustments during severe winter weather events.

In 2022, the Surrey Fire Services launched the "Alertable" Emergency Notification system where residents can sign-up to receive emergency notifications and alerts from the City related to emergency events. Emergency management focus at community events, continues to encourage citizens to sign up for "Alertable" notifications. "Alertable" is also highlighted at all 55+ Forums for seniors in the City throughout the year.

Emergency preparedness communication specific for seniors continues to be a focus. In spring 2024 a new hard copy and digital Surrey Emergency Preparedness Guide for seniors will be launched. This guide will include all information that seniors need to prepare for emergencies and will include information on how to stay safe during emergencies such as extreme weather. Workshops for seniors will be launched in 2024 to support the rollout of the new Surrey Emergency Preparedness Guide for seniors. Communication will also be shared through the City's Age Friendly Network of over 100 contacts who support seniors across the City. Examples of organizations on the Age Friendly Network are: Division of Family Practice, Fraser Health, Fire Services, RCMP, Surrey Police, Academia, and community-based sector (incl. settlement services).

The Social Infrastructure and Community Investments Department has recently established a Homelessness Services Unit to respond and coordinate responses and develop new approaches to issues related to people experiencing homelessness in Surrey. A cross-departmental team comprised of staff from Corporate Services, Social Infrastructure and Community Investments and Parks, Recreation & Culture will coordinate heat relief activities and communications during heat events, including directing individuals in need to indoor cooling spaces as described below.

City Facilities Availability for 2024 Extreme Heat and Smoke Events

For the 2024 summer season, the City has confirmed 10 recreation and community centres and nine libraries across the city as Extreme Heat and Smoke Relief locations which will offer respite to individuals in need, as outlined in Appendix “IV”. Locations of Extreme Heat and Smoke Relief facilities are illustrated in Appendix “V”.

The suitability of each facility has been assessed to ensure it can meet the needs of the community. In advance of an extreme weather event, identified facilities will be noted on the City’s website. Seating is available in lobbies of recreation centres and water is available through access to water bottle fillers. Leashed or crated pets are welcome at recreation facilities during extreme weather emergencies. All facilities identified as places to seek refuge during an emergency have Wi-Fi and accessible public washrooms.

Operating hours for Extreme Heat and Smoke Relief locations are outlined in Appendix “IV”. At a Level 2 alert, hours of civic facilities may change depending on an assessment of need during any particular heat event. When hours change, the updated operating hours will be advertised on the City’s website.

CONCLUSION

With extreme weather as a risk for the health and well-being of people in Surrey, it is recommended that Council receive the Surrey Extreme Weather Action Plan – Summer 2024 Update for information.

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Appendix "I": Corporate Report No. R127; 2022

Appendix "II": Summer 2024 Action Plan Matrix

Appendix "III": Surrey's Extreme Heat Response Guidelines for 2024

Appendix "IV": Confirmed Summer 2024 Extreme Heat and Smoke Relief Locations

Appendix "V": Map of Extreme Heat and Smoke Relief Locations

[https://surreybc.sharepoint.com/sites/community.services.hub/gm admin/corporate reports/2024/final/05-april 8/surrey extreme weather action plan - summer 2024 update.docx](https://surreybc.sharepoint.com/sites/community.services.hub/gm%20admin/corporate%20reports/2024/final/05-april%208/surrey%20extreme%20weather%20action%20plan%20-%20summer%202024%20update.docx)

CORPORATE REPORT

NO: R127

COUNCIL DATE: June 27, 2022

REGULAR COUNCIL

TO: Mayor & Council

DATE: June 23, 2022

FROM: General Manager, Community Services
General Manager, Parks, Recreation and Culture
Fire Chief, Emergency Planning Coordinator

FILE: 4710-01

SUBJECT: Surrey Extreme Weather Action Plan

RECOMMENDATION

The Community Services and Parks, Recreation and Culture Departments and Surrey Fire Services recommend that Council:

1. Receive this report for information; and
2. Endorse the Surrey Extreme Weather Action Plan attached as Appendix "I", and as generally described in this report.

INTENT

The intent of this report is to seek endorsement from Mayor and Council on the Surrey Extreme Weather Action Plan (the "Action Plan") and to provide an update on preparation for extreme heat events in 2022.

BACKGROUND

Until recently, extreme weather responses in the region primarily focused on supporting the winter Extreme Weather Response ("EWR") program funded by BC Housing ("BCH") for people experiencing homelessness during the coldest days of the year. Province-wide agencies such as Emergency Management BC ("EMBC") and BCH play a key role in these responses by setting standards and delivering responses through funding community-based agencies to provide temporary, overnight shelter spaces during extreme winter weather events that threaten the health and safety of homeless individuals. BCH funds EWR programs in communities where the number of homeless people exceeds the number of available shelter beds, such as Surrey.

BCH contracts the Homelessness Services Association of BC ("HSABC") to manage the EWR program and to coordinate the implementation of the EWR in Surrey and Vancouver. HSABC's responsibilities include updating local EWR Plans, identifying and liaising with community agencies and faith-based organizations to secure EWR shelter sites, determining when to activate EWR alerts, and sending out notification of the activation and deactivation of EWR alerts. Individual EWR shelter sites are operated by local non-profit organizations.

Surrey Fire Services (“SFS”) inspects all proposed EWR shelters to ensure that they meet basic health and safety standards. City staff are also included on the EWR notifications sent by HSABC so that, if required, staff can direct people to EWR shelters. The City’s Communications staff amplifies messaging related to the EWR alerts to residents.

With the potential for an increasing number of extreme heat weather events, Environment Climate Change Canada, BC Centre for Disease Control, Fraser Health Authority, Vancouver Coastal Health Authority, EMBC, and BC Housing (collectively the BC Health Effects of Anomalous Temperatures Committee [“BC HEAT Committee”]), and municipalities and partners engaged in EWR have been proactively planning for responses to include the extremes of heat and smoke in the summer months.

Given the extremes of weather our region now faces from cold, heat and smoke, the City has worked to ensure year-round responses that are aligned with provincial authorities.

