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Introduction

Seattle has many historic features throughout the city. At the turn of the 20th Century and in the central city, building basements often extended under the sidewalk. Seattle's downtown has changed dramatically since the arrival of the first settlers. City Engineer, Reginald H. Thomson (1892-1911, 1930-31) spearheaded an effort to re-grade much of the downtown to make it more suitable for building construction and to facilitate transportation accessibility in areas that were deemed inaccessible due to hillsides, slopes and tide flat areas. The effect of the re-grade gave an opportunity for new construction both above and below grade. As the streets were raised, there was a spatial void that was created between the retaining walls for the new streets and what were the original first floor walls of the buildings. The building basement walls extended to areas under the sidewalks; providing owners with additional useable square foot space that could be used for storage or rental. These spaces were identified as "areaways," many of which were illuminated by small glass prisms imbedded in the sidewalk.

In the 1900s, there were many manufacturers of glass prisms. Typically, steel frames were cast with concrete fill that held prisms into place and created a "waffle-like" grid pattern. The round or square prisms were sealed with a type of tar and set at an angle to direct light to the basement spaces below.

These prisms are still evident today and in many locations throughout the downtown and in neighborhoods to the north and east of the downtown. After a century of foot traffic, many have been destroyed, cracked, covered or removed completely due to advanced deteriorated condition. These prisms were typically designed and intended to last five years. Conditions of these vary widely from area to area. The neighborhood with the highest number of prisms is Pioneer Square and the locations of areaways has been well-documented by the city.

This report has been prepared by the students from Seattle University's planning practicum class for the Seattle Department of Transportation (SDOT), Roadway Structures Division as well as the Seattle Department of Neighborhoods. It includes the locations of every areaway within the three neighborhoods selected by SDOT, including the Central Business District (CBD), Chinatown/International District and Pioneer Square.

A listing of the areaways in these locations can be seen in the spreadsheet in Section 2 of this document. This also served as the primary document for the individual survey inventory sheets. Within the inventory, every set of prisms is divided by and detailed according to an index of conditions, which is included in this document. The inventory included some areaways that were not previously included in other municipal documentation but found during the physical site assessment. If no previous areaway number existed, a temporary identifier was assigned using letters of the neighborhood area (such as "PS" for Pioneer Square) and a corresponding number. In addition to the inventory, which is a primary section of this study, three other investigations were conducted.

A survey of other cities in the United States and Canada that have prism lights was conducted in order to learn of any programs, preservation policies, ordinances, grants or incentives for rehabilitation that could be of use for any prism light programs that might be adopted by the City of Seattle. In some cases, cities were considered for inclusion based on similar climatic conditions to Seattle, particularly for issues concerning rain, water and drainage that create maintenance issues to glass sealant. Deadwood, South Dakota and Knoxville, Tennessee were selected on recommendation by Historic Seattle for their respective rehabilitation projects that have been successfully conducted in preservation areas.

The historic summary section of this report addresses previous studies, documents and ordinances that have been produced for Seattle's areaways. This section shows the significance of these prism lights to the history of these neighborhoods and to the city along

with previous recommendations that have been made for their preservation. This report also contains information on vendors of prism lights along with cost estimates for replacement prisms and ordering information.

The final section of this report includes findings and recommendations of further actions that can be considered based on the information that is contained in this report.

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Figure 1: Downtown Capitol Hill Areaway

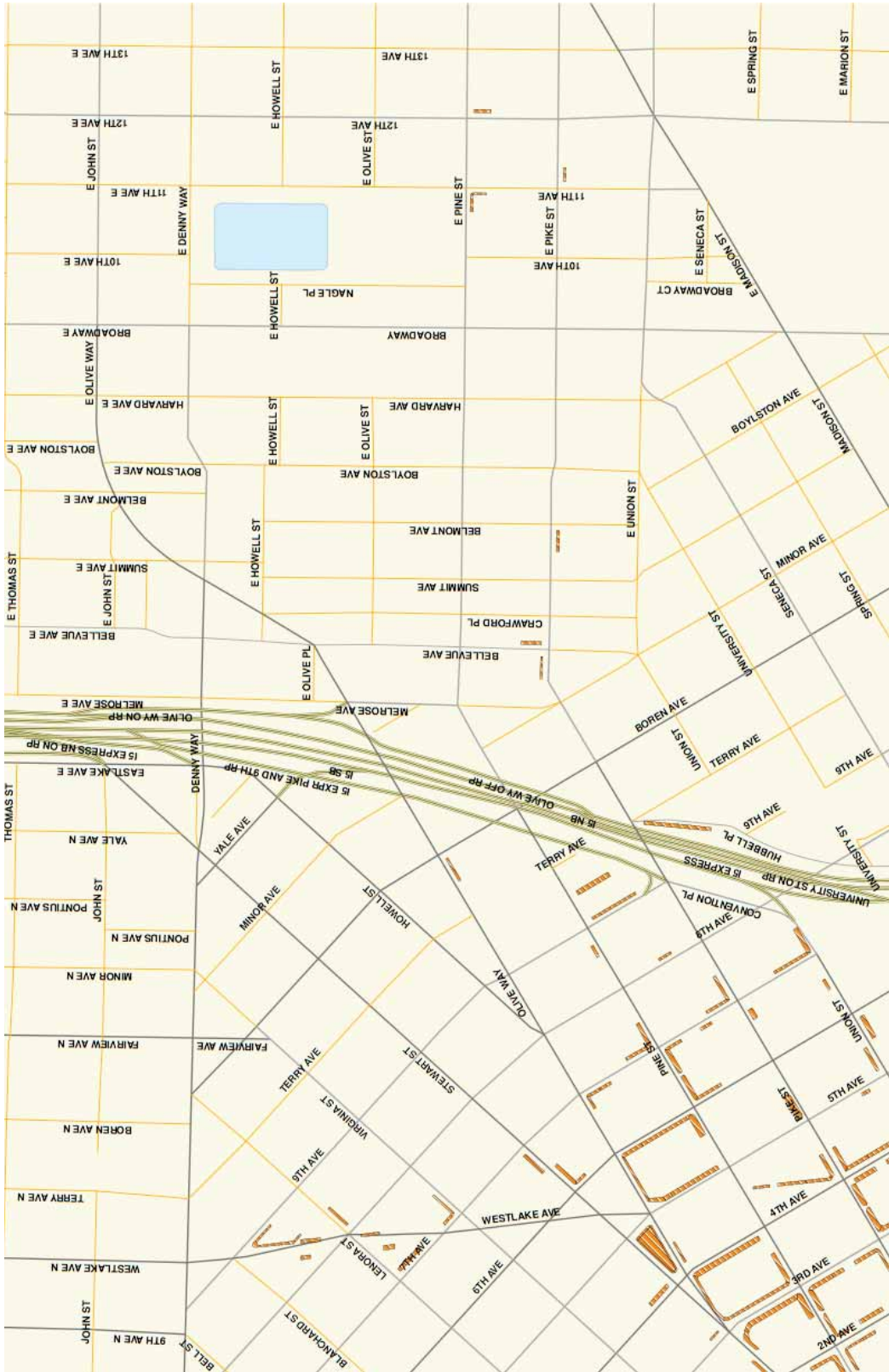
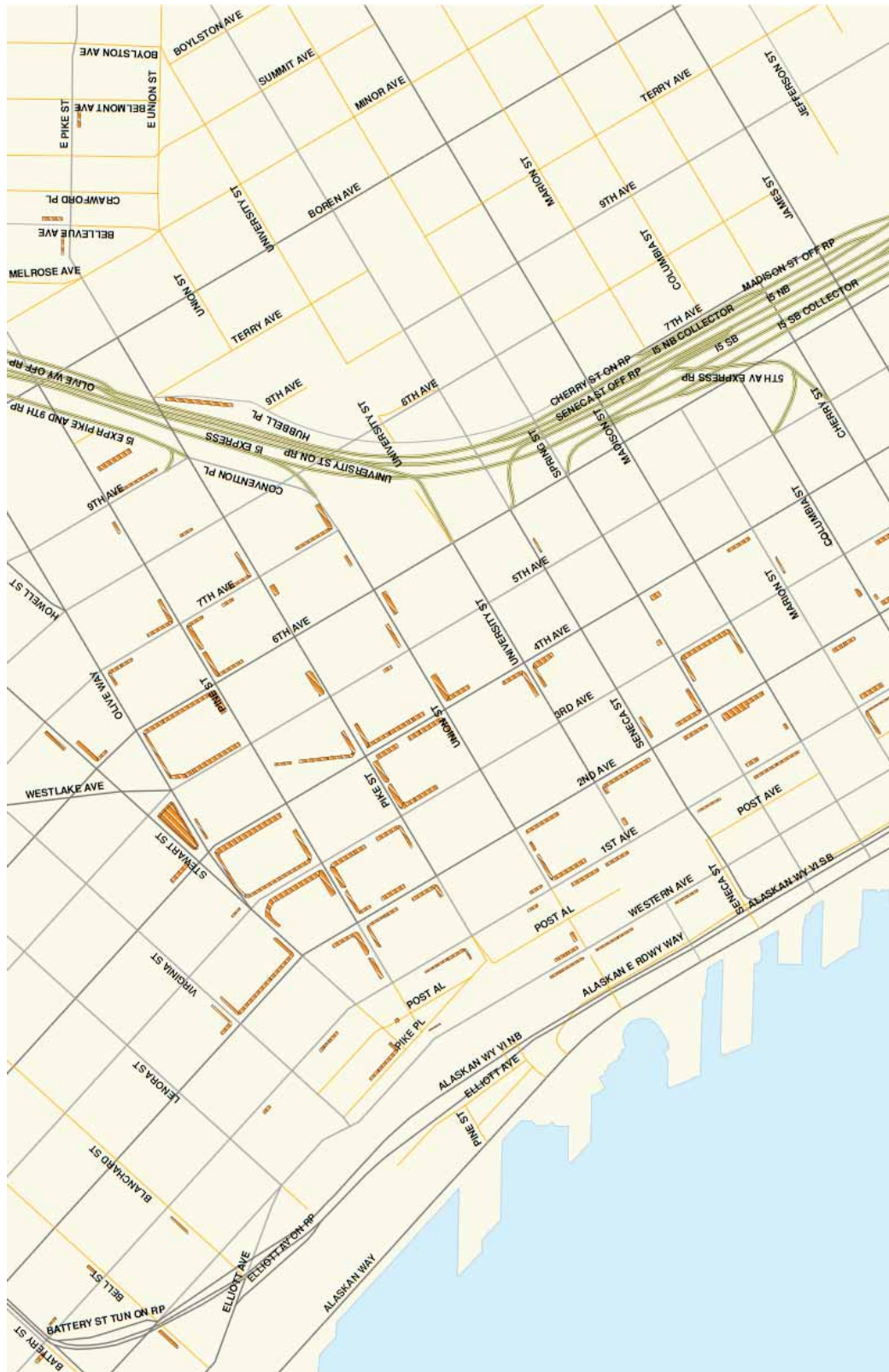


Figure 2: Downtown Virginia Street to Madison Street



This is a detailed street map of the University City area in San Diego. The map shows a grid of streets with labels for various roads. Key streets include 1st Ave through 8th Ave, University St, Main St, Alaskan Way, and others. The map also shows the waterfront area with labels for Alaskan Way, Alaskan Way Vi SB, and Alaskan Way Vi NB. The map is oriented with North at the top, and the waterfront is at the bottom. The map includes labels for streets, highways, and landmarks like the waterfront.