DISCUSSION

An extreme heat emergency occurs when daytime and nighttime temperatures are well above seasonal norms and are forecast to increase above the regional recommended thresholds for three consecutive days. Driven by climate change, extreme heat days have a severe impact on health, infrastructure, services, the environment, and the economy. The 2021 “heat dome” was the deadliest weather event in Canadian history and underlined the fact that those in our communities who are most vulnerable require additional support.

Recently, HSABC convened the partners involved with the winter EWR to coordinate a heat response for people experiencing homelessness. Actions include supporting non-profits to set up outdoor cooling stations located on non-profit sites and public spaces, and the provision of water, sunscreen and other supplies.

Metro Vancouver Health Authorities also coordinate the distribution of information on locations and opening hours of outdoor cooling stations and civic facilities where people can cool off, such as community and recreation centres and libraries.

A report released on June 7, 2022 from the Chief Coroner of British Columbia, *Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021* (the “Report”; attached as Appendix “II”), provides a review of heat-related deaths in BC during the summer of 2021. The Report confirms that the BC Coroner’s Service directly attributed 619 deaths to the “heat dome” event in late June 2021. As noted in the Report, “most of those deceased were older adults with compromised health due to multiple chronic diseases and who lived alone.” Other major findings include:

- 98% of deaths occurred indoors;
- more deceased individuals were in homes without adequate cooling systems; and
- most lived in more socially or materially deprived neighbourhoods than the general population.

The report outlines three recommendations for actions for municipalities to take to reduce heat-related deaths. These recommendations are:

1. Implement a coordinated provincial Heat Alert and Response System (“HARS”);
2. Identify and support populations most at risk of dying during extreme heat emergencies; and
3. Implement extreme heat prevention and long-term risk mitigation strategies.

As a result of the increasing extreme heat emergencies, Provincial authorities (PreparedBC) have issued new guidelines under the *Extreme Heat Preparedness Guide* (Appendix “III”) and the City has aligned our approaches accordingly. SFS developed *Surrey’s Extreme Heat Response Guideline 2022* (Appendix “IV”) which aligns with PreparedBC *Extreme Heat Preparedness Guide*.

EMBC announced in May that in an extreme heat emergency, a forecasted extreme heat emergency, or a heat warning where actions are taken as outlined in the BC Provincial Heat Alert and Response System (“BC HARS”) many incurred expenses will qualify for reimbursement. These expenses include the provision of bottled water, staff overtime, facility use costs, provision of emergency services and the work of partner agencies, including First Nation support services. BCH works directly with the agencies they contract for the operation of shelters and supportive housing projects to ensure that the buildings are kept as cool as possible, water is provided, and outdoor misting tents are set up to support the priority population experiencing a challenge with housing stability.

Through the BC HEAT Committee, BC HARS is a heat response pilot project for 2022 coordinated by the Province. The BC HARS has defined new thresholds for declaring a “Heat Warning” or “Extreme Heat Emergency”. The pilot project provides guidance and suggestions for people, property owners, local governments, health facilities and non-profit housing operators to plan and prepare for heat events. BC HARS acknowledges the 2022 pilot was developed in time for the summer heat season, but still requires further consultation with local governments and other stakeholders.

Preparing for Extremes of Cold, Heat and Smoke: Surrey Extreme Weather Action Plan

To ensure coordinated responses to cold, heat and smoke, the City has developed the Action Plan, to ensure our residents are adequately informed year-round of risks and required actions to prepare for and protect themselves during extreme cold, heat and smoke events.

The Action Plan is aligned with the Provincial alert structure, following two alert levels: Warning and Emergency. The Action Plan also outlines how ongoing activities related to raising awareness and providing information to our residents will function in tandem with the two alert levels. The Action Plan provides details on the ongoing awareness communications and provides a matrix outlining the criteria that triggers each alert level and the actions that the City will take at each alert level.

Awareness

Throughout the year, the City utilizes social media and web-based communication to increase awareness amongst residents of the health and well-being risks related to weather extremes. This ongoing work primarily involves the City's Marketing and Communications Division, as well as the Recreation Services teams based in each community and recreation centre, as they are an important conduit for regular users of the centres as well as our most vulnerable residents.

SFS plays a crucial role in raising awareness, as they regularly engage with property owners as part of HomeSafe and other inspection services. Along with dedicated "pop up" events and engagement activities, SFS disseminates key information to residents to prepare for and manage extreme weather events in their homes. SFS and By-Law teams also undertake targeted outreach to businesses to increase awareness of their responsibilities for employees working in commercial and industrial buildings. Each year, SFS proactively engages with property owners to manage increased fire risks in summer as part of their regular outreach efforts for fire prevention. Additionally, SFS launched the "Alertable" Emergency Notification system for Surrey in May 2022. This application allows residents to sign up to receive emergency notifications and alerts from the City related to any emergency event impacting their location.

Alert Levels: Warnings and Emergencies

The Action Plan includes two alert levels. For each of alert level, the City has developed responses that are aligned with those of Provincial authorities. The Province's *Extreme Heat Preparedness Guide* focuses on actions individuals should take, including precautions residents can take to prepare in advance of extreme heat emergencies, what to do as temperatures rise, and what to do once an extreme heat emergency is underway. Precautions to take before summer include identifying those at risk and needing support.

Building on this, *Surrey's Extreme Heat Response Guideline 2022* outlines actions the City will take to support residents and provincial ministries in mitigating risks to life and safety caused from an extreme heat event. The guideline describes the extreme heat alert protocol and response, including monitoring temperatures and outlines when the City will escalate to a heat warning and then an extreme heat emergency.

At a Level 1 alert (Heat Warning), the City:

- Advertises the location and operating hours of City-owned facilities available for heat respite;
- Conducts check-ins to those identified as more vulnerable to a heat event; and
- Employs a multi-modal communication strategy to disseminate relevant information to the public.

At a Level 2 alert (Extreme Heat Emergency), the City continues all actions undertaken at Level 1, and in addition:

- Conducts community outreach focusing on high-risk populations and the groups that support them;
- Extends the hours, as required, for City-owned facilities that can offer respite,

- Distributes resources to the public, such as water; and
- Increases the availability of on-duty first responders.