Figure 4: South of Yesler Street Areaway



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Executive Summary

Seattle

- The City of Seattle contains numerous areaways of differing types and conditions, many of which are concentrated within the Central Business District, Pioneer Square, and the Chinatown/International District. All are of architectural and/or historical importance.
- Of the four areas assessed, Pioneer Square had the greatest number of prism lights, including several types of designs not found elsewhere in the City.
- The present condition of prisms and their concrete or iron frames varies from property to property. In some instances, the prisms are completely covered up with asphalt, tar, wood, concrete or pieces of sheet metal. Some are sunken down into the sidewalk, covered with loose metal plating or are missing altogether – allowing passersby a view to below, creating a potential safety hazard.
- Based on the original design of prism panels the glass may be replaced individually or as an entire panel, which apparently depends on the manufacturer. It is evident that some panels and individual glass have been replaced since installation, or filled with a slightly-opaque resin. Due to vehicular weight, some panels collapsed and had to be replaced in their entirety.
- Since the maintenance responsibility falls on the property owner with emergency repairs performed by SDOT, the method of replacement is quite different from block to block, making each panel even more unique.
- Some damaged prisms were obviously repaired quickly without regard to their original function, whereas others were replaced with new cast glass and painstakingly dyed to match the current color.
- In many cases, there are outlines on the sidewalk suggesting years of patches that show evidence of prisms being completely covered or removed, yet it is impossible to tell without further investigation.
- Areaways that were discovered during site inventory field work but not included on the Areaway spreadsheet with an assigned number were added to the database using a temporary number unique to its neighborhood, such as NCDB-1.

History

- Around the United States there are only a few cities that have information about areaways and prism lights.
- This report includes the relevant Ordinances and other documents about Seattle's areaways. Over the years studies have been done, but no updated ordinances.

Other Cities

- Each city has its own codes and ordinances that adhere with the maintenance and historical elements of areaways; and there is no uniform standard by which any city follows.
- Of the cities surveyed in this report, most do not have inventories of areaways and/or prism lights and do not consider them as an immediate priority.

Vendors

- Prisms were manufactured widely in the 1930s, but their availability is now limited to a few vendors.
- Nearly every early manufacturer had a slightly different size and shape than its competitor, making maintenance projects unique from areaway to areaway.
- There are three parts to a prism panel; the glass, the enclosing concrete and the cast iron frame that acts as the structural support.
- Originally, some companies sold entire panels that builders would place into the sidewalk, but these are no longer in production and prisms are made on an individual basis.
- Prism glass is fabricated by custom glass casting with the concrete and iron work performed by a relevant subcontractor.

Methodology

This report is a qualitative research study of areaway prism lights that are located within downtown Seattle. The data that is presented was collected from descriptive surveys, telephone interviews, and historic records research. This latter data was obtained through the investigation of previous areaway reports, ordinances and historic photographs. Telephone interviews were conducted through the development of two questionnaires. One questionnaire was administered to a select group of cities where programs and plans for areaways/prism light restoration had been undertaken. These cities were selected through meetings with City of Seattle staff and on recommendation from correspondence provided by Historic Seattle. A second questionnaire was developed for vendors and manufacturers of glass prism lights to learn about replacement methods, costs, ordering information and characteristic qualities of prisms that would include shape, size, and techniques of installation. Both questionnaires were given as conversational interviews that would allow for inclusion of additional data and commentary outside of established questions. A listing of questions that were used for both the cities and vendor interviews is included in the Appendix of this report.

Information that was obtained from site surveys was conducted in four areas of the downtown: the North Central Business District (NCBD), South Central Business District (SCBD), Pioneer Square (PS) and the Chinatown/International District (ID). [See Figure 1 that indicates area boundaries.] The surveys involved counting the total number of prism lights by frame and city-designated areaway numbers and assigning condition of individual prisms within four categories. These included a) *intact*, defined as having no chips or cracks in the glass; b) *partially damaged*, defined as having minimal cracks or chips on less than 50% of the surface; c) *severely damaged*, defined as having numerous cracks and/or chips that cover more than 50% of the surface; and d) *missing/covered*, defined as a glass prism where

50% or more of the area is missing or covered with an infill material of asphalt, concrete or any other non-permeable, non-glass material. Survey counts were systematically collected by four research teams, with an additional assessment being implemented in the Pioneer Square neighborhood due, in great part, from the substantial number of prism lights and associated areaways. All prism light frames were photographed by areaway number as a condition reference guide and as a companion to the spreadsheet that indicates total counts.

Physical surveys revealed that there are additional prism lights that are not currently listed on the city areaway spreadsheet. Locations and counts of these additional prisms have been added to the inventory, using an auxiliary coding that identifies the city quadrant and a number, such as NCBD-1, which indicates a prism that is located in the North Central Business District and as the first anomaly found in this area.

This study recognizes that a certain amount of bias in administering counts is possible, specifically in some determinations of the quality and condition of an individual glass prism. To safeguard and minimize this bias, a photo key that describes categories of condition was established prior to conducting the physical counts and research teams were trained to recognize these quality assessments.

Section 1: Research



A. History

June 6, 1889 was the day of the biggest and most destructive fire in Seattle's history. Even though most of the central business district was in fiery ruins, this day also acted as a beginning for a newly engineered architectural landscape for the City of Seattle. Business owners began rebuilding immediately simultaneously the city was working to raise the street level that were, in some parts as high as 22 feet above the original street level. The new street level with their associated retaining walls and walls of new building foundations helped create a useable area beneath the sidewalk that could be for storage space. These spaces were directly beneath city sidewalks and known as "areaways". A demand for light in the dark underground passages encouraged the inclusion of panels of prism lights built into the sidewalk. Figure 2 depicts the reconstruction. The lower right hand corner shows prism light panels awaiting installation on Yesler Way. Each of the glass prisms was specifically cut to emit the highest amount of light into the areaway. The prism lights act as markers for the many hidden corridors below grade and are a part of the history of engineering in the City of Seattle.

The following are the summaries of a number of urban planning and design reports that have been conducted about Seattle's areaways and prism lights, including a city ordinance noting the proper building codes for prism lights in the sidewalk.



Figure 5: Photography by Frank Jay Haynes (1853-1921), Courtesy of Paul Dorpat , Seattle, WA

Ordinance No.2833 Construction and Alteration of Buildings

Ordinance No.2833 was adopted on June 14, 1893 to “Regulate the construction, alteration or repair of buildings and providing a penalty.” Section 22 of the ordinance pertains to areaways and the materials qualified for their construction, including sidewalk material. More specifically the ordinance sites the use of prism lights in sidewalk construction:

Openings in such walk for the admission of the light or coal shall be covered with prismatic lights in iron frames, or with iron covers having rough surface, and in no case shall a smooth surface be allowed on any such cover.

Since 1893, prism lights have been the only available natural light source allowable for openings over areaways on public sidewalks.

Pioneer Square Historical District Areaway Inventory by Robert Gulino, P.E.

Robert Gulino’s Pioneer Square Historical District Areaway Inventory was written for the Pioneer Square Neighborhood. The purpose of the document was “to locate all existing areaways in this Historical District of the City of Seattle. The inventory identifies the ownership, where access can be obtained, the physical dimensions and apparent condition.” (Gulino1)

This study of areaways in Pioneer Square shows how many areaways are actually located in the district. In 1973 there were approximately “9,800 lineal feet of areaways where:

- 52% were found to be in good condition
- 23% were found to be in fair condition
- 18% were found to be in poor condition
- 7% were found to be in critical condition (Gulino2)

In Gulino's assessment, "good condition" is considered free of major structural damage with no repairs needed to the areaway. "Fair condition" indicates that some major structural issues are present but there is not enough damage needed for extensive repair. "Poor condition" entails lots of structural and major damage to the areaway. "Critical condition" calls for the replacement of the areaway structure.

Gulino's report found that "the dampness and leakage played a major role in the significant corrosion of the steel I-beams supporting the sidewalk and unless arrested will continue to complete failure." (Gulino3) These findings indicate their structural importance to the city and that these needed to be maintained for street safety.

Overview Planning Report: Areaway Study Pioneer Square Historic District

This report was written for the property owners in the Pioneer Square district in 1974. It discusses the history of the buildings from the pre and post-fire of 1889, building ordinances, and uses of areaways. Before the fire in 1889, the Pioneer Square area had issues with the tide from Elliot Bay, which caused daily flooding of the streets. After the fire, the construction of new buildings was guided by the ordinance of 1893 that included use directives for the areaways. The property owners could use their areaway as a basement for storage or as communal space. Property owners could not use the space for utilities, but could close the areaway. Areaways are mainly kept up and used as a tourist attraction for their historical aspect.

The Pioneer Square Areaway Study Phase II Report

The Pioneer Square Areaway Study Phase II Report was a survey and report done by the Seattle Engineering Department in 1974. The study was led by City Engineer Paul A. Wiatrak, and his design team, Tom A. Kinsman and Kurt A. Stampe. The study was

conducted to gather structural information and examine the condition of areaways. The report is divided into eight sections: Areaway definition, historical and architectural aspects of areaways (which wasn't present in the ordinance), and legal aspects, conditions of areaways, prototype development, prototype designs, cost estimates, and recommendations.

The report states that the main deterioration of areaways is caused by a lack of yearly maintenance, the lack of heat, leakage through the sidewalk and skylights, and moisture accumulated because of the tide ground only a few feet below the areaway floor. The amount of damage differs in each areaway, but it is stated that several areaways are considered beyond repair and have become safety hazards. Repair and maintenance responsibilities are shared between the City and the property owner and are divided as such: damage to the street wall and damage to the sidewalk and/or building caused by damage to the street wall is the responsibility of the City. Damage to the sidewalk, maintenance of the sidewalk, and maintenance of the areaway is the responsibility of the property owner.

Prism lights were a minor topic of the ordinance and the only information stated by the City was that they are a main cause of leakage. "Leakage through the sidewalk deck - street wall joint and through skylights and sidewalk elevators has allowed moisture to severely corrode the I-beam framework of the deck in many areaways." This is mentioned several times in the report and is stated as being one of the main contributors to moisture corrosion in the vicinity of an areaway.

Phase II of Pioneer Square Historical District- Schematic Design Proposals

Phase II of Pioneer Square Historical District Streetscape Areaway Study was written in 1977, and was submitted to The City of Seattle Engineering Department by consulting firm of Jones & Jones. It was a follow- up study of Phase I, which have anticipated areaways

rehabilitation. Phase I of this study addressed the repair of areaways in the Pioneer Square Historical District. It explained the existing streetscape conditions, and recommended eventual areaways improvement. The principal objective was to develop a list of criteria for evaluating the potential district areaways improvements. A list was developed to identify future improvements, including: repair-in-kind; repair-to-code; or filling option.

Repair-in-kind illustrates those areaways that were represented by a score greater than ten for architectural features. This scoring criterion is based on visual quality of the areaway. Repair-to-Code illustrates the potential for areaway rehabilitation consistent with the objectives of the owner. Option-to-Fill illustrates the option which may be exercised by the owner and with the consent of the regulating authority. Rating criteria for those options is attached in appendix E. See page 12 of the Phase II report.

Phase II of the Pioneer Square Historical District Streetscape Study consists of schematic design proposals for pavement, street furniture, and street trees within the Historic District. A schematic design based on respecting historical landmarks was recommended. A district analysis was used as the basis for the study recommendations. Following presentation of Phase II Schematic Design Proposals by Jones & Jones, a District Preservation/ Special Review Board was formed. This board was task to submit recommendations based on consensus that strict adherence to historic precedent for streetscape improvements are not a viable choice for today's Historic District.

Three areas of concern were identified, including streetscape visual quality; pedestrian use; and auto pedestrian conflict. This analysis was in a sense responsible for revealing how the design should be structured. Points that the study recommended for improving streetscapes were, unity, phasing, and prioritizing. Unifying the district visually

reflects its historical image and identity. Phasing and prioritizing development addressed the need to guide implementation based on visual and economic need, as well as areaways repair priority. Moreover, retaining historic buildings must include areaways and prism light slabs that must be visible to the public, because of the attention that they attract. The study included a map that illustrated those areaways that have the potential for repair-in-kind based on the above three criterion: A map is provided in the appendix E. See Page 10 of the Phase II report.

Following the report finding, Special Board/ District Preservation Board was given the task of reviewing stairwells and light wells and concluded that stairwells be allowed only where they once existed, and light wells be allowed anywhere, however, consensus from the Board members must be obtained before that happened. Prism lights and stairwells were cited to be responsible for enhancing public awareness, and therefore, are good indicators for public safety in the Historic District. On the basis of their attributes, prism lights were recommended to be retained wherever an original prism light opening once existed. In new sidewalk decks in repair-in-kind areaways, prism lights should be incorporated in the same size, number, and location as in the original deck. Repair costs were estimated based on recent bids, but are adjusted to reflect inflation and areaways walk size. When functioning and in good repair, sidewalk lights can enhance the quality of areaways.

B. Cities with Prism Lights

Introduction

A sample of other cities that currently have prism lighting within their jurisdictions were interviewed in order to learn about possible programs, ordinances, and preservation strategies for the maintenance and restoration of original prism lights. In total, six cities were investigated. These included San Francisco, C.A., Portland, O.R., Victoria, B.C., Vancouver, B.C., New York, N.Y., and Deadwood, S.D. The two West Coast cities were selected as relevant models for prism care because their comparability in climate suggests that a parallel pattern of weather-related wear and tear on the prisms could occur. Similarly, the prism maintenance in British Columbia is relevant because of the cities' comparable climate and proximity to Seattle. New York serves as one example of an East Coast city with extensive prism lighting, but with different climate and therefore a potentially different approach. The latter city of Deadwood was included for its recent restoration project that specifically addressed prism lighting. Although the cities' methods of maintenance and/or restoration of prism lighting vary across the jurisdictions, those with preservation programs may serve as valuable models for Seattle's own prism replacement.

With the goal of gaining insight into other cities' experience with prism lighting in their respective jurisdictions, each city was contacted and asked a series of uniform questions with additional opportunity to gather data through conversational interviews. The following questions directed the interviews:

- What is the extent of the city's areaways, approximately how many blocks are they dealing with, and how does this make a difference in their approach to handling their prism lighting?
- Whose responsibility is it to replace the prism lighting?
- Does the city have replacement/repair programs for prism lighting and if so, how do they promote these programs?
- If the responsibilities for replacement/repair of prism lighting falls on property owners, have any incentive programs been used by the city to encourage property owners to engage in repairs?
- What type of funding was available/used for repair and replacement? Grants?
- Is prism lighting incorporated into a neighborhood or city plan? If so, how?
- Has the city collaborated with historical preservation groups for the replacement/repair of prism lights? If so, what has worked in the past?
- Does the city have ordinances that specifically address prism lighting?
- Who were/are the city's suppliers/vendors for prism lights?

West Coast

San Francisco

San Francisco's use of prism lighting, commonly referred to as "vault lighting," was adopted around the turn of the 20th century to provide daylight to sub-sidewalk basements that storeowners used for storage and delivery purposes, much in the same way as they were used in Seattle. Though these vault lights could commonly be found dispersed throughout the city in the early-to-mid-20th century, today they have been largely removed. The few panels that do remain are concentrated primarily in the Chinatown Neighborhood, the Embarcadero, the Haight-Ashbury, and near the Broadway Tunnel. It is estimated that the lights compose around .001% of total sidewalk area in the city (Brittingham). In San Francisco, the vault lights are considered to have little historic value, and are seen primarily as posing a potential safety hazard for pedestrians, as well as creating an issue of leakage(Brittingham). Therefore, the city has taken to removing or covering vault-light panels when they become an issue of

safety or require excessive maintenance to prevent water infiltration. Many panels have been removed with the construction of new buildings in the city. The repair and restoration of remaining vault light panels is the sole financial responsibility of commercial property owners, as city law dictates that business owners are responsible for maintaining the sidewalk adjacent to their business, and to the curb. Replacing or restoring vault lights does not require a permit from the city unless there is any height difference created in the sidewalk, which would alter the original walkway. If a vault light panel adjacent to a business is poorly maintained to the point of creating a safety hazard, the business owner has 30 days to repair the panel or pay a fine. If the building is vacant, the owner on record will have a Mechanic' Lien placed on their property, which is a method used to exact payment from the property owner by making it difficult for them to sell or refinance their property until the vault light panel in question is fixed. If the owners still fail to comply, their property taxes would increase to the amount in which it would cost to repair the panel.

Although San Francisco offers no grants or subsidies for the maintenance of glass vault lights, there are a number of ways in which funds could be secured. The first is to obtain a Community Challenge Grant, which provides city-funded matching grants to local residents, businesses, or groups to make physical improvements to their neighborhoods. With this grant, it would be necessary to prove that vault lighting added historical or touristic value to a neighborhood in order for the city to match whatever funds the community had raised. Another way to secure funding would be to set up a "dummy non-profit" for the restoration and/or replacement of vault lights to which donors could contribute directly, and the money would go to the neighborhood or district that needed the repair. The non-profit could be organized and supervised by individuals, community groups, or city entities.

Portland

The city of Portland, Oregon contains prism lights in several sidewalks in its downtown corridor. There have been no programs to-date that either manage or facilitate the replacement or repair of the glass prisms, and according to one member of the Office of Neighborhood Involvement's maintenance staff, when prism lights have broken in the past, the staff remove the glass and fill the space with cement. Furthermore, the sidewalks and their maintenance are the responsibility of the property owner, and therefore not a focus of the city (Tomsovic). Portland does, however, have a program in its 2010 "City of Portland Construction Specifications" for "Removal of Structures and Obstructions," which deals specifically with "horse rings" embedded into sidewalks. Based on their city code, builders are directed to "salvage any metal horse rings encountered during curb removal. Reinstall horse ring assembly back at the same project stationing or as close as practical. If no new curb is constructed, deliver horse ring assemblies to the City's Maintenance Bureau." Their program does not deal with broken or missing horse rings, and what to do in such a scenario, as would be necessary for any program involving glass prism lights.

Midwest

Deadwood

Deadwood, South Dakota, is a National Historic Landmark District located in Lawrence County. The City of Deadwood has funded a project that included sidewalk reconstruction on a piece of land containing sidewalk prisms. The project was administered by the Historic Preservation Office of Deadwood just over a decade ago. The preservation effort dealt with about twenty feet of covered sidewalk that contained the prism lights, some of which were broken or missing. The team consulted with a local glass artist who was able to make a mold of an existing prism. The artist was contracted by the city to make just over one hundred exact replicas of the existing prism lights, for a cost of about five thousand dollars. With the one hundred new prisms, there were enough to replace the broken and

missing prisms, with extra prisms to be kept by the public works department for future needs. The replacement job was performed by a general contractor for the city.