City of Surrey Facility Availability for 2022 Heat Events

Many civic facilities, which includes various civic recreation and community centres, as well as libraries, are available to offer respite to individuals in need and access to water. On July 21, 2021, the City launched the Summer Cooling: Extreme Heat & Smoke Relief Locations list (Appendix “V”), as an additional resource during the summer season. This list is available to the public on the City’s website and outlines the City of Surrey civic facilities available to anyone seeking relief from extreme heat or wildfire smoke during the summer months. These facilities are also available for respite for extreme cold and/or smoke.

SUSTAINABILITY CONSIDERATIONS

This work supports the objectives of the City’s Sustainability Charter 2.0. In particular, this work relates to the Sustainability Charter 2.0 theme of Inclusion. Specifically, this work supports the following Desired Outcomes (“DO”) and Strategic Directions (“SD”):

- Inclusion SD9: Facilitate the development of shelter facilities and supportive housing as outlined in the Master Plan for Housing the Homeless in Surrey.
- Inclusion SD20: Foster a culture of collaboration and the generation of new ideas and methods for solving complex social issues.
- Inclusion DO12: Everyone in Surrey has a place to call home.
- Inclusion DO13: Appropriate and affordable housing is available to meet the needs of all households in Surrey.
- Inclusion DO24: Surrey has a strong social infrastructure that supports the needs of its diverse and growing population.
- Inclusion DO25: Surrey has a culture of collaboration and innovation to solve complex social problems.

CONCLUSION

With extreme heat as a growing risk for the health and well-being of residents in Surrey, the Surrey Extreme Weather Action Plan is aligned to the Provincial alert structure, functioning at two alert levels: Warning and Emergency. The Action Plan outlines how ongoing activities related to awareness raising and providing information to our residents will function in tandem with the two levels of alerts. The City also works to ensure civic and non-civic facilities are prepared to offer respite to individuals in need when required to respond to extremes of cold, heat and smoke.



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APPENDICES AVAILABLE UPON REQUEST

Appendix "I" – Surrey Extreme Weather Action Plan

Appendix "II" – Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in BC in Summer 2021 (Report to the Chief Coroner of British Columbia)

Appendix "III" – Extreme Heat Preparedness Guide (PreparedBC)

Appendix "IV" – Surrey's Extreme Heat Response Guideline 2022

Appendix "V" – Summer Cooling: Extreme Heat & Smoke Relief Locations

Surrey Extreme Weather Action Plan

A coordinated response to extreme heat and smoke events in Surrey.

ONGOING ACTIONS

- Coordinate with the Ministry of Emergency Management and Climate Readiness (EMCR), Fraser Health Authority, BC Housing and other agencies such as Homelessness Services Association of BC (HSABC) to prepare for upcoming alerts.
- Use social media and Surrey.ca to post tips on staying cool when conditions change.
- Use social media and Surrey.ca to post fact sheets on signs of heat exhaustion and dangers of smoke inhalation during wildfires.
- Post brochures and posters in recreation centres across the City promoting heat and smoke messaging.
- Surrey Fire Service promotes heat and smoke awareness through outreach via Home Safe program and property visits and inspections.
- Surrey Fire Service promotes the Alertable app system for receiving emergency alerts.
- Ensure adequate supplies are procured in advance of Level 2 warning.
- Maintain a list of facilities that may be activated to support during extreme weather emergencies.

LEVEL 1 - WARNING	CRITERIA TO ACTIVATE	ACTIONS
HEAT	<ul style="list-style-type: none"> • Activation determined by BC Heat Committee. • Daytime temperatures are expected to be 33°C or warmer and nighttime minimum temperatures of 17°C or warmer. • Duration = 2 days 	<ul style="list-style-type: none"> • The City will advertise the location and operating hours of City-owned facilities available for heat respite. • Deploy a multi-modal communication strategy to distribute relevant information to the public, including through the Alertable app.
SMOKE	<ul style="list-style-type: none"> • Activation determined by Fraser Health Authority in conjunction with Vancouver Coastal Health. • Air Quality is measured by Environment and Climate Change Canada. 	<ul style="list-style-type: none"> • The City will advertise the location and operating hours of City-owned facilities available for smoke respite. • Deploy a multi-modal communication strategy to distribute relevant information to the public, including through the Alertable app.

LEVEL 2 – EMERGENCY	CRITERIA TO ACTIVATE	ACTIONS
HEAT	<ul style="list-style-type: none"> • Activation determined by the BC Heat Committee. • Daytime temperatures are expected to be 33°C or warmer and nighttime minimum temperatures of 17°C or warmer. • Duration = 3 days 	<p>In addition to the actions taken at Level 1, the City will:</p> <ul style="list-style-type: none"> • Extend the opening hours for City-owned facilities that can offer respite (as required). • Distribute resources, such as water, to the public. • Increase the availability of on-duty first responders. • Participate in EMCR coordination. • Prepare for initiation of the Emergency Operations Centre (EOC) related to flooding, fire or another emergency event.
SMOKE	<ul style="list-style-type: none"> • Activation determined by Fraser Health Authority in conjunction with Vancouver Coastal Health. • Air Quality is measured by Environment and Climate Change Canada. 	<p>In addition to the actions taken at Level 1, the City will:</p> <ul style="list-style-type: none"> • Extend the opening hours for City-owned facilities that can offer respite (as required). • Distribute resources, such as water, to the public. • Increase the availability of on-duty first responders. • Participate in EMCR coordination. • Prepare for initiation of the Emergency Operations Centre (EOC) related to flooding, fire or another emergency event.

2024

Surrey's Extreme Heat Response Guideline



Surrey

Emergency

Program

3/28/2024

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The City of Surrey Extreme Heat Response Guideline

Intent

The purpose of this plan is to outline the actions available to the City of Surrey to support provincial ministries in mitigating risks to life and safety caused from an extreme heat event.

Background

Urban areas are the hot spots of global warming. Extreme heat is a key risk to the health and well-being of British Columbians. The situation is growing more dangerous, driven by irreversible climate change. Canada is warming, on average, at twice the global rate. ¹

As seen locally in the Heat Dome event of June 2021, extremely hot temperatures and heat waves can be deadly and have a severe impact on health, infrastructure, services, the natural environment, and the economy. Not everyone will be affected in the same way, and those most vulnerable will require additional support.