East Coast

New York

New York City is one of the oldest cities in United States and with existing prism lights since the early 1800's. New York City Department of City Planning refers to them as vault lights. Currently, the city does not have any known major projects involving vault lights. The sidewalks are the property owner's responsibility. The Rules of the City of New York, regarding sidewalks, curbs and road work, states:

"Sidewalk"-Property owners' responsibility. Property owners shall, at their own cost, install, repave, reconstruct and maintain in good repair, at all times, the sidewalk abutting their properties, including, but not limited to the intersection quadrant for corner property, in accordance with the specifications of the Department. Upon failure of a property owner to install, repave, reconstruct or repair the sidewalk pursuant to a Notice of Violation issued by the Department after an inspection, the Department may perform the work or cause it to be performed and shall bill the property owner pursuant to §19-152 of the New York City Administrative Code. If the property owner wishes to protest the violation, he/she may make a request at the appropriate borough office within the time specified in the notice of violation and the Department shall provide a reinspection by a different departmental inspector than the one who conducted the first inspection. The findings of the second inspection supersede the findings of the first inspection."

(Rules of the City of New York-Title 34: Section 2-09 Part F Department of Transportation)

According to the New York City Preservation Landmarks Commission, the vault lights cannot be replaced or removed without their authority. Covering vault lights with asphalt/cement or getting new cast iron panels constitutes replacement or removal. When it comes to the cost of renovations; sidewalks are the building owner's responsibility. If the building is located within Landmarks or Historic districts, the owner can apply to the historic preservation grant program for restoration and/or repair.

According to the New York City Department of Transportation, only the city can install concrete sidewalks and their focus is with the city-owned properties. Private properties do not receive help from the city even if vault lights are present.

The New York City Department of City Planning, New York City Preservation Landmarks Commission and New York City Department of Transportation do not have any standard tracking system of vault lights so there is insufficient information on the number of vault lights that have been restored throughout the city.

British Columbia

Victoria

A report, entitled “Historic Prism Lights in Victoria, British Columbia” by consultants Janis Ringuette and Norm Ringuette was completed in March 2006, which highlights the prism light history, inventory and possible preservation/restoration efforts of the city of Victoria, British Columbia. As of May 1st, 2006 Victoria had over 11,000 glass prism lights in seven locations downtown including the Yarrow building perimeter, 537 Johnston Street, 1207 Douglas Street, 706-714 Fort Street, 1114 and 1116 Blanshard Street, 602 Broughton Street and 903 North Park (Ringuette 4-12) Like most cities in North America with prism lights, Victoria’s prisms were installed in the late 1800’s and early 1900’s. The prisms installed before 1915 changed color from white to purple due to the manganese in the glass. Throughout the decades as the streets and sidewalks were repaired and replaced, prism light grids were destroyed or salvaged for possible later use. "Sidewalk Prisms" are listed in the City of Victoria Downtown Heritage Registry (Ringuette 3).

As of 14 March 2006, 673 of the 11,155 glass prisms are considered missing or filled with other materials (Ringuette 4). Only “missing” or “filled” prisms are included in their count, they do not specify the condition of the “intact” prisms. Even though pictures indicate many of the intact prisms are still heavily damaged. This includes large chips and cracks.

The 2006 report discusses three recommendations for the city of Victoria to adopt. First, find a supplier of replacement prism lights. Secondly, get best practices from other cities that have programs to replace their prisms. Thirdly, the city should keep the preservation of prism lights in mind when conducting or regulating sidewalk activities (Ringuette 14-15). In addition to recommendation about preserving the prisms the report discusses way to highlight the aesthetics and history of Victoria’s prisms. Such as:

- Including the prisms in visitors guides and downtown walking tour brochures
- Incorporating historical signs near the prism light sights
- Installing light below to highlight the aesthetics of the prisms at night

The report does not specify how the restoration and preservation program would be funded. The Garbally Works yard, Victoria’s public works sight, stores 10 preserved panels for possible future restoration projects (Ringuette 18).

This Ringuette report was submitted to the City Council of Victoria on 23 March 2006 and referred to the Heritage Planner. To date, no action has been taken on the recommendation. The Heritage Planner office stated the lack of resources and expense of reinforcement prevented the city from making the prism lights a priority (Barber). The prism lights are not a priority for the city and will not likely be anytime in the near future. The city is trying to preserve the intact lights in the city, though no specific program for preservation exists.

Vancouver

Though Prism lights in Vancouver, British Columbia are recognized as a heritage planning issue, there is no formal policy addressing prism light preservation. Areaways and prisms are dealt with on a case-by-case basis, resulting in a variety of outcomes in the city's remaining 130 areaways (Yarnell-Knowles, Heritage Underfoot²⁰). The areaways are owned by the city, though the responsibility for restoration or filling falls on the property owner. Areaways are officially categorized as an encroachment and dealt with under the Encroachment By-law No. 4243. Property owners must enter into an encroachment agreement over areaways. Owners pay a fee for use of public right of way (Encroachment By-law). An amendment to this by-law in 2003 exempted owners of protected heritage property from paying annual fees on encroachments. However, fees for areaways were not waived. The city instead outlined its stance on areaways:

Current City practice is to require the filling in of areaways when a new development permit application for a site with an areaway is received. This is due to concerns regarding the structural condition of many areaways and the potential liability issues which may arise. For these reasons this report does not recommend exemption from annual fees for areaways.

(D'Agostini)

The engineering department maintains that there may be some need for utilities to be installed under sidewalks. Although this possibility is remote, the city has been hesitant to apply preservation incentives to areaways and prism lights, though Vancouver has a rich incentive program for other historical features and encroachments (Yarnell-Knowles). Even heritage planners, who determine eligibility for incentives, have been hesitant to give funding towards areaway and prism light preservation. Non-profit advocacy groups, such as Heritage Vancouver Society, while interested in the preservation of prism lights, have yet to take a

formal position on the issue and have not engaged in active advocacy work on the matter. The issue of prism lights and areaways is not of high profile and tends to be a lower priority for preservation groups (Atkins).

Vancouver's historic neighborhoods are more likely to retain prism lights and areaways. Gastown and Chinatown have historic area planning committees that review proposals from the city and from public applicants. The city recognizes the historic value of prism lights and works with property owners to explore means of preservation. A few historic buildings have rehabilitated prism lights. Some property owners choose to rebuild areaways and replace prisms. Others close off the area underneath but replace prism lights and place lighting underneath prisms to create a public realm effect. The replaced panels can be more authentic in this instance because the panels do not have to meet the same load bearing requirements and are able to be more historically accurate. Some areaways have been filled with lightweight concrete. Some areaways have been "mothballed" or temporarily filled with gravel until they can be restored. In this instance, the city shares the cost of this temporary measure, in all other cases, the property owner bears the full expense (Yarnell-Knowles, Heritage Underfoot 32-34). Prism lights are more likely to be preserved in conjunction with the rehabilitation of the adjacent building (Atkins).

Because of the need for encroachment agreements, the city has a record of all areaways. These records are maintained by the engineering department and are not digitized. The city does not have a comprehensive list or map of areaways, though they have expressed interest in uploading data into their GIS system (Yarnell-Knowles, Heritage Underfoot 37). Unfortunately, areaways and prism lights are not prioritized. These historical features receive little attention from the city, from preservation groups, and from public advocates.

Figure 6: Vancouver Street Prism Lights. Yarnell-Knowles, Tanis. “Figure 5a: Board of Trade Building, 1918.” Heritage Underfoot. Diss. University of British Columbia, 2004. Vancouver: UMI, 2004. 30. PDF file.



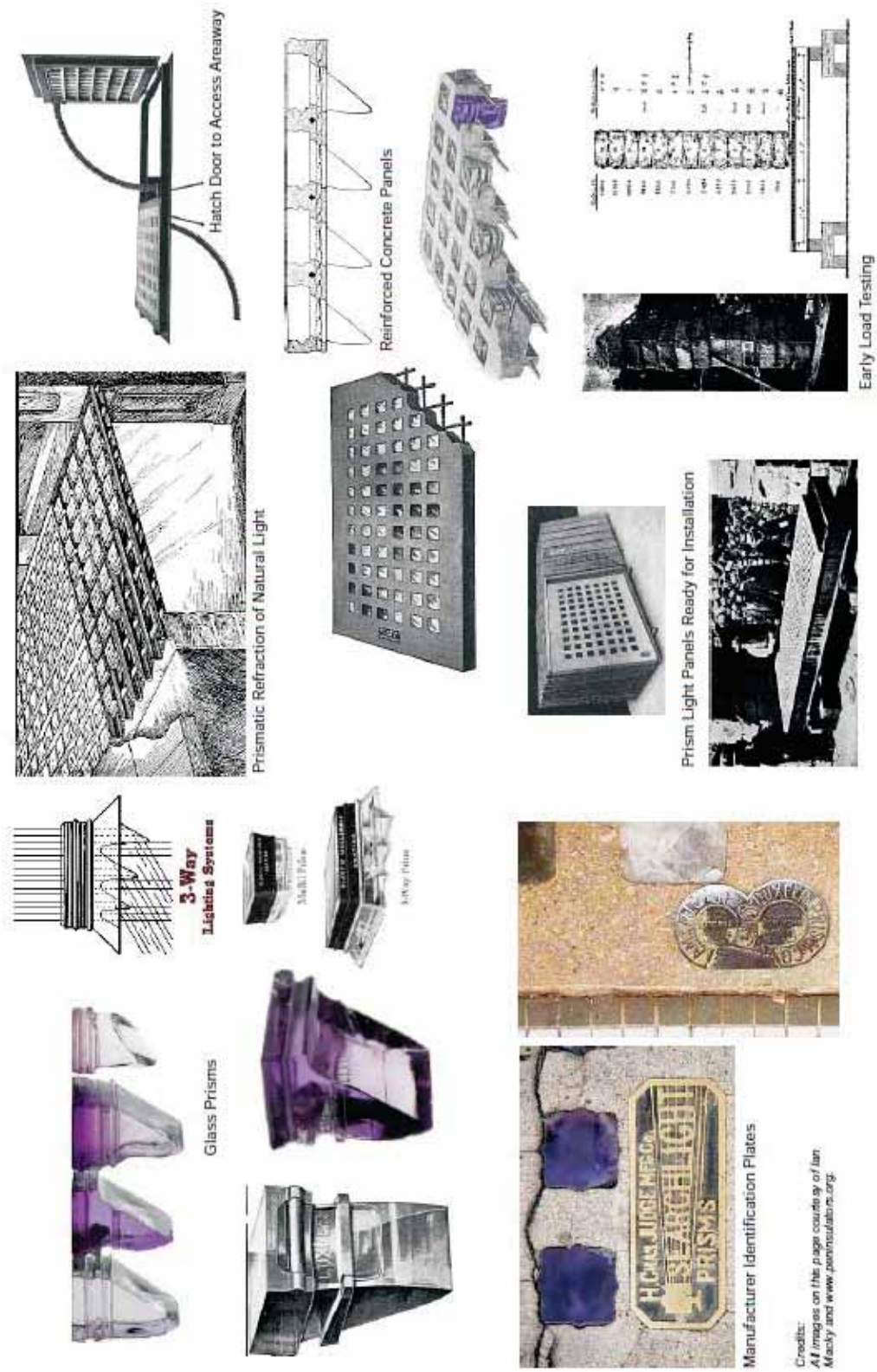


Figure 7: Yarnell-Knowles, Tanis. "Figure 2: Prism Light Technology and Construction." Heritage Underfoot. Diss. University of British Columbia, 2004. Vancouver: UMI, 2004. 27. PDF file.

C. Vendors of Prism Lights Replacement

Popular nearly a century ago, sidewalk prisms were installed in many sidewalks around the United States and Canada by numerous manufactures and were apparently widely available, with many types and applications being manufactured. According to information from the website Glassian.org, there were nearly a hundred companies that were involved in the design and blowing of glass, structural iron components or casting of the enclosing concrete frame. A major manufacturer was Luxfer Prism Company, which later became the American Three-Way Prism Company, made many prisms that could be used for both vertical and horizontal applications for decades until the 1930s (Glassian.org). Luxfer's brass nameplates can still be seen in sidewalks in Seattle, but these prisms are no longer manufactured as they once were and the list of potential vendors has diminished considerably. In the United States there are only a few companies that advertise themselves as sidewalk prism manufacturers, such as Blenko Glass and Circle Redmont, though local glass studios sometimes have equipment to cast reproductions if given a sample such as Seattle Stained Glass.

Some companies are included in listings of glass manufacturing, such as the Rambusch Studios, Redington Glass Furnace Inc, Cornell Iron Works, and Architectural Iron Company. These companies do not work or deal with prism restoration work.

There are a limited number of companies that are still in business in the United States that specialize in the production of structural glass prism panels and individual glass prisms. The following issues were investigated of each vendor that was contacted.

- Specialization in individual, whole panel or both of glass prisms
- Special and minimum orders
- Cost of one glass prism and whole panel
- Installation process
- Durability
- Issues of maintenance

Figure 8: American 3-Way Prism Co. Sweet's 1927-28. Sidewalk Lights, Page A387

A387

AMERICAN 3 WAY-LUXFER PRISM CO.

Sidewalk Light Engineers

1313-1315 South 55th Court
CICERO, ILL.
(Suburb of Chicago)

37-28 30th Street
LONG ISLAND CITY, N. Y.

For 3-Way Armored Glass Skylights, see pages A516-517; for Transoms, see page B1751

3-Way Armored Glass Sidewalk Lights (Glass Guaranteed for 5 Years)

Everything that the architect, builder, or owner has wanted and demanded of sidewalk lights is found in 3-Way Armored Glass Construction.

| | |
|------------------|------------------------------|
| Great light area | Great strength |
| Waterproof | Perfect walking surface |
| Weatherproof | Protected glass |
| Expansion proof | Instant replacement of glass |

5-year guarantee on glass.

3-Way Armored Glass Sidewalk Lights embody all the results of our quarter-century of experience. It is the proven construction, for installations ten years old are as good today as when put in.

In this construction, the glass—both square lenses and round lenses—is armored against both expansion pressure and the assaults of traffic. Each lens is caulked with tar and brimstone compound in a cast iron galvanized ring, or bottomless cup. This is built right into the concrete slab, being perfectly embedded with a permanent bond.



Cut-away View of 3-Way Armored Glass, Showing Shield Embedded in Concrete

These slabs are made to fit the sidewalk openings. Reinforcing is of approved types with great strength and freedom of vibration. To install, it is simply necessary to slip in place, and to seal and caulk the joints with 3-Way Caulking Compound.

Each lens is of polariscope tested Flintex-Lazalite Glass, annealed to assure toughness. Two types of lenses are available—No. 12, 2 $\frac{3}{4}$ -in. round glass set in 3-in.

round shields; No. 13, 3 $\frac{1}{2}$ -in. square glass set in 4-in. square shields.

Instant Replacement of Glass—Should one of these perfect lenses be broken it can be replaced by any one in a minute's time, for no cement patching is needed. Just three moves: clean out old lens, drop in new one, seal joint with hot tar and brimstone.

5-year Glass Guarantee—We have proven this construction so perfect and so lasting that we absolutely guarantee the glass in it for a period of five years. Any glass broken by any cause will be supplied free for replacement, f.o.b. factory, for five years from date of installation.



3-Way Armored Glass Sidewalk Lights

Specifications—Sidewalk lights as shown on the plans shall be of the reinforced concrete type known as 3-Way Armored Glass, as made by the AMERICAN 3 WAY-LUXFER PRISM CO. Glass shall be only Flintex-Lazalite quality as manufactured by the Jeannette Glass Co.; polariscope tested and guaranteed to be free of manganese and all internal strains. Each glass to be set in a galvanized cast iron shield that provides a seat for the glass and a flange to be embedded in the concrete. Glass shall be caulked into the shield with tar and sulphur compound.

All glass to be (3 $\frac{1}{2}$ -in. square, Fresnel lens design (No. 13) set in 4-in. galvanized iron shields spaced 4 $\frac{1}{2}$ -in. centers) [2 $\frac{3}{4}$ -in. round sunburst lens design (No. 12) set in 3-in. round shields, spaced 4 $\frac{1}{2}$ -in. centers]. Any glass broken in 5 years to be supplied for replacement free, f.o.b. factory.

Simplex Fresnel Floor Lights

A reinforced concrete construction, everlasting, strong, great light area, never needs paint or upkeep of any kind. Glass of two sizes, as desired—4-in. square, set 4 $\frac{1}{2}$ -in. centers, or 6 $\frac{1}{4}$ -in. square, set in 7 $\frac{1}{2}$ -in. centers. Proven perfect construction under all kinds of traffic conditions. Used in floor of concourse of Chicago Union Station.



Section 3-Way Armored Glass Sidewalk Lights Showing Waterproof Intermediate Joint

SWEET'S CATALOGUE

Architectural Glass Incorporated

71 Maple Street

Beacon, NY 12508

(845) 733-4720

www.architecturalglassinc.com

This company began in 1982 and they manufacture glass tiles for many applications, including architects, cruise lines, casinos, and public art. They mainly sell hand-cast glass tiles and machine-pressed glass tiles that come in many shapes and sizes. Their third specialty is a hand-blowing studio where employees can create custom pieces. Their website does not contain any information about glass prism lights. They cast round and square and other-shaped reproductions for sidewalk or vault lighting and they also manufacture reproduction Luxfer glass tiles for transom windows. Their facility is capable of manufacturing any of the hundreds of shapes and sizes in which prisms were originally available. There is no minimum order amount, since they take custom orders. They do not make concrete casting or cast iron framing of any sort.

Pricing is difficult to determine because of the varying prism geometry. A 3" diameter "hockey puck" with a smooth top and concentric rings on the bottom surface would cost about \$20.00, with a onetime \$500.00 - \$750.00 mold tooling charge. A complex 4" square by 6" deep pyramid with indented grooves on the side would require a multi-piece hinged mold tooling that could cost \$4,000.00 to \$5,000.00 or more and the resulting piece could cost as much as \$75.00 each.

Blenko Glass Company

9 Bill Blenko Drive

Milton, WV 25541

Fax: (304) 643-0547

info@blenkoglass.com

Founded in Milton, West Virginia in 1893, the Blenko Glass Company has been producing handmade glass products for over a hundred years. Their expertise includes functional wear products, art pieces, and mouth-blown sheet glass. They have extensive experience making glass prism lights in what their company refers to as “sidewalk “dots.”” These are generally relatively small in size of about 1-5/8" across. The company is able to produce larger “dots,” cubes, or flat disc-shaped pieces in any number of sizes. Although they do not offer insight into the installation process, the Blenko Glass team can send glass samples and price quotes upon request.

The pricing system for glass prisms is done on a per piece order. The standard "dot" design is \$2.25, with little exception. Because they sell the individual units for such a low price there is no discount for large orders. While they have never taken on the challenge of replicating the magnesium purple hue of historic Seattle prisms, they expressed confidence in their ability to produce a match. Shipping charges are determined at the time an order is placed.

Circle Redmont

2760 Business Center Blvd.

Melbourne, Florida 32940

Tel: 800-358-3888 Fax: 321-259-7237

Internet site: www.CircleRedmont.com

Circle Redmont has been in business since the 1950's and is the leading producer of structural glass panel systems. Glass prisms are referred to as glass pavers on the Circle Redmont Website. The panels can be designed for residences and public spaces. There are thirteen different panel sizes and a range of framework materials from which to choose. The 71R™ system can be installed in sidewalks and is durable enough to sustain heavy traffic and loading areas.

The 71R™ whole panel system is fabricated of precast concrete framework incorporating solid glass prisms in a variety of sizes. The company also offers a number of smaller historic glass prisms that are designed for historic restoration and Landmark projects. This product is popular for bridges, decks and sidewalk applications, and is suitable for areas with heavy traffic and high loading requirements. All products are watertight and warranted against leakage. Every order is customizable.

Prices vary depending on the size of the project, finishes, materials selected for the framework construction and the application's span and loading requirements. The 71R™ Historic Glass Prisms & Precast Concrete Panel system typically costs \$200.00 to \$300.00 per sq. ft. plus shipping. The lavender CIR-CR14 glass prisms, which are suitable for sidewalks are \$24 each. The lavender glass prisms are sold in full case quantity at twelve prisms per order. Pricing for prisms does not include crating or freight.

Circle Redmont is only a manufacture/materials supplier and does not provide installation, however instructions on installation and maintenance are available along with replacement glass prisms and sealant.