Between June 18 and August 12, 2021, British Columbians experienced heat events that had significant impacts on human health and well-being, resulting in 619 heat-related deaths, with 75% of these being in Vancouver Coastal Health and Fraser Health Authorities. The heatwave that occurred between June 24-30, 2021, was the deadliest weather event in Canadian history. A review following this deadly heat event revealed the following:

- There was a significant increase in deaths of those 70 years of age and older. [1]
- Deaths more frequently occurred in individual residences without adequate cooling systems as opposed to acute or residential care homes. [1]
- Deaths were higher in areas of material and social deprivation as well as low tree canopy cover. [2]

Urban centres face the greatest risk because of the urban-heat-island effect. Surface daytime temperatures can be 10 – 15°C hotter in urban heat islands, while nighttime temperatures can be up to 12°C hotter than in surrounding rural areas. During episodes of extreme heat, everyone is at risk of heat-related illnesses. The danger is greatest for those who are more vulnerable or less able to protect themselves. This includes people who are more sensitive to extreme heat (such as the elderly or chronically ill) and those with fewer resources to adapt (for instance, people on lower incomes who cannot afford actions to retrofit their homes).

¹ BC Coroners Report 2022

² Henderson et al., 2021

Discussion

While posing a significant risk to health and safety, extreme heat mostly affects people where they live and in the privacy of their homes. For this reason, local governments are challenged with developing any response with impactful outcomes. The responsibility to mitigate the risk from extreme heat falls to several levels of senior government agencies as well as people themselves, such as:

- Individuals,
- Property owners & managers,
- Environment and Climate Change Canada (“ECCC”),
- British Columbia Centre for Disease Control (“BCCDC”)
- Health Emergency Management BC (“HEMBC”)
- Fraser Health Authority
- Emergency Management and Climate Readiness (“EMCR”)
- BC Housing

There are three heat-related support triggers with actions:

- Environment Canada Special Weather Statement for hot weather - communicate educational information for awareness.
- Environment Canada issues a heat warning – educate the public using a multimodal communication strategy.
- When EMCR or the Province declares an extreme heat emergency - open cooling relief facilities, provide additional support for those at higher risk and send out critical health alerts.

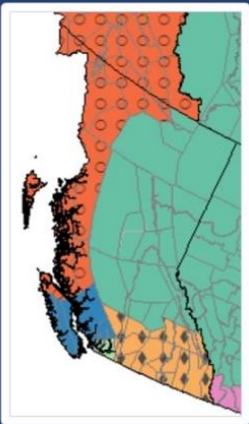
Once a heat event is imminent, Surrey will support the messaging and promote the recommendations made by the governing health authority to our citizens, to ensure consistent information is published.

Extreme Heat Alert Protocol and Response

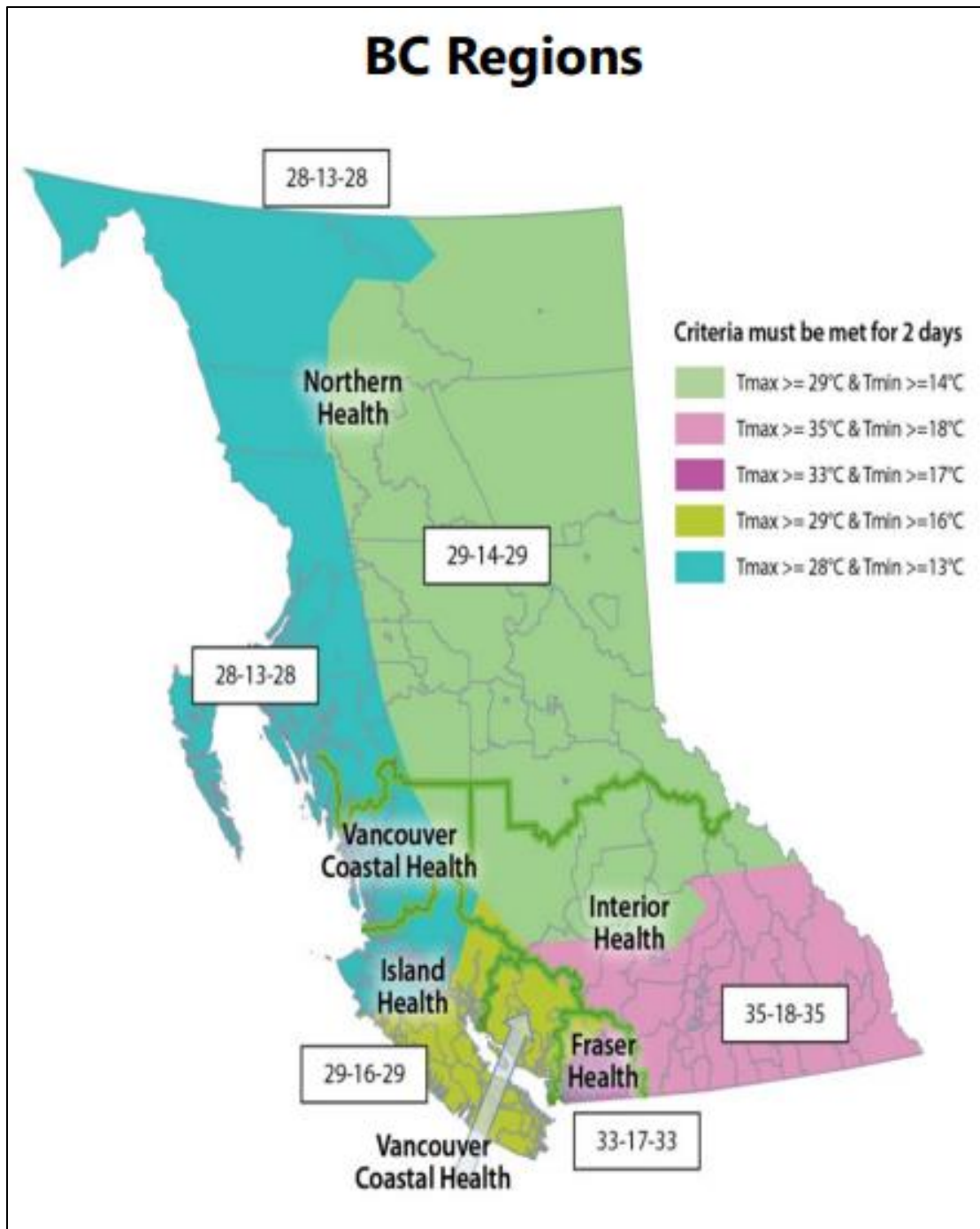
The Heat Alert protocol, developed by ECCC, involves two stages and a stand-down process. Prior to an alert, ECCC will send out special weather statements which forecast increased temperatures approaching an alert stage. This allows for pre-planning and public education messaging to be developed by health authorities and amplified by other agencies throughout the community.