Seattle Stained Glass

2510 North 45th Street

Seattle, WA 98103

Office: (206) 633-2040

Store: (206) 632-1319

www.seattlestainedglass.com

This company offers restoration, design, fabrication, and consulting services. Their work has been featured in the *Seattle P-I*, *This Old House*, *Seattle Homes and Lifestyles*, *SeattleMagazine.com*, *Northwest Home and Garden*. They have facilities capable of reproducing custom prisms that are based on a provided prism sample. They will take the sample, produce a mold and cast the glass. They are able to dye the glass to whatever color is needed. As for the concrete work, SSG would sub-contract the work out to a local concrete casting facility.

They were able to provide pricing estimates based on a photograph of a prism panel sent to them. Making a mold and casting one prism would be in the \$400 range. With a sample of one, a mold could be made and if multiple prisms were ordered, such as a minimum of 25, the individual price would be approximately in the \$50. Larger quantity orders could reduce the price.

Section 2: Inventory

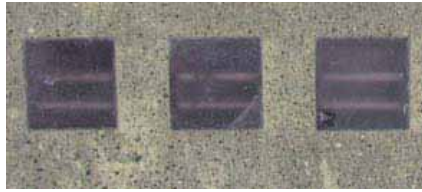




Figure 9: Neighborhood Boundaries of Study

Figure 10: Prism Condition Key

Intact- in good condition, no visual damage.



Partially Damaged- cracked and/or chipped.



Severely Damaged- very damaged, severely cracked and/or chipped.



Missing- entirely damaged/absent



Covered- filled in with concrete, asphalt, or cement



North Central Business District



Survey Summary North CBD

For the purpose of our inventory, we defined the North CBD as the area bordered by Virginia to the north, Seneca on the south, 8th Avenue on the east and Puget Sound to the west. The district has a high volume of pedestrian traffic. Tourists and residents come to attractions such as Pike Place Market to shop in an area that has come to define the city's image. Most of the prism lights were found in the western half of the district.

Areaway #: A012

Address: 1500 1st Avenue south

Cross Streets: Pike Street & Union Street

General Location: Pike Place Market



Counts:

Total Intact: 1913

Total Partially Damaged, Severely Damaged and Missing Entirely: 48

Replaced w/ New, Concrete, Asphalt, Other: 8 [New]

Total Prism Count: 1969

Comments and Conditions: This sidewalk's areaway consists of 6 panels of prism lights. Panels are in good condition (prisms and surrounding concrete). There is very minimal wear. The panels are in front of Pike Place Flowers, The Crumpet Shop and Falafal King. The businesses use the areaway to display products and for customer seating.

Areaway #: A014

Address: 2004 Westlake Avenue

Cross Streets: Virginia Street & 7th Avenue south

General Location: Fare Start Café



Counts:

Total Intact: 507

Total Partially Damaged, Severely Damaged and Missing Entirely: 32

Replaced w/ New, Concrete, Asphalt, Other: 1

Total Prism Count: 540

Comments and Conditions: This sidewalk's areaway consists of 3 panels of prism lights. Panels are in good conditions, but surrounded by asphalt. On the south side of the building (Virginia Street) there appears to be 15-18 panels that have been completely covered with asphalt.

Areaway #: A024

Address: 1921 1st Avenue south

Cross Streets: Stewart Street & Virginia Street

General Location: The Butterworth Building



Counts:

Total Intact: 266

Total Partially Damaged, Severely Damaged and Missing Entirely: 110

Replaced w/ New, Concrete, Asphalt, Other: 24

Total Prism Count: 400

Comments and Conditions: This sidewalk's areaway consists of 5 panels of prism lights. Panels are in fair condition. The prisms are unframed and unlike any other prism found in the area. Several of the prisms are opaque with dark or yellow hue.

Areaway #: A916

Address: 99 Union Street

Cross Streets: Pike Street & Union Street

General Location: Four Seasons Hotel



Counts:

Total Intact: 96

Total Partially Damaged, Severely Damaged and Missing Entirely: 0

Replaced w/ New, Concrete, Asphalt, Other: 0

Total Prism Count: 96

Comments and Conditions: This sidewalk's areaway consists of prisms unlike any other prisms in size, arrangement, and hue in the area. We were unable to determine if they lit the areaway or if they were decorative.

Areaway #: NCBD-1

Address: 1319 Western Avenue

Cross Streets: Union Street & University Street

General Location: North Central Business District



Counts:

Total Intact: 0

Total Partially Damaged, Severely Damaged and Missing Entirely: 0

Replaced w/ New Concrete, Asphalt, Other: 99

Total Prism Count: 1

Comments and Conditions: This areaway currently does not have a designated number and was assigned a temporary number for proper identification. Only one prism still exists over this areaway.

Areaway #: NCBD-2

Address: 1205 2nd Avenue south

Cross Streets: University Street & Seneca Street

General Location: 2nd & Seneca Building



Counts:

Total Intact: 40

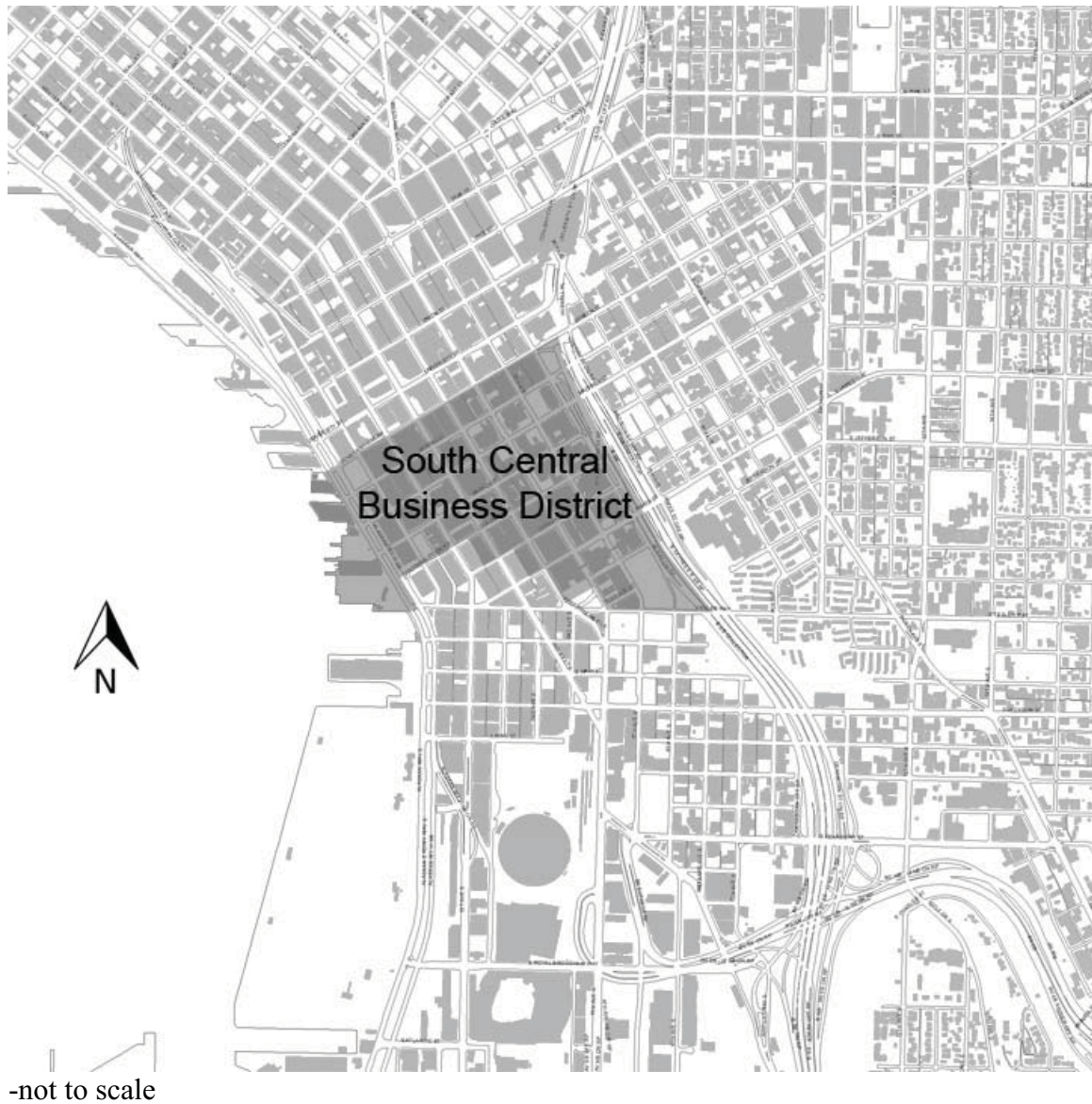
Total Partially Damaged, Severely Damaged and Missing Entirely: 4

Replace w/New, Concrete, Asphalt, Other: 1

Total Prism Count: 45

Comments and Conditions: This sidewalk's areaway consists of 1 panel of clear glass prism lights.

South Central Business District



Survey Summary South CBD

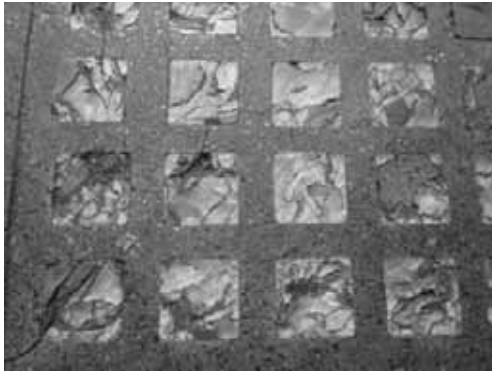
The South Central Business District is immediately North of Pioneer Square and extends north to Seneca St. Though there are some historic buildings in this area, there was only one areaway with prism lights. Many buildings and sidewalks are relatively new in this district and prism lights in this area have largely disappeared.

Areaway #: SCBD-1

Address: 801-823 1st Avenue south

Cross Streets: Marion Street and Columbia Street

General Location: Colman Building



Counts:

Total Intact: 195

Total Partially Damaged, Severely Damaged, and Missing Entirely: 1747

Replaced w/ Concrete, Asphalt, Other: 528

Total Prism Count: 2470

Comments and Conditions: This areaway does not currently have a designated number and was assigned a temporary number for the purpose of identification. This areaway extends for an entire block on the western side of 1st Avenue west. There are 19 panels of prism lights, two of which are manhole covers. Two area businesses have seating areas over the prism lights. Panels of lights in the entrance of popular businesses are especially worn. The condition of the concrete is fair overall.