Heat Alerts are activated when conditions deemed severe enough to present a substantial threat to the life or health of the community such as:

- when Environment Canada issues a Heat Warning
- when Environment Canada issues an Extreme Heat Emergency

 BC Regions	Alert level	Heat Warning	Extreme Heat Emergency
	Public health risk	Moderate (5% increase in mortality)	Very high (20% or more increase in mortality)
	Descriptor	Very hot	Dangerously hot
	Historic frequency	1-3 per summer season	1-2 per decade
	Criteria	Southwest = 29-16-29 Fraser = 33-17-33 Southeast = 35-18-35 Northeast = 29-14-29 Northwest = 28-13-28	Heat Warning criteria have been met and forecast indicates that daily highs will substantially increase day-over-day for 3 or more consecutive days

Known as the BC Heat Committee, heat alert stages are coordinated with BCCDC, Vancouver Coastal Health (“VCH”) and Fraser Health (“FH”), HEMBC and ECCC and are based on the climate attributes of the specific geographical area. The criteria for extreme heat emergencies are a day over day increase in temperature above a heat warning for 3 consecutive days.



Implemented for 2024 – After the first three heat events in a season, in a given forecast region, the criteria for Heat Warnings may become more stringent to account for acclimatization.

Howe Sound has been decoupled from Metro Vancouver and the Fraser Valley for heat alerts.

Monitoring

BCCDC will monitor Environment Canada's daily posted average temperatures at 1400 hrs and the forecasted next day's high.

When the average temperature meets the heat warning criteria BCCDC will send an email notification to Health Heat Response Participants: BCCDC, VCH and FH, HEMBC and ECCC.

Stage 1: Heat Warning

ECCC Issues a level 1 Heat Warning when criteria for above-average temperatures for the areas have been met. This is the trigger for community agencies and the public to take the appropriate precautions. A BC Heat Committee Consultation will occur between ECCC, Public Health and EMCR. Following this, a regional coordination call will be organized by EMCR to distribute relevant information.

Stage 2: Extreme Heat Emergency

ECCC issues an Extreme Heat Emergency based on a meeting criterion for a day over day increase in temperatures for 3 consecutive days. As needed, the Provincial Regional Emergency Operations Centres (PREOC) could be stood up to initiate communication and support local Emergency Operations Centres. If not already established, the BC HEAT Operations Subcommittee will prompt the Provincial Health Duty Officer (PHDO) to establish coordination calls and ensure that appropriate subject matter experts, decisions makers and representatives from the impacted regions are present. The BC HEAT Committee will issue Extreme Heat Emergency alerts through the national public wireless alerting system, Alert Ready.

Agency Response Actions

Environment and Climate Change Canada

Provide current and forecasted temperatures, issue weather warnings, heat warnings and extreme heat emergencies. Potential issuing of broadcast intrusive alert by EMCR Alert Ready. Participation in EMCR led coordination calls to provide situational updates to regional stakeholders.

Fraser Health

The local health authority will coordinate proactive services for more vulnerable people who may be at risk during the heat event, including ensuring heat warnings are sent out with tips for staying cool and advice to help vulnerable community members.

Patient monitoring in any Health Authority operated care facilities.

Emergency Management and Climate Readiness

EMCR works with local governments and First Nations to support communities. Once the threat of an emergency develops, EMCR will conduct a coordination call between the local governments, First Nations, and lead agencies to ensure relevant information is distributed for appropriate preparedness and response activities. Should resources be needed, EMCR will assist with the logistics for its acquisition. Following the event, EMCR will provide financial reimbursement (Appendix I) for activities that have been authorized such as:

- incremental overtime for current staff to keep civic facilities open as cooling centres outside of normal operating hours.
- incremental costs for the wages of temporary auxiliary staff hired under contract specifically to support a designated cooling centre facility.
- commercial transportation of community members to and from warming/cooling centers as needed in communities where no reliable public transportation exists or is deemed to be not appropriate by a First Nation or Local Authority.
- mileage reimbursement at Provincial government rates for vehicles operated by a First Nation and local authority for the transportation of community to and from warming/cooling centres where no reliable transportation exists.
- use of Taxis will be considered on a case-by-case basis.
- incremental overtime for organizational staff keeping facilities open as warming/cooling centres outside of normal operating hours.
- incremental janitorial and utilities costs.
- incremental security costs.
- incremental costs for Community Navigator(s) connecting the public with support provided by First Nations Health Authority (FNHA), First Nations Emergency Services Society (FNESS), Indigenous Services Canada (ISC), and/or other Cultural organizations.
- incremental costs for activities aimed at providing culturally appropriate services at warming/cooling centres.
- snacks for the general public at community warming/cooling centre facilities.
- incremental costs to fire services responding to increased heat or cold related medical calls, specifically, operational response to assist with supporting medical emergencies.

- print, radio, and social media messages to the local population amplifying ECCC and/or HEMBC messaging.
- incremental overtime for Local and First Nations Government staff to provide “Just in Time” training for wellness checks
- incremental costs for Local and First Nations Governments to provide additional materials, additional transport costs, or tools to do wellness checks (e.g., thermometers and bottles of water).
- when working under the request of a First Nation or Local Government, incremental costs incurred by a Community Partner or NG Organization.
- bottled water made available at community cooling centre facilities.
- bottled water distributed during health and wellness checks where water is not readily available.
- rental of a non-local authority or First Nation facility for the provision of an emergency cooling centre.
- cost of cooling device rentals.
- incremental utility expenses.
- single-use or bulk packages of electrolytes.

BC Housing

BC Housing works with partners who provide social housing. This is a housing development that the government subsidizes and that either government or a non-profit housing partner owns and/or operates. As such, BC Housing has a heat plan to mitigate risks to those within their purview and considered more at risk due to decreased access to resources. Being government-subsidized, many tenants in social housing include the following groups of whom are considered at risk in extreme heat.

- Older adults (in Metro Vancouver particularly those aged between 65 and 75);
- Those who are chronically ill;
- Those who are socially isolated;
- Infants; and
- New residents to Canada.

In an extreme heat event, BC Housing will utilize trained staff to take actions to protect their tenants from risks. These activities include and are not limited to identifying tenants most at risk, providing cooling rooms and areas for refuge as well as the distribution of communication materials to educate tenants.

City of Surrey

The following actions can be taken by the City of Surrey in support of a heat event.

Pre-season

- Update Surrey's Extreme Heat Response Guideline;
- Update Surrey's Extreme Heat website;
- Participate in regional exercises and forums to discuss and improve a heat event response;
- Prepare heat messages and identify communication channels;
- Publicly promote subscription to Alertable, Surrey's public emergency notification system;
- Conduct contingency planning for air conditioning and power supply in city owned facilities;
- Assess and validate a list of facilities which can be used by the public to escape the heat;
- Ensure adequate supplies are procured, such as extra water for public distribution and staff needs;

Special weather statement issued by ECCC

- Monitor forecasted temperatures to ensure a state of readiness.
- Distribute updates accordingly to appropriate city staff.
- Be prepared to amplify messaging as provided by the health authority to provide further reach into the community if necessary.

Level 1: Heat Warning Alert Issued

- Advertise city owned facilities of which the public can use to escape the heat;
- Consider staffing requirements needed to distribute water, operate public facilities for heat relief and increase medical responses; and
- Employ a multi-modal communication strategy to disseminate relevant information to the public such as:
 - Utilizing a public notification system called "Alertable" to send messages to those in the community who have signed up. This system can alert citizens and provide instruction to mitigate risks through the contact medium of their choice including a

- landline. This provides a better opportunity to reach seniors in their homes using their landlines or preferred device.
- Leverage City webpage, social media, digital billboards, newsletters, and any other opportunity to reach the public to educate on mitigative actions they can take such as:
 - It's not outdoor temperatures that matter – it's indoor
 - Use awnings, shutters, blinds, window films
 - Indoor temperatures can peak far later in the day than outdoor temperatures
 - Close windows approximately between 10 am to 8 pm (check outdoor and indoor temp)
 - Use fans to move cooler air in
 - Fans do not lower body temp for vulnerable people – do not rely on as a primary cooling method
 - Need to spend a long time in a cooling centre to experience benefits

Level 2: Heat Emergency Alert Issued

Once ECCC issues a Heat Emergency Alert, all actions at lower tier will continue with the addition of the following:

- The Surrey Emergency Coordinator will participate in the EMCR facilitated coordination call for a situation update.
- Conduct community outreach to supportive housing providers focusing on high-risk populations.
- Consider extending hours and/or opening additional areas for heat relief.
- Distribute resources to the public, such as water for those experiencing heat-related conditions.
- Increase the available on-duty first responders to build capacity into the emergency response system.
- Increase the number of staff to operate facilities used for refuge to support the public.
- Increase the number of staff to distribute water to at-risk individuals.
- Continue to communicate to the public including messaging done during the Heat Warning plus:
 - Indoor environments without air conditioning may become dangerously hot
 - Monitor indoor temperatures (26 and below is safe, 26-31 may pose a risk to the most susceptible people, sustained exposure over 31 should be avoided for most susceptible populations, if it is 31 degrees at home, go somewhere else that is cooler)

- Indoor temperatures peak around 8 pm and could be dangerous overnight
- Check on others multiple times a day, especially in the evening
- Escape the heat by going to cool places such as the mall, recreation centre or library

Stand Down Process

Once the heat event no longer poses a threat to public safety, ECCC will issue a cancellation alert.

This is the trigger by which the city can scale down all heat event-related activities as deemed appropriate. Following this, an after-action report will be conducted to analyze the effectiveness of the response to inform adaptations to Surrey's Extreme Heat Response Guideline.

**FINANCIAL ASSISTANCE FOR EMERGENCY RESPONSE AND RECOVERY COSTS ADDENDUM –
ELIGIBILITY ASSESSMENT FOR EXTREME WEATHER EMERGENCIES**

Task numbers may be requested when Environment and Climate Change Canada issues an Extreme Weather Alert (such as Warnings, Watches, Advisories, and Special Weather Statements) in support of a community’s response or when triggers are met as outlined in an Indigenous governing bodies and Local Authorities extreme weather plan. The best way to ensure the eligibility of your expense is to submit an Expense Authorization Form (EAF) to EMCR for approval. The EAF provides the details of the expenditure, its rationale, and an estimate of the total expense for the response activity. Incremental costs will be considered for an extreme weather emergency, where actions are taken as outlined in the BC Provincial Heat Alert and Response System (HARS) or the BC Public Alerting System.

Costs will not be reimbursed if otherwise covered by the BC Housing Extreme Weather Response program.

GENERAL COVERAGE FOR ALL EVENTS

Expense Item	Response Item	Eligible	Not Eligible
Staff Overtime	Wages and Overtime	<ul style="list-style-type: none"> Incremental overtime for current staff to keep civic facilities open as warming/cooling centres outside of normal operating hours. Incremental costs for the wages of temporary auxiliary staff hired under contract specifically to support a designated cooling centre facility. 	<ul style="list-style-type: none"> Overtime wages that cannot be attributed to the event. Regular wages and benefits of employees. Base operating costs, such as salaries or regular wages of employees, Compensatory Time Off (CTO), or banked overtime. Excessive overtime and benefit rate payments.