International District



Survey Summary International District

The International District is immediately east of Pioneer Square. There are historic buildings in this area and areaways that are scattered throughout this district. Many of the buildings have been renovated and some of the areaways containing glass prism lights have been replaced with concrete.

Areaway #: A029

Address: 525 Maynard Avenue

Cross Streets: Weller Street & King Street

General Location: Young House



Counts:

Total Intact: 46

Total Partially Damaged, Severely Damaged, and Missing Entirely: 1

Replaced w/ Concrete, Asphalt, Other: 1

Total Prism Count: 48

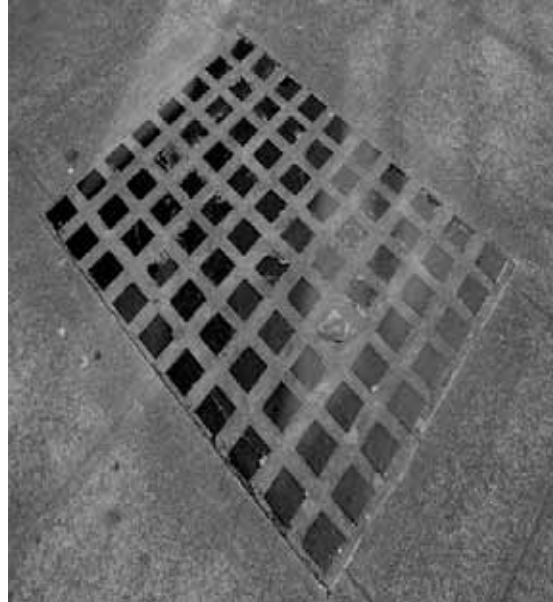
Comments and Conditions: This sidewalk's areaway consists of 2 glass panels of prism lights. Both of the glass panels are in good condition. There is only one cracked prism.

Areaway #: A506

Address: 506-510 Maynard Avenue

Cross Streets: King Street & Weller Street

General Location: Eastern Hotel



Counts:

Total Intact: 108

Total Partially Damaged, Severely Damaged, and Missing Entirely: 142

Replaced w/ Concrete, Asphalt, Other: 1

Total Prism Count: 240

Comments and Conditions: This sidewalk's areaway consists of glass prisms of larger width than commonly found in the area. We were unable to determine if the prisms lit the areaway or if they were decorative.

Areaway #: A027A

Address: 615-627 King Street

Cross Streets: Maynard Avenue south & 6th Avenue south

General Location: Alps Hotel



Counts:

Total Intact: 230

Total Partially Damaged, Severely Damaged, and Missing Entirely: 1421

Replaced w/ Concrete, Asphalt, Other: 10

Total Prism Count: 1661

Comments and Conditions: This sidewalk's areaway consists of several glass prisms that are covered with concrete.

Areaway #: A027B

Address: 615-627 King Street

Cross Streets: King Street & Weller Street

General Location: Alps Hotel (continued)



Counts:

Total Intact: 201

Total Partially Damaged, Severely Damaged, and Missing Entirely: 668

Replaced w/ Concrete, Asphalt, Other: 24

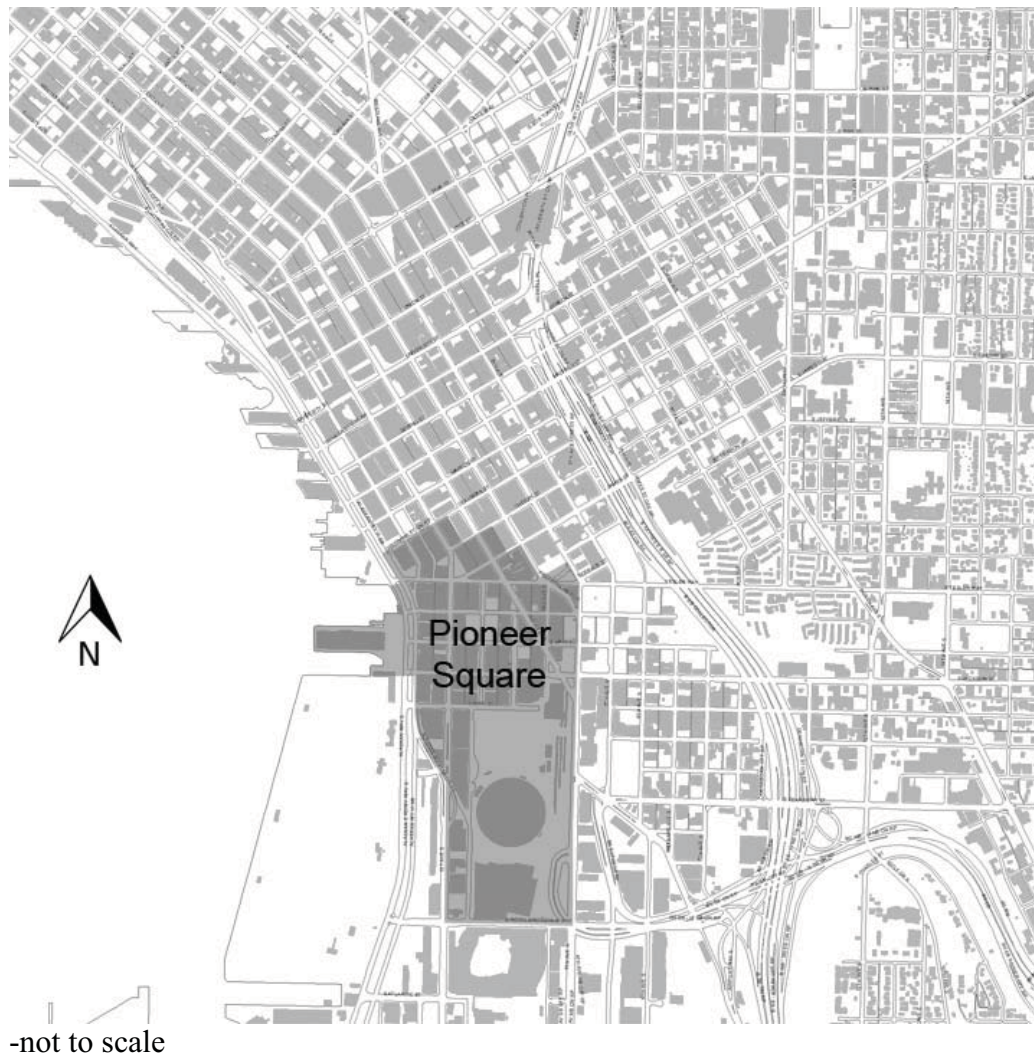
Total Prism Count: 893

Comments and Conditions: This sidewalk's areaway consists of panels of prism lights that are in good condition. Several of the glass prisms are covered with concrete.

The following Areaways numbers show no indication of existing prism lights.

- A028
- A029
- A032A
- A032B

Pioneer Square District



Survey Summary Pioneer Square District

The Pioneer Square District is immediately south of the South Central Business District and northwest of the International District. Within this district there are more areaways and prism lights than any other area of Seattle. Many of the prism lights that were found have been replaced, mended with concrete or other materials, or are damaged.

Areaway#: A1101

Address: 201 Yesler Way

Cross Streets: 2nd Avenue south & 3rd Avenue south

General Location: The south Side of Smith Tower



Counts:

Total Intact: 1,479

Total Partially Damaged, Severely Damaged, and Missing Entirely: 1,007

Replaced w/ New, Concrete, Asphalt, Other: 440 [New], 2 [Concrete]

Total Prism Count: 2,928

Comments and Conditions: This sidewalk's areaway consists of 13 panels of prism lights. It is on the south side of the Smith Tower running east to west. The concrete frame around the prism panels is in good condition with one panel being in poor condition.

Areaway#: A702

Address: 506 2nd Avenue south

Cross Streets: James Street & Yesler Way

General Location: The west side of Smith Tower



Counts:

Total Intact: 2,091

Total Partially Damaged, Severely Damaged, and Missing Entirely: 4,421

Replaced w/ New, Concrete, Asphalt, Other: 11 [New], 3 [Concrete], 2 [Asphalt]

Total Prism Count: 6,528

Comments and Conditions: This sidewalk's areaway consists of 16 panels of prism lights. It is on the west side of the Smith Tower and runs north to south. The concrete frame's that the prism light's rest in are in good condition.

Areaway#: A5002

Address: 240 2nd Avenue south (north side of Main Street)

Cross Streets: 2nd Avenue south & 3rd Avenue south

General Location: The north side of Main Street



Counts:

Total Intact: 3

Total Partially Damaged, Severely Damaged, and Missing Entirely: 150

Replaced w/ New, Concrete, Asphalt, Other: 107 [Concrete]

Total Prism Count: 260

Comments and Conditions: This sidewalk's areaway consists of 2 panels of prism lights. The condition of the concrete frame which holds the prism lights is in fair condition. The panel itself has several prism lights missing which gives way to the areaway underground.

Areaway#: A10002

Address: 103 Prefontaine Place

Cross Streets: Yesler Way & Washington Street

General Location: Pioneer Square



Counts:

Total Intact: 64

Total Partially Damaged, Severely Damaged, and Missing Entirely: 36

Replaced w/ New, Concrete, Asphalt, Other: 0

Total Prism Count: 100

Comments and Conditions: This sidewalk's areaway consists of 1 panel of prism lights. The condition of the concrete frame is good.

Areaway#: A4000A

Address: 223 Yesler Way

Cross Streets: 2nd Avenue south & 3rd Avenue south

General Location: The Frye Building



Counts:

Total Intact: 0

Total Partially Damaged, Severely Damaged, and Missing Entirely: 32

Replaced w/ New, Concrete, Asphalt, Other: 304 [Concrete]

Total Prism Count: 336

Comments and Conditions: This sidewalk's areaway consists of 3 panels of prism lights. There are only a few actual prism lights, of which they are all damaged. The majority of the panel has been replaced with concrete. The condition of the concrete frame in which the prisms sit is poor.

Areaway#: A10001

Address: 115 Prefontaine Place - 312 south Washington Street

Cross Streets: 3rd Avenue south & 4th Avenue south

General Location: Pratt F.A. Center



Counts:

Total Intact: 190

Total Partially Damaged, Severely Damaged, and Missing Entirely: 209

Replaced w/ New, Concrete, Asphalt, Other: 1 [New]

Total Prism Count: 400

Comments and Conditions: This sidewalk's areaway consists of 4 panels of prism lights. They span from 115 Prefontaine (TK Artist Lofts, Café Vita) to 312 south Washington Street. The condition of the concrete in which the prism lights sit is fair.

Areaway#: A601C

Address: Yesler Way

Cross Streets: James Street & 2nd Avenue south

General Location: “Sunken Ship” Parking Garage



Counts:

Total Intact: 962

Total Partially Damaged, Severely Damaged, and Missing Entirely: 42

Replaced w/ New, Concrete, Asphalt, Other: 4 [New]

Total Prism Count: 1,008

Comments and Conditions: This sidewalk’s areaway consists of 16 panels of prism lights. The condition of the cement in which the prism lights sit is good. The prism lights are sporadically separated around the “sunken ship” parking garage.

Areaway#: A913

Address: 109 Yesler Way

Cross Streets: 1st Avenue south & Occidental Avenue

General Location: Merchants Café



Counts:

Total Intact: 29

Total Partially Damaged, Severely Damaged, and Missing Entirely: 41

Replaced w/ New, Concrete, Asphalt, Other: 31 [Concrete]

Total Prism Count: 101

Comments and Conditions: This sidewalk areaway consists of 2 panels, one of which is a covered manhole. Both of these panels are in front of the Merchant Café. The concrete in which the prism lights sit is in very poor condition.

Areaway#: A9000

Address: Yesler Way

Cross Streets: Prefontaine Place & 4th Avenue south

General Location: Pioneer Square



Counts:

Total Intact: 167

Total Partially Damaged, Severely Damaged, and Missing Entirely: 191

Replaced w/ New, Concrete, Asphalt, Other: 2 [Concrete]

Total Prism Count: 360

Comments and Conditions: This sidewalk's areaway consists of 4 panels of prism lights. The condition of the concrete in which the prism lights sit is fair.

Areaway#: A901A

Address: 100 1st Avenue south

Cross Streets: Yesler Way & Washington Street

General Location: Cowchip



Counts:

Total Intact: 62

Total Partially Damaged, Severely Damaged, and Missing Entirely: 7

Replaced w/ New, Concrete, Asphalt, Other: 1 [New]

Total Prism Count: 70

Comments and Conditions: This sidewalk areaway consists of 2 panels of prism lights. The condition of the concrete in which the prism lights sit is good. The prism lights in each panel are significantly larger than the rest of the prism lights found in the area.

Areaway#: A802A

Address: 101 1st Avenue south

Cross Streets: Yesler Way & Washington Street

General Location: Pioneer Square



Counts:

Total Intact: 1

Total Partially Damaged, Severely Damaged, and Missing Entirely: 453

Replaced w/ New, Concrete, Asphalt, Other: 49 [Concrete], 1 [Other]

Total Prism Count: 504

Comments and Conditions: This sidewalk's areaway consists of 2 panels of prism lights. The concrete in which the prism lights sit is in fair condition.

Areaway#: A1001A

Address: 102-08 Occidental Avenue

Cross Streets: Yesler Way & Washington Street

General Location: Pioneer Square



Counts:

Total Intact: 11

Total Partially Damaged, Severely Damaged, and Missing Entirely: 25

Replaced w/ New, Concrete, Asphalt, Other: 1 [Concrete], 9 [Other]

Total Prism Count: 37

Comments and Conditions: This sidewalk's areaway consists of 1 panel of prism lights. The brick and steel casing for the prism lights is in good condition, but the cement in which the glass lights sit is in poor condition. This design is unique compared to other prism lights of the Pioneer Square district, because of the brick sidewalk and the circular design.

Areaway#: A1702

Address: 1st Avenue south

Cross Streets: Main Street & Jackson Street

General Location: Maud Building



Counts:

Total Intact: 180

Total Partially Damaged, Severely Damaged, and Missing Entirely: 68

Replaced w/ New, Concrete, Asphalt, Other: 4 [Concrete]

Total Prism Count: 252

Comments and Conditions: This sidewalk's areaway consists of 2 panels of prism lights. The lights are round pieces of glass that are mounted in a metal frame. The prism lights are in front of the Maud building and the Starbucks. The concrete in which the metal mounting and prism lights sit is in good condition.

Areaway#: A402

Address: 616 1st Avenue south

Cross Streets: Cherry Street & James Street

General Location: Louman & Hanford Building



Counts:

Total Intact: 2,116

Total Partially Damaged, Severely Damaged, and Missing Entirely: 405

Replaced w/ New, Concrete, Asphalt, Other: 41 [New], 100 [Other]

Total Prism Count: 2,662

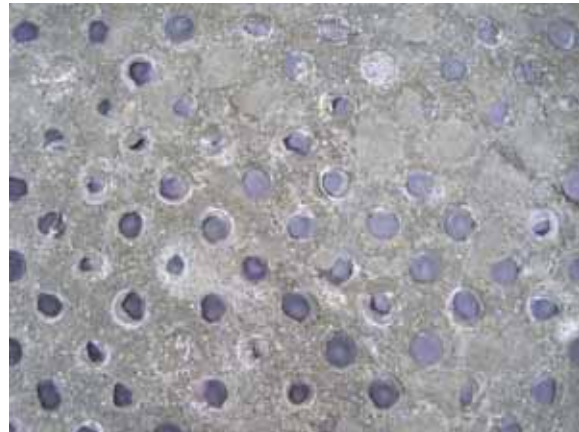
Comments and Conditions: This sidewalk's areaway consists of 4 panels of prism lights. The frames of the prisms are built out of iron, and are in good condition. These prism lights are different from most because they are glass circles.

Areaway#: A1809

Address: 117 Main Street

Cross Streets: 1st Avenue south & Occidental Avenue

General Location: Pioneer Square



Counts:

Total Intact: 316

Total Partially Damaged, Severely Damaged, and Missing Entirely: 645

Replaced w/ New, Concrete, Asphalt, Other: 167 [Concrete]

Total Prism Count: 1,128

Comments and Conditions: This sidewalk's areaway consists of 12 panels of prism lights. The prisms in each panel are round pieces of glass. The concrete in which the glass prisms sit is in poor condition.

Areaway#: A1301B

Address: 109 Washington Street

Cross Streets: 1st Avenue south & Occidental Avenue

General Location: Pioneer Square



Counts:

Total Intact: 1,310

Total Partially Damaged, Severely Damaged, and Missing Entirely: 628

Replaced w/ New, Concrete, Asphalt, Other: 11 [Concrete]

Total Prism Count: 1,949

Comments and Conditions: This sidewalk's areaway consists of 9 panels of prism lights. Two of the panels have replaced inserts around the panel in which metal was used. The condition of the concrete around the panels is in fair condition.

Areaway#: A403

Address: 614 1st Avenue south

Cross Streets: Cherry Street & James Street

General Location: Mario's Pizza



Counts:

Total Intact: 251

Total Partially Damaged, Severely Damaged, and Missing Entirely: 4

Replaced w/ New, Concrete, Asphalt, Other: 0

Total Prism Count: 255

Comments and Conditions: This sidewalk's areaway consists of 4 panels of prism lights. The prisms are made out of circular pieces of glass. A gate, tables, and chairs for the restaurant Mario's Pizza sit on the top on the prisms. The concrete in which the glass prisms sit is in fair condition.

Areaway#: A1705A

Address: 319 1st Avenue south

Cross Streets: Jackson Street & Main Street

General Location: Sports Den



Counts:

Total Intact: 3

Total Partially Damaged, Severely Damaged, and Missing Entirely: 94

Replaced w/ New, Concrete, Asphalt, Other: 79

Total Prism Count: 176

Comments and Conditions: This sidewalk's areaway consists of 2 panels of prism lights. The prism lights are in front of the Sports Den and Oriental Carpet Gallery. The condition of the concrete is fair in which the prism lights sit. There is grass growing out of the cracks in the concrete frame that the prisms are in.

The following Areaway numbers show no indication of existing prism lights:

- A1401
- A1403B
- A1501B
- A1501C
- A1602
- A2202
- A2202B
- A6003B
- A6004
- A7001

Section 3: Findings and Recommendations



Findings of this research indicate that a great number of prism lights are in need of replacement or maintenance. The following recommendations are based on our interviews and the review of past city-and-consultant-generated documents that have addressed Seattle's areaways.

- Vendors of glass prisms appear to be limited in number, with the majority located in eastern portions of the United States, which would increase material transport and delivery costs. Estimates on shipping costs could not be determined since these are based on the quantity of prisms ordered. Manufacture and replacement of prism lights with a local company could result in cost reduction and be viewed as economic sustainability in support of the local economy.
- Interviews and analysis of other cities indicates that while 6 of the 7 cities interviewed deem that prism lights have historic significance and meaning to the city, there are no programs that direct how maintenance and replacement should be handled. The responsibility of maintenance is the responsibility of the adjacent property owner. This affords an opportunity for Seattle to be a national leader in development of such a program that could then serve as a prototype for prism lights or other features that are deemed significant; specifically in historic districts.
- A program could be adopted that would establish the requirements and responsibilities of private property owners that have areaway prism lights might include the following:
 - An accessible web-page that could help landowners understand prism lights, and their options in regard to their repair and replacement,
 - A requirement that landowners return intact prism lights to the city government in cases where sidewalks are altered in a way which makes the prism lights no longer necessary in the space where they originated.
 - Developing a list of policies and repair/replacement procedures that illustrate and address standards that would/could be categorized as safety hazards, and that provide direction on the upkeep and general management of prism lights in Seattle. This might also include a recommendation that the replacement of prism lights should be done with glass tiles, lit from beneath by lights embedded in the sidewalk, as a means to preserve the architectural quality of the glass embedded in the sidewalk and sealing with cement the layer of sidewalk that connects to the areaway beneath. This is consistent with the Pioneer Square Trails to Treasures Master Plan, and is consistent with maintenance/repair practice recommended in Victoria and Vancouver, BC.

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