Transportation to and from warming/cooling Centres	Emergency Response Measures Community Partner incremental costs need to be run through contracting Local Government or First Nation.	<ul style="list-style-type: none"> Commercial transportation of community members to and from warming/cooling centers as needed in communities where no reliable public transportation exists or is deemed to be not appropriate by a First Nation or Local Authority. Mileage reimbursement at Provincial government rates for vehicles operated by a First Nation and local authority for the transportation of community to and from warming/cooling centres where no reliable transportation exists. Use of Taxis will be considered on a case-by-case basis. 	<ul style="list-style-type: none"> Transportation costs where other reasonable alternatives exist.
Community Partner organizations requested by a First Nation or Local Government to operate warming/cooling centers	Wages or overtime for organizations contracted by First Nations and Local Governments. <i>*Costs should be run through contracting Local Government or First Nation.</i>	<ul style="list-style-type: none"> Incremental overtime for organizational staff keeping facilities open as warming/cooling centres outside of normal operating hours. Incremental janitorial and utilities costs. 	<ul style="list-style-type: none"> Regular salaries or straight time for current staff; benefits and taxes; and the incremental payroll expenses.

Cultural Supports	Community Navigator	<ul style="list-style-type: none"> Incremental costs for Community Navigator(s) connecting the public with support provided by First Nations Health Authority (FNHA), First Nations Emergency Services Society (FNESS), Indigenous Services Canada (ISC), and/or other Cultural organizations. 	
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Cultural Supports	Cultural Activity Locations Support (CALs)	<ul style="list-style-type: none"> Incremental costs for activities aimed at providing culturally appropriate services at warming/cooling centres. 	<ul style="list-style-type: none"> Rental of a community-owned facility or loss of use charges.
Basic snacks and bottled water at day and night facilities	Materials	<ul style="list-style-type: none"> Snacks for the general public at community warming/cooling centre facilities. For example, fresh fruit and vegetables, muffins, yogurt, or comfort snacks such as donuts, popcorn. Culturally appropriate snacks as determined by a First Nation or Local Authority. 	<ul style="list-style-type: none"> Food purchased for distribution to private residences. Meals provided at day and night facilities.
Emergency Services	Fire Services	<ul style="list-style-type: none"> Incremental costs to fire services responding to increased heat or cold related medical calls, specifically, operational response to assist with supporting medical emergencies. For this category, the response claim must clearly demonstrate the increase in event specific medical calls. 	<ul style="list-style-type: none"> Routine operations supporting medical response.
Messaging	Emergency Response Measures	<ul style="list-style-type: none"> Print, radio, and social media messages to the local population amplifying ECCC and/or HEMBC messaging. 	<ul style="list-style-type: none"> Messaging unrelated to heat wave response and/or unapproved by ECCC and/or HEMBC.

Support for wellness checks	Materials, wages, or overtime	<ul style="list-style-type: none"> Incremental overtime for Local and First Nations Government staff to provide "Just in Time" training for wellness checks Incremental costs for Local and First Nations Governments to provide additional materials, additional transport costs, or tools to do wellness checks (e.g., thermometers and bottles of water). When working under the request of a First Nation or Local Government, incremental costs incurred by a Community Partner or NG Organization. 	<ul style="list-style-type: none"> Training that can be planned in advance of a heatwave.
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EXTREME HEAT COVERAGE			
Expense Item	Response Item	Eligible	Not Eligible
Bottled Water	Materials	<ul style="list-style-type: none"> Bottled water made available at community cooling centre facilities. Bottled water distributed during health and wellness checks where water is not readily available. 	<ul style="list-style-type: none"> Bottled water purchased for distribution to private residences or locations that have water readily available.

Day and night facilities for use as Emergency Cooling Centres (Cooling Centres are not Group Lodging Facilities)	Facility Rental	<ul style="list-style-type: none"> Rental of a non-local authority or First Nation facility for the provision of an emergency cooling centre. Incremental janitorial and utilities costs. Incremental security costs. 	<ul style="list-style-type: none"> Rental of community-owned facility or loss of use charges.
Cooling device rental for Cooling Centres		<ul style="list-style-type: none"> Cost of cooling device rentals. Incremental utility expenses. 	<ul style="list-style-type: none"> Cooling device costs submitted in the absence of a prior approved EAF.
Electrolytes	Materials	<ul style="list-style-type: none"> Single-use or bulk packages of electrolytes. 	

References

1. BC Corners Report. Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021. Available from chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf
2. Henderson, S., McLean, K., Lee, M. and Kosatsky, T. (2021) Analysis of community deaths during the catastrophic 2021 heat dome. *Environmental Health Services*, 6(1) 1-8. Available from https://journals.lww.com/environepidem/Fulltext/2022/02000/Analysis_of_community_deaths_during_the.8.aspx
3. National Collaborating Centre for Environmental Health [Internet]. Vancouver, Canada: Public Health Agency of Canada. 2010 Oct. Available from <https://ncceh.ca/content/vulnerable-populations>

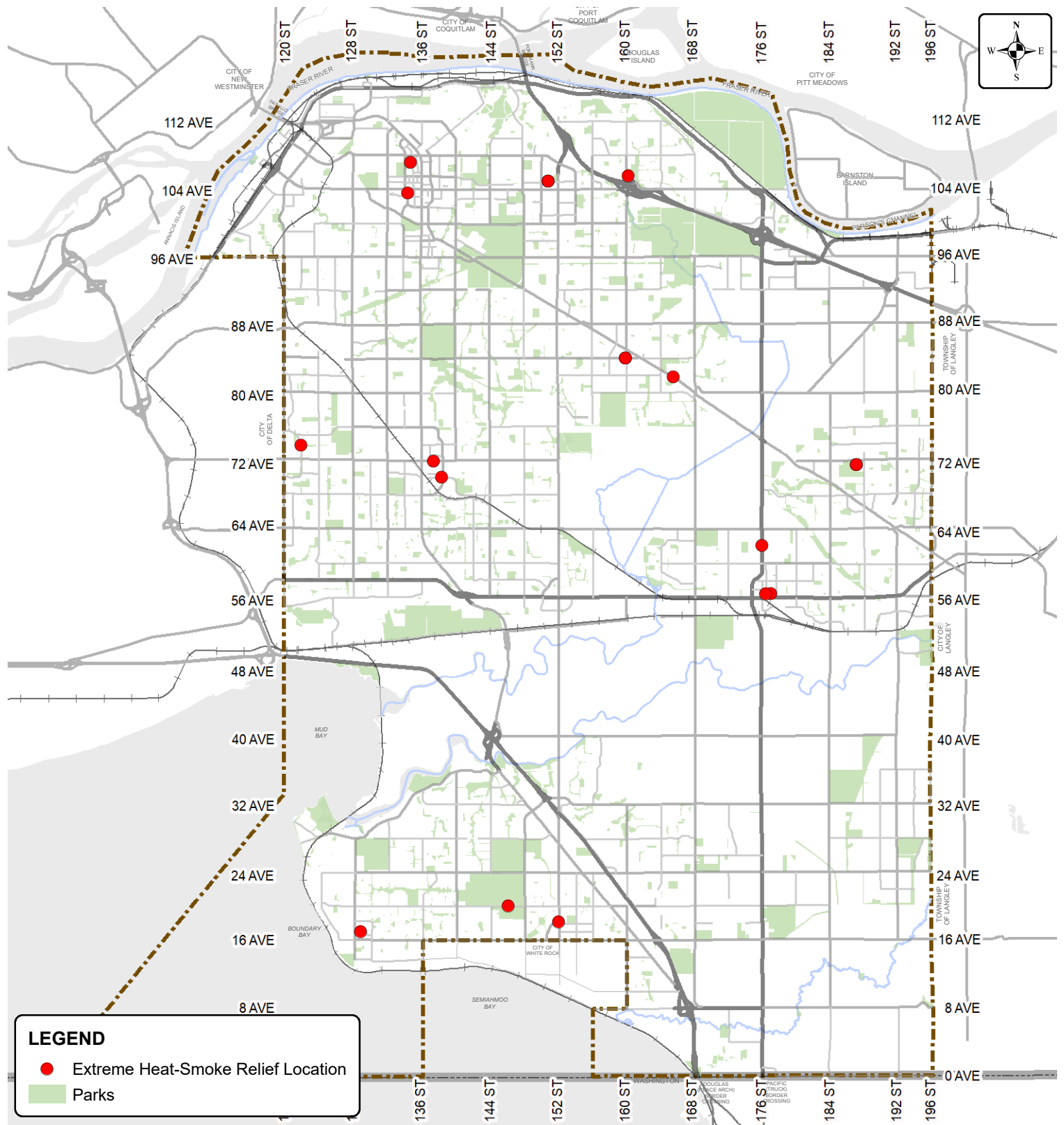
APPENDIX “IV”**SUMMER 2024 EXTREME HEAT AND SMOKE RELIEF LOCATIONS**

Name	Address	Regular Hours of Operation
Cloverdale Recreation Centre	6188 – 176 Street	Monday to Friday: 6:00am to 10:00pm Saturday: 7:00am to 7:00pm Sunday: 7:00am to 5:00pm
Clayton Community Centre	7156 – 187A Street	Monday to Friday: 6:00am to 9:00pm Saturday: 7:00am to 7:00pm Sunday: 7:00am to 5:00pm
Museum of Surrey	17710 – 56A Avenue	Tuesday to Saturday 9:30am to 5:30pm Sunday 12:00pm-5:00pm
Surrey Sport and Leisure Complex	16555 Fraser Highway	Monday to Friday: 6:00am to 9:30pm Saturday & Sunday: 6:00am to 8:00pm
Fleetwood Community Centre	15996 – 84 Avenue	Monday to Friday: 8:00am to 8:00pm Saturday & Sunday: 8:00am to 5:00pm
Fraser Heights Recreation Centre	10588 – 160 Street	Monday to Friday: 7:00am to 8:00pm Saturday: 8:00am to 8:00pm Sunday: 8:00am to 5:00pm
Newton Recreation Centre	13730 – 72 Avenue	Monday to Friday: 6:00am to 9:00pm Saturday and Sunday: 8:00am to 8:00pm
South Surrey Recreation & Arts Centre	14601 – 20 Avenue	Monday to Friday: 6:00am to 9:00pm Saturday: 8:00am to 8:00pm Sunday: 8:00am to 6:00pm
Chuck Bailey Recreation Centre	13458 – 107A Avenue	Monday to Thursday: 9:00am to 9:00pm Friday to Sunday: 9:00am to 4:00pm

Guildford Recreation Centre	15105 - 105 Avenue	Monday to Friday: 6:00am to 9:00pm Saturday & Sunday: 6:00am to 8:00pm
Surrey Libraries - City Centre Branch	10350 University Drive	Monday to Thursday: 9:00am to 9:00pm Friday: 9:00am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Clayton Branch	7155 - 187A Street	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Cloverdale Branch	5642 - 176A Street	Monday to Thursday: 9:30am to 8:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 1:00pm to 5:00pm
Surrey Libraries - Fleetwood Branch	15996 - 84 Avenue	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Guildford Branch	15105 - 105 Avenue	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Newton Branch	13795 - 70 Avenue	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Ocean Park Branch	12854 - 17 Avenue	Monday to Thursday: 9:00am to 8:00pm Friday: 9:00am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 1:00pm to 5:00pm

Surrey Libraries - Semiahmoo Branch	1815 - 152 Street	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm
Surrey Libraries - Strawberry Hill Branch	7399 - 122 Street	Monday to Thursday: 9:30am to 9:00pm Friday: 9:30am to 5:00pm Saturday: 10:00am to 5:00pm Sunday: 10:00am to 5:00pm

APPENDIX "V"



Produced by GIS Section: 28-Mar-2024

Scale: 1:125,000 0 1,000 M



Confirmed Summer 2024 Extreme Heat and Smoke Relief Locations

ENGINEERING
DEPARTMENT

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.

This information is provided for information and convenience purposes only.

Lot sizes, Legal descriptions and encumbrances must be confirmed at the Land Title Office.

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Source: