

Appendix E
Shadow Evaluation of Alternatives
for the 1979 Mission Street Project

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34 Corte Madera Ave
Mill Valley CA 94941

SHADOW EVALUATION OF ALTERNATIVES FOR THE 1979 MISSION STREET PROJECT

Final (April 27, 2016)

Introduction and Report Organization

Existing shadows and shadows from the Proposed Project on the Playground are evaluated and found to be significant in the final 1979 Mission Street Shadow Analysis (November 23, 2015). A series of building massing concepts were developed by the project sponsor to evaluate the potential to reduce the shadow impacts associated with the proposed 1979 Mission Street project (Proposed Project) on the Marshall Elementary School Playground (Playground) (see Figure 1).

A number of alternatives were developed and five alternatives were identified for further study and consideration:

- **Alternative A:** No Project Alternative is not addressed in this report, because existing conditions are analyzed in the shadow memo prepared for the Proposed Project.¹
- **Alternative B:** Bulk Code Compliant Alternative: This Alternative is discussed in less detail because it would not substantially reduce the new shadow cast by the Proposed Project. Alternative B would comply with the Planning Code regulations for bulk and height.
- **Alternative C:** The Raised Playground Alternative
- **Alternative D:** The Reduced Shadow Alternative 1 – Reduced Capp Component (Sculpted Northeast Side)
- **Alternative E:** The Reduced Shadow Alternative 2 – Reduced Capp Component (35-foot Setback of the Capp Street residential component)
- **Alternative F:** The Reduced Shadow Alternative 3 – Reduced Mission and Capp Components (70-foot Setback for Capp residential component and 40-foot height reduction for Mission residential component)

¹ CADP, 2015. 1979 Mission Street Shadow Analysis. Prepared for Maximus Real Estate Partners. November. A copy of this document is available for review at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, as part of Case File No. 2013.1543E.



Source: Skidmore Owings & Merrill

Figure 1. Aerial view of site.

This report contains the following sections:

1. Summary of Findings
2. Overview of Proposed Project's Impacts
3. Methodology
4. Description of Alternatives
5. Shadow Effects of the Alternatives
 - a. Overview
 - b. Alternative B
 - c. Alternative C
 - d. Alternative D
 - e. Alternative E
 - f. Alternative F
6. Exhibits –graphics showing shadow from one hour after sunrise to one hour before sunset, and quantified shadow impact results are provided for each alternative:
 - a. Exhibit H.1 and H.2, Alternative C
 - b. Exhibit I.1 and I.2, Alternative D
 - c. Exhibit J.1 and J.2, Alternative E
 - d. Exhibit K.1 and K.2, Alternative F

1 Summary of Findings

As shown in Table 1, the four shadow alternatives (Alternatives C, D, E, and F) evaluated in this report would result in reduced shadow on the Playground compared to shadow that would result from the Proposed Project. Alternative B, Bulk Code Compliant Alternative, is discussed in less detail in this memo because it would not substantially reduce the new shadow cast by the Proposed Project. Shadow load on an annual basis for Alternative B is shown in Table 1. Table 2 presents the shadow load that would result under each alternative between 10:00 a.m. and 1:00 p.m., the time period during which lunch and recess periods occur and the Playground experiences more intensive use than the rest of the day. The findings of this study are summarized below for each alternative:

Table 1
Summary of Alternatives and Proposed Project's Shadow Impact
Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh)	Existing Shadow Load (Percentage of TAAS)	New Shadow Load (sfh)	New Shadow Load (Percentage of TAAS)	Total Shadow Load Existing + New Shadow (Percentage of TAAS)
Existing	12,061,131	22.08	N/A	N/A	22.08
Proposed Project	12,061,131 ¹	22.08 ¹	11,785,129 ²	21.57	43.65
Alternative B	12,061,131 ¹	22.08 ¹	11,051,242 ²	20.24	42.32
Alternative C	N/A	N/A	11,203,056 ³	20.95	28.70
Alternative D	12,061,131 ¹	22.08 ¹	9,276,878 ²	16.99	39.07
Alternative E	12,061,131 ¹	22.08 ¹	6,257,142 ²	11.46	33.54
Alternative F	12,061,131 ¹	22.08 ¹	4,814,315 ²	8.82	30.90

Notes:

N/A = Not applicable

sfh = square foot hours

TAAS = Theoretical Available Annual Sunlight

¹ Shadow load from existing buildings would remain unchanged under the Proposed Project, Alternative D, Alternative E, and Alternative F and is encompassed within Existing Conditions.

² The Playground surface area would remain 14,665 square feet, as under existing conditions. Therefore, the TAAS for the Playground would be 54,615,706 sfh of available sunlight, similar to the TAAS under existing conditions.

³ The Raised Playground surface area would be 14,365 square feet (300 square feet smaller than the existing Playground). Therefore, the TAAS for the Raised Playground would have 53,471,430.85 sfh of available sunlight.

Table 2
Summary of Alternatives and Proposed Project's Shadow Impact
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m.

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (Percentage of TAAS)
Proposed Project	61,836 ¹	0.39	435,156	2.71	3.1
Alternative C ²	N/A	N/A	275,237 ³	1.75	2.14
Alternative D	61,836 ¹	0.39	327,258	2.04	2.43
Alternative E	61,836 ¹	0.39	139,150	0.87	1.26
Alternative F	61,836 ¹	0.39	120,307	0.75	1.14
<p>Notes:</p> <p>N/A = Not applicable</p> <p>sfh = square foot hours</p> <p>TAAS = Theoretical Available Annual Sunlight</p> <p>¹ Shadow load from existing buildings would remain unchanged under the Proposed Project, Alternative D, Alternative E, and Alternative F and is encompassed within Existing Conditions.</p> <p>² The Raised Playground surface area would be 14,365 square feet (300 square feet smaller than the existing Playground). Shadow load on the Raised Playground from existing buildings would be reduced by 59,603 sfh due to the surface of the Playground being elevated by 15 feet.</p> <p>³ Shadow load on the Raised Playground from existing buildings would be reduced by 59,603 sfh due to the surface of the Playground being elevated by 15 feet.</p>					

- **Alternative C, the Raised Playground Alternative**, would entail development at the project site that would be the same as that under the Proposed Project. However, the existing Playground and the one story, multi-use room would be demolished, the temporary modular building housing the library would be removed, and a new, 15-foot-high, one-story structure would be built in its place with a new playground (herein Raised Playground) on the roof.

Alternative C would result in a 14.95 percent reduction in the percentage of Theoretical Available Annual Sunlight (TAAS) on the Raised Playground compared to the total shadow load on the existing Playground under the Proposed Project. This is because although shadow from the proposed building under Alternative C would result in shadow similar to the Proposed Project, the shadow on the Raised Playground from the existing buildings would be substantially reduced.

Between 10:00 a.m. and 1:00 p.m., the new shadow load in square foot hours (sfh) on the Raised Playground under Alternative C would be 36.7 percent less than the new shadow load in sfh on the existing Playground under the Proposed Project (herein Playground). In the winter between 10:00 a.m. and 1:00 p.m., approximately the southern half of the Raised Playground would be shaded under Alternative C. Under the Proposed Project, most of the existing Playground would be shaded during this time period. During the autumn/spring, the south portion of the Raised Playground would be shaded under Alternative C, with a maximum area of 2,404 square feet shaded at 1:00 p.m. Under the Proposed Project, a larger area of the south portion of the existing Playground would be shaded in the autumn/spring, with a maximum area of 3,584 square feet shaded at 1:00 p.m. The edge of the southern boundary of the

Playground would be shaded during the summer under Alternative C or the Proposed Project.

- **Alternative D, the Reduced Shadow Alternative 1 – Reduced Capp Component (Sculpted Northeast Side)**, would be similar to the Proposed Project except that the northeastern corner of the Capp Street residential component would be reduced from five stories to three and four stories. The height reduction of the Capp Street residential component would be accomplished by a series of setbacks that would remove a total of four dwelling units from the fourth and fifth floors when compared to the Proposed Project.

Under Alternative D, there would be a 4.58 percent reduction in the shadow load as a percentage of TAAS compared to the total shadow load on the Playground under the Proposed Project. Alternative D would result in a new shadow load of 16.99 percent of TAAS and a total shadow load of 39 percent of TAAS on the Playground. Alternative D would result in 21.3 percent less shadow expressed in square foot hours when compared to the Proposed Project. In addition, the new shadow in sfh on the Playground under Alternative D between 10:00 a.m. and 1:00 p.m. would be approximately 24.8 percent less than that on the Playground under the Proposed Project.

Similar to the Proposed Project, between 10:00 a.m. and 1:00 p.m., the majority of the Playground would be shaded under Alternative D during winter. During autumn/spring, a portion of the Playground along the southern boundary would be shaded under both Alternative D and the Proposed Project. However, because of the setbacks of the Capp Street residential component under Alternative D, new shadow during this time period throughout the seasons would be smaller in area and duration than those cast by the Proposed Project.

- **Alternative E, the Reduced Shadow Alternative 2 – Reduced Capp Component (35 foot Setback)**. The northern end of the Capp Street residential component at the second and third floors would be set back 35 feet, the fourth floor setback would be 45 feet, and the fifth floor setback would be 55 feet from the north property line.

Under Alternative E, there would be an 11.46 percent reduction in the total shadow load as a percentage of TAAS on the Playground compared with the total shadow load on the Playground under the Proposed Project. The proposed residential components under Alternative E would result in a new shadow load of 11.46 percent of TAAS. Therefore, the total shadow load on the Playground under Alternative E would be 33.54 percent of TAAS. Alternative E would result in 10.11 percent less shadow in square foot hours when compared to the Proposed Project. In addition, the new shadow in sfh on the Playground under Alternative E between 10:00 a.m. and 1:00 p.m. would be approximately 68 percent less than that on the Playground under the Proposed Project. The shadow reduction under Alternative E would result from the setbacks from the north property line above the ground floor of the Capp Street residential component adjacent to the Playground.

Between 10:00 a.m. and 1:00 p.m. during winter, under Alternative E, the middle portion of the Playground, including the basketball hoop, kickball diamond, and northern half of

the turf field, would remain sunny from 9:00 a.m. until 2:00 p.m. During that same period of the day, the Playground would be mostly shaded under the Proposed Project, except for a small section at the northeastern corner. During autumn/spring under Alternative E, the southern end of the Playground would be shaded starting at 9:00 a.m., and shaded area would gradually increase for the rest of the day, with a maximum area of 1,246 square feet shaded at 1:00 p.m. Under the Proposed Project a larger section of the south boundary would be shaded during this timeframe, with a maximum area of 3,584 square feet shaded at 1:00 p.m. Because of the setbacks of the Capp Street component under Alternative E, shadow that would be cast during this time period throughout the seasons would be smaller than those cast by the Proposed Project.

- **Alternative F, the Reduced Shadow Alternative 3 – Reduced Mission and Capp Components (70 foot Setback for the Capp Street Component and 40 foot reduction in the Mission Street Component height)**, would set back the Capp Street Component 70 feet from the north property line above the ground floor and would reduce the height of the Mission Street residential component by 40 feet from 105 feet to 65 feet (five residential floors).

Alternative F would result in a 12.75 percent reduction in new shadow as a percentage of TAAS when compared to the Proposed Project. The proposed residential components under Alternative F would result in a new shadow load of 8.82 percent of TAAS. The total shadow load on the Playground under Alternative F would be 30.90 percent of TAAS. New shadow load in sfh on the Playground under Alternative F between 10:00 a.m. and 1:00 p.m. would be approximately 72.35 percent less than that on the Playground under the Proposed Project. The shadow reduction under Alternative F would result from the 70-foot setback from the north property line above the ground floor at the northeastern corner of the Capp Street residential component adjacent to the Playground, as well as the reduction in height of the Mission Street residential component from 105 feet to 65 feet.

Between 10:00 a.m. and 1:00 p.m. during winter, the Playground would be mostly sunny under Alternative F, compared to being mostly shaded under the Proposed Project. During autumn/spring under Alternative F, the Playground would be shaded along its southern boundary, with a maximum area of 1,246 square feet shaded at 1:00 p.m. Under the Proposed Project, a larger section of the Playground along its south boundary would be shaded during this timeframe, with a maximum area of 3,584 square feet shaded at 1:00 p.m. Because of the 70-foot setback from the north property line of the Capp Street component under Alternative F, shadow loads during this time period throughout the seasons would be smaller than those cast by the Proposed Project.

2 Overview of Proposed Project's Impacts

The Playground is bordered by Capp Street to the east, the project site to the south, existing buildings along Mission Street to the west, and the school building to the north. The shadow analysis prepared for the Proposed Project², identified significant and unavoidable shadow impacts on the Playground. Analysis of the shadow impacts of the Proposed Project on the 16th

² CADP, 2015. 1979 Mission Street Shadow Analysis. Prepared for Maximus Real Estate Partners. November.

Street Mission BART Plazas, located on the northeast and southwest corners of the intersection of 16th and Mission Streets (Northeast and Southwest BART Plazas) (See Figure 1), concluded that the Proposed Project would not create new shadow that would adversely affect the use of the BART Plazas. Shadow cast by the Proposed Project would primarily impact the Northeast BART Plaza in the mornings from late spring until early autumn. During weekdays, the Northeast BART Plaza experiences peak use from about 11:00 a.m. to 1:00 p.m., and portions of the plaza, including some of the seating areas, would be shaded by the Proposed Project during this time. However, users congregate in the BART Plaza to access the BART trains through the BART escalators and elevator, and wait for the transit buses and shuttle services that pass nearby. Additional shadow resulting from the Proposed Project would not substantially impact the uses of the Northeast BART Plaza. Similarly, impacts from the Proposed Project's new shadow on the Southwest Plaza would be minor. Although portions of the Plaza, including some of the seating areas, could be shadowed by the Proposed Project in the early morning, the BART Plaza is mostly used to access the BART station escalators and the public restroom, and to wait for the transit buses and shuttle services that pass nearby. The peak use of the plaza does not occur during the early morning hours. Therefore, the small amount of additional shadow that would result from the Proposed Project would not substantially affect this usage.

The Proposed Project would result in minimal shadow impacts (0.16 percent reduction of the Theoretical Available Annual Sunlight [TAAS]³ at the Marshall Elementary School outdoor learning area, which is further north of the project site on 15th Street). The Marshall Elementary School Playground (the Playground), bordered by Capp Street to the east, the Proposed Project to the south, and the school building to the north, would experience a 22 percent reduction of TAAS. As described in shadow analysis prepared for the Proposed Project, shadow would substantially affect the Playground as a result of the Proposed Project. Therefore, alternatives that would reduce the shadow impact on the Playground were developed and analyzed in this technical memorandum.

3 Methodology

Characterization of the Shadow at the Playground

The Marshall Elementary School Playground is located directly north of the project site. It includes a paved play area, with drawn kickball diamond and foursquare game area, a basketball hoop, a jungle gym, and a turf field (See Figure 2).

The three residential components of the Proposed Project would create varying degrees of new shadow on the Playground. The Capp Street residential component, up to 55 feet tall, would be located adjacent to the southern boundary of the Playground and would replace an existing surface parking lot that currently casts no shadow on the Playground. As shown in Exhibit C of the shadow study prepared for the Project,⁴ the Capp Street residential component would account for the majority of the new shadow impact on the Playground in the morning and early part of the afternoon. Therefore, alternatives that would reduce the height of the Capp Street

³ The TAAS is the amount of sunlight that would be available in a park or open space in the course of a year if there were no shadows from structures, trees, or other facilities.

⁴ CADP, 2015. 1979 Mission Street Shadow Analysis. Prepared for Maximus Real Estate Partners. November.

residential component of the Proposed Project would achieve the most substantial reduction in the total new shadow load on the Playground.



Source: Skidmore Owings & Merrill

Figure 2. Detail of Marshall Elementary School Playground layout

The 105 foot tall 16th Street residential component would be south of and adjacent to the Capp Street residential component. The 16th Street residential component would add minimal shadow on the Playground and would minimally overlap the shadow on those parts of the Playground already shaded by the Capp Street residential component. Reducing the height of

the 16th Street component would not substantially reduce the new shadow at the Playground as a result of the Proposed Project.

The 105 foot tall Mission Street residential component would be located southwest of the Playground and west of the Capp Street residential component. Due to its location, it would not shade the Playground until the late afternoon when project shadows would occur to the northeast. In addition, some of the shadow impacts that would result from the Mission Street residential component would overlap with shadows from the Capp Street residential component. Therefore, reducing the height of the Mission Street residential component without also reducing the height of the Capp Street residential component would achieve minor reductions in shadow impacts on the Playground. These reductions would occur in the afternoon beginning after 2:00 p.m. in the autumn and after 1:00 p.m. in the winter.

During the winter in the early morning (at about 8:20 a.m.), the Playground is fully shaded by existing buildings to the east and by the Proposed Project to the west and south. Shadows from existing buildings move off the Playground to the northeast. By 10:00 a.m., the Playground would be shaded by the Proposed Project, only covering the turf field, the foursquare game area, and the kickball diamond (see Figure 2). The Playground would continue to be shaded by the Proposed Project until 2:00 p.m. During this period, shadow on the Playground would move from southwest to northeast. The largest shadow cast by the Proposed Project on the Playground in the winter would occur at 2:15 p.m., covering approximately 10,826 square feet. By 1:00 p.m., shadow from existing structures starts shading the Playground from the west and moves to the east. By 3:55 p.m., shadow on the Playground is mostly due to existing buildings. Sunset occurs at about 4:55 p.m. on this day.

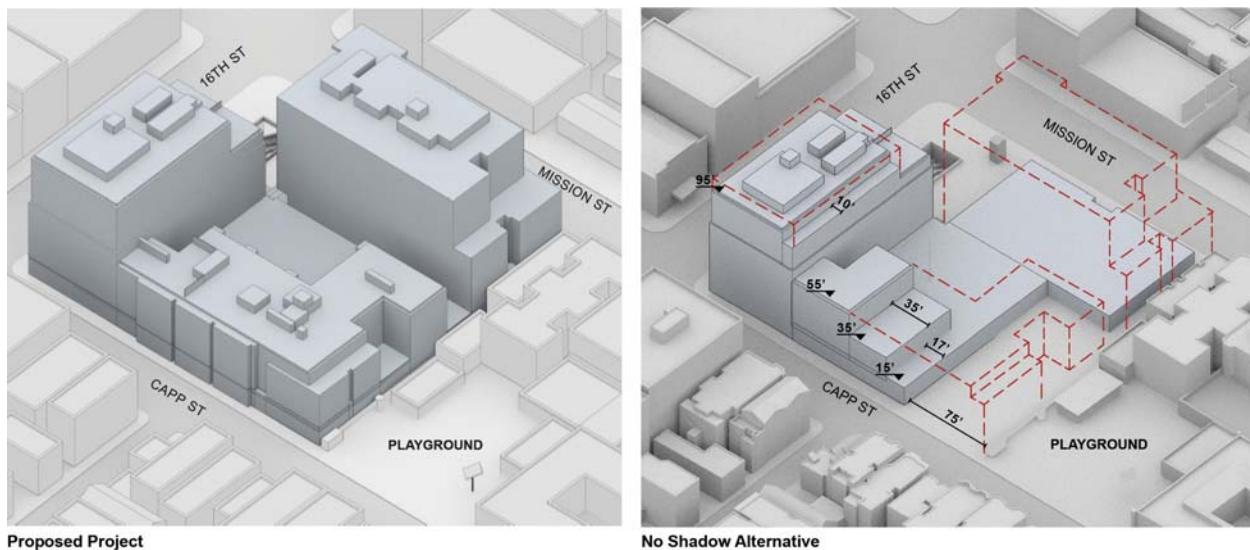
In the spring and autumn, the Playground is completely shaded by existing buildings at 7:57 a.m. By 9:00 a.m., shadow from existing buildings starts to move off the Playground to the northeast. During that time, a small area in the southern part of the Playground would start to be shaded by the Proposed Project. This shadow would increase throughout the day, reaching its greatest extent at 4:15 p.m., with a shaded area of 4,524 square feet. By late afternoon, at 6:00 p.m., a small portion of the Playground along the southern boundary would be shadowed by new shadow from the Proposed Project. The rest of the Playground would be shadowed due to existing buildings to the west.

In summer, the Proposed Project would not cast any shadow on the Playground from sunrise until approximately 10:00 a.m. Starting at 10:00 a.m., the Proposed Project would cast minimal new shadow on the Playground's southern boundary in the morning, including a very small southern section of the turf field, but not the court areas. The minimal new shadow would continue along the southern boundary throughout the day. The largest shadow cast by the Proposed Project on the Playground during the summer would occur at 1:15 p.m. and would cover approximately 1,095 square feet. By 5:00 p.m., the Proposed Project would not cast any new shadow on the playground. Shadow cast by existing buildings starts at approximately 4:00 p.m. along the western boundary of the Playground. Shadows cast on the Playground after 5:00 p.m. would be due entirely to existing buildings.

No Shadow Alternative

As part of developing alternatives that would reduce or avoid the Proposed Project's shadow impact, a No Shadow Alternative (shown on Figure 3) was developed to determine the height of

development that could be built on the project site and not result in new shadow on the Playground. The No Shadow Alternative would have 105 residential units, 226 units fewer than the project design under the Proposed Project. The height of the Mission Street residential component and the height of the Capp Street residential component would be substantially reduced, as shown on Figure 3. Under this alternative, the Mission Street component would only have a 15 foot high ground floor retail space with no residential units (163 fewer residential units than those under the Proposed Project). The ground floor of the Capp Street residential component would be set back 75 feet from the southern border of the Playground. The second setback would be 17 feet at 15 foot height. The third setback would be 35 feet at 35 feet height. The Capp Street residential component would have 23 residential units, which would be 55 residential units fewer than those under the Proposed Project. The 16th Street residential component would have eight residential levels and 82 residential units, which would be eight fewer units than those under the Proposed Project.



Source: Skidmore Owings & Merrill

Figure 3. No Shadow Alternative

Alternatives Development

Based on the characterization of the shadow as described above, reducing the size of the Capp Street residential component would have the greatest reduction in shadow impact on the Playground. Reducing the size of the Mission Street residential component would have a smaller reduction in shadow impact during the recess and lunch time (between 10:00 a.m. and 1:00 p.m., and reducing the size of the 16th Street residential component would have minimal shadow reduction. Also, given that there is no development on the Capp Street side of the project site (surface parking lot), even developing the project site with a building height of 40 feet, as is typical in the project area, would add a substantial amount of shadow on the Playground (see Figure 4). As described under the characterization of shadow above, the largest area of shadow resulting from the Proposed Project would be in the winter, and would gradually decrease during the other seasons. In addition, shadow cast on the Playground before 1:00 p.m. would mostly result from the Proposed Project. Existing buildings start to cast shadow on the Playground after 1:00 p.m. By approximately 5:00 p.m., most of the shadow

would be from existing buildings. Therefore, development of alternatives focused on reducing the shadow resulting from the Proposed Project before 1:00 p.m., and in particular during the lunch and recess time between 10:00 a.m. and 1:00 p.m.

DEC 21 - 40' BUILDING



Source: Skidmore Owings & Merrill

Figure 4. Shadow Impacts from a 40 Foot Tall Building

The Playground is used more intensively during the recess and lunch periods between 10:00 a.m. and 1:00 p.m. This time period is also when the Playground is estimated to receive the most daily sunlight. Therefore, alternatives to the Proposed Project were designed to reduce the Proposed Project's shadow with a focus of reduction during this time period.

The No Shadow Alternative was deemed infeasible and four other alternatives were developed to reduce new shadow impacts at the Playground. Alternative C would reduce the overall shadow on the Playground by raising the Playground 15 feet, thereby reducing the effective height of the existing buildings and the proposed building at the project site. Alternatives D, E, and F would reduce the overall shadow on the Playground by reducing the Proposed Project's building massing in select portions of the residential components and are therefore analyzed herein. Alternative B, also discussed in this report, would not substantially reduce the shadow on the Playground. However, it would comply with the Planning Code regulations for bulk limits at the project site.

Methodology of Shadow Analysis

Shadow impacts are expressed as a percentage of TAAS on a park with no adjacent structures present. The TAAS is the amount of sunlight that would be available in a park or open space in the course of a year if there were no shadows from structures, trees, or other facilities. TAAS is calculated in square foot hours – the expression of shadow over the course of an hour, based on 15-minute sample times – by multiplying the area in square feet of the park/open space by 3,721.4 (the maximum number of hours of sunlight available on an annual basis in San

Francisco). Quantitatively, new shadows cast by a proposed project are to be measured by the additional annual amount of shadow, expressed in sfh as a percent of TAAS. The TAAS of the existing Playground (54,615,706 sfh) is equal to its size (14,676 square feet) multiplied by the hours of sunlight available in San Francisco in a year, 3,721.4 hours. The Playground experiences a shadow load of 12,061,131 sfh from the existing buildings, which represents 22.08 percent of its TAAS.

Annual shadow impacts are analyzed and compared with the Proposed Project. In addition, as noted above, the analysis describes the shadow throughout the year and focuses on the time of day between 10:00 a.m. and 1:00 p.m. when the Playground is used more intensively. Comparisons of shaded time as a percentage of TAAS and of shadow load in square foot hours are made between the existing conditions, the alternatives, and the Proposed Project.

4 Description of Alternatives

Alternative B – Bulk Code Compliant Alternative

Similar to the Proposed Project, all existing on site structures would be demolished under Alternative B, and the project site would be redeveloped with a mixed use building that includes three residential components (Capp Street, 16th Street, and Mission Street) and ground floor retail along Mission Street and 16th Street. The Bulk Code Compliant Alternative would comply with Planning Code Section 270 Bulk Limitations governing the maximum length and maximum diagonal dimensions of buildings above 65 feet.

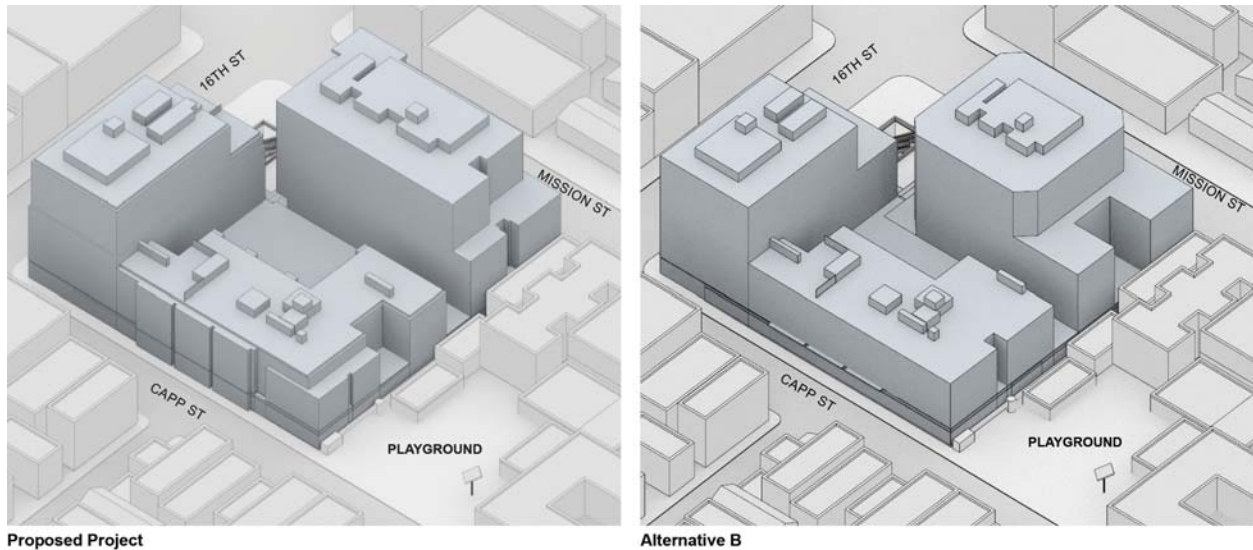
Capp Street Residential component. Under Alternative B, unlike the Proposed Project, the fifth floor of the Capp Street residential component would not be set back from the north property line.

16th Street Residential component. Above a height of 65 feet, the 16th Street residential component under Alternative B would be set back 40 feet from the Northeast BART Plaza; in comparison, the Proposed Project would have a 40 foot setback above a height of 75 feet. Below a height of 65 feet, the 16th Street residential component under Alternative B would be identical to the Proposed Project.

Mission Street Residential component. Above a height of 65 feet, the Mission Street residential component under Alternative B would be set back 6 feet from the Mission Street property line, 45 feet from the northern property line, and 25 feet from the common property line with the Northeast BART Plaza. The Proposed Project would have the same setback from the Mission Street property line (6 feet) as Alternative B. However, above a height of 65 feet, the Proposed Project would have a setback ranging from 17.5 to 30 feet from the northern property line (compared to 45 feet under Alternative B) and a 10 foot setback from the Northeast BART Plaza (compared to 25 feet under Alternative B). To meet the bulk limitation requirements, the corner of the Mission Street residential component would have chamfered corners.⁵ Below a height of 65 feet, the southwestern corner of the Mission Street residential component under Alternative B would have a 90 degree angled corner (see Figure 5).

⁵ Chamfered corners are flat surfaces resulting from cutting off the edge of a volume.

This alternative would also include a privately owned publicly accessible ground level open space adjacent to the Northeast BART Plaza, similar to the Proposed Project. (see Figure 5).



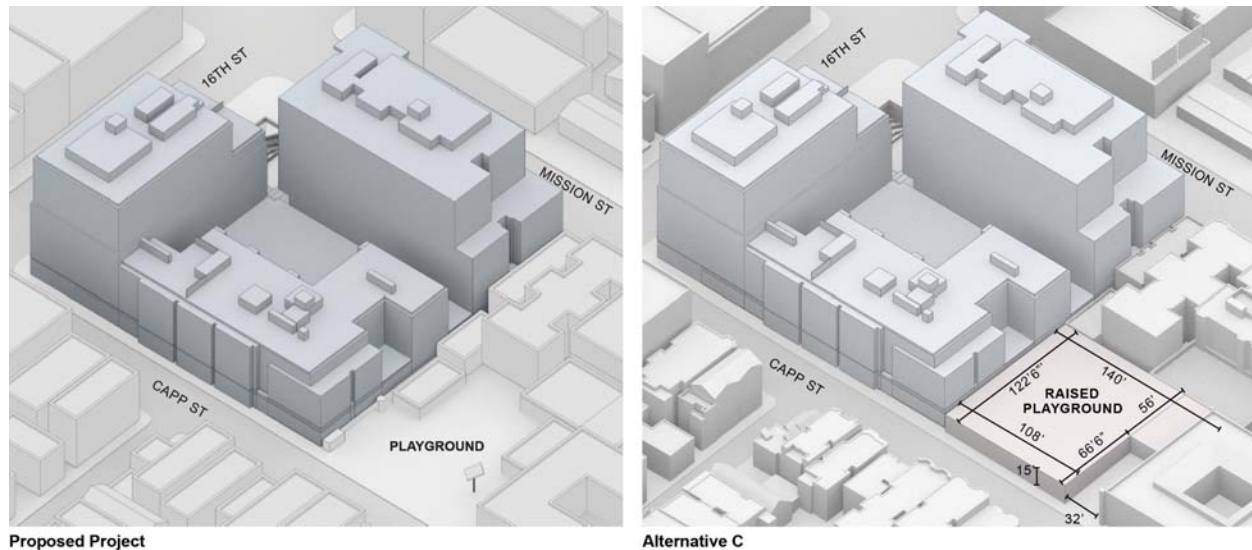
Source: Skidmore Owings & Merrill

Figure 5. Alternative B, Bulk Code Compliant Alternative

Alternative C – Raised Playground Alternative

Under the Raised Playground Alternative, the Proposed Project would be developed on the project site, with residential units, above ground-floor retail space, off street vehicular and bicycle parking and building services in the basement, and usable open space (see Figure 6). This alternative would also include a privately-owned publicly accessible ground level open space adjacent to the Northeast BART Plaza, similar to the Proposed Project.

Under this alternative, the existing Playground and the school's one story multi-use room would be demolished, and the temporary modular building housing the library as well as the rainwater tank and photovoltaic tree would be removed. A new 15-foot- high, one-story structure would be built on the school property with a new playground (Raised Playground) on the roof (see Figure 7).



Source: Skidmore Owings & Merrill

Figure 6. Alternative C, Raised Playground Alternative

Under this alternative, the ground floor of the proposed Raised Playground structure would be used for additional school programs. Uses of the new structure may include a new multi-purpose room, a music room, a library, a classroom, storage space, an area for trash, recycle, and compost bins, and parking for up to eight cars. The final plans and use of the ground floor would be determined by the SFUSD. The northeastern corner of the existing Playground would remain open to create an at-grade open-air entry to the school. The 14,365-square-foot Raised Playground would be approximately 300 square feet (2 percent) smaller than the 14,664 square foot existing at-grade Playground. The reduction in shadow as a result of this alternative would be achieved primarily through elevating the Playground rather than modifying the proposed buildings on the project site.



Elevated Playground over Parking Garage Viewed from Capp Street

Source: Skidmore Owings & Merrill

Figure 7. Rendering of Potential Design for Raised Playground

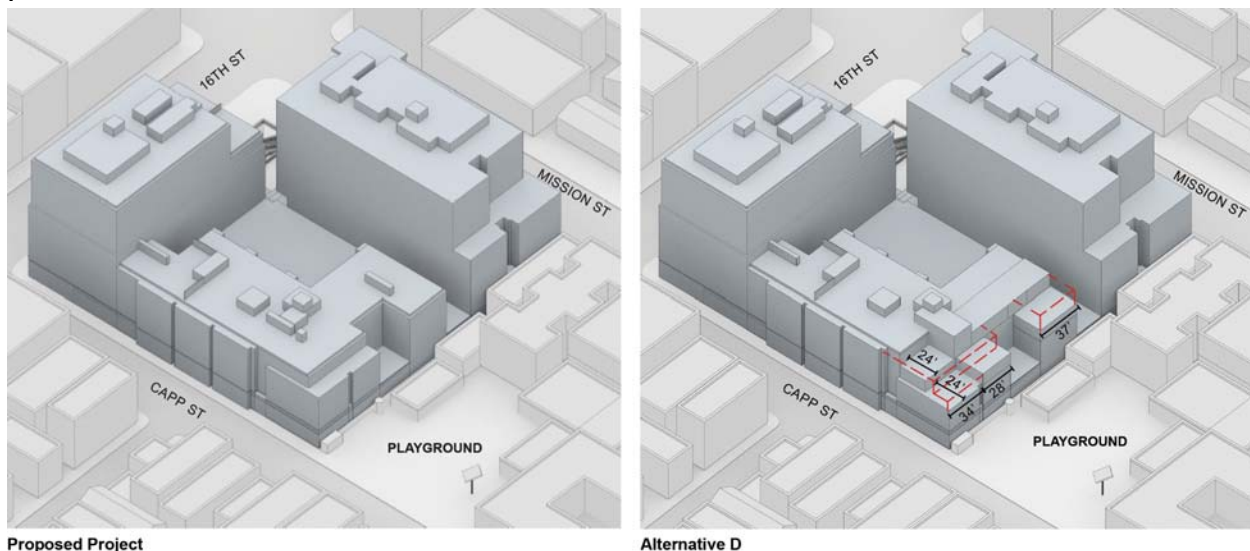
Alternative D – Reduced Shadow Alternative 1 – Reduced Capp Component (Sculpted Northeast Side)

Similar to the Proposed Project, all existing structures on the project site would be demolished under Alternative D, and the site would be redeveloped with a mixed use (residential/retail uses) building that would include three residential components (Capp Street, 16th Street, and Mission Street), ground floor retail along Mission Street and 16th Street, parking, loading, building services, and approximately 28,053 gsf of open space. This alternative would have approximately 327 residential units, which would be four fewer units than the Proposed Project. Under Alternative D, the Mission Street and 16th Street residential components of the building would remain identical to the Proposed Project, but the height of the Capp Street residential component would vary from 35 feet to 65 feet. The height reduction would be accomplished by setting the fourth floor back 24 feet from the northern property line, and 34 feet from Capp Street at the northeastern corner as the building steps down to a three story height. At the northeastern corner, the fifth floor would be set back between 24 feet and 48 feet from the northern property line, and 34 feet from Capp Street (see Figure 8).

Alternative D would have an additional 2,447 square feet (for a total 3,192 square feet) of private usable open space, and 688 square feet less of common usable open space, when compared to the Proposed Project. The common usable open space under Alternative D would be in the form of roof decks and the qualified portion of the interior courtyard open space.⁶ Open space would include a publicly accessible ground level open space adjacent to the Northeast BART Plaza. Alternative D would require the same deviations from the Planning Code requirements as the

⁶ See Planning Code Section 135(f) for definition of private usable open space, and Section 135(g) for common usable open space, and Section 135(d) and Table 135A for amount required.

Proposed Project, and would comply with the Mission Neighborhood Commercial Transit (NCT) district zoning. Due to the increased setbacks on the northern end of the Capp Street residential component, the qualified private usable open space under Alternative D would be increased by 2,447 square feet, from 10,234 square feet under the Proposed Project to 12,681 square feet. The number of units with private open space would decrease from 29 units under the Proposed Project to none under Alternative D. This alternative would also include a privately owned publicly accessible ground level open space adjacent to the Northeast BART Plaza, similar to the Proposed Project.



Source: Skidmore Owings & Merrill

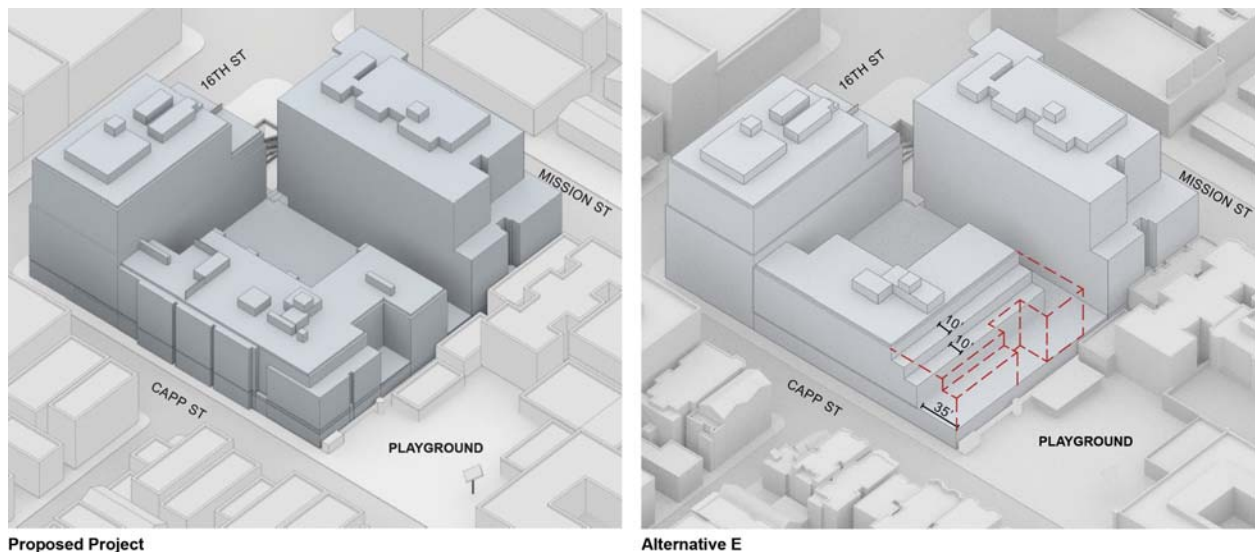
Figure 8. Alternative D – Reduced Shadow Alternative 1 – Reduced Capp Component (Sculpted Northeast Side)

Alternative E – Reduced Shadow Alternative 2 – Reduced Capp Component (35-foot Setback)

Similar to the Proposed Project, all existing onsite structures would be demolished under Alternative E, and the site would be redeveloped with a mixed use building that would include three residential components (Capp Street, 16th Street, and Mission Street), ground floor retail along Mission Street and 16th Street, parking, loading, building services, and approximately 25,508 gsf of open space. Alternative E would include approximately 310 residential units, 21 fewer residential units than the Proposed Project. Under Alternative E, the Mission Street and 16th Street residential components of the building, and the retail uses, parking, loading, and building services would be identical to those under the Proposed Project, as shown on Figure 9. The Capp Street residential component would be 15 feet to 55 feet high, with a maximum of 71 feet to the top of the elevator penthouse. The northern end of the Capp Street building would be set back 35 feet from the northern property line above the ground floor, 45 feet at the fourth floor, and 55 feet at the fifth floor as shown on Figure 9.

Alternative E would require the same deviations from the Planning Code requirements as the Proposed Project, and would comply with NCT district zoning. Common usable open space would be provided in the form of roof decks and a portion of the interior podium courtyard. The northern 35 feet of the Capp Street residential component at the second level would include both common and private usable open space. The common usable open space totaling 25,508 square feet would decrease by 3,233 square feet when compared to the Proposed Project. Although the amount of common usable open space would decrease under this alternative, the number of residential units would also decrease by 21 units.

This alternative would provide no private usable open space. This alternative would also include a privately owned publicly accessible ground level open space adjacent to the Northeast BART Plaza, similar to the Proposed Project..



Source: Skidmore Owings & Merrill

Figure 9. Alternative E – Reduced Shadow Alternative 2 – Reduced Capp Component (35-foot Setback)

Alternative F – Reduced Shadow Alternative 3 – Reduced Mission and Capp Components (70-foot Setback for Capp Component and 40-foot Height Reduction for Mission Component)

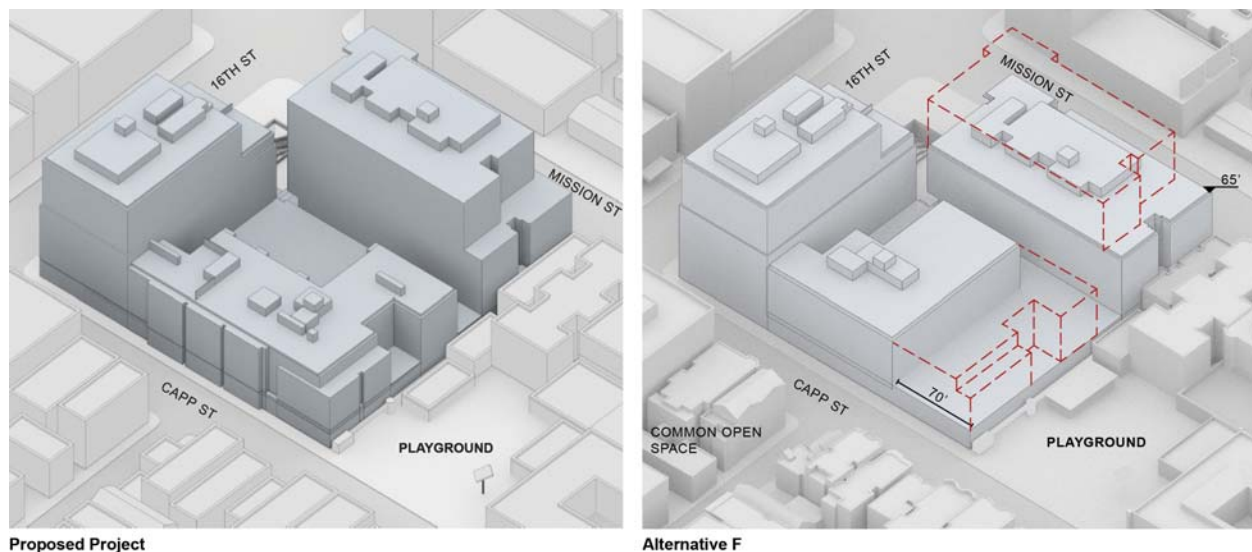
Under Alternative F, all existing onsite structures would be demolished, and the site would be redeveloped with a mixed use project with three residential components (Capp Street, 16th Street, and Mission Street) above ground floor retail. Alternative F would include 243 residential units above the second floor (Podium Level) and three residential units on the ground floor of the Capp Street building. The ground floor and basement level would be identical to the Proposed Project.

The northern end of the Capp Street residential component would be set back 70 feet above the ground floor, and the height of the Mission Street residential component would be reduced from

105 to 65 feet, when compared to the Proposed Project (see Figure 10). The 16th Street residential component would remain identical to the Proposed Project. Alternative F would contain 88 fewer residential units than the Proposed Project, and an additional 2,767 square feet of common usable space. This alternative would comply with the Mission NCT district zoning, and would require deviations from the Planning Code similar to the Proposed Project.

Compared to the Proposed Project, under Alternative F the height of the Mission Street residential component would be reduced by five levels of residential use over ground floor retail, or 65 feet high plus a 16-foot high elevator penthouse. The 16th Street residential component would be identical to the Proposed Project, with an approximately 40 foot setback above the seventh floor from the eastern property line of the BART Plaza, a maximum height of 105 feet as allowed under the Planning Code, and 121 feet to the top of the elevator penthouses (see Figure 10). The Capp Street residential component would be set back 70 feet at the second floor (Podium Level) from the northern property line, with a maximum height of 55 feet as allowed under the Planning Code, and 71 feet to the top of the elevator penthouses. The ground floor would include three at grade residential units, residential lobbies, three freight loading spaces, and one ADA accessible van parking space. Access to the parking levels and building services would be provided from Capp Street. The second through fifth floors would be for residential use only.

Alternative F would provide approximately 31,508 square feet of common usable open space in the form of roof decks and an outer court, which is 2,767 square feet more common open space for 88 fewer units than in the Proposed Project. This alternative would also include a privately owned publicly accessible ground level open space adjacent to the Northeast BART Plaza, similar to the Proposed Project..



Source: Skidmore Owings & Merrill

Figure 10. Alternative F – Reduced Shadow Alternative 3 – Reduced Mission and Capp Components, 70-foot Setback for Capp Component and 40-foot reduction in Mission Component height

5 Shadow Effects of the Alternatives

Overview

As described above, Alternatives C through F would reduce shading on the Marshall Elementary School Playground when compared to the Proposed Project, particularly during the time period between 10:00 a.m. and 1:00 p.m. Table 3 presents the shadow load that would result under each alternative on an annual basis, and Table 4 presents the shadow load that would result under each alternative between 10:00 a.m. and 1:00 p.m., the time period during which the Playground experiences more intensive use than the rest of the day. In addition, Table 5 presents the percentage by which each alternative would reduce the Proposed Project's new shadow load. Alternative B, Bulk Code Compliant Alternative, is discussed in less detail in this memorandum because it would not substantially reduce the new shadow cast by the Proposed Project. Shadow load on an annual basis for Alternative B is shown in Table 3.

Table 3
Summary of Alternatives and Proposed Project's Shadow Impact
Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh)	Existing Shadow Load (Percentage of TAAS)	New Shadow Load (sfh)	New Shadow Load (Percentage of TAAS)	Total Shadow Load Existing + New Shadow (Percentage of TAAS)
Existing conditions	12,061,131	22.08	N/A	N/A	22.08
Proposed Project	12,061,131 ¹	22.08 ¹	11,785,129 ³	21.57	43.65
Alternative B	12,061,131 ¹	22.08 ¹	11,051,242 ³	20.24	42.32
Alternative C	4,157,546 ² N/A	7.75 ² N/A	11,203,056 ⁴	20.95	28.70 ^{1, 2}
Alternative D	12,061,131 ¹	22.08 ¹	9,276,878 ³	16.99	39.07
Alternative E	12,061,131 ¹	22.08 ¹	6,257,142 ³	11.46	33.54
Alternative F	12,061,131 ¹	22.08 ¹	4,814,315 ³	8.82	30.90
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ Shadow load on the Raised Playground from existing buildings would be reduced by 7,903,585 sfh or 14.33 percent due to the surface of the Playground being elevated by 15 feet. ² The Raised Playground surface area would be 14,365 square feet (300 square feet smaller than the existing Playground). Therefore, the TAAS for the Raised Playground would have 53,471,430.85 sfh of available sunlight.					

Table 4
Summary of Alternatives and Proposed Project's Shadow Impact
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m.

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (Percentage of TAAS)
Proposed Project	61,836 ¹	0.39	435,156	2.71	3.1
Alternative C	2,233 ² N/A	N/A0.014	275,237 ¹	1.75	2.14 ^{1, 2}
Alternative D	61,836 ¹	0.39	327,258	2.04	2.43
Alternative E	61,836 ¹	0.39	139,150	0.87	1.26
Alternative F	61,836	0.39	120,307	0.75	1.14

Notes:

N/A = Not applicable

sfh = square foot hours

TAAS = Theoretical Available Annual Sunlight

¹ Shadow load on the Raised Playground from existing buildings would be reduced by 59,603 sfh due to the surface of the Playground being elevated by 15 feet. Note that this number is without any development on the project site.

² The Raised Playground surface area would be 14,365 square feet (300 square feet smaller than the existing Playground).

Table 5
Summary of Shadow Reduction from Alternatives on Marshall Elementary School Playground
between 10:00 a.m. and 1:00 p.m.

Scenario	New Shadow Load (sfh)	Percent of New Project Shadow Reduced by the Alternative ¹ (%)
Proposed Project	435,156	N/A
Alternative C	275,237	36.8 ²
Alternative D	327,258	24.8
Alternative E	139,150	68
Alternative F	120,307	72.4

Notes:

sfh = square foot hours

¹ The percent is a comparison of the new sfh of shadow for each alternative to the Proposed Project's new sfh of shadow, or $100 - \text{Alternative X sfh} / 435,156 \text{ sfh} \times 100 = \text{percent of Proposed Project shadow reduced}$.

² Alternative C New shadow hours is on a slightly smaller Raised Playground.

Alternative B – Bulk Code Compliant Alternative

The annual new shadow load on the Playground under Alternative B would be approximately 20.24 percent (11,051,242 sfh) of TAAS. Total shadow under this alternative would be 1.33 percent less than that under the Proposed Project (21.57 percent of TAAS). This minor reduction in new shadow is primarily attributable to the Mission Street residential component being set back 45 feet from the northern property line above 65 feet. With this setback the Playground would experience slightly less shadow in the afternoon hours (after 1:00 p.m.) when the sun is moving towards the west. However, this alternative would not reduce the annual new shadow during recess and lunch times when compared to the Proposed Project.

In the winter, the new shadow load on the Playground in square foot hours, as a result of Alternative B, would be approximately 4 percent lower (58,837.97 sfh) than that of the Proposed Project (61,001.39 sfh). In the autumn/spring, the new shadow load in square foot hours as a result of Alternative B would be approximately 16 percent lower (25,896.74 sfh) than that of the Proposed Project (30,984.51 sfh). In the summer, the new shadow load in square foot hours as a result of Alternative B would increase by approximately 15 percent (5,984.55 sfh) compared to the Proposed Project (5,221.12 sfh).

Similarly, in the winter between the hours of 10:00 a.m. and 1:00 p.m., the new shadow load on the Playground as a result of Alternative B would be less than 1 percent lower (29,653.18 sfh) than that of the Proposed Project (29,842.45 sfh). In the autumn/spring, during the 10:00 a.m. and 1:00 p.m. timeframe, the new shadow load in on the Playground as a result of Alternative B would be approximately 6 percent lower (9,542.34 sfh) than that of the Proposed Project (10,190.87 sfh). In the summer between the hours of 10:00 a.m. to 1:00 p.m., the new shadow load in on the Playground as a result of Alternative B would be approximately 14 percent higher (3,016.47 sfh) than that of the Proposed Project (2,654.73 sfh).

As seen above, in the winter and autumn/spring Alternative B would achieve minor reductions in new shadow load during the 10:00 a.m. to 1:00 p.m. timeframe when compared with the entire day, because the reduction in shadow would be due to the increased setback (45 feet, compared to 17.5 feet and 30 feet) of the Mission Street component, which would shade the Playground mainly during the afternoon. Therefore, because the overall reduction of new shadow achieved by Alternative B is minor, and the reduction of new shadow in the target timeframe of 10:00 a.m. to 1:00 p.m. is even lower, this alternative would not substantially reduce the shadow caused by the Proposed Project, and is not analyzed in further detail.

Alternative C – Raised Playground Alternative

Shadow Impacts of Alternative C

The existing Playground receives approximately 54,615,706 sfh of TAAS,⁷ and has an annual shadow load of 22.08 percent (or 12,061,131 sfh of shadow annually) due to shadow from the existing buildings to the east and west of the Playground.

The new shadow that would result from the proposed residential components under Alternative C (components identical to that under the Proposed Project) would be 20.95 percent of TAAS (11,203,056 sfh) (see Table 6). The total shadow load on the Raised Playground under Alternative C would result from the shadow from existing buildings, which would be reduced by elevating the Playground, and also from the shadow due to the proposed residential components. Under Alternative C, the Total Shadow Load on the Raised Playground would be 28.7 percent of the TAAS (15,360,603 sfh). The existing Playground at ground level is currently shaded approximately 22.08 percent of the time. Therefore, Alternative C would result in approximately 6.62 percent more shaded time at the Raised Playground, compared to the existing shadow conditions on the Playground.

⁷ The amount of TAAS on a park or playground is calculated by multiplying the area of the park (in square feet) by the total hours of sunlight available on an annual basis, ignoring shadows from structures or other natural phenomena, such as clouds, fog, or solar eclipses, that may obscure sunlight. For San Francisco, there are approximately 3,721.4 hours of sunlight available on an annual basis. Quantitatively, new shadows are to be measured by the additional annual amount of shadow in square foot-hours as a percent of TAAS.

Table 6
Alternative C – Annual Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh) ¹	Existing Shadow Load (percentage of TAAS)	New Shadow Load (sfh)	New Shadow (percentage of TAAS) ²	Total Shadow Load (sfh)	Total Shadow Existing + New (percentage of TAAS)
Existing Shadow Conditions	12,061,131	22.08	N/A	N/A	12,061,131	22.08
Proposed Project	12,061,131	22.08	11,785,129	21.57	23,846,260	43.65
Raised Playground	N/A	N/A	11,203,056	20.95	15,360,603	28.70 ¹

Notes:
N/A = Not applicable.
sfh = square foot hours
TAAS = The amount of theoretical available annual sunlight on a park or playground is calculated by multiplying the area of the park (in square feet) by the total hours of sunlight available on an annual basis, ignoring shadows from structures or other natural phenomena, such as clouds, fog, or solar eclipses, that may obscure sunlight. For San Francisco, there are approximately 3,721.4 hours of sunlight available on an annual basis.

¹ With a Raised Playground, shadow due to existing buildings would be reduced.
² Existing Shadow Load is the sfh of shadow resulting from existing buildings.

As shown in Table 7, between 10:00 a.m. and 1:00 p.m., new shadow load on the Raised Playground under Alternative C would be 275,237 sfh, resulting in a total shadow load of 277,470 sfh.

Table 7
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m. Alternative C Compared to Proposed Project

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (percentage of TAAS)	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (percentage of TAAS)
Proposed Project	61,836	0.39	435,156	2.71	3.1
Alternative C	N/A	N/A	275,237 ¹	1.75	2.14

Notes:
N/A = Not applicable
sfh = square foot hours
TAAS = Theoretical Available Annual Sunlight

¹ Shadow load on the Raised Playground from existing buildings, between 10:00 a.m. to 1:00 p.m., would be reduced by 59,603 sfh due to the surface of the Playground being elevated by 15 feet.

Alternative C would cast new shadow on the Playground throughout the year, with the largest area of shadow cast on December 20 (see Exhibit H.1). As shown in Table 8, during the winter, Alternative C would result in a total shadow load of 71,808 sfh, and would cast new shadow on the Raised Playground from approximately 8:30 a.m. through 3:54 p.m. Under Alternative C, the largest new shadow area during winter would occur at 1:00 p.m., and would be approximately 8,297 square feet in size (see Table 9 and Figure 11). During the winter, Alternative C would cast new shadow on the Raised Playground from approximately 8:30 a.m. through 3:54 p.m. Starting at 8:00 a.m., the new shadow in the winter season would cover the southwestern corner of the Raised Playground, where most of the turf field and a portion of the foursquare game area are located. By 10:00 a.m. in the winter, the new shadow under

Alternative C would cover approximately the southern half of the Raised Playground. Under Alternative C, the largest new shadow during winter would occur at 1:00 p.m., and would be approximately 8,297 square feet in size (see Exhibit H.1). As shown in Table 10, new shadow load cast by Alternative C between 10:00 a.m. and 1:00 p.m. in the winter would be approximately 23,889 sfh. At 2:00 p.m., the majority of the Raised Playground would be covered in shadow, except for the northeastern corner. Most of the shadow at 2:00 p.m. would result from Alternative C, but there would also be some shadow from existing buildings to the west of the Raised Playground. The shadow from existing buildings would combine with shadow under Alternative C in such a way that by 2:30 p.m., the Raised Playground would be entirely in shade.

Table 8
Alternative C –New Shadow Load on Marshall Elementary School Playground by Season during a Full Day

Season	Alternative C		Proposed Project		Total Shadow Load (sfh)	
	Existing Shadow Load (sfh)	New Shadow Load (sfh)	Existing Shadow Load (sfh)	New Shadow Load (sfh)	Alternative C ¹	Proposed Project
Summer (June 21)	N/A	3,329	38,694	5,221	18,410	43,915
Autumn (September 20) Spring (March 22)	N/A	28,181	34,154	30,984	62,335	65,139
Winter (December 20)	N/A	62,942	27,119	61,001	71,808	88,120
Notes: sfh = square foot hours ¹ With a Raised Playground, shadow due to existing buildings would be reduced.						

Table 9
Alternative C – Maximum New Shadow Area on Marshall Elementary School Playground between 10:00 a.m. and 1:00 p.m., by Season

Season	Alternative C		Proposed Project	
	Square Feet	Time	Square Feet	Time
Summer (June 21)	669	12:45	1,063	12:45
Autumn (September 20) Spring (March 22)	2,404	1:00	3,584	1:00
Winter (December 21)	8,297	1:00	10,123	12:15



Source: CADP

Figure 11. Maximum shadow by square foot of Alternative C

Table 10
Alternative C – Shadow Load on the Marshall Elementary School Playground by Season, between 10:00 a.m. and 1:00 p.m.

Season	Alternative C		Proposed Project		Total Shadow Load (sfh)	
	Existing Shadow Load (sfh)	New Shadow Load (sfh)	Existing Shadow Load (sfh)	New Shadow Load (sfh)	Alternative C	Proposed Project
Summer (June 21)	1.3	1,698 ¹	1,063	2,655	1,699	3,718
Autumn (September 20)	0.19	7,617 ¹	1,955	10,191	7,617	12,146
Spring (March 22)						
Winter (December 20)	115.52	23,889 ¹	4,022	29,842	24,004	33,864
Notes:						
sfh = square foot hours						
¹ These numbers represent new shadow on the Raised Playground, a slightly smaller playground (300 square feet smaller) on the roof of a one-story structure on the school property in the current location of the existing Playground.						

The new shadow cast by Alternative C from 8:00 a.m. until 2:00 p.m. in the autumn/spring (28,181 sfh) would be at the southern portion of the Raised Playground covering the southwestern corner and a section of the foursquare game area (see Exhibit H.1). As shown in Table 10, new shadow load cast by Alternative C between 10:00 a.m. and 1:00 p.m. in the autumn/spring would be approximately 7,617 sfh. After 2:00 p.m., shadow from existing buildings located to the west of the Raised Playground begin to shade the center of the western portion of the Raised Playground and move across the Raised Playground to the east. At the same time, the Mission Street residential component would cast new shadow on a larger portion of the southwestern corner of the Raised Playground, and increase toward the foursquare game area until 5:00 p.m., after which the shadows from Alternative C would decrease. By 1 hour before sunset, most of the shadow on the Raised Playground would be from existing buildings. Although Alternative C would cast new shadow on the Raised Playground in the summer between 9:00 a.m. and 4:00 p.m., the shadow would be minimal in size and would be located along the southern boundary. The new shadow under Alternative C between 10:00 a.m. and 1:00 p.m. would be 1,698 sfh. The largest shadow cast by Alternative C on the Raised Playground during the summer would occur at 12:45 p.m., and would cover approximately 669 square feet.

Shadow Impacts of Alternative C Compared to the Proposed Project

The new shadow load on the Raised Playground under Alternative C would be substantially less than the new shadow load on the Playground as a result of the Proposed Project. This would be because the Raised Playground would be 15 feet higher than the existing Playground and shadow from existing buildings would be reduced. The new shadow load resulting from the Proposed Project on the existing Playground would be 21.57 percent of TAAS (11,785,129 sfh), and the new shadow load resulting from Alternative C would be 20.95 percent of TAAS (11,203,056 sfh) on the Raised Playground (see Table 6). The total shadow load under Alternative C would be 28.70 as a percentage of TAAS. Under the Proposed Project, the total shadow load would be 43.65 as a percentage of TAAS. Therefore, there would be a 14.95 percent reduction in the percentage of TAAS compared to existing conditions between the total shadow load on the Raised Playground under Alternative C, and the total shadow load on the existing Playground under the Proposed Project. See Exhibits H.1 and H.2, attached to this technical memorandum, for graphics of the shadows cast on the Raised Playground and quantified shadow impact results for Alternative C. As shown in Table 7, new shadow load in square foot hours on the Raised Playground under Alternative C between 10:00 a.m. and 1:00 p.m. would be 275,237 sfh.

Similar to the Proposed Project's new shadow cast on the existing Playground, Alternative C would cast new shadow on the Raised Playground throughout the year, with the largest area of shadow cast on December 20. As shown in Table 8, during winter, total shadow load cast by Alternative C would be 1,808 sfh greater than that cast by the Proposed Project.

During the winter, under Alternative C, most of the southern half of the Raised Playground would be shaded throughout the day and would become fully shaded after 2:30 p.m., due to Alternative C in combination with shadow from existing buildings. Similarly, the existing at grade Playground would be mostly shaded under the Proposed Project in the winter throughout the day, except for a small section at the northeastern corner, which would remain sunny until 2:00 p.m. The largest area of shadow in the winter between 10:00 a.m. and 1:00 p.m. under Alternative C would be 8,297 square feet. It would occur at 1:00 p.m., and would cover the

southern half and the western edge of the Raised Playground. The largest area of shadow during that time period under the Proposed Project would occur at 12:15 p.m. and would be 10,123 square feet. It would cover the southern two thirds of the existing Playground, including the foursquare game area, kickball diamond, basketball hoop, and most of the turf field.

In the autumn/spring, the new shadow cast by Alternative C would cover the southwestern corner of the Raised Playground and a section of the foursquare game area starting at 8:00 a.m. and lasting until 5:00 p.m. (see Exhibits H.1 and H.2). Similarly, the new shadow cast by the Proposed Project during this time period would cover the southern portion of the existing Playground starting at 8:00 a.m., and would increase slowly throughout the day until 5:00 p.m. The largest area of shadow cast by Alternative C on the Raised Playground between 10:00 a.m. and 1:00 p.m. in the autumn/spring would be 2,404 square feet, and would occur at 1:00 p.m. (see Table 9). The largest area of shadow cast by the Proposed Project during the same time period would be 3,584 square feet, and would also occur at 1:00 p.m. As shown in Table 8, the total shadow cast by Alternative C during the autumn/spring would be 2,335 sfh less than that cast by the Proposed Project.

As shown in Table 10, in the autumn/spring the total shadow load under the Proposed Project would be greater, 12,146 sfh, compared to 7,617 sfh under Alternative C.

In the summer, a small area would be shaded along the southern boundary of the Raised Playground under Alternative C, or the existing Playground under the Proposed Project. However, new shadow on the Raised Playground that would result under Alternative C would be slightly less than the new shadow cast by the Proposed Project on the existing Playground (see Exhibits H.1 and H.2). As shown in Table 10, in the summer between 10:00 a.m. and 1:00 p.m., the total shadow load under Alternative C would be 1,699 sfh. During this time period, the total shadow load under the Proposed Project would be 3,718 sfh.

Summary

There would be a 14.95 percent reduction in the percentage of TAAS compared to existing conditions between the total shadow load on the Raised Playground under Alternative C, and the total shadow load on the existing Playground under the Proposed Project. This is because Alternative C would substantially reduce the shadow on the Raised Playground from the existing buildings, when compared to the existing shadow on the current Playground. In addition, the Raised Playground would be about 2 percent smaller (330 square feet). Therefore, there would be a small decrease in shadow attributable to decreased size of the Raised Playground.

Between 10:00 a.m. and 1:00 p.m., new shadow cast on the Raised Playground under Alternative C or the existing Playground under the Proposed Project would result from the Capp Street Component. During this time period, the new shadow load in sfh on the Raised Playground under Alternative C would be 36.7 percent less than the new shadow load in sfh on the existing Playground under the Proposed Project. In the winter between 10:00 a.m. and 1:00 p.m., approximately the southern half of the Raised Playground would be shaded under Alternative C. Under the Proposed Project, most of the existing Playground would be shaded during this time period. During the autumn/spring, the portion of the Raised Playground south of the foursquare game areas would be shaded under Alternative C or the Proposed Project. The edge of the southern boundary of the Playground would be shaded during the summer under Alternative C or the Proposed Project.

Alternative D – Reduced Shadow Alternative 1 – Reduced Capp Component (Sculpted Northeast Side)

Under Alternative D, the northeastern corner of the Capp Street residential component would have setbacks at the fifth and fourth floors adjacent to the Playground, which would reduce the shadow impact under Alternative D from the Capp Street residential component when compared to the Proposed Project. Floors one through three would remain identical to the Proposed Project. As presented in Table 11, Alternative D would result in a new shadow load of 16.99 percent of TAAS. The total shadow load on the Playground under Alternative D would be 39.07 percent of TAAS. Exhibits I.1 and I.2 provide graphics of the shadows cast on the Playground and quantified shadow impact results for Alternative D, respectively.

Table 11
Comparison of Alternative D to the Proposed Project, Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh)	Existing Shadow Load as Percentage of TAAS	New Shadow Load (sfh)	New Shadow (Percentage of TAAS) ¹	Total Shadow Load (sfh)	Total Shadow Existing + New (Percentage of TAAS)
Existing Shadow Conditions	12,061,131	22.08	N/A	N/A	12,061,131	22.08
Proposed Project	12,061,131	22.08	11,785,129	21.57	23,846,260	43.65 ¹
Alternative D	12,061,131	22.08	9,276,878	16.99	21,338,009	39.07 ¹
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ New shadow as a percentage of TAAS would be reduced by 4.58 percent under Alternative D when compared to the Proposed Project (21.57 percent of TAAS – 16.99 percent of TAAS).						

As shown in Table 12, between 10:00 a.m. and 1:00 p.m., new shadow load on the Playground under Alternative D would be 327,258 sfh, with a total shadow load of 389,094 sfh.

Alternative D would cast new shadow on the Playground throughout the year with the largest area of shadow being cast on December 20. During the winter, as shown in Table 13, Alternative D would result in a total shadow load of 78,210 sfh. The largest new shadow area, 8,337 square feet in size, would occur at 1:00 p.m. in the winter, and would cover most of the turf field, and all the foursquare game area, the basketball hoop, and the kickball diamond (see Table 14 and Figure 12). Under Alternative D, these sections of the Playground would start to be partially shaded in the winter at 9:00 a.m., and would continue to be shaded until after 3:00 p.m. As shown in Table 15, total shadow load cast by Alternative D between 10:00 a.m. and 1:00 p.m. in the winter would be approximately 31,184 sfh. During winter, between 9:00 a.m. and 1:00 p.m. shadow would only result from Alternative D. Between 1:00 p.m. and 3:00 p.m., both Alternative D and existing buildings would shade the Playground. The Playground would be shaded only by existing buildings after 3:00 p.m. until sunset.

Table 12
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m.
Alternative D Compared to the Proposed Project

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (Percentage of TAAS)
Proposed Project	61,836	0.39 ¹	435,156 ²	2.71	3.1
Alternative D	61,836	0.39 ¹	327,258	2.04	2.43

Notes:
N/A = Not applicable
sfh = square foot hours
TAAS = Theoretical Available Annual Sunlight

¹ The Playground surface area would remain 14,665 square feet, as under existing conditions. Therefore, the TAAS for the Playground during the 10 a.m. to 1 p.m. time period would be 16,058,175 sfh of available sunlight.

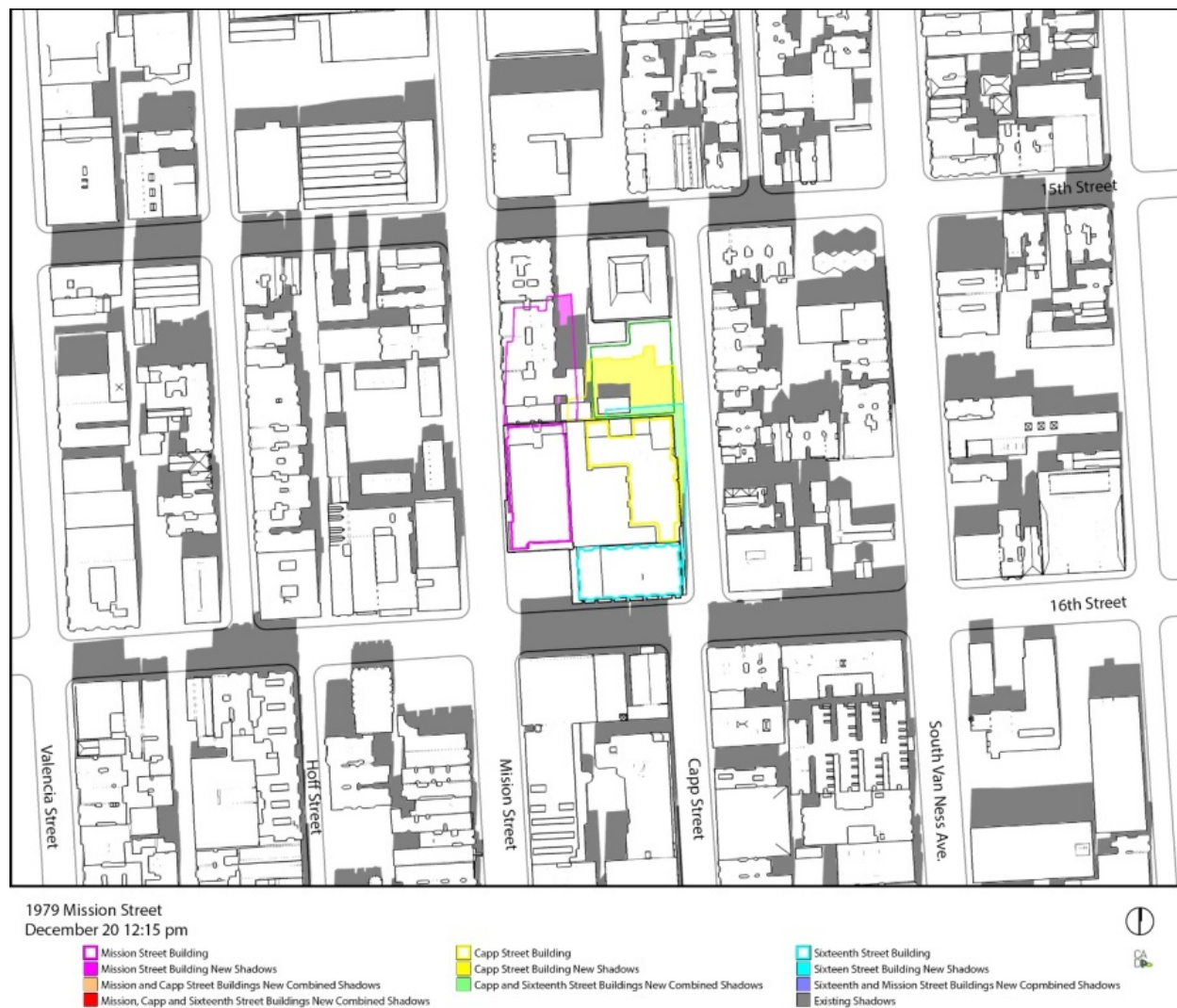
Table 13
Alternative D –New Shadow Load on the Playground by Season during a Full Day

Season	Alternative D New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Total Shadow Load (sfh)	
			Alternative D	Proposed Project
Summer (June 21)	4,629	5,221	43,652	43,915
Autumn (September 20) Spring (March 22)	21,620	30,984	55,775	65,139
Winter (December 20)	51,091	61,001	78,210	88,120

Notes:
sfh = square foot hours

Table 14
Alternative D – Maximum New Shadow Area on Playground during the 10 a.m. to 1 p.m. hours, by Season

Season	Alternative D		Proposed Project	
	New Shadow Square Feet	Time of Maximum New Shadow	New Shadow Square Feet	Time of Maximum New Shadow
Summer (June 21)	913	12:45	1,063	12:45
Autumn (September 20) Spring (March 22)	2,551	1:00	3,584	1:00
Winter (December 20)	8,337	1:00	10,123	12:15



Source: CADP

Figure 12. Alternative D – Maximum new shadow by square foot

Table 15

Alternative D – Shadow Load on Playground by Season, from 10:00 a.m. to 1:00 p.m.

Season	Alternative D New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Alternative D Compared to the Proposed Project Change in New Shadow Load (sfh)	
			Alternative D	Proposed Project
Summer (June 21)	2,325	2,655	3,577	3,718
Autumn (September 20)	6,597	10,191	11,413	12,146
Spring (March 22)				
Winter (December 20)	23,819	29,842	31,184	33,864
Notes: sfh = square foot hours				

The new shadow cast by Alternative D in the autumn/spring would mostly be between 10:00 a.m. and 5:00 p.m., and would cover the southern side of the Playground, shading half of the foursquare game area and a portion of the turf field. During autumn/spring, the largest new shadow area, 2,551 square feet in size, would occur at 1:00 p.m.. As shown in Table 15, total shadow under Alternative D between 10:00 a.m. and 1:00 p.m. in the autumn/spring seasons would be approximately 11,413 sfh, and would cover a section of the southern boundary of the Playground at approximately the middle of the foursquare game area. Under Alternative D, these sections of the Playground would start to be partially shaded in the autumn/spring at 9:00 a.m., and would continue to be shaded for the rest of the day. Before that time (sunrise to 9:00 a.m.), most of the Playground is shaded by existing buildings. Between 9:00 a.m. and 2:00 p.m., shadow would only result from Alternative D. Between 2:00 p.m. and 5:00 p.m., both Alternative D and existing buildings would shade the Playground and would entirely cover the turf field, the kickball diamond, and the foursquare game area. By 6:00 p.m., the Playground would be fully shaded by existing buildings.

In the summer season, Alternative D would cast minimal new shadow on the Playground, mostly between 12:00 p.m. and 3:00 p.m. The largest shadow cast by Alternative D on the Playground during the summer would occur at 12:45 p.m. and would cover approximately 913 square feet. The new shadow would be on the southern property line between the Playground and the Capp Street residential component (see Exhibits I.1 and I.2). As shown in Table 15, between 10:00 a.m. and 1:00 p.m. in the summer season, the total shadow by Alternative D would be 3,577 sfh.

Shadow Impacts of Alternative D Compared to the Proposed Project

There would be a 4.58 percent reduction in the percentage of TAAS compared to existing conditions between the total shadow load on the Playground under Alternative D (39.07 percent) and the total shadow load on the Playground under the Proposed Project (43.65 percent). Under Alternative D, the new shadow in square foot hours would be reduced by approximately 21.3 percent, when compared to shadow from the Proposed Project. As shown in Table 12, new shadow load in sfh on the Playground under Alternative D between 10:00 a.m. and 1:00 p.m. would be approximately 24.8 percent less than that on the Playground under the Proposed Project.

Similar to Alternative D, the Proposed Project would result in new shadow throughout the year. However, new shadow cast by Alternative D would be slightly smaller than that cast by the Proposed Project. This would result from the setbacks at the fourth and fifth floors of the northeastern corner of the Capp Street residential component under Alternative D.

During the winter, the Playground would be mostly shaded throughout the day under either Alternative D or the Proposed Project, except for a small section at the northeastern corner, which would remain sunny until 2:00 p.m. However, new shadow under Alternative D would be slightly less than that cast by the Proposed Project. In the winter, between 10:00 a.m. and 1:00 p.m., the Playground would be mostly shaded under Alternative D or the Proposed Project. However, as shown in Table 15, total shadow load cast by Alternative D (31,184 sfh) would be smaller than that cast by the Proposed Project (33,864 sfh). Between 10:00 a.m. to 1:00 p.m., the largest area of shadow under Alternative D would occur at 1:00 p.m. and would be

approximately 8,336 square feet in size. Under the Proposed Project, the largest area of shadow would occur at 12:15 p.m. and would be approximately 10,123 square feet in size.

In the autumn/spring, similar to the Proposed Project, Alternative D would result in an increasing new shadow throughout the day along the southern portion of the Playground. However as shown in Table 13, total shadow load would be less under Alternative D (55,775 sfh) than under the Proposed Project (65,139 sfh). Under Alternative D, larger portions of the foursquare game area and the turf field would remain sunny for parts of the morning until 2:00 p.m., compared to conditions under the Proposed Project (see Exhibits I.1 and I.2). The largest area of shadow in the autumn/spring would occur at 1:00 p.m. under both Alternative D and the Proposed Project, and would be 2,551 square feet and 3,584 square feet, respectively.

In the autumn/spring season between 10:00 a.m. and 11:00 p.m., similar to the Proposed Project, the Playground would be shaded along the southern boundary and would cover portions of the foursquare game area. However, as shown in Table 15, total shadow load under Alternative D (11,413 sfh) would be less than that cast by the Proposed Project (12,146 sfh) during the same time period. As shown in Table 14, the largest area of shadow in the autumn/spring between 10:00 a.m. and 1:00 p.m. under Alternative D would be 2,551 square feet, and would occur at 1:00 p.m. The largest area of shadow during that time period under the Proposed Project would be 3,584 square feet, and would also occur at 1:00 p.m.

Similar to the Proposed Project, Alternative D would result in minimal new shadow along the southern edge of the Playground during the summer season, and would start at 10:00 a.m. and stay until 4:00 p.m. As shown in Table 13, the total shadow load under Alternative D (43,652 sfh) would be less than that under the Proposed Project (43,915 sfh). Total shadow load that would occur between 10:00 a.m. and 1:00 p.m. under Alternative D (3,577 sfh) would be slightly less than that cast by the Proposed Project (3,718 sfh) (see Table 15).

Summary

There would be a 4.58 percent reduction in shadow as a percentage of TAAS compared to existing conditions between the total shadow load on the Playground under Alternative D and the total shadow load on the Playground under the Proposed Project. The proposed residential components under Alternative D would result in a new shadow load of 16.99 percent of TAAS. Alternative D would shade the Playground approximately 39 percent of the time before 1:00 p.m. during winter and would cover most of the turf field, the foursquare game area, the basketball hoop, and the kickball diamond. Alternative D would also cover the southern portion of the turf field and the foursquare game area during autumn/spring. Alternative D would result in 21.3 percent less shadow in square foot hours when compared to the Proposed Project. In addition, the new shadow in square foot hours on the Playground under Alternative D between 10:00 a.m. and 1:00 p.m. would be approximately 24.8 percent less than that on the Playground under the Proposed Project. The shadow reduction under Alternative D would result from the setbacks of the fifth and fourth floors at the northeastern corner of the Capp Street residential component adjacent to the Playground.

Similar to the Proposed Project between 10:00 a.m. and 1:00 p.m., the majority of the Playground would be shaded under Alternative D during winter. During autumn/spring, the southern boundary of the Playground, including portions of the foursquare game area, would be shaded under both Alternative D and the Proposed Project. However, because of the setbacks

of the Capp Street residential component under Alternative D, shadow loads during this time period throughout the seasons would be smaller than those cast by the Proposed Project.

Alternative E – Reduced Shadow Alternative 2 – Reduced Capp Component (35-foot Setback)

Shadow Impacts of Alternative E

Under Alternative E, the northern end of the Capp Street building adjacent to the Playground, would be set back 35 feet from the northern property line above the ground floor, set back 45 feet at the fourth floor, and set back 55 feet at the fifth floor. The setbacks would reduce the shadow impact from the Capp Street residential component when compared to the Proposed Project. As presented in Table 16, Alternative E would result in a new shadow load of 11.46 percent of TAAS. The total shadow load on the Playground under Alternative E would be 33.54 percent of TAAS. Exhibits J.1 and J.2 provide graphics of the shadows cast on the Playground and quantified shadow impact results for Alternative E, respectively.

As shown in Table 17, between 10:00 a.m. and 1:00 p.m., new shadow load on the Playground under Alternative E would be 139,150 sfh, with a total shadow load of 200,986 sfh. New shadow during this period would result mostly from the Capp Street residential component.

Table 16
Comparison of Alternative E to the Proposed Project, Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh) ¹	Existing Shadow Load as Percentage of TAAS	New Shadow Load (sfh)	New Shadow (Percentage of TAAS) ²	Total Shadow Load (sfh)	Total Shadow Existing + New (Percentage of TAAS)
Existing Shadow Conditions	12,061,131	22.08	N/A	N/A	12,061,131	22.08
Proposed Project	12,061,131	22.08	11,785,129	21.57	23,846,260	43.65 ²
Alternative E	12,061,131	22.08	6,257,143	11.46	18,318,274	33.54 ²
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ The TAAS for the Playground is 54,615,706 sfh. ² New shadow as a percentage of TAAS would be reduced by 10.11 percent under Alternative E when compared to the Proposed Project (21.57 percent of TAAS – 11.46 percent of TAAS).						

Table 17
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m.
Alternative E Compared to the Proposed Project

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS) ¹	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (Percentage of TAAS)
Proposed Project	61,836	0.39	435,156	2.71	3.1
Alternative E	61,836	0.39	139,150	0.87	1.26
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ The Playground surface area would remain 14,665 square feet, as under existing conditions. Therefore, the TAAS for the Playground during the 10 a.m. to 1 p.m. time period would be 16,058,175 sfh of available sunlight.					

Alternative E would cast new shadow on the Playground throughout the year, with the largest area of shadow cast on December 20. During winter, as shown in Table 18, Alternative E would result in a new shadow load of 36,211 sfh, and would cast new shadow on the Playground from approximately 8:30 a.m. through 3:54 p.m. It would have the largest new shadow area of 4,779 square feet at 1:00 p.m., and would cover the western half of the turf field and the foursquare game area (see Table 19 and Figure 13). As shown in Table 20, total shadow load cast by Alternative E between 10:00 a.m. and 1:00 p.m. in winter would be approximately 17,066 sfh.

Table 18
Alternative E – New Shadow Load on the Playground by Season during a Full Day

Season	Alternative E New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Total Shadow Load (sfh)	
			Alternative E	Proposed Project
Summer (June 21)	2,022	5,221	40,716	43,915
Autumn (September 20) Spring (March 22)	15,786	30,984	49,940	65,139
Winter (December 20)	36,211	61,001	63,330	88,120
Notes: sfh = square foot hours				

Table 19
Alternative E – Maximum New Shadow Area on Playground during the 10 a.m. to 1 p.m. hours,
by Season

Season	Alternative E		Proposed Project	
	New Shadow (Square Feet)	Time of Maximum New Shadow	New Shadow (Square Feet)	Time of Maximum New Shadow
Summer (June 21)	440	12:45	1,063	12:45
Autumn (September 20) Spring (March 22)	1,246	1:00	3,584	1:00
Winter (December 20)	4,779	1:00	10,123	12:15



Source: CADP

Figure 13. Alternative E – Maximum new shadow by square foot

Table 20
Alternative E – Shadow Load on Playground by Season, from 10:00 a.m. to 1:00 p.m.

Season	Alternative E New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Total Shadow Load (sfh)	
			Alternative E	Proposed Project
Summer (June 21)	1,108	2,655	2,171	3,718
Autumn (September 20) Spring (March 22)	3,865	10,191	5,820	12,146
Winter (December 20)	13,044	29,842	17,066	33,864
Notes: sfh = square foot hours				

During autumn/spring, the largest new shadow area under Alternative E, 1,246 square feet in size, would occur at 1:00 p.m., and would cover the southernmost portion of the Playground, shading a minor portion of the foursquare game area (Exhibit J.1). Under Alternative E, these sections of the Playground would start to be partially shaded in the autumn/spring at 9:00 a.m. and would continue to be shaded for the rest of the day. Before 9:00 a.m., most of the Playground is shaded by existing buildings, except for the southern portion of the turf field, which remains sunny. Between 9:00 a.m. and 2:00 p.m., shadow would only result from Alternative E. As shown in Table 20, total shadow load cast by Alternative E between 10:00 a.m. and 1:00 p.m. in the autumn/spring would be approximately 5,820 sfh. Between 2:00 p.m. and 5:00 p.m., both Alternative E and existing buildings would shade the Playground and would cover the turf field, the kickball diamond, and the foursquare game area. By 6:00 p.m., the Playground would be fully shaded, mostly by existing buildings.

In the summer, Alternative E would cast minimal new shadow on the Playground between 11:00 a.m. and 3:00 p.m. The largest shadow cast by Alternative E on the Playground during the summer would occur at 12:45 p.m., and would cover approximately 440 square feet. The new shadow resulting from Alternative E would occur on the very edge of the southern boundary of the Playground (see Exhibit J.1). As shown in Table 20, between 10:00 a.m. and 1:00 p.m. in the summer, the total shadow cast by Alternative E would be 2,171 sfh. In the summer, Alternative E would cast minimal new shadow on the Playground between 11:00 a.m. and 3:00 p.m. The largest shadow cast by the Alternative E on the Playground during the summer would occur at 12:45 p.m., and would cover approximately 440 square feet. The new shadow resulting from Alternative E would occur on the very edge of the southern boundary of the Playground (see Exhibit J.1).

Shadow Impacts of Alternative E Compared to the Proposed Project

There would be a 10.11 percent reduction in shadow as a result of the percentage of TAAS between the total shadow load on the Playground under Alternative E (33.54 percent) and the total shadow load on the Playground under the Proposed Project (43.65 percent). Under Alternative E, the new shadow in square foot hours would be reduced by approximately 47 percent, when compared to the Proposed Project. As shown in Table 17, new shadow load in square foot hours on the Playground under Alternative E between 10:00 a.m. and 1:00 p.m. would be approximately 68 percent less than that on the Playground under the Proposed Project.

Similar to the Proposed Project, Alternative E would result in new shadow throughout the year. However, new shadow cast by Alternative E would be substantially smaller compared to the Proposed Project due to the setbacks above the ground floor of the Capp Street residential component along the northern boundary.

In winter, between 10:00 a.m. and 1:00 p.m., the Playground would be mostly shaded under the Proposed Project. During the winter, under Alternative E, the middle portion of the Playground, including the basketball hoop, kickball diamond, and northern half of the turf field, would remain sunny from 9:00 a.m. until 2:00 p.m. During that same period of the day, the Playground would be mostly shaded under the Proposed Project, except for a small section at the northeastern corner. The largest area of shadow under Alternative E would occur at 1:00 p.m., and would be approximately 4,779 square feet in size. Under the Proposed Project, the largest area of shadow would occur at 12:15 p.m., and would be approximately 10,123 square feet in size. As shown in Table 20, between 10:00 a.m. and 1:00 p.m., total shadow in square foot hours cast by Alternative E (17,066 sfh) would be reduced by approximately 48 percent, compared with the Proposed Project (33,064 sfh). Between 10:00 a.m. to 1:00 p.m., the largest area of shadow under Alternative E would occur at 1:00 p.m., and would be approximately 4,779 square feet in size.

In the autumn/spring, similar to the Proposed Project, new shadow on the Playground under Alternative E would be cast on the southern end of the Playground starting at 9:00 a.m., and would gradually increase for the rest of the day. However, the extent of the shadow would be substantially reduced compared with the Proposed Project. As shown in Table 18, total shadow load would be less under Alternative E (49,940 sfh) than total shadow under the Proposed Project (65,139 sfh). Under Alternative E, the foursquare game area would not be shaded until approximately 4:00 p.m., compared to being shaded throughout the day, after approximately 10:00 a.m. under the Proposed Project (see Exhibits J.1 and J.2). The largest area of shadow in autumn/spring under Alternative E would be 1,246 square feet, and would occur at 1:00 p.m. at the southern edge of the Playground. The largest area of shadow during that time period under the Proposed Project would occur at the same location and time. However, it would be 3,584 square feet in size.

Under Alternative E, in autumn/spring between 10:00 a.m. and 1:00 p.m., the Playground would be shaded along the southern boundary, similar to the Proposed Project. However, the shaded area would be smaller under this alternative, and would not reach the foursquare game area compared to the Proposed Project. As shown in Table 20, total shadow load under Alternative E (5,820 sfh) would be substantially less than that cast by the Proposed Project (12,146 sfh) during the same time period. As shown in Table 19, the largest area of shadow in autumn/spring between 10:00 a.m. and 1:00 p.m. under Alternative E would be 1,246 square feet, and would occur at 1:00 p.m. at the southern edge of the Playground. The largest area of shadow during that time period under the Proposed Project would occur at the same location and time. However, it would be 3,584 square feet in size.

Similar to the Proposed Project, Alternative E would result in a minor area of new shadow along the southern edge of the Playground during summer. Also similar to the Proposed Project, this area would be shaded from approximately 10:00 a.m. until approximately 4:00 p.m. As shown in Table 18, the total shadow load under Alternative E (40,716 sfh) would be less than that under the Proposed Project (43,915 sfh) during summer. New shadow load that would occur

between 10:00 a.m. and 1:00 p.m. under Alternative E (1,108 sfh) would be substantially less than that cast by the Proposed Project (2,655 sfh).

Summary

There would be an 11.46 percent reduction in the shadow as a percentage of TAAS between the total shadow load on the Playground under Alternative E and the total shadow load on the Playground under the Proposed Project. The proposed residential components under Alternative E would result in a new shadow load of 11.46 percent of TAAS. Therefore, the total shadow load on the Playground under Alternative E would be 33.54 percent of TAAS. Alternative E would result in 10.11 percent less shadow in sfh when compared to the Proposed Project. In addition, the new shadow in sfh on the Playground under Alternative E between 10:00 a.m. and 1:00 p.m. would be approximately 68 percent less than that on the Playground under the Proposed Project. The shadow reduction under Alternative E would result from the setbacks above the ground floor of the Capp Street residential component adjacent to the Playground.

Between 10:00 a.m. and 1:00 p.m. during winter, the Playground would be mostly sunny under Alternative E, compared to being mostly shaded under the Proposed Project. During autumn/spring, the Playground would be shaded along the southern boundary, but the foursquare game areas would not be shaded until after approximately 4:00 p.m. under Alternative E, compared to being shaded throughout the day after approximately 10:00 a.m. under the Proposed Project. Because of the setbacks of the Capp Street component under Alternative E, shadow loads during this time period throughout the seasons would be smaller than those cast by the Proposed Project.

Alternative F – Reduced Shadow Alternative 3 – Reduced Mission and Capp Components (70-foot Setback for Capp Component and 40-foot Height Reduction for Mission Component)

Shadow Impacts of Alternative F

Under Alternative F, the northern end of the Capp Street residential component would be set back 70 feet above the ground floor from the north property line, and the height of the Mission Street residential component would be reduced from 105 to 65 feet, compared to the Proposed Project. As presented in Table 21, Alternative F would result in a new shadow load of 8.82 percent of TAAS. The total shadow load on the Playground under Alternative F would be 30.90 percent of TAAS. Exhibits K.1 and K.2 provide graphics of the shadows cast on the Playground and quantified shadow impact results for Alternative F, respectively.

As shown in Table 22, between 10:00 a.m. and 1:00 p.m., new shadow load on the Playground under Alternative F would be 120,308 sfh, with a total shadow load of 182,144 sfh. New shadow during this period would result mostly from the Capp Street residential component.

Table 21
Comparison of Alternative F to the Proposed Project, Shadow Load on Marshall Elementary School Playground

Scenario	Existing Shadow Load (sfh) ¹	Existing Shadow Load as Percentage of TAAS ¹	New Shadow Load (sfh)	New Shadow (Percentage of TAAS) ²	Total Shadow Load (sfh)	Total Shadow Existing + New (Percentage of TAAS)
Existing Shadow Conditions	12,061,131	22.08	N/A	N/A	12,061,131	22.08
Proposed Project	12,061,131	22.08	11,785,129	21.57	23,846,260	43.65 ²
Alternative F	12,061,131	22.08	4,814,316	8.82	16,875,447	30.90 ²
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ The TAAS for the Playground is 54,615,706 sfh. ² New shadow as a percentage of TAAS would be reduced by 12.75 percent under Alternative E when compared to the Proposed Project (21.57 percent of TAAS – 8.82 percent of TAAS).						

Table 22
Shadow Load on Marshall Elementary School Playground Between 10:00 a.m. and 1:00 p.m. Alternative F Compared to the Proposed Project

Scenario	Existing Shadow Load 10 a.m. to 1 p.m. (sfh)	Existing Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	New Shadow Load 10 a.m. to 1 p.m. (sfh)	New Shadow Load 10 a.m. to 1 p.m. (Percentage of TAAS)	Total Shadow Load 10 a.m. to 1 p.m. Existing + New (Percentage of TAAS)
Proposed Project	61,836	0.39	435,156	2.71	3.1
Alternative F	61,836	0.39	120,308	0.75	1.14
Notes: N/A = Not applicable sfh = square foot hours TAAS = Theoretical Available Annual Sunlight ¹ The Playground surface area would remain 14,665 square feet, as under existing conditions. Therefore, the TAAS for the Playground during the 10 a.m. to 1 p.m. time period would be 16,058,175 sfh of available sunlight.					

Alternative F would cast new shadow on the Playground throughout the year, with the largest area of shadow cast on December 20. During winter, as shown in Table 23, Alternative F would result in a new shadow load of 26,562 sfh, and would cast new shadow on the Playground from approximately 8:30 a.m. through 3:54 p.m. The largest new shadow area would be 3,064 square feet at 12:15 p.m. (see Table 24 and Figure 14). Between 9:00 a.m. and 10:00 a.m., both Alternative F and existing buildings would partially shade the Playground, with existing buildings shading the eastern edge of the Playground and Alternative F shading the southern portion of the turf field and most of the foursquare game area. Between 10:00 a.m. and 1:00 p.m. during the winter, Alternative F would continue to shade the same sections of the Playground with no shadow from existing buildings. Between 1:00 p.m. and 2:15 p.m. in the winter, shadow from Alternative F would increase to cover all of the turf field and the foursquare

Table 23
Alternative F – New Shadow Load on the Playground by Season during a Full Day

Season	Alternative F New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Total Shadow Load (sfh)	
			Alternative F	Proposed Project
Summer (June 21)	2,021	5,221	40,715	43,915
Autumn (September 20) Spring (March 22)	12,677	30,984	46,831	65,139
Winter (December 20)	26,562	61,001	53,681	88,120
Notes: sfh = square foot hours				

Table 24
Alternative F – Maximum New Shadow Area on Playground during the 10 a.m. to 1 p.m. hours, by Season

Season	Alternative F		Proposed Project	
	New Shadow Square Feet	Time of Maximum New Shadow	New Shadow Square Feet	Time of Maximum New Shadow
Summer (June 21)	440	12:45	1,063	12:45
Autumn (September 20) Spring (March 22)	1,246	1:00	3,584	1:00
Winter (December 20)	3,064	12:15	10,123	12:15

game area. During that time of the day, shadow from existing buildings would cover the western edge and the northwestern corner of the Playground. By 3:00 p.m. and through the end of the day, the Playground would be fully shaded and shadow would result from both Alternative F and existing buildings (see Exhibit K.1) As shown in Table 25, total shadow load cast by Alternative F between 10:00 a.m. and 1:00 p.m. in winter would be approximately 13,568 sfh.

The new shadow cast by Alternative F in the spring/autumn would cover the southernmost portion of the Playground. However, it would not shade the foursquare game area until approximately 5:00 p.m. During the autumn/spring, from sunrise until 8:00 a.m., existing buildings shade most of the Playground except for its southwestern corner. Alternative F would start to cast shadow on the Playground by 9:00 a.m., and would shade the edge of the Playground's southern boundary until 3:00 p.m. The largest shadow area cast by Alternative F in the autumn/spring would be 1,246 square feet and would occur at 1:00 p.m. As shown in Table 25, total shadow load cast by Alternative F between 10:00 a.m. and 1:00 p.m. in the autumn/spring would be approximately 5,820 sfh. The new shadow between sunrise and 1:00 p.m. would result from the Capp Street residential component.



Source: CADP

Figure 14. Alternative F – Maximum new shadow by square foot

Table 25

Alternative F – Shadow Load on Playground by Season, from 10:00 a.m. to 1:00 p.m.

Season	Alternative F New Shadow Load (sfh)	Proposed Project New Shadow Load (sfh)	Total Shadow Load (sfh)	
			Alternative F	Proposed Project
Summer (June 21)	1,108	2,655	2,171	3,718
Autumn (September 20) Spring (March 22)	3,865	10,191	5,820	12,146
Winter (December 20)	9,546	29,842	13,568	33,864
Notes: sfh = square foot hours				

During the summer, from sunrise until approximately 8:00 a.m., existing buildings shade the Playground, covering the basketball hoop, the kickball diamond, the foursquare game area, and part of the turf field. Between 9:00 a.m. and 3:00 p.m., the Playground would be fully sunny during the summer under Alternative F, except for the edge of its southern boundary that would be shaded. The largest area of shadow cast by Alternative F during the summer would be 440 square feet and would occur at 12:45 p.m. By 3:00 p.m. in the summer, existing buildings start gradually shading the Playground along its western boundary to fully shade it by 7:00 p.m. (see Exhibit K.1). As shown in Table 25, between 10:00 a.m. and 1:00 p.m. in the summer, the total shadow cast by Alternative F would be 2,171 sfh.

Shadow Impacts of Alternative F Compared to the Proposed Project

Under Alternative F, the new shadow load as a percentage of TAAS would be reduced by approximately 13 percent, when compared to the Proposed Project (see Table 21). As shown in Table 22, new shadow load in sfh on the Playground under Alternative F between 10:00 a.m. and 1:00 p.m. would be approximately 72 percent less than that on the Playground under the Proposed Project.

Similar to the Proposed Project, Alternative F would result in new shadow throughout the year. However, new shadow cast by Alternative F would be substantially smaller due to the setbacks from the north property line above the ground floor of the northeastern corner of the Capp Street residential component, as well as the reduction in height of the Mission Street component from 105 feet to 65 feet.

The shadow reduction under Alternative F in winter would primarily occur between 10:00 a.m. and 1:00 p.m. In winter, between 10:00 a.m. and 1:00 p.m., the Playground would be mostly shaded under the Proposed Project. Under Alternative F, the Playground would be mostly sunny during this timeframe, with the middle portion of the Playground—including the basketball hoop, kickball diamond, and turf field—being sunnier compared with the Proposed Project. The largest area of shadow would occur at 12:15 p.m. under either Alternative F or the Proposed Project. However, the largest shadow area would be approximately 3,064 square feet under Alternative F, compared with approximately 10,123 square feet under the Proposed Project. As shown in Table 25, between 10:00 a.m. and 1:00 p.m., total shadow load cast by Alternative F (13,568 sfh) would be reduced by approximately two-thirds, compared with the Proposed Project (33,864 sfh).

In autumn/spring, similar to the Proposed Project, Alternative F would result in new shadow throughout the day along the southern portion of the Playground; however, the extent of the shadow would be substantially less than that under the Proposed Project. Under Alternative F, the foursquare game area would not be shaded until approximately 4:00 p.m., compared to being shaded throughout the day after approximately 10:00 a.m. under the Proposed Project (see Exhibits J.1 and J.2). As shown in Table 24, the largest area of shadow in autumn/spring under Alternative F would be 1,246 square feet, and would occur at 1:00 p.m. The largest area of shadow during that time period under the Proposed Project would be 3,584 square feet.

As shown in Table 23, total shadow load would be less under Alternative F (46,831 sfh) than under the Proposed Project (65,139 sfh). As shown in Table 25, between 10:00 a.m. and 1:00 p.m., new shadow load under Alternative F (3,865 sfh) would be substantially less than that cast by the Proposed Project (10,191 sfh) during the same time period.

Similar to the Proposed Project, new shadow under Alternative F that would occur in the morning in the autumn/spring would result from the Capp Street residential component. Similar to the Proposed Project, Alternative F would result in minimal new shadow along the southern edge of the Playground during summer, and would start at approximately 10:00 a.m. and stay until approximately 4:00 p.m. As shown in Table 23, the new shadow load under Alternative F (40,715 sfh) would be less than that under the Proposed Project (43,915 sfh). Total shadow load that would occur between 10:00 a.m. and 1:00 p.m. under Alternative F (2,171 sfh) would be substantially less than the total shadow under the Proposed Project (3,718 sfh), as shown in Table 25.

Summary

The proposed residential components under Alternative F would result in a new shadow load of 8.82 percent of TAAS. The total shadow load on the Playground under Alternative F would be 30.90 percent of TAAS. Alternative F would result in 12.75 percent less new shadow as a percentage of TAAS when compared to the Proposed Project (see Table 21). New shadow load in sfh on the Playground under Alternative F between 10:00 a.m. and 1:00 p.m. would be approximately 72.35 percent less than that on the Playground under the Proposed Project. The shadow reduction under Alternative F would result from the 70-foot setback above the ground floor at the northeastern corner of the Capp Street residential component adjacent to the Playground, as well as the reduction in height of the Mission Street residential component from 105 feet to 65 feet.

Between 10:00 a.m. and 1:00 p.m. during winter, the Playground would be mostly sunny under Alternative F, compared to being mostly shaded under the Proposed Project. During autumn/spring, the Playground would be shaded along the southern boundary, but the foursquare game areas would not be shaded until after approximately 4:00 p.m. under Alternative F, compared to being shaded throughout the day after approximately 10:00 a.m. under the Proposed Project. Because of the 70-foot setback of the Capp Street component under Alternative F, shadow loads during this time period throughout the seasons would be smaller than those cast by the Proposed Project.

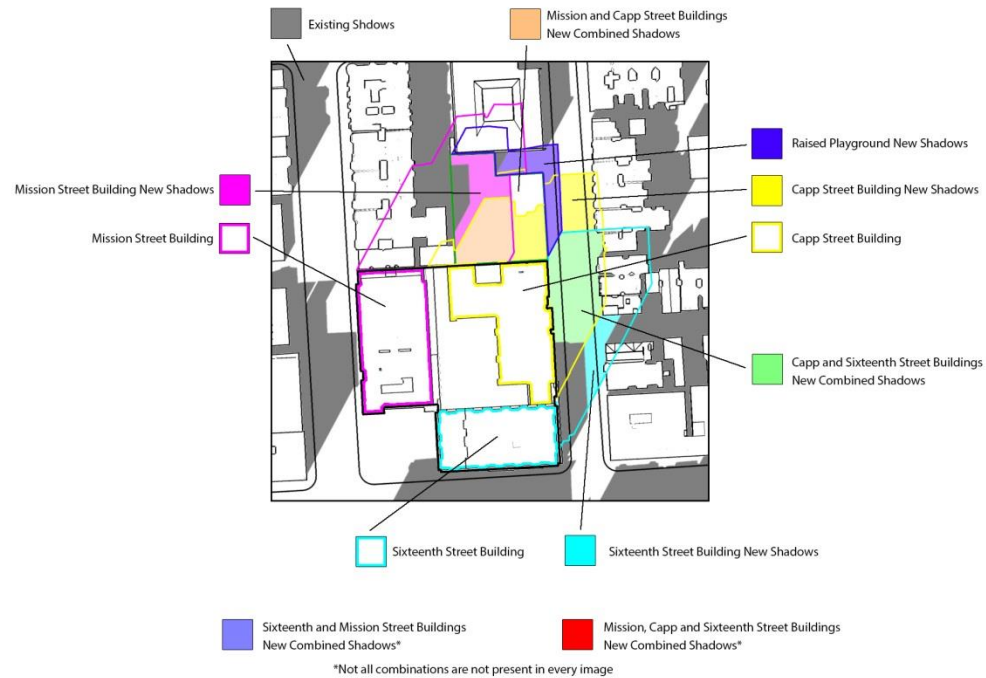
6 Exhibits

- Exhibit H.1 and H.2, Alternative C
- Exhibit I.1 and I.2, Alternative D
- Exhibit J.1 and J.2, Alternative E
- Exhibit K.1 and K.2, Alternative F

EXHIBIT H.1

1979 Mission Street Shadow Projection Graphics

ALTERNATIVE C
(Raised Playground)



1979 Mission Street Shadow Projections Key



1979 Mission Street
June 21 Sunrise +1 Hour

- | | | |
|---|--|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copmbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | Raised Playground Shadows | Existing Shadows |



1979 Mission Street
June 21 7:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copbined Shadows
- Existing Shadows





1979 Mission Street
June 21 8:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

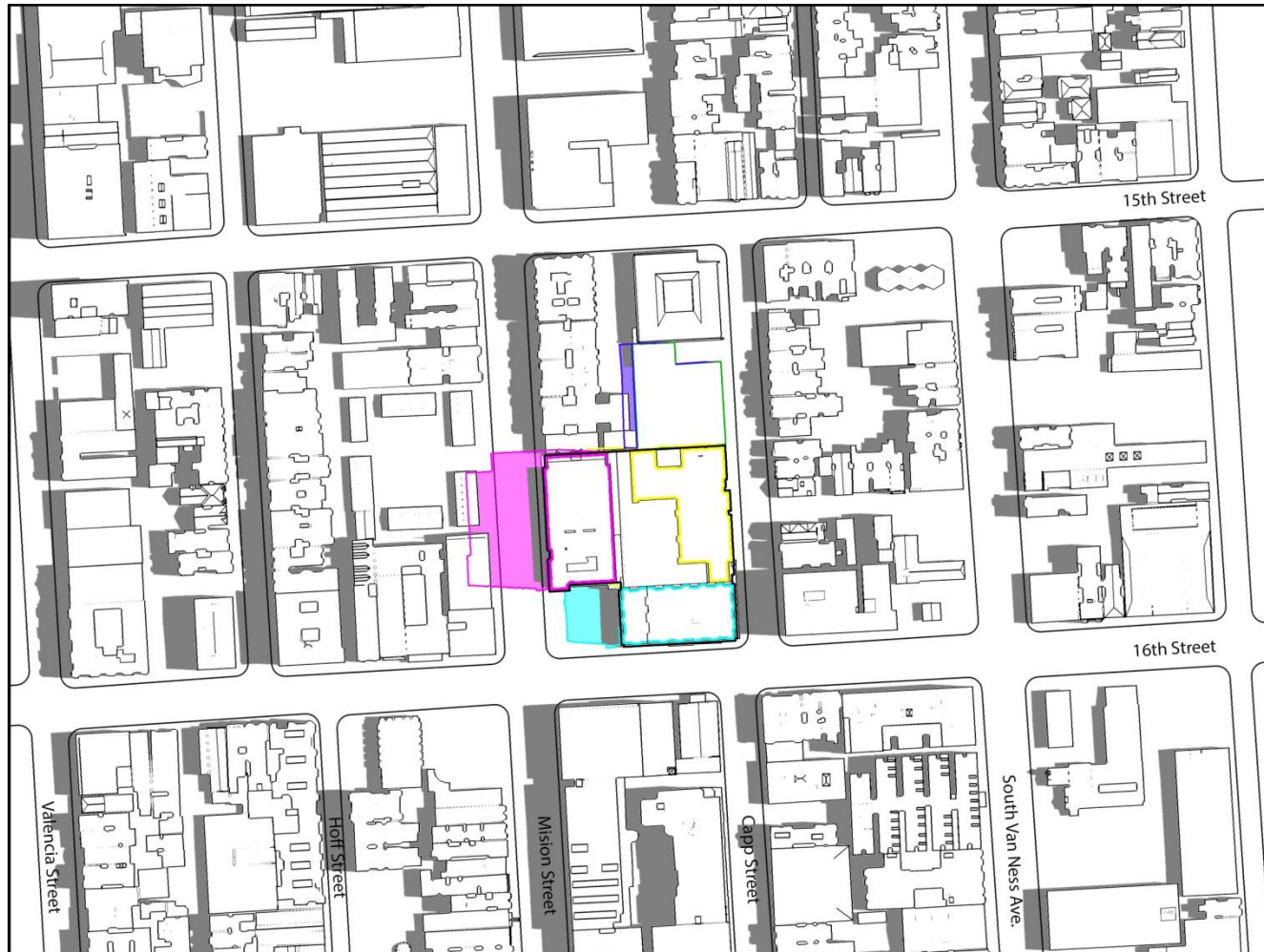




1979 Mission Street
June 21 9:00 am

- | | | |
|--|---|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copmbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | Raised Playground Shadows | Existing Shadows |

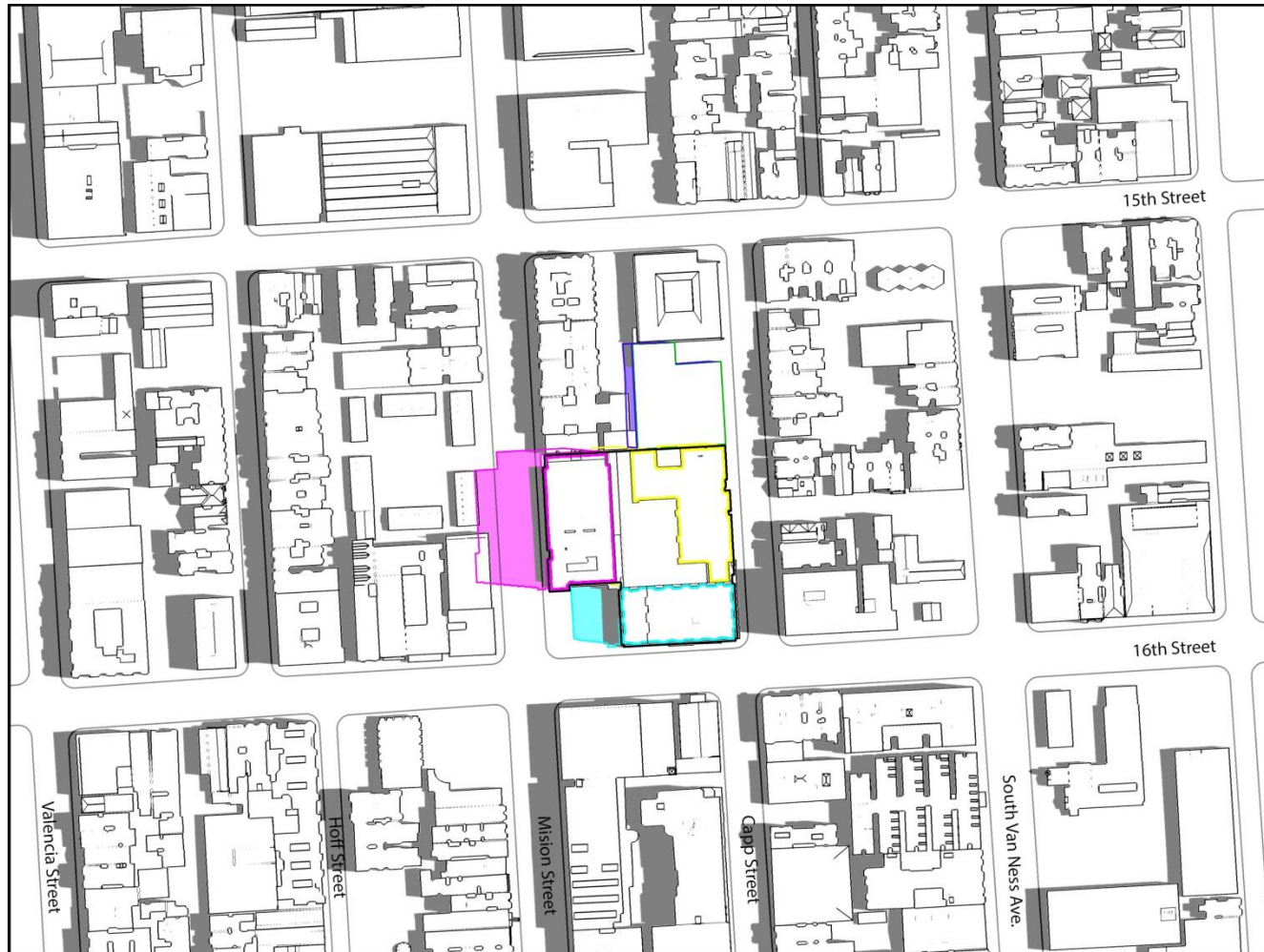




1979 Mission Street
June 21 9:45 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copbined Shadows
- Existing Shadows





1979 Mission Street
June 21 10:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows

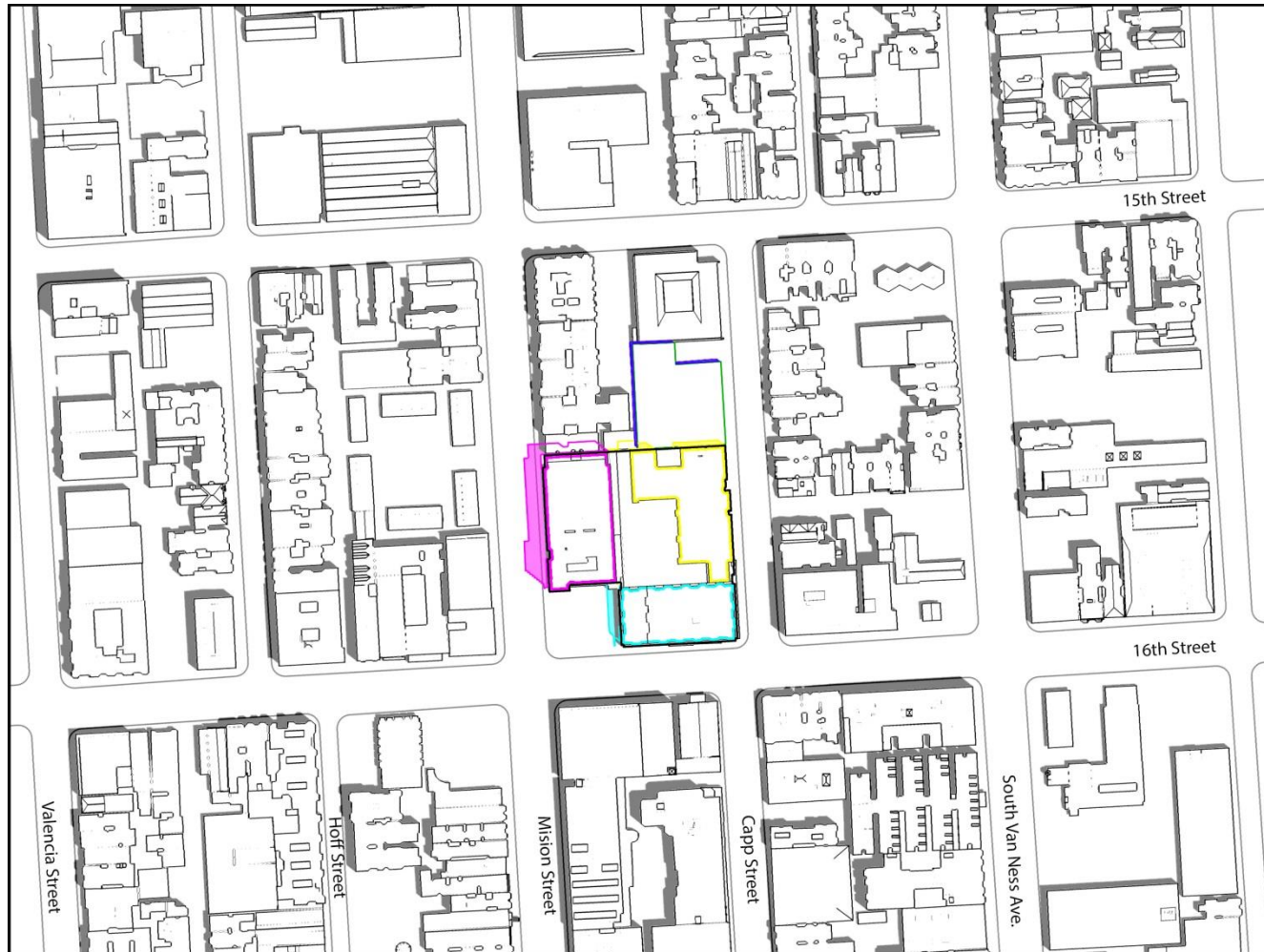




1979 Mission Street
June 21 11:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copbined Shadows
- Existing Shadows





1979 Mission Street
June 21 12:00 noon

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
June 21 1:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

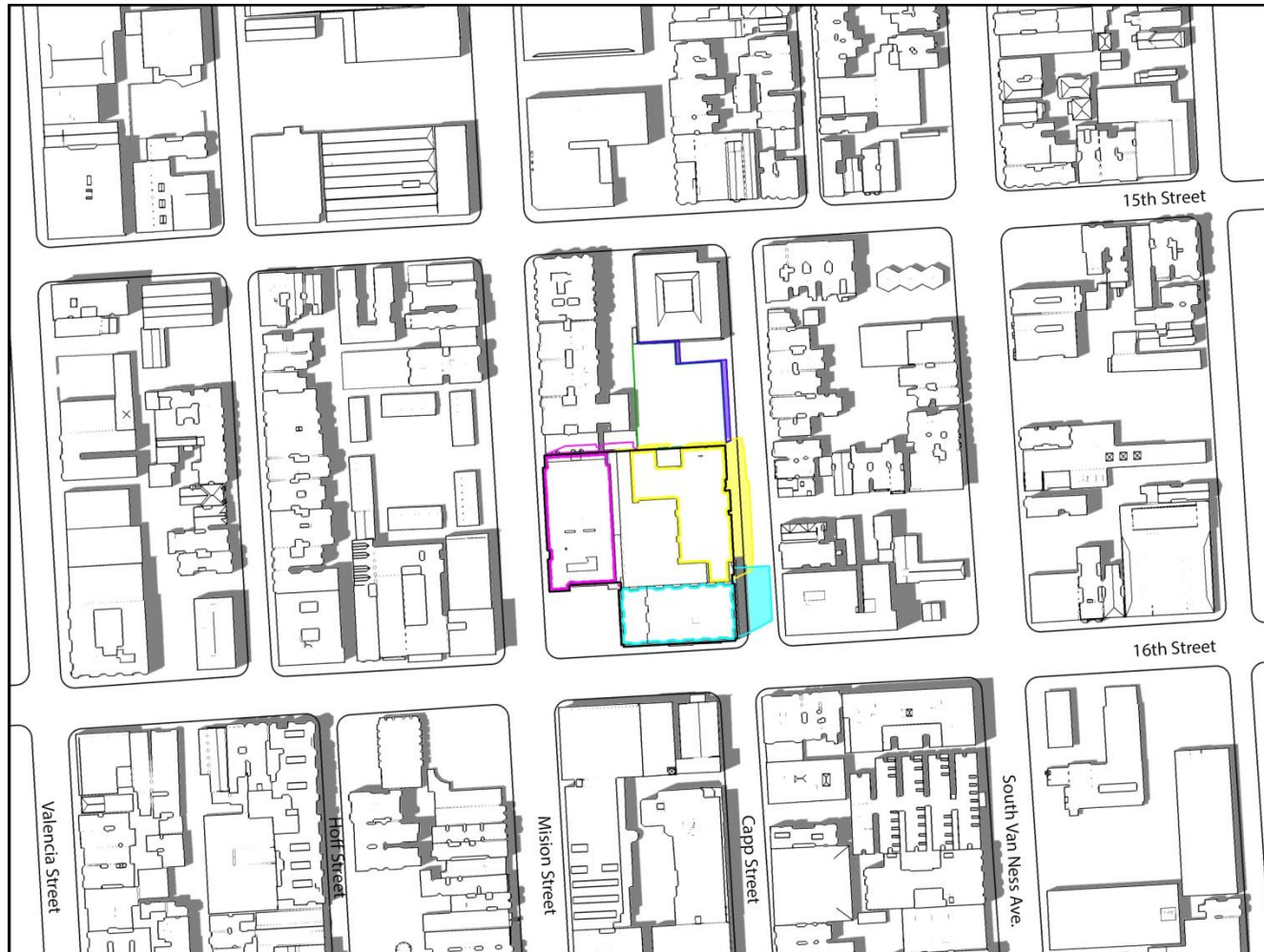




1979 Mission Street
June 21 2:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

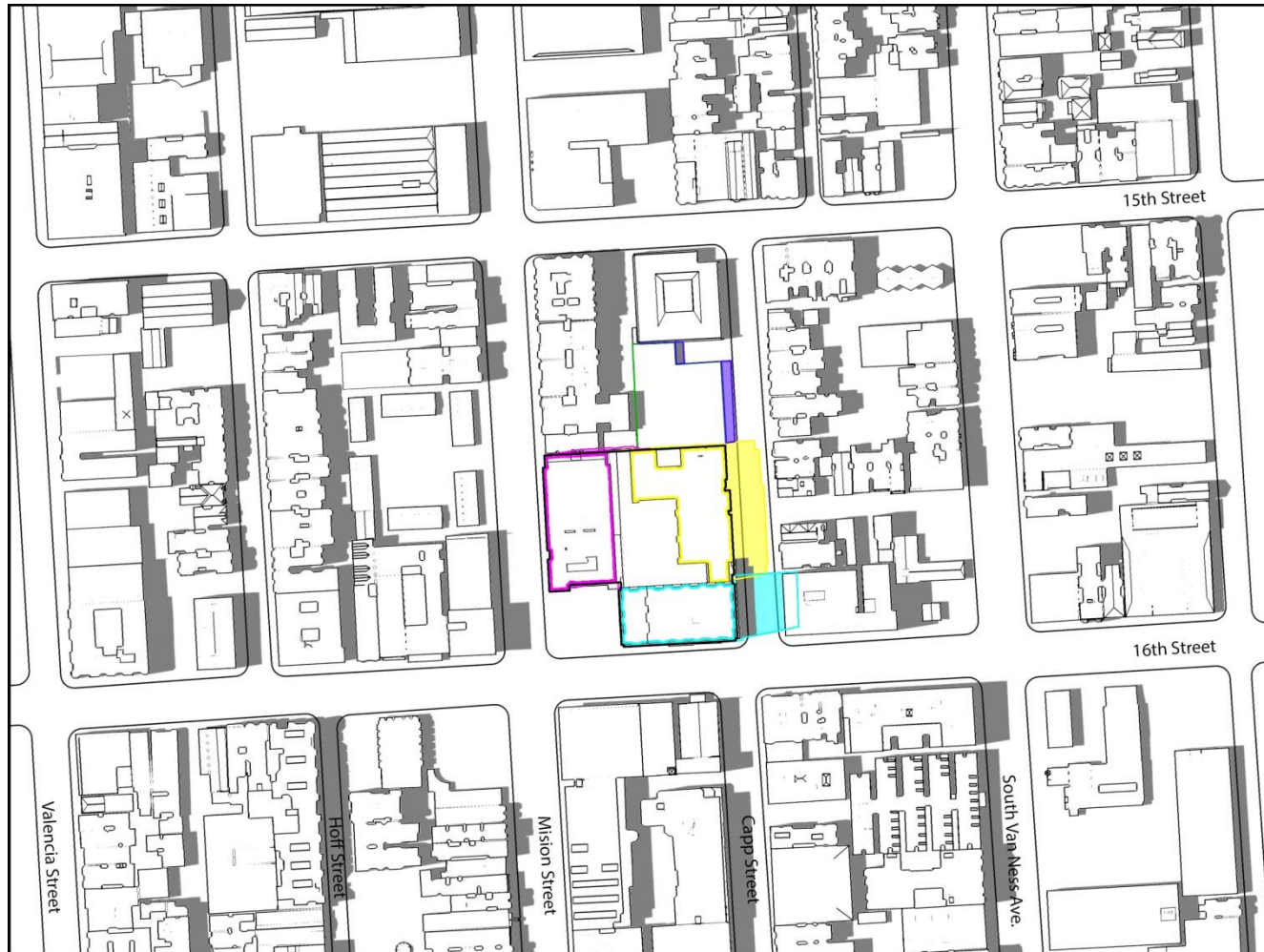




1979 Mission Street
June 21 3:00 pm

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

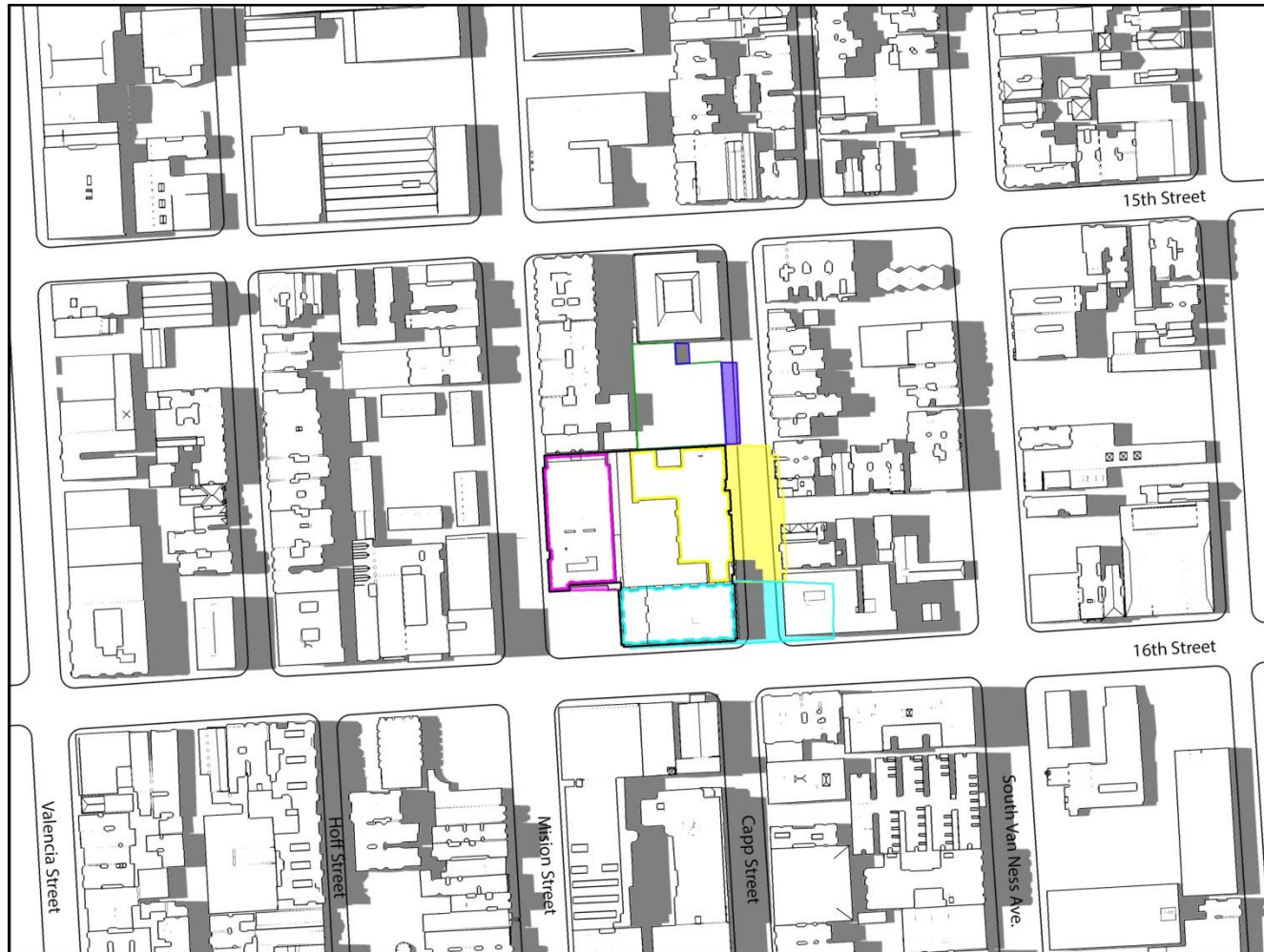




1979 Mission Street
June 21 4:00 pm

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

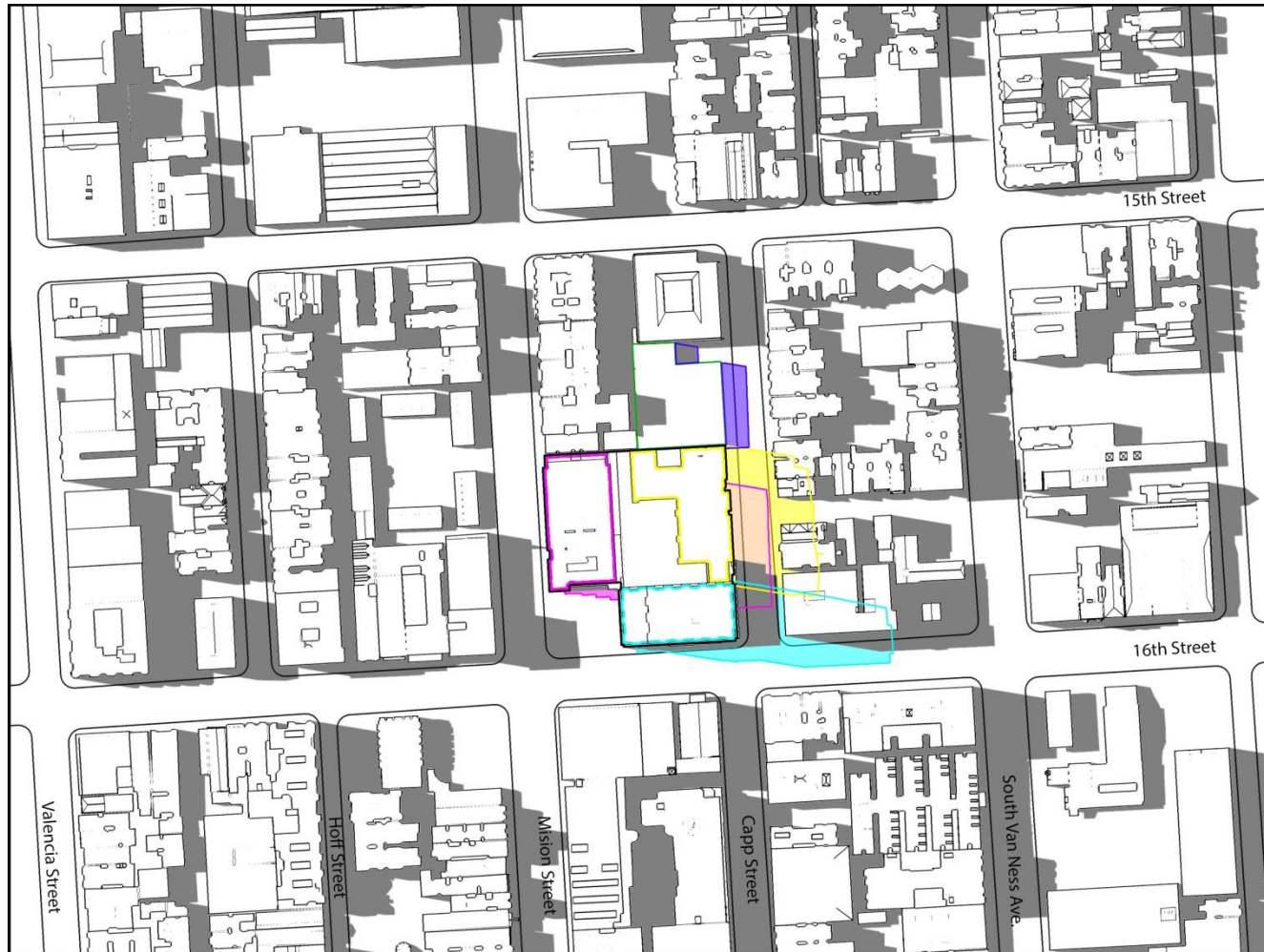




1979 Mission Street
June 21 5:00 pm

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
June 21 6:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

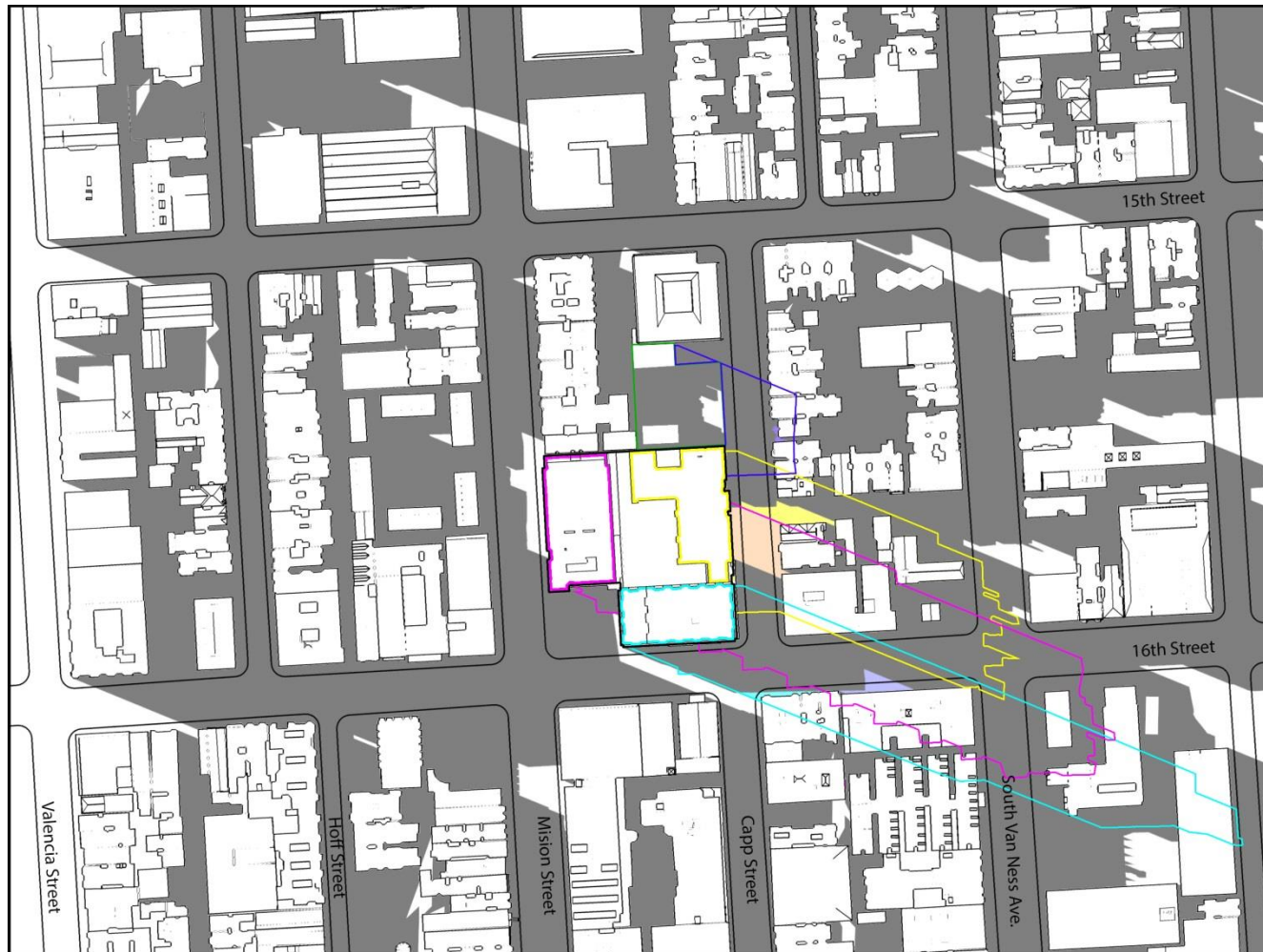




1979 Mission Street
June 21 7:00 pm

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|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

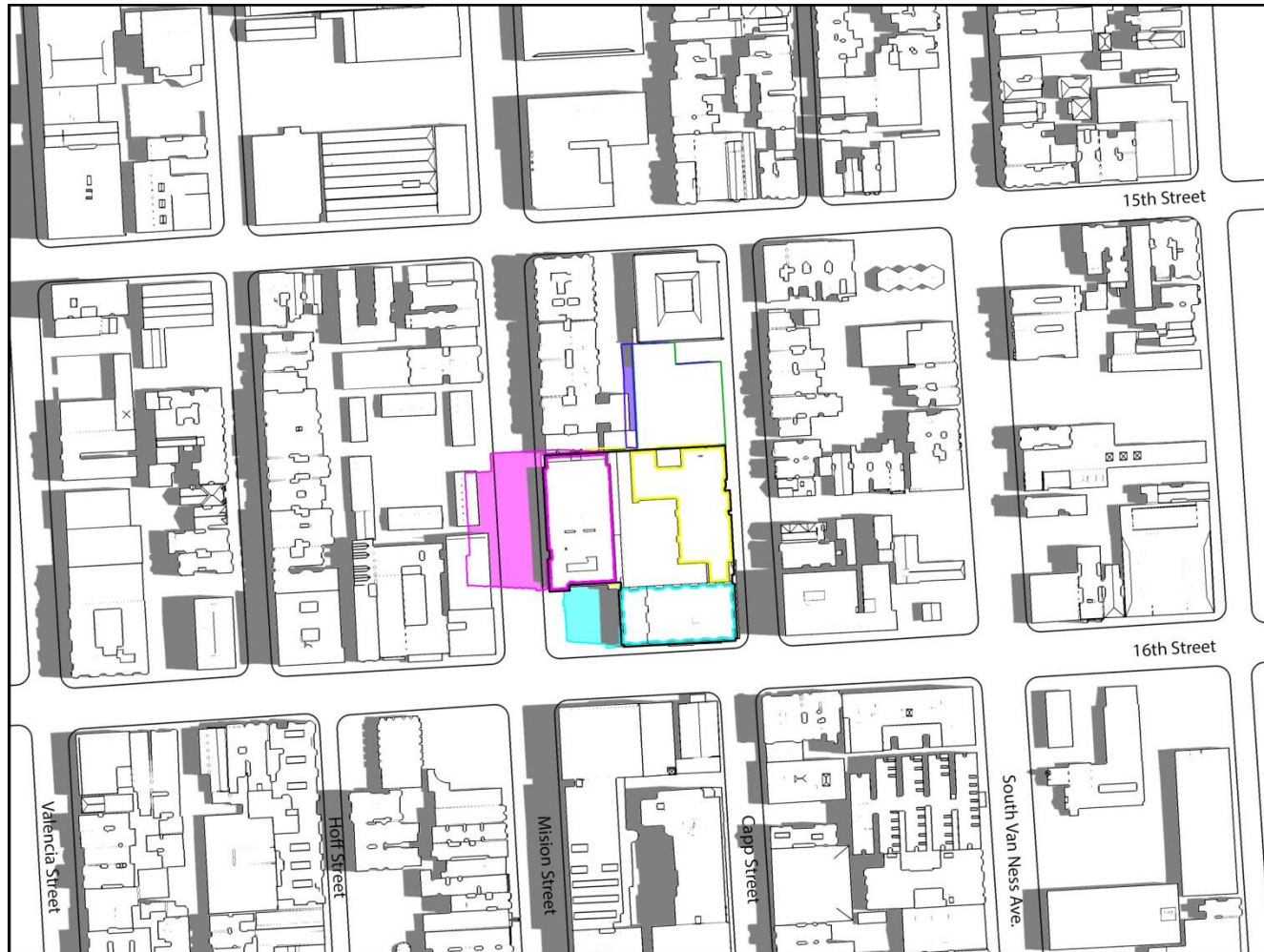




1979 Mission Street
June 21 Sunset -1 Hour

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
June 28 9:45 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
September 20 Sunrise +1 Hour

- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 8:00 am

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|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 9:00 am

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

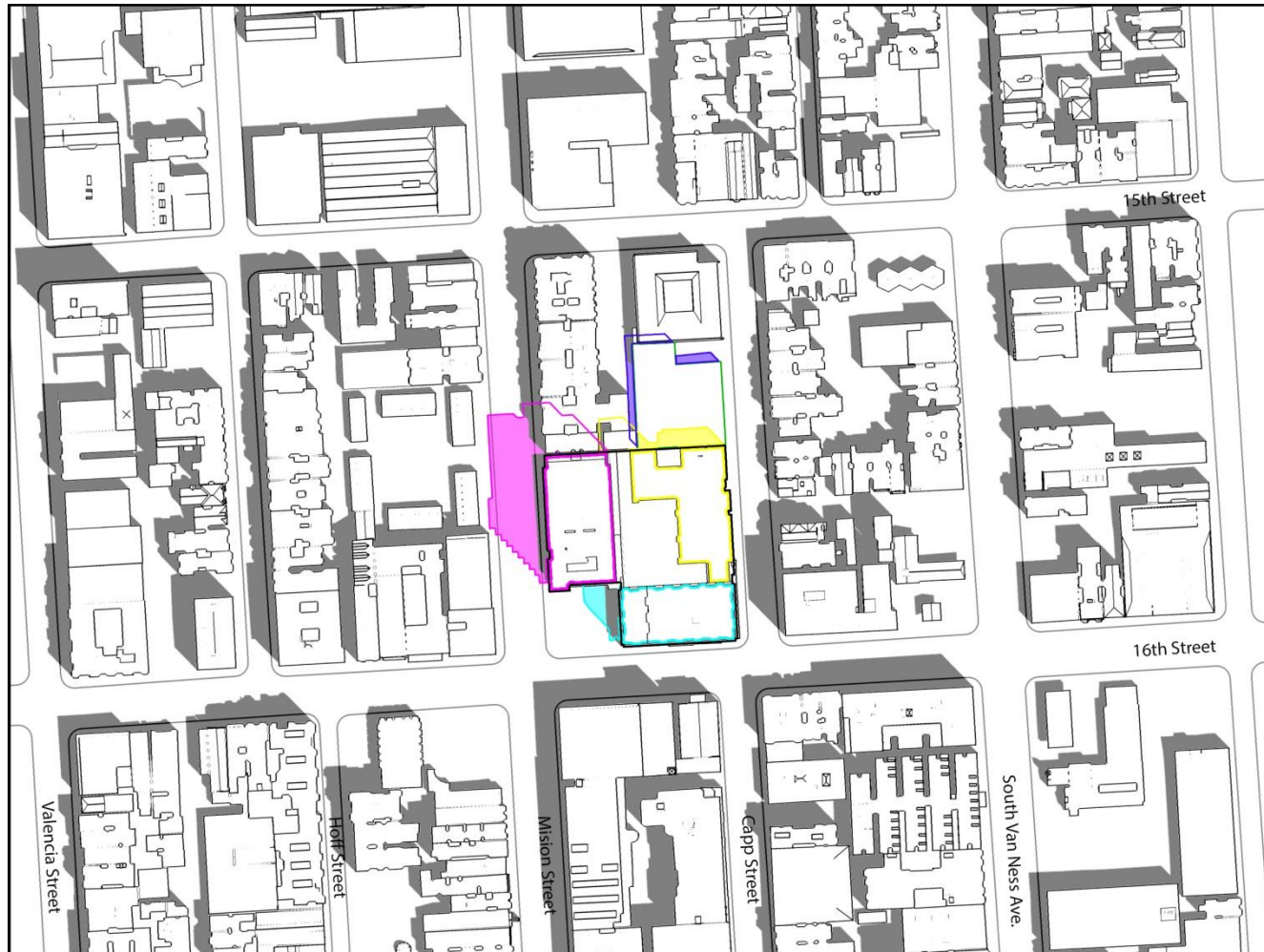




1979 Mission Street
September 20 10:00 am

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

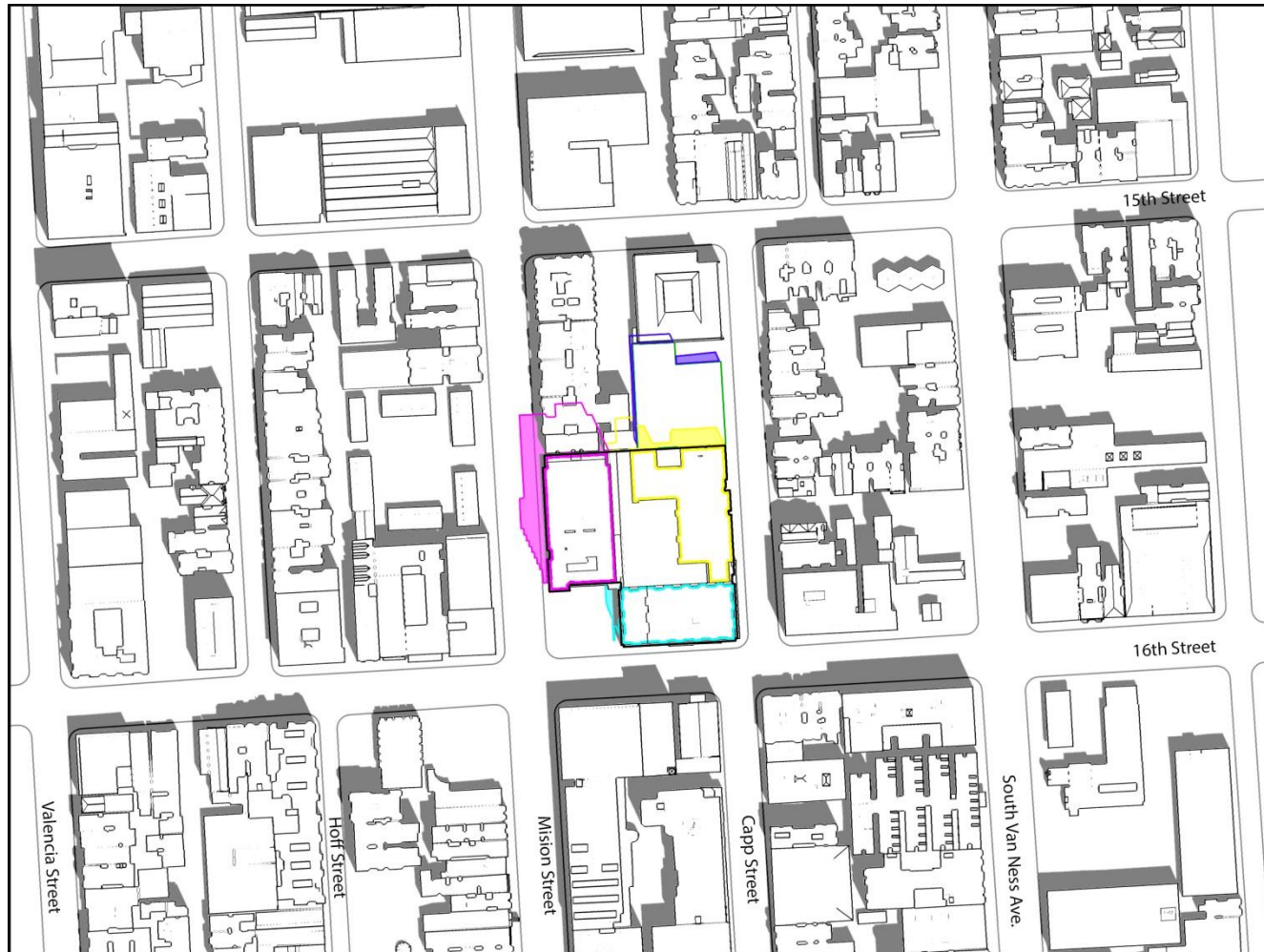




1979 Mission Street
September 20 11:00 am

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|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

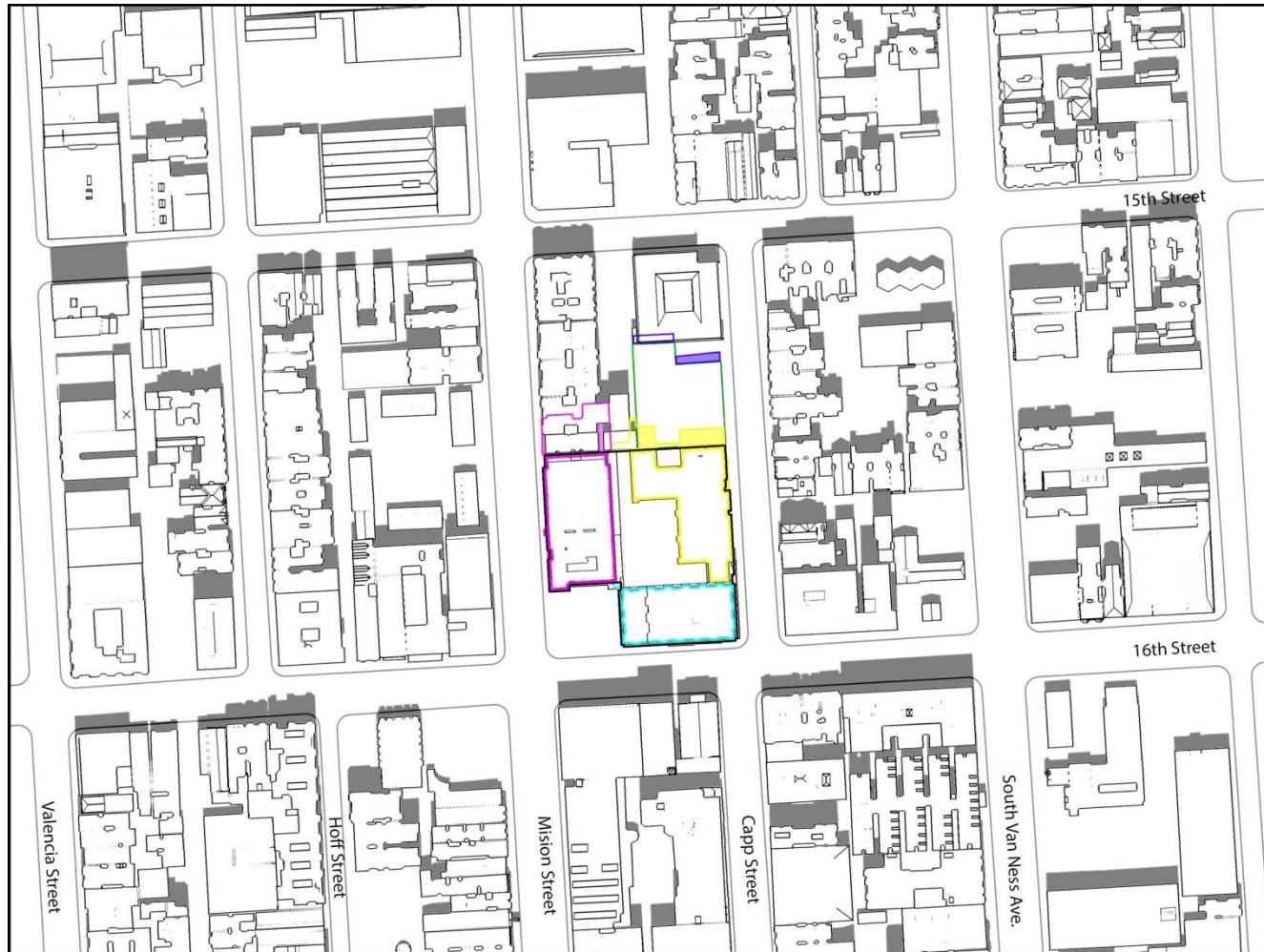




1979 Mission Street
September 20 12:00 noon

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

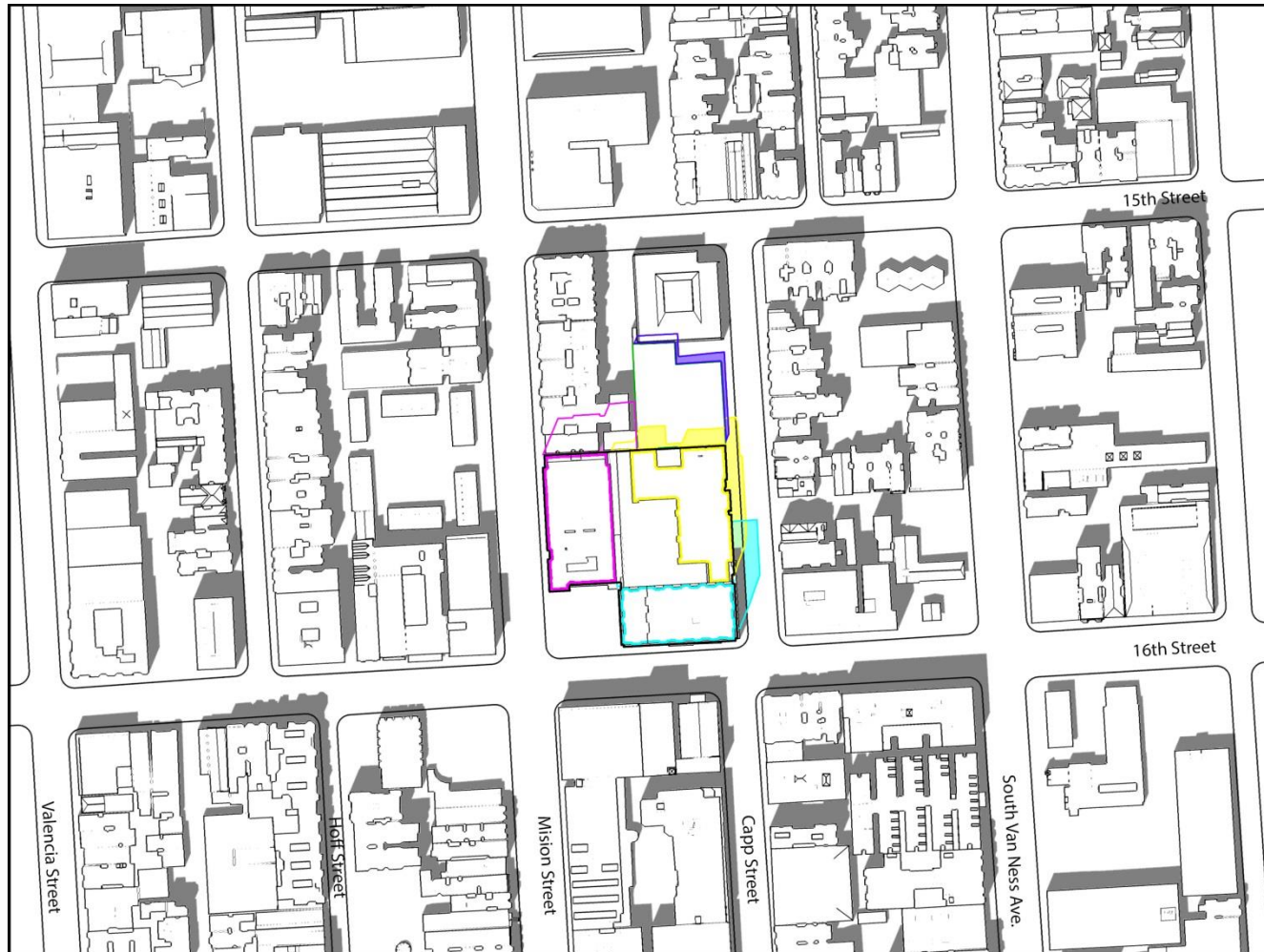




1979 Mission Street
September 20 1:00 pm

- | | | |
|--|---|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copmbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | Raised Playground Shadows | Existing Shadows |

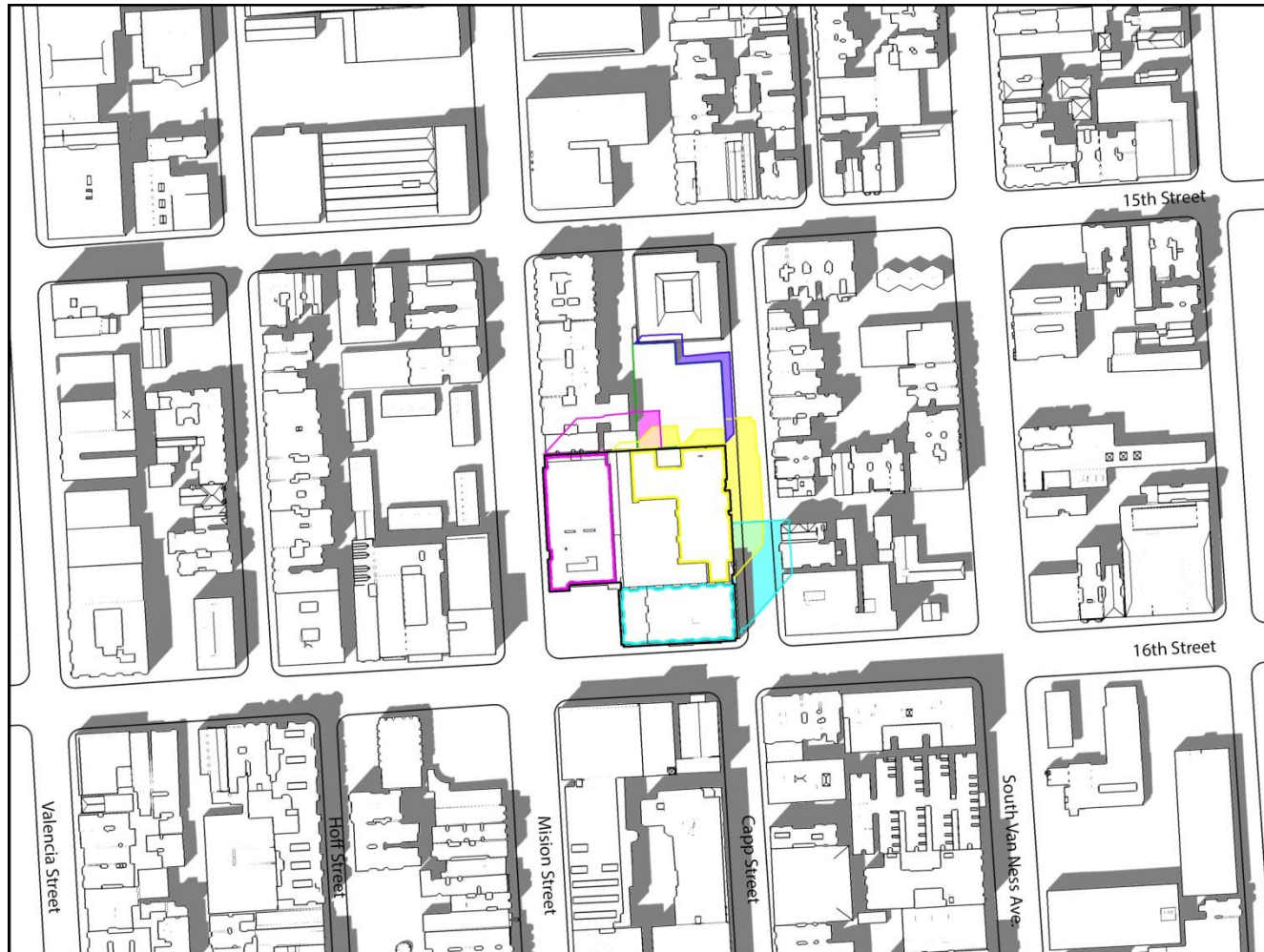




1979 Mission Street
September 20 2:00 pm

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 3:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 4:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |

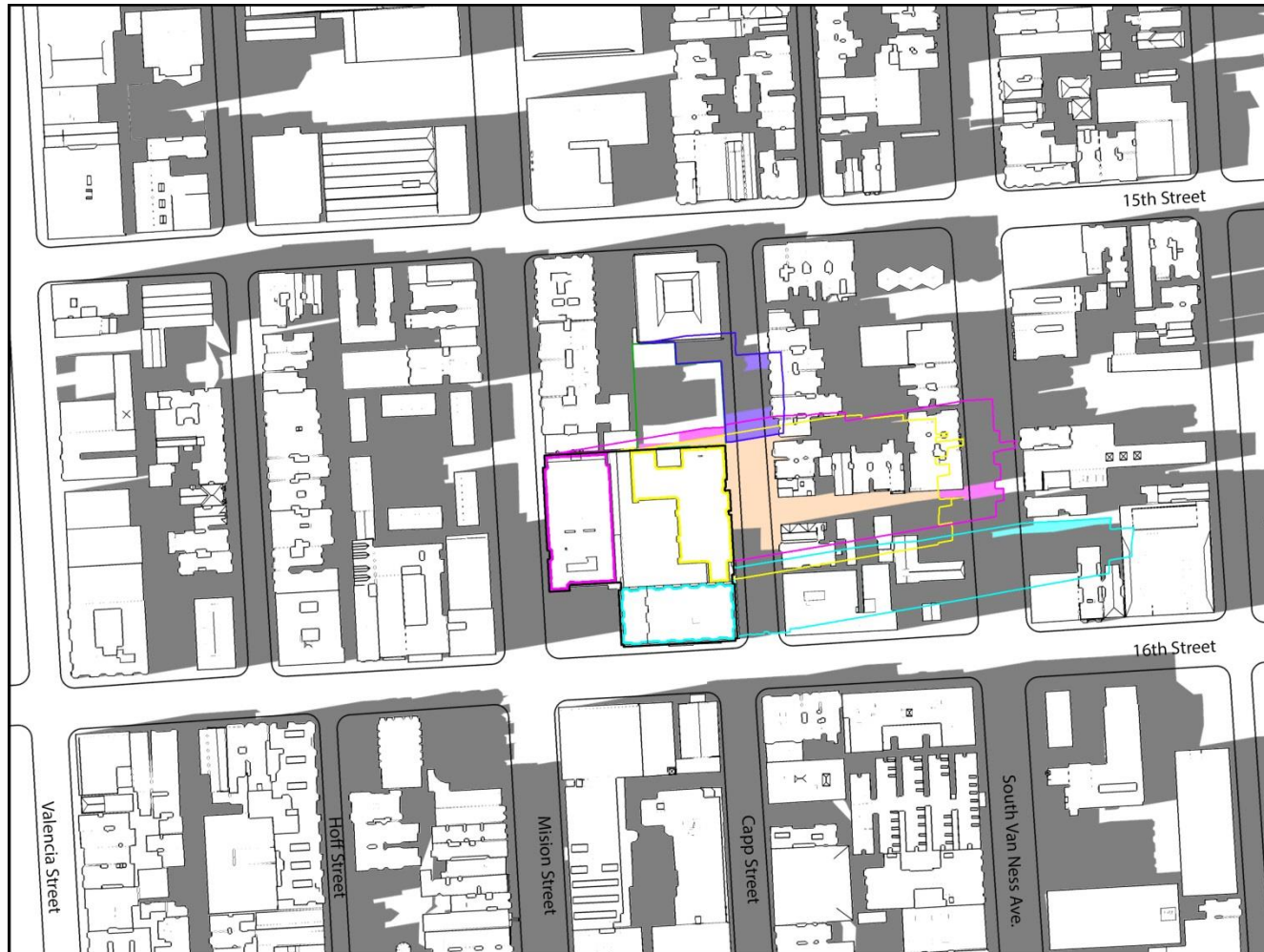




1979 Mission Street
September 20 5:00 pm

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| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 6:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
September 20 Sunset -1 Hour

- | | | |
|--|--|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
November 29 8:30 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
December 20 Sunrise +1 Hour

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |



1979 Mission Street
December 20 9:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
December 20 10:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
December 20 11:00 am

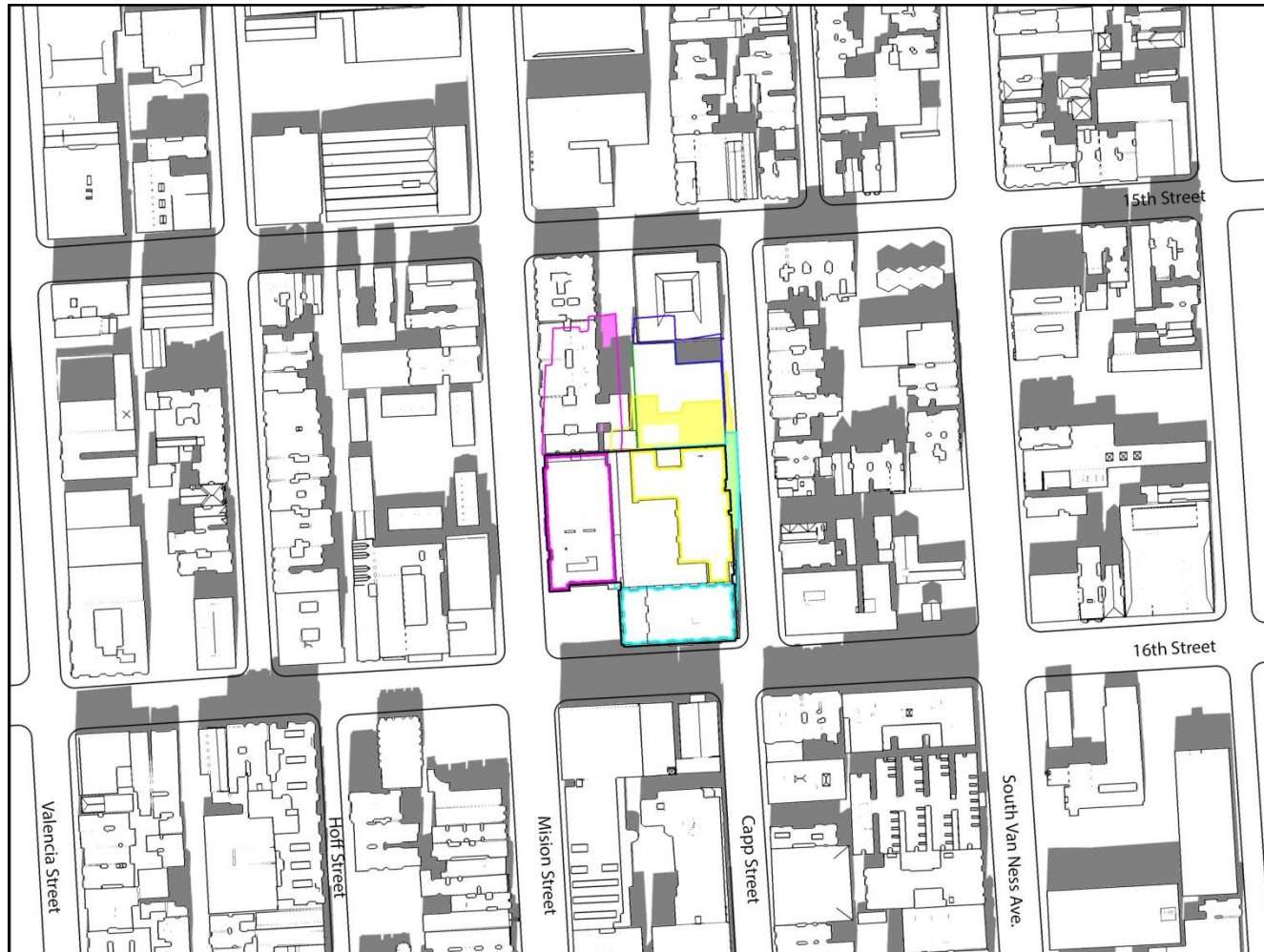
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|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
December 20 12:00 noon

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows



1979 Mission Street
December 20 12:15 noon

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
December 20 1:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
December 20 2:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | ■ Raised Playground Shadows | ■ Existing Shadows |





1979 Mission Street
December 20 2:30 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
December 20 3:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Raised Playground Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
December 20 Sunset -1 Hour

- | | | |
|---|---|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | Raised Playground Shadows | Existing Shadows |

EXHIBIT H.2

Summary of Results - 1979 Mission Street - ALTERNATIVE C RAISED
PLAYGROUND - Upper Level Only - Marshall Elementary School
Playground

cadp annualized net new shadow	11,203,056.77 Sq ft hrs
Annual Available Sunlight (AAS), based on City's AAS Factor	53,471,430.85 Sq ft hrs
Annual Shadow Increase as a Percentage of AAS	20.951%

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
21-Jun	None	06.21 09:15:00	0:15:00		6.46	1.62	3.23	0.81
		06.21 09:30:00	0:15:00		4.47	1.12	90.47	22.62
		06.21 09:45:00	0:15:00		3.23	0.81	184.68	46.17
		06.21 10:00:00	0:15:00		1.49	0.37	260.73	65.18
		06.21 10:15:00	0:15:00		0.99	0.25	332.81	83.20
		06.21 10:30:00	0:15:00		0.75	0.19	385.51	96.38
		06.21 10:45:00	0:15:00		0.50	0.12	441.93	110.48
		06.21 11:00:00	0:15:00		0.50	0.12	480.70	120.18
		06.21 11:15:00	0:15:00		0.25	0.06	530.91	132.73
		06.21 11:30:00	0:15:00		0.25	0.06	557.01	139.25
		06.21 11:45:00	0:15:00		0.25	0.06	598.02	149.51
		06.21 12:00:00	0:15:00		0.25	0.06	608.71	152.18
		06.21 12:15:00	0:15:00		0.00	0.00	641.27	160.32
		06.21 12:30:00	0:15:00		0.00	0.00	638.04	159.51
		06.21 12:45:00	0:15:00		0.00	0.00	666.87	166.72
		06.21 13:00:00	0:15:00		0.00	0.00	650.47	162.62
		06.21 13:15:00	0:15:00		0.00	0.00	670.10	167.53
		06.21 13:30:00	0:15:00		0.00	0.00	651.96	162.99
		06.21 13:45:00	0:15:00		0.00	0.00	669.11	167.28
		06.21 14:00:00	0:15:00		0.25	0.06	636.55	159.14
		06.21 14:15:00	0:15:00		0.25	0.06	636.30	159.07
		06.21 14:30:00	0:15:00		23.36	5.84	589.32	147.33
		06.21 14:45:00	0:15:00		112.60	28.15	563.47	140.87
		06.21 15:00:00	0:15:00		207.05	51.76	498.85	124.71
		06.21 15:15:00	0:15:00		301.99	75.50	446.40	111.60
		06.21 15:30:00	0:15:00		404.40	101.10	361.15	90.29
		06.21 15:45:00	0:15:00		511.28	127.82	278.63	69.66
		06.21 16:00:00	0:15:00		621.88	155.47	178.96	44.74
		06.21 16:15:00	0:15:00	7:15:00	739.94	184.99	65.87	16.47
								3,329.50
28-Jun	14-Jun	06.28 09:15:00	0:15:00		6.21	1.55	2.49	0.62
		06.28 09:30:00	0:15:00		4.72	1.18	91.22	22.81
		06.28 09:45:00	0:15:00		3.48	0.87	186.17	46.54
		06.28 10:00:00	0:15:00		1.74	0.44	262.97	65.74
		06.28 10:15:00	0:15:00		0.99	0.25	335.30	83.83
		06.28 10:30:00	0:15:00		0.75	0.19	388.99	97.25
		06.28 10:45:00	0:15:00		0.50	0.12	445.66	111.41
		06.28 11:00:00	0:15:00		0.50	0.12	484.93	121.23
		06.28 11:15:00	0:15:00		0.25	0.06	534.89	133.72
		06.28 11:30:00	0:15:00		0.25	0.06	562.23	140.56
		06.28 11:45:00	0:15:00		0.25	0.06	603.24	150.81
		06.28 12:00:00	0:15:00		0.25	0.06	615.92	153.98
		06.28 12:15:00	0:15:00		0.00	0.00	649.72	162.43
		06.28 12:30:00	0:15:00		0.00	0.00	647.23	161.81
		06.28 12:45:00	0:15:00		0.00	0.00	674.08	168.52
		06.28 13:00:00	0:15:00		0.00	0.00	659.66	164.92
		06.28 13:15:00	0:15:00		0.00	0.00	676.81	169.20
		06.28 13:30:00	0:15:00		0.00	0.00	661.15	165.29
		06.28 13:45:00	0:15:00		0.00	0.00	679.55	169.89
		06.28 14:00:00	0:15:00		0.25	0.06	646.99	161.75
		06.28 14:15:00	0:15:00		0.25	0.06	647.48	161.87
		06.28 14:30:00	0:15:00		17.15	4.29	602.25	150.56
		06.28 14:45:00	0:15:00		105.64	26.41	577.39	144.35
		06.28 15:00:00	0:15:00		196.61	49.15	514.75	128.69
		06.28 15:15:00	0:15:00		292.80	73.20	464.55	116.14
		06.28 15:30:00	0:15:00		395.70	98.92	381.53	95.38
		06.28 15:45:00	0:15:00		501.83	125.46	301.00	75.25
		06.28 16:00:00	0:15:00		616.66	154.17	201.58	50.39
		06.28 16:15:00	0:15:00	7:15:00	731.49	182.87	91.47	22.87
								3,397.79
5-Jul	7-Jul	07.05 09:15:00	0:15:00		5.47	1.37	10.94	2.73

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day	
		07.05 09:30:00	0:15:00		4.97	1.24	107.38	26.84	
		07.05 09:45:00	0:15:00		2.73	0.68	209.28	52.32	
		07.05 10:00:00	0:15:00		1.74	0.44	286.33	71.58	
		07.05 10:15:00	0:15:00		0.75	0.19	359.66	89.91	
		07.05 10:30:00	0:15:00		0.75	0.19	413.35	103.34	
		07.05 10:45:00	0:15:00		0.50	0.12	471.26	117.81	
		07.05 11:00:00	0:15:00		0.50	0.12	512.27	128.07	
		07.05 11:15:00	0:15:00		0.25	0.06	559.25	139.81	
		07.05 11:30:00	0:15:00		0.25	0.06	588.58	147.14	
		07.05 11:45:00	0:15:00		0.25	0.06	629.34	157.33	
		07.05 12:00:00	0:15:00		0.25	0.06	640.27	160.07	
		07.05 12:15:00	0:15:00		0.00	0.00	674.33	168.58	
		07.05 12:30:00	0:15:00		0.00	0.00	673.58	168.40	
		07.05 12:45:00	0:15:00		0.00	0.00	701.17	175.29	
		07.05 13:00:00	0:15:00		0.00	0.00	685.76	171.44	
		07.05 13:15:00	0:15:00		0.00	0.00	704.90	176.22	
		07.05 13:30:00	0:15:00		0.00	0.00	690.48	172.62	
		07.05 13:45:00	0:15:00		0.00	0.00	708.38	177.09	
		07.05 14:00:00	0:15:00		0.25	0.06	679.79	169.95	
		07.05 14:15:00	0:15:00		0.25	0.06	682.03	170.51	
		07.05 14:30:00	0:15:00		12.93	3.23	638.04	159.51	
		07.05 14:45:00	0:15:00		99.42	24.86	615.67	153.92	
		07.05 15:00:00	0:15:00		195.86	48.97	553.28	138.32	
		07.05 15:15:00	0:15:00		293.05	73.26	505.56	126.39	
		07.05 15:30:00	0:15:00		393.96	98.49	423.78	105.95	
		07.05 15:45:00	0:15:00		500.84	125.21	345.99	86.50	
		07.05 16:00:00	0:15:00		613.18	153.30	250.79	62.70	
		07.05 16:15:00	0:15:00		732.74	183.18	145.16	36.29	
		07.05 16:30:00	0:15:00	7:30:00	857.26	214.32	13.67	3.42	3,616.64
		12-Jul	31-May	07.12 09:15:00	0:15:00		5.72	1.43	49.96
		07.12 09:30:00	0:15:00		4.97	1.24	154.60	38.65	
		07.12 09:45:00	0:15:00		1.99	0.50	255.51	63.88	
		07.12 10:00:00	0:15:00		0.99	0.25	332.81	83.20	
		07.12 10:15:00	0:15:00		0.75	0.19	405.64	101.41	
		07.12 10:30:00	0:15:00		0.50	0.12	457.84	114.46	
		07.12 10:45:00	0:15:00		0.50	0.12	516.74	129.19	
		07.12 11:00:00	0:15:00		0.25	0.06	555.52	138.88	
		07.12 11:15:00	0:15:00		0.25	0.06	603.24	150.81	
		07.12 11:30:00	0:15:00		0.25	0.06	632.07	158.02	
		07.12 11:45:00	0:15:00		0.25	0.06	673.33	168.33	
		07.12 12:00:00	0:15:00		0.25	0.06	684.52	171.13	
		07.12 12:15:00	0:15:00		0.00	0.00	719.56	179.89	
		07.12 12:30:00	0:15:00		0.00	0.00	719.07	179.77	
		07.12 12:45:00	0:15:00		0.00	0.00	745.16	186.29	
		07.12 13:00:00	0:15:00		0.00	0.00	730.75	182.69	
		07.12 13:15:00	0:15:00		0.00	0.00	753.86	188.47	
		07.12 13:30:00	0:15:00		0.00	0.00	737.71	184.43	
		07.12 13:45:00	0:15:00		0.00	0.00	758.34	189.58	
		07.12 14:00:00	0:15:00		0.25	0.06	731.74	182.94	
		07.12 14:15:00	0:15:00		0.25	0.06	736.22	184.05	
		07.12 14:30:00	0:15:00		11.19	2.80	694.21	173.55	
		07.12 14:45:00	0:15:00		98.68	24.67	675.57	168.89	
		07.12 15:00:00	0:15:00		193.62	48.41	615.17	153.79	
		07.12 15:15:00	0:15:00		292.80	73.20	568.44	142.11	
		07.12 15:30:00	0:15:00		397.19	99.30	489.15	122.29	
		07.12 15:45:00	0:15:00		503.57	125.89	414.84	103.71	
		07.12 16:00:00	0:15:00		617.90	154.48	325.11	81.28	
		07.12 16:15:00	0:15:00		742.68	185.67	225.94	56.48	
07.12 16:30:00	0:15:00		869.44	217.36	83.27	20.82			

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSfHr	NewSF	NewSFHr	New SFHR Total/day	
		07.19 09:00:00	0:15:00	7:45:00	6.96	1.74	5.47	1.37	4,012.84
19-Jul	24-May	07.19 09:15:00	0:15:00		5.47	1.37	128.25	32.06	
		07.19 09:30:00	0:15:00		2.98	0.75	235.13	58.78	
		07.19 09:45:00	0:15:00		1.74	0.44	332.57	83.14	
		07.19 10:00:00	0:15:00		0.99	0.25	405.64	101.41	
		07.19 10:15:00	0:15:00		0.75	0.19	475.48	118.87	
		07.19 10:30:00	0:15:00		0.50	0.12	526.19	131.55	
		07.19 10:45:00	0:15:00		0.50	0.12	579.88	144.97	
		07.19 11:00:00	0:15:00		0.25	0.06	616.91	154.23	
		07.19 11:15:00	0:15:00		0.25	0.06	667.37	166.84	
		07.19 11:30:00	0:15:00		0.25	0.06	694.71	173.68	
		07.19 11:45:00	0:15:00		0.25	0.06	735.22	183.81	
		07.19 12:00:00	0:15:00		0.25	0.06	748.89	187.22	
		07.19 12:15:00	0:15:00		0.00	0.00	780.71	195.18	
		07.19 12:30:00	0:15:00		0.00	0.00	780.96	195.24	
		07.19 12:45:00	0:15:00		0.00	0.00	808.79	202.20	
		07.19 13:00:00	0:15:00		0.00	0.00	796.86	199.22	
		07.19 13:15:00	0:15:00		0.00	0.00	817.00	204.25	
		07.19 13:30:00	0:15:00		0.00	0.00	805.81	201.45	
		07.19 13:45:00	0:15:00		0.00	0.00	825.45	206.36	
		07.19 14:00:00	0:15:00		0.25	0.06	804.32	201.08	
		07.19 14:15:00	0:15:00		0.25	0.06	808.30	202.07	
		07.19 14:30:00	0:15:00		15.41	3.85	772.01	193.00	
		07.19 14:45:00	0:15:00		105.14	26.29	753.37	188.34	
		07.19 15:00:00	0:15:00		202.07	50.52	694.71	173.68	
		07.19 15:15:00	0:15:00		301.74	75.44	653.94	163.49	
		07.19 15:30:00	0:15:00		406.14	101.53	574.66	143.66	
		07.19 15:45:00	0:15:00		519.97	129.99	505.56	126.39	
		07.19 16:00:00	0:15:00		636.55	159.14	425.03	106.26	
		07.19 16:15:00	0:15:00		758.83	189.71	333.06	83.27	
		07.19 16:30:00	0:15:00		892.56	223.14	195.86	48.97	
		07.19 16:45:00	0:15:00	7:45:00	1,035.23	258.81	36.04	9.01	4,579.66
26-Jul	17-May	07.26 09:00:00	0:15:00		5.22	1.31	94.95	23.74	
		07.26 09:15:00	0:15:00		4.72	1.18	231.90	57.98	
		07.26 09:30:00	0:15:00		1.99	0.50	338.03	84.51	
		07.26 09:45:00	0:15:00		0.99	0.25	432.73	108.18	
		07.26 10:00:00	0:15:00		0.75	0.19	501.33	125.33	
		07.26 10:15:00	0:15:00		0.50	0.12	567.95	141.99	
		07.26 10:30:00	0:15:00		0.50	0.12	616.41	154.10	
		07.26 10:45:00	0:15:00		0.25	0.06	667.12	166.78	
		07.26 11:00:00	0:15:00		0.25	0.06	702.16	175.54	
		07.26 11:15:00	0:15:00		0.25	0.06	748.40	187.10	
		07.26 11:30:00	0:15:00		0.25	0.06	776.23	194.06	
		07.26 11:45:00	0:15:00		0.25	0.06	819.73	204.93	
		07.26 12:00:00	0:15:00		0.00	0.00	831.41	207.85	
		07.26 12:15:00	0:15:00		0.00	0.00	865.71	216.43	
		07.26 12:30:00	0:15:00		0.00	0.00	865.46	216.37	
		07.26 12:45:00	0:15:00		0.00	0.00	893.55	223.39	
		07.26 13:00:00	0:15:00		0.00	0.00	881.62	220.41	
		07.26 13:15:00	0:15:00		0.00	0.00	901.75	225.44	
		07.26 13:30:00	0:15:00		0.00	0.00	893.30	223.33	
		07.26 13:45:00	0:15:00		0.00	0.00	915.92	228.98	
		07.26 14:00:00	0:15:00		0.25	0.06	895.04	223.76	
		07.26 14:15:00	0:15:00		0.25	0.06	905.98	226.49	
		07.26 14:30:00	0:15:00		22.62	5.66	869.19	217.30	
		07.26 14:45:00	0:15:00		115.83	28.96	858.01	214.50	
		07.26 15:00:00	0:15:00		213.26	53.32	807.30	201.83	
		07.26 15:15:00	0:15:00		315.17	78.79	767.78	191.95	
		07.26 15:30:00	0:15:00		425.03	106.26	686.51	171.63	

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		07.26 15:45:00	0:15:00		537.87	134.47	623.62	155.91
		07.26 16:00:00	0:15:00		661.15	165.29	552.29	138.07
		07.26 16:15:00	0:15:00		790.90	197.72	471.76	117.94
		07.26 16:30:00	0:15:00		929.59	232.40	341.26	85.32
		07.26 16:45:00	0:15:00		1,077.73	269.43	188.16	47.04
		07.26 17:00:00	0:15:00	8:15:00	1,238.29	309.57	8.20	2.05
								5,380.19
2-Aug	10-May	08.02 08:45:00	0:15:00		5.72	1.43	77.05	19.26
		08.02 09:00:00	0:15:00		5.47	1.37	238.86	59.72
		08.02 09:15:00	0:15:00		1.99	0.50	373.08	93.27
		08.02 09:30:00	0:15:00		1.24	0.31	472.25	118.06
		08.02 09:45:00	0:15:00		0.75	0.19	562.73	140.68
		08.02 10:00:00	0:15:00		0.50	0.12	625.36	156.34
		08.02 10:15:00	0:15:00		0.50	0.12	687.25	171.81
		08.02 10:30:00	0:15:00		0.50	0.12	726.27	181.57
		08.02 10:45:00	0:15:00		0.25	0.06	780.71	195.18
		08.02 11:00:00	0:15:00		0.25	0.06	813.27	203.32
		08.02 11:15:00	0:15:00		0.25	0.06	860.99	215.25
		08.02 11:30:00	0:15:00		0.25	0.06	885.10	221.28
		08.02 11:45:00	0:15:00		0.25	0.06	925.37	231.34
		08.02 12:00:00	0:15:00		0.00	0.00	937.05	234.26
		08.02 12:15:00	0:15:00		0.00	0.00	969.61	242.40
		08.02 12:30:00	0:15:00		0.00	0.00	968.37	242.09
		08.02 12:45:00	0:15:00		0.00	0.00	994.46	248.62
		08.02 13:00:00	0:15:00		0.00	0.00	984.27	246.07
		08.02 13:15:00	0:15:00		0.00	0.00	1,004.65	251.16
		08.02 13:30:00	0:15:00		0.00	0.00	1,001.67	250.42
		08.02 13:45:00	0:15:00		0.00	0.00	1,025.04	256.26
		08.02 14:00:00	0:15:00		0.25	0.06	1,009.13	252.28
		08.02 14:15:00	0:15:00		0.25	0.06	1,021.80	255.45
		08.02 14:30:00	0:15:00		34.30	8.58	989.24	247.31
		08.02 14:45:00	0:15:00		131.49	32.87	989.74	247.44
		08.02 15:00:00	0:15:00		232.90	58.22	952.21	238.05
		08.02 15:15:00	0:15:00		339.77	84.94	921.89	230.47
		08.02 15:30:00	0:15:00		452.62	113.15	844.09	211.02
		08.02 15:45:00	0:15:00		574.41	143.60	784.44	196.11
		08.02 16:00:00	0:15:00		698.68	174.67	707.88	176.97
		08.02 16:15:00	0:15:00		836.13	209.03	636.79	159.20
		08.02 16:30:00	0:15:00		979.05	244.76	517.99	129.50
		08.02 16:45:00	0:15:00		1,137.13	284.28	374.32	93.58
		08.02 17:00:00	0:15:00	8:30:00	1,310.87	327.72	171.25	42.81
								6,458.54
9-Aug	3-May	08.09 08:30:00	0:15:00		5.97	1.49	67.11	16.78
		08.09 08:45:00	0:15:00		5.22	1.31	258.25	64.56
		08.09 09:00:00	0:15:00		2.24	0.56	427.02	106.75
		08.09 09:15:00	0:15:00		1.24	0.31	548.81	137.20
		08.09 09:30:00	0:15:00		0.99	0.25	640.27	160.07
		08.09 09:45:00	0:15:00		0.75	0.19	717.08	179.27
		08.09 10:00:00	0:15:00		0.50	0.12	773.50	193.38
		08.09 10:15:00	0:15:00		0.50	0.12	833.40	208.35
		08.09 10:30:00	0:15:00		0.25	0.06	873.42	218.35
		08.09 10:45:00	0:15:00		0.25	0.06	924.37	231.09
		08.09 11:00:00	0:15:00		0.25	0.06	948.73	237.18
		08.09 11:15:00	0:15:00		0.25	0.06	993.97	248.49
		08.09 11:30:00	0:15:00		0.25	0.06	1,012.36	253.09
		08.09 11:45:00	0:15:00		0.00	0.00	1,053.37	263.34
		08.09 12:00:00	0:15:00		0.00	0.00	1,060.33	265.08
		08.09 12:15:00	0:15:00		0.00	0.00	1,093.14	273.29
		08.09 12:30:00	0:15:00		0.00	0.00	1,091.40	272.85
		08.09 12:45:00	0:15:00		0.00	0.00	1,112.77	278.19
		08.09 13:00:00	0:15:00		0.00	0.00	1,103.08	275.77

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		08.09 13:15:00	0:15:00		0.00	0.00	1,128.93	282.23
		08.09 13:30:00	0:15:00		0.00	0.00	1,126.20	281.55
		08.09 13:45:00	0:15:00		0.00	0.00	1,154.78	288.70
		08.09 14:00:00	0:15:00		0.25	0.06	1,145.34	286.33
		08.09 14:15:00	0:15:00		0.25	0.06	1,163.23	290.81
		08.09 14:30:00	0:15:00		52.45	13.11	1,130.42	282.61
		08.09 14:45:00	0:15:00		154.35	38.59	1,153.29	288.32
		08.09 15:00:00	0:15:00		260.73	65.18	1,132.66	283.17
		08.09 15:15:00	0:15:00		370.35	92.59	1,118.74	279.69
		08.09 15:30:00	0:15:00		489.90	122.48	1,046.41	261.60
		08.09 15:45:00	0:15:00		617.16	154.29	998.69	249.67
		08.09 16:00:00	0:15:00		748.15	187.04	911.69	227.92
		08.09 16:15:00	0:15:00		891.56	222.89	838.87	209.72
		08.09 16:30:00	0:15:00		1,048.15	262.04	728.01	182.00
		08.09 16:45:00	0:15:00		1,214.68	303.67	599.26	149.82
		08.09 17:00:00	0:15:00		1,398.86	349.72	406.88	101.72
		08.09 17:15:00	0:15:00		1,604.91	401.23	168.52	42.13
16-Aug	26-May	08.16 08:15:00	0:15:00		6.21	1.55	79.79	19.95
		08.16 08:30:00	0:15:00		4.97	1.24	286.09	71.52
		08.16 08:45:00	0:15:00		2.49	0.62	478.22	119.55
		08.16 09:00:00	0:15:00		1.24	0.31	638.78	159.70
		08.16 09:15:00	0:15:00		0.99	0.25	758.59	189.65
		08.16 09:30:00	0:15:00		0.75	0.19	835.89	208.97
		08.16 09:45:00	0:15:00		0.50	0.12	904.49	226.12
		08.16 10:00:00	0:15:00		0.50	0.12	957.18	239.30
		08.16 10:15:00	0:15:00		0.25	0.06	1,018.82	254.71
		08.16 10:30:00	0:15:00		0.25	0.06	1,052.13	263.03
		08.16 10:45:00	0:15:00		0.25	0.06	1,090.41	272.60
		08.16 11:00:00	0:15:00		0.25	0.06	1,110.04	277.51
		08.16 11:15:00	0:15:00		0.25	0.06	1,145.83	286.46
		08.16 11:30:00	0:15:00		0.25	0.06	1,162.73	290.68
		08.16 11:45:00	0:15:00		0.00	0.00	1,198.03	299.51
		08.16 12:00:00	0:15:00		0.00	0.00	1,205.98	301.50
		08.16 12:15:00	0:15:00		0.00	0.00	1,233.82	308.46
		08.16 12:30:00	0:15:00		0.00	0.00	1,231.58	307.90
		08.16 12:45:00	0:15:00		0.00	0.00	1,251.96	312.99
		08.16 13:00:00	0:15:00		0.00	0.00	1,243.02	310.75
		08.16 13:15:00	0:15:00		0.00	0.00	1,267.13	316.78
		08.16 13:30:00	0:15:00		0.00	0.00	1,273.59	318.40
		08.16 13:45:00	0:15:00		0.00	0.00	1,306.65	326.66
		08.16 14:00:00	0:15:00		0.25	0.06	1,303.66	325.92
		08.16 14:15:00	0:15:00		0.50	0.12	1,322.06	330.51
		08.16 14:30:00	0:15:00		77.30	19.33	1,296.21	324.05
		08.16 14:45:00	0:15:00		181.20	45.30	1,353.37	338.34
		08.16 15:00:00	0:15:00		290.31	72.58	1,351.88	337.97
		08.16 15:15:00	0:15:00		410.86	102.72	1,370.03	342.51
		08.16 15:30:00	0:15:00		535.88	133.97	1,325.29	331.32
		08.16 15:45:00	0:15:00		670.85	167.71	1,290.24	322.56
		08.16 16:00:00	0:15:00		809.54	202.39	1,191.81	297.95
		08.16 16:15:00	0:15:00		964.64	241.16	1,098.11	274.53
		08.16 16:30:00	0:15:00		1,130.42	282.61	984.27	246.07
		08.16 16:45:00	0:15:00		1,315.84	328.96	871.43	217.86
		08.16 17:00:00	0:15:00		1,516.67	379.17	694.46	173.62
		08.16 17:15:00	0:15:00		1,741.86	435.47	468.77	117.19
		08.16 17:30:00	0:15:00	9:30:00	2,029.69	507.42	150.38	37.59
23-Aug	19-Apr	08.23 08:00:00	0:15:00		64.62	16.16	101.41	25.35
		08.23 08:15:00	0:15:00		5.22	1.31	340.02	85.01
		08.23 08:30:00	0:15:00		2.49	0.62	550.05	137.51
		08.23 08:45:00	0:15:00		1.24	0.31	733.98	183.50

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSfHr	NewSF	NewSFHr	New SFHR Total/day
		08.23 09:00:00	0:15:00		0.99	0.25	888.33	222.08
		08.23 09:15:00	0:15:00		0.75	0.19	1,006.15	251.54
		08.23 09:30:00	0:15:00		0.50	0.12	1,068.04	267.01
		08.23 09:45:00	0:15:00		0.50	0.12	1,133.90	283.48
		08.23 10:00:00	0:15:00		0.25	0.06	1,182.12	295.53
		08.23 10:15:00	0:15:00		0.25	0.06	1,232.08	308.02
		08.23 10:30:00	0:15:00		0.25	0.06	1,252.96	313.24
		08.23 10:45:00	0:15:00		0.25	0.06	1,280.05	320.01
		08.23 11:00:00	0:15:00		0.25	0.06	1,290.49	322.62
		08.23 11:15:00	0:15:00		0.25	0.06	1,320.32	330.08
		08.23 11:30:00	0:15:00		0.00	0.00	1,333.99	333.50
		08.23 11:45:00	0:15:00		0.00	0.00	1,365.55	341.39
		08.23 12:00:00	0:15:00		0.00	0.00	1,369.03	342.26
		08.23 12:15:00	0:15:00		0.00	0.00	1,392.89	348.22
		08.23 12:30:00	0:15:00		0.00	0.00	1,388.42	347.11
		08.23 12:45:00	0:15:00		0.00	0.00	1,408.80	352.20
		08.23 13:00:00	0:15:00		0.00	0.00	1,401.10	350.27
		08.23 13:15:00	0:15:00		0.00	0.00	1,431.67	357.92
		08.23 13:30:00	0:15:00		0.00	0.00	1,442.36	360.59
		08.23 13:45:00	0:15:00		0.00	0.00	1,481.13	370.28
		08.23 14:00:00	0:15:00		0.25	0.06	1,481.38	370.35
		08.23 14:15:00	0:15:00		6.46	1.62	1,504.74	376.19
		08.23 14:30:00	0:15:00		109.86	27.47	1,503.00	375.75
		08.23 14:45:00	0:15:00		218.73	54.68	1,590.49	397.62
		08.23 15:00:00	0:15:00		336.79	84.20	1,625.54	406.39
		08.23 15:15:00	0:15:00		461.56	115.39	1,670.53	417.63
		08.23 15:30:00	0:15:00		593.55	148.39	1,662.58	415.64
		08.23 15:45:00	0:15:00		737.96	184.49	1,658.10	414.53
		08.23 16:00:00	0:15:00		889.82	222.46	1,581.55	395.39
		08.23 16:15:00	0:15:00		1,057.35	264.34	1,495.05	373.76
		08.23 16:30:00	0:15:00		1,237.80	309.45	1,330.01	332.50
		08.23 16:45:00	0:15:00		1,442.61	360.65	1,227.61	306.90
		08.23 17:00:00	0:15:00		1,660.34	415.08	1,033.98	258.50
		08.23 17:15:00	0:15:00		1,918.59	479.65	832.41	208.10
		08.23 17:30:00	0:15:00		2,418.43	604.61	533.15	133.29
		08.23 17:45:00	0:15:00	10:00:00	3,256.80	814.20	137.20	34.30
30-Aug	12-Apr	08.30 07:37:48	0:03:36		2,148.50	128.91	12.93	0.78
		08.30 07:45:00	0:11:24		1,421.73	270.13	121.29	23.05
		08.30 08:00:00	0:15:00		318.89	79.72	382.52	95.63
		08.30 08:15:00	0:15:00		2.24	0.56	639.28	159.82
		08.30 08:30:00	0:15:00		1.24	0.31	845.08	211.27
		08.30 08:45:00	0:15:00		0.99	0.25	1,023.54	255.89
		08.30 09:00:00	0:15:00		0.75	0.19	1,167.95	291.99
		08.30 09:15:00	0:15:00		0.50	0.12	1,292.48	323.12
		08.30 09:30:00	0:15:00		0.50	0.12	1,348.16	337.04
		08.30 09:45:00	0:15:00		0.25	0.06	1,407.31	351.83
		08.30 10:00:00	0:15:00		0.25	0.06	1,436.89	359.22
		08.30 10:15:00	0:15:00		0.25	0.06	1,474.17	368.54
		08.30 10:30:00	0:15:00		0.25	0.06	1,477.90	369.48
		08.30 10:45:00	0:15:00		0.25	0.06	1,495.05	373.76
		08.30 11:00:00	0:15:00		0.25	0.06	1,492.32	373.08
		08.30 11:15:00	0:15:00		0.25	0.06	1,517.17	379.29
		08.30 11:30:00	0:15:00		0.00	0.00	1,522.64	380.66
		08.30 11:45:00	0:15:00		0.00	0.00	1,549.23	387.31
		08.30 12:00:00	0:15:00		0.00	0.00	1,550.48	387.62
		08.30 12:15:00	0:15:00		0.00	0.00	1,571.36	392.84
		08.30 12:30:00	0:15:00		0.00	0.00	1,563.90	390.98
		08.30 12:45:00	0:15:00		0.00	0.00	1,581.55	395.39
		08.30 13:00:00	0:15:00		0.00	0.00	1,573.84	393.46

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		08.30 13:15:00	0:15:00		0.00	0.00	1,614.60	403.65
		08.30 13:30:00	0:15:00		0.00	0.00	1,631.26	407.81
		08.30 13:45:00	0:15:00		0.25	0.06	1,674.01	418.50
		08.30 14:00:00	0:15:00		0.25	0.06	1,686.19	421.55
		08.30 14:15:00	0:15:00		37.03	9.26	1,711.54	427.89
		08.30 14:30:00	0:15:00		146.90	36.72	1,760.01	440.00
		08.30 14:45:00	0:15:00		261.73	65.43	1,880.56	470.14
		08.30 15:00:00	0:15:00		388.74	97.18	1,951.64	487.91
		08.30 15:15:00	0:15:00		521.96	130.49	2,042.37	510.59
		08.30 15:30:00	0:15:00		663.14	165.79	2,078.65	519.66
		08.30 15:45:00	0:15:00		818.49	204.62	2,100.53	525.13
		08.30 16:00:00	0:15:00		981.54	245.39	2,048.83	512.21
		08.30 16:15:00	0:15:00		1,166.96	291.74	2,001.35	500.34
		08.30 16:30:00	0:15:00		1,367.79	341.95	1,908.89	477.22
		08.30 16:45:00	0:15:00		1,595.71	398.93	1,771.94	442.99
		08.30 17:00:00	0:15:00		1,841.04	460.26	1,544.26	386.07
		08.30 17:15:00	0:15:00		2,191.50	547.87	1,295.21	323.80
		08.30 17:30:00	0:15:00		2,953.81	738.45	1,022.30	255.58
		08.30 17:45:00	0:15:00		3,939.08	984.77	652.45	163.11
08.30 18:00:00	0:15:00	10:30:00	5,209.19	1,302.30	99.17	24.79	15,120.97	
6-Sep	5-Apr	09.06 07:44:24	0:07:48		2,123.39	276.04	394.95	51.34
		09.06 08:00:00	0:15:00		678.30	169.58	684.52	171.13
		09.06 08:15:00	0:15:00		1.24	0.31	960.41	240.10
		09.06 08:30:00	0:15:00		0.99	0.25	1,169.94	292.49
		09.06 08:45:00	0:15:00		0.75	0.19	1,345.67	336.42
		09.06 09:00:00	0:15:00		0.50	0.12	1,480.14	370.03
		09.06 09:15:00	0:15:00		0.50	0.12	1,602.67	400.67
		09.06 09:30:00	0:15:00		0.25	0.06	1,656.11	414.03
		09.06 09:45:00	0:15:00		0.25	0.06	1,711.79	427.95
		09.06 10:00:00	0:15:00		0.25	0.06	1,721.73	430.43
		09.06 10:15:00	0:15:00		0.25	0.06	1,739.88	434.97
		09.06 10:30:00	0:15:00		0.25	0.06	1,731.18	432.79
		09.06 10:45:00	0:15:00		0.25	0.06	1,734.16	433.54
		09.06 11:00:00	0:15:00		0.25	0.06	1,718.75	429.69
		09.06 11:15:00	0:15:00		0.00	0.00	1,735.40	433.85
		09.06 11:30:00	0:15:00		0.00	0.00	1,735.90	433.98
		09.06 11:45:00	0:15:00		0.00	0.00	1,762.99	440.75
		09.06 12:00:00	0:15:00		0.00	0.00	1,755.04	438.76
		09.06 12:15:00	0:15:00		0.00	0.00	1,777.41	444.35
		09.06 12:30:00	0:15:00		0.00	0.00	1,761.00	440.25
		09.06 12:45:00	0:15:00		0.00	0.00	1,782.63	445.66
		09.06 13:00:00	0:15:00		0.00	0.00	1,772.19	443.05
		09.06 13:15:00	0:15:00		0.00	0.00	1,821.40	455.35
		09.06 13:30:00	0:15:00		0.00	0.00	1,845.01	461.25
		09.06 13:45:00	0:15:00		0.25	0.06	1,896.22	474.05
		09.06 14:00:00	0:15:00		0.25	0.06	1,914.11	478.53
		09.06 14:15:00	0:15:00		73.08	18.27	1,942.70	485.67
		09.06 14:30:00	0:15:00		190.39	47.60	2,072.19	518.05
		09.06 14:45:00	0:15:00		315.41	78.85	2,229.77	557.44
		09.06 15:00:00	0:15:00		448.64	112.16	2,345.85	586.46
		09.06 15:15:00	0:15:00		592.30	148.08	2,494.98	623.75
		09.06 15:30:00	0:15:00		744.42	186.10	2,576.51	644.13
		09.06 15:45:00	0:15:00		913.19	228.30	2,630.44	657.61
		09.06 16:00:00	0:15:00		1,098.36	274.59	2,614.54	653.63
09.06 16:15:00	0:15:00		1,299.94	324.98	2,639.89	659.97		
09.06 16:30:00	0:15:00		1,522.14	380.54	2,611.55	652.89		
09.06 16:45:00	0:15:00		1,780.39	445.10	2,531.27	632.82		
09.06 17:00:00	0:15:00		2,075.17	518.79	2,223.06	555.77		
09.06 17:15:00	0:15:00		2,704.51	676.13	1,909.39	477.35		

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		09.06 17:30:00	0:15:00	3,610.49	902.62	1,635.98	409.00	
		09.06 17:45:00	0:15:00	4,774.47	1,193.62	1,307.89	326.97	
		09.06 18:00:00	0:15:00	6,344.58	1,586.15	748.89	187.22	
		09.06 18:15:00	0:16:12	10:39:00	8,723.49	2,355.34	1.99	0.54
13-Sep	29-Mar	09.13 07:50:24	0:04:48		2,119.42	169.55	822.22	65.78
		09.13 08:00:00	0:12:36		1,139.62	239.32	1,000.93	210.19
		09.13 08:15:00	0:15:00		116.82	29.21	1,295.21	323.80
		09.13 08:30:00	0:15:00		0.75	0.19	1,524.88	381.22
		09.13 08:45:00	0:15:00		0.50	0.12	1,696.13	424.03
		09.13 09:00:00	0:15:00		0.50	0.12	1,823.64	455.91
		09.13 09:15:00	0:15:00		0.25	0.06	1,934.74	483.69
		09.13 09:30:00	0:15:00		0.25	0.06	908.00	497.98
		09.13 09:45:00	0:15:00		0.25	0.06	2,042.12	510.53
		09.13 10:00:00	0:15:00		0.25	0.06	2,041.87	510.47
		09.13 10:15:00	0:15:00		0.25	0.06	2,036.65	509.16
		09.13 10:30:00	0:15:00		0.25	0.06	2,007.82	501.95
		09.13 10:45:00	0:15:00		0.25	0.06	2,003.59	500.90
		09.13 11:00:00	0:15:00		0.00	0.00	1,985.94	496.49
		09.13 11:15:00	0:15:00		0.00	0.00	2,001.60	500.40
		09.13 11:30:00	0:15:00		0.00	0.00	2,002.60	500.65
		09.13 11:45:00	0:15:00		0.00	0.00	2,036.40	509.10
		09.13 12:00:00	0:15:00		0.00	0.00	2,030.68	507.67
		09.13 12:15:00	0:15:00		0.00	0.00	2,061.01	515.25
		09.13 12:30:00	0:15:00		0.00	0.00	2,051.56	512.89
		09.13 12:45:00	0:15:00		0.00	0.00	2,075.42	518.86
		09.13 13:00:00	0:15:00		0.00	0.00	2,074.43	518.61
		09.13 13:15:00	0:15:00		0.00	0.00	2,126.13	531.53
		09.13 13:30:00	0:15:00		0.00	0.00	2,144.27	536.07
		09.13 13:45:00	0:15:00		0.25	0.06	2,193.73	548.43
		09.13 14:00:00	0:15:00		4.97	1.24	2,201.94	550.48
		09.13 14:15:00	0:15:00		116.82	29.21	2,269.29	567.32
		09.13 14:30:00	0:15:00		241.10	60.27	2,436.82	609.21
		09.13 14:45:00	0:15:00		375.07	93.77	2,631.93	657.98
		09.13 15:00:00	0:15:00		518.98	129.75	2,792.00	698.00
		09.13 15:15:00	0:15:00		673.08	168.27	2,992.83	748.21
		09.13 15:30:00	0:15:00		840.36	210.09	3,141.97	785.49
		09.13 15:45:00	0:15:00		1,028.27	257.07	3,262.02	815.50
		09.13 16:00:00	0:15:00		1,229.10	307.27	3,293.58	823.40
		09.13 16:15:00	0:15:00		1,459.76	364.94	3,438.49	859.62
		09.13 16:30:00	0:15:00		1,715.02	428.76	3,472.54	868.14
		09.13 16:45:00	0:15:00		2,004.59	501.15	3,380.58	845.14
		09.13 17:00:00	0:15:00		2,489.51	622.38	2,979.91	744.98
		09.13 17:15:00	0:15:00		3,336.83	834.21	2,634.67	658.67
		09.13 17:30:00	0:15:00		4,416.30	1,104.08	2,412.21	603.05
		09.13 17:45:00	0:15:00		5,828.58	1,457.15	2,102.52	525.63
		09.13 18:00:00	0:15:00		7,834.66	1,958.66	1,482.62	370.66
		09.13 18:15:00	0:10:48		10,562.04	1,901.17	682.78	122.90
		09.13 18:21:00	0:03:00	10:31:12	11,405.88	570.29	344.99	17.25
20-Sep	22-Mar	09.20 07:57:00	0:01:12		2,031.18	40.62	1,262.16	25.24
		09.20 08:00:00	0:09:00		1,683.45	252.52	1,324.54	198.68
		09.20 08:15:00	0:15:00		440.19	110.05	1,629.52	407.38
		09.20 08:30:00	0:15:00		0.50	0.12	1,894.72	473.68
		09.20 08:45:00	0:15:00		0.50	0.12	2,074.43	518.61
		09.20 09:00:00	0:15:00		0.25	0.06	2,189.01	547.25
		09.20 09:15:00	0:15:00		0.25	0.06	2,295.14	573.79
		09.20 09:30:00	0:15:00		0.25	0.06	2,351.81	587.95
		09.20 09:45:00	0:15:00		0.25	0.06	2,398.05	599.51
		09.20 10:00:00	0:15:00		0.25	0.06	2,389.10	597.27
		09.20 10:15:00	0:15:00		0.25	0.06	2,364.49	591.12

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		09.20 10:30:00	0:15:00		0.25	0.06	2,318.26	579.57
		09.20 10:45:00	0:15:00		0.00	0.00	2,307.82	576.96
		09.20 11:00:00	0:15:00		0.00	0.00	2,281.23	570.31
		09.20 11:15:00	0:15:00		0.00	0.00	2,298.38	574.59
		09.20 11:30:00	0:15:00		0.00	0.00	2,300.12	575.03
		09.20 11:45:00	0:15:00		0.00	0.00	2,336.65	584.16
		09.20 12:00:00	0:15:00		0.00	0.00	2,339.14	584.78
		09.20 12:15:00	0:15:00		0.00	0.00	2,368.96	592.24
		09.20 12:30:00	0:15:00		0.00	0.00	2,364.24	591.06
		09.20 12:45:00	0:15:00		0.00	0.00	2,396.55	599.14
		09.20 13:00:00	0:15:00		0.00	0.00	2,404.51	601.13
		09.20 13:15:00	0:15:00		0.00	0.00	2,458.94	614.74
		09.20 13:30:00	0:15:00		0.25	0.06	2,478.33	619.58
		09.20 13:45:00	0:15:00		0.25	0.06	2,533.01	633.25
		09.20 14:00:00	0:15:00		40.51	10.13	2,535.00	633.75
		09.20 14:15:00	0:15:00		165.04	41.26	2,683.38	670.85
		09.20 14:30:00	0:15:00		296.52	74.13	2,876.26	719.07
		09.20 14:45:00	0:15:00		444.41	111.10	3,110.90	777.72
		09.20 15:00:00	0:15:00		599.01	149.75	3,313.97	828.49
		09.20 15:15:00	0:15:00		771.51	192.88	3,571.47	892.87
		09.20 15:30:00	0:15:00		955.69	238.92	3,778.76	944.69
		09.20 15:45:00	0:15:00		1,162.24	290.56	4,002.96	1,000.74
		09.20 16:00:00	0:15:00		1,387.68	346.92	4,149.85	1,037.46
		09.20 16:15:00	0:15:00		1,649.90	412.48	4,379.02	1,094.75
		09.20 16:30:00	0:15:00		1,940.21	485.05	4,517.46	1,129.37
		09.20 16:45:00	0:15:00		2,316.77	579.19	4,175.45	1,043.86
		09.20 17:00:00	0:15:00		3,095.74	773.93	3,764.59	941.15
		09.20 17:15:00	0:15:00		4,099.15	1,024.79	3,491.18	872.80
		09.20 17:30:00	0:15:00		5,385.16	1,346.29	3,367.65	841.91
		09.20 17:45:00	0:15:00		7,173.01	1,793.25	2,973.45	743.36
		09.20 18:00:00	0:12:36		9,440.07	1,982.41	2,206.16	463.29
		09.20 18:09:36	0:04:48	10:12:36	10,827.24	866.18	1,596.46	127.72
27-Sep	15-Mar	09.27 08:03:00	0:06:00		1,786.60	178.66	1,716.51	171.65
		09.27 08:15:00	0:13:12		762.56	167.76	1,967.55	432.86
		09.27 08:30:00	0:15:00		11.93	2.98	2,273.02	568.26
		09.27 08:45:00	0:15:00		0.25	0.06	2,475.10	618.77
		09.27 09:00:00	0:15:00		0.25	0.06	2,593.16	648.29
		09.27 09:15:00	0:15:00		0.25	0.06	2,682.89	670.72
		09.27 09:30:00	0:15:00		0.25	0.06	2,734.09	683.52
		09.27 09:45:00	0:15:00		0.25	0.06	2,778.83	694.71
		09.27 10:00:00	0:15:00		0.25	0.06	2,775.35	693.84
		09.27 10:15:00	0:15:00		0.25	0.06	2,724.15	681.04
		09.27 10:30:00	0:15:00		0.25	0.06	2,658.78	664.69
		09.27 10:45:00	0:15:00		0.00	0.00	2,639.39	659.85
		09.27 11:00:00	0:15:00		0.00	0.00	2,606.58	651.65
		09.27 11:15:00	0:15:00		0.00	0.00	2,622.74	655.68
		09.27 11:30:00	0:15:00		0.00	0.00	2,625.97	656.49
		09.27 11:45:00	0:15:00		0.00	0.00	2,663.25	665.81
		09.27 12:00:00	0:15:00		0.00	0.00	2,664.74	666.19
		09.27 12:15:00	0:15:00		0.00	0.00	2,702.52	675.63
		09.27 12:30:00	0:15:00		0.00	0.00	2,706.50	676.63
		09.27 12:45:00	0:15:00		0.00	0.00	2,750.25	687.56
		09.27 13:00:00	0:15:00		0.25	0.06	2,760.44	690.11
		09.27 13:15:00	0:15:00		0.00	0.00	2,819.10	704.77
		09.27 13:30:00	0:15:00		0.25	0.06	2,840.22	710.06
		09.27 13:45:00	0:15:00		0.25	0.06	2,897.39	724.35
		09.27 14:00:00	0:15:00		85.50	21.38	2,898.38	724.60
		09.27 14:15:00	0:15:00		218.48	54.62	3,151.16	787.79
		09.27 14:30:00	0:15:00		364.13	91.03	3,379.83	844.96

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		09.27 14:45:00	0:15:00		523.70	130.93	3,668.40	917.10
		09.27 15:00:00	0:15:00		692.22	173.06	3,923.92	980.98
		09.27 15:15:00	0:15:00		883.86	220.96	4,253.25	1,063.31
		09.27 15:30:00	0:15:00		1,083.45	270.86	4,532.13	1,133.03
		09.27 15:45:00	0:15:00		1,315.84	328.96	4,833.62	1,208.41
		09.27 16:00:00	0:15:00		1,579.56	394.89	5,173.39	1,293.35
		09.27 16:15:00	0:15:00		1,872.85	468.21	5,540.01	1,385.00
		09.27 16:30:00	0:15:00		2,215.11	553.78	5,406.29	1,351.57
		09.27 16:45:00	0:15:00		2,863.83	715.96	4,956.41	1,239.10
		09.27 17:00:00	0:15:00		3,794.17	948.54	4,533.87	1,133.47
		09.27 17:15:00	0:15:00		4,996.92	1,249.23	4,346.21	1,086.55
		09.27 17:30:00	0:15:00		6,572.75	1,643.19	4,267.67	1,066.92
		09.27 17:45:00	0:13:48		8,655.13	1,990.68	3,774.04	868.03
09.27 17:58:11	0:06:36	9:54:36	10,373.88	1,141.13	2,862.84	314.91	32,752.19	
4-Oct	8-Mar	10.04 08:09:36	0:02:24		1,588.51	63.54	2,165.15	86.61
		10.04 08:15:00	0:10:12		1,112.53	189.13	2,295.89	390.30
		10.04 08:30:00	0:15:00		148.88	37.22	2,633.92	658.48
		10.04 08:45:00	0:15:00		0.25	0.06	2,887.45	721.86
		10.04 09:00:00	0:15:00		0.25	0.06	3,021.67	755.42
		10.04 09:15:00	0:15:00		0.25	0.06	3,110.40	777.60
		10.04 09:30:00	0:15:00		0.25	0.06	3,139.73	784.93
		10.04 09:45:00	0:15:00		0.25	0.06	3,179.50	794.87
		10.04 10:00:00	0:15:00		0.25	0.06	3,181.98	795.50
		10.04 10:15:00	0:15:00		0.25	0.06	3,120.34	780.09
		10.04 10:30:00	0:15:00		0.00	0.00	3,038.82	759.70
		10.04 10:45:00	0:15:00		0.00	0.00	3,005.76	751.44
		10.04 11:00:00	0:15:00		0.00	0.00	2,962.01	740.50
		10.04 11:15:00	0:15:00		0.00	0.00	2,970.96	742.74
		10.04 11:30:00	0:15:00		0.00	0.00	2,972.70	743.18
		10.04 11:45:00	0:15:00		0.00	0.00	3,018.93	754.73
		10.04 12:00:00	0:15:00		0.00	0.00	3,026.64	756.66
		10.04 12:15:00	0:15:00		0.00	0.00	3,068.39	767.10
		10.04 12:30:00	0:15:00		0.00	0.00	3,075.35	768.84
		10.04 12:45:00	0:15:00		0.00	0.00	3,128.05	782.01
		10.04 13:00:00	0:15:00		0.25	0.06	3,140.47	785.12
		10.04 13:15:00	0:15:00		0.00	0.00	3,210.57	802.64
		10.04 13:30:00	0:15:00		0.25	0.06	3,232.94	808.23
		10.04 13:45:00	0:15:00		5.22	1.31	3,291.84	822.96
		10.04 14:00:00	0:15:00		134.97	33.74	3,351.00	837.75
		10.04 14:15:00	0:15:00		279.13	69.78	3,672.63	918.16
		10.04 14:30:00	0:15:00		435.47	108.87	3,956.23	989.06
		10.04 14:45:00	0:15:00		608.21	152.05	4,306.69	1,076.67
		10.04 15:00:00	0:15:00		793.88	198.47	4,630.30	1,157.58
		10.04 15:15:00	0:15:00		1,005.90	251.47	5,049.37	1,262.34
		10.04 15:30:00	0:15:00		1,232.83	308.21	5,400.08	1,350.02
		10.04 15:45:00	0:15:00		1,497.29	374.32	5,861.64	1,465.41
		10.04 16:00:00	0:15:00		1,792.07	448.02	6,330.16	1,582.54
		10.04 16:15:00	0:15:00		2,129.61	532.40	6,680.62	1,670.16
		10.04 16:30:00	0:15:00		2,628.45	657.11	6,230.49	1,557.62
		10.04 16:45:00	0:15:00		3,505.10	876.28	5,705.80	1,426.45
		10.04 17:00:00	0:15:00		4,600.73	1,150.18	5,242.74	1,310.69
		10.04 17:15:00	0:15:00		6,051.04	1,512.76	5,074.97	1,268.74
		10.04 17:30:00	0:16:12		7,922.15	2,138.98	4,855.00	1,310.85
		10.04 17:47:23	0:08:24	9:37:12	10,038.83	1,405.44	4,134.19	578.79
11-Oct	1-Mar	10.11 08:16:11	0:07:12		1,473.92	176.87	2,614.54	313.74
		10.11 08:30:00	0:14:24		425.52	102.13	2,970.96	713.03
		10.11 08:45:00	0:15:00		0.25	0.06	3,299.55	824.89
		10.11 09:00:00	0:15:00		0.25	0.06	3,462.85	865.71
		10.11 09:15:00	0:15:00		0.25	0.06	3,590.11	897.53

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		10.11 09:30:00	0:15:00		0.25	0.06	3,626.65	906.66
		10.11 09:45:00	0:15:00		0.25	0.06	3,652.00	913.00
		10.11 10:00:00	0:15:00		0.25	0.06	3,631.37	907.84
		10.11 10:15:00	0:15:00		0.00	0.00	3,573.21	893.30
		10.11 10:30:00	0:15:00		0.00	0.00	3,454.40	863.60
		10.11 10:45:00	0:15:00		0.00	0.00	3,400.46	850.12
		10.11 11:00:00	0:15:00		0.00	0.00	3,343.79	835.95
		10.11 11:15:00	0:15:00		0.00	0.00	3,349.76	837.44
		10.11 11:30:00	0:15:00		0.00	0.00	3,348.76	837.19
		10.11 11:45:00	0:15:00		0.00	0.00	3,396.49	849.12
		10.11 12:00:00	0:15:00		0.00	0.00	3,407.17	851.79
		10.11 12:15:00	0:15:00		0.00	0.00	3,454.90	863.72
		10.11 12:30:00	0:15:00		0.00	0.00	3,473.04	868.26
		10.11 12:45:00	0:15:00		0.00	0.00	3,539.90	884.98
		10.11 13:00:00	0:15:00		0.00	0.00	3,557.05	889.26
		10.11 13:15:00	0:15:00		0.00	0.00	3,624.41	906.10
		10.11 13:30:00	0:15:00		0.25	0.06	3,654.48	913.62
		10.11 13:45:00	0:15:00		42.50	10.63	3,706.68	926.67
		10.11 14:00:00	0:15:00		183.93	45.98	3,880.17	970.04
		10.11 14:15:00	0:15:00		343.25	85.81	4,255.49	1,063.87
		10.11 14:30:00	0:15:00		514.01	128.50	4,605.95	1,151.49
		10.11 14:45:00	0:15:00		704.90	176.22	5,030.23	1,257.56
		10.11 15:00:00	0:15:00		908.22	227.05	5,445.31	1,361.33
		10.11 15:15:00	0:15:00		1,140.12	285.03	5,958.33	1,489.58
		10.11 15:30:00	0:15:00		1,400.10	350.03	6,421.63	1,605.41
		10.11 15:45:00	0:15:00		1,701.35	425.34	7,085.77	1,771.44
		10.11 16:00:00	0:15:00		2,030.19	507.55	7,746.67	1,936.67
		10.11 16:15:00	0:15:00		2,437.57	609.39	7,574.17	1,893.54
		10.11 16:30:00	0:15:00		3,190.68	797.67	6,963.73	1,740.93
		10.11 16:45:00	0:15:00		4,210.00	1,052.50	6,399.51	1,599.88
		10.11 17:00:00	0:15:00		5,481.85	1,370.46	5,841.26	1,460.31
		10.11 17:15:00	0:15:00		7,186.43	1,796.61	5,642.91	1,410.73
		10.11 17:30:00	0:11:24		9,142.05	1,736.99	5,076.71	964.57
		10.11 17:37:12	0:03:36	9:21:36	9,637.17	578.23	4,730.72	283.84
18-Oct	22-Feb	10.18 08:22:48	0:03:36		1,323.55	79.41	3,086.79	185.21
		10.18 08:30:00	0:10:48		759.33	136.68	3,291.84	592.53
		10.18 08:45:00	0:15:00		28.34	7.08	3,682.82	920.71
		10.18 09:00:00	0:15:00		0.25	0.06	3,892.10	973.03
		10.18 09:15:00	0:15:00		0.25	0.06	4,070.56	1,017.64
		10.18 09:30:00	0:15:00		0.25	0.06	4,130.46	1,032.62
		10.18 09:45:00	0:15:00		0.25	0.06	4,160.29	1,040.07
		10.18 10:00:00	0:15:00		0.25	0.06	4,137.42	1,034.36
		10.18 10:15:00	0:15:00		0.00	0.00	4,095.17	1,023.79
		10.18 10:30:00	0:15:00		0.00	0.00	3,960.45	990.11
		10.18 10:45:00	0:15:00		0.00	0.00	3,877.93	969.48
		10.18 11:00:00	0:15:00		0.00	0.00	3,785.47	946.37
		10.18 11:15:00	0:15:00		0.00	0.00	3,773.29	943.32
		10.18 11:30:00	0:15:00		0.00	0.00	3,760.86	940.22
		10.18 11:45:00	0:15:00		0.00	0.00	3,806.35	951.59
		10.18 12:00:00	0:15:00		0.00	0.00	3,811.07	952.77
		10.18 12:15:00	0:15:00		0.00	0.00	3,868.49	967.12
		10.18 12:30:00	0:15:00		0.00	0.00	3,887.88	971.97
		10.18 12:45:00	0:15:00		0.00	0.00	3,969.40	992.35
		10.18 13:00:00	0:15:00		0.00	0.00	3,988.04	997.01
		10.18 13:15:00	0:15:00		0.25	0.06	4,057.39	1,014.35
		10.18 13:30:00	0:15:00		0.25	0.06	4,094.67	1,023.67
		10.18 13:45:00	0:15:00		82.02	20.51	4,148.36	1,037.09
		10.18 14:00:00	0:15:00		237.87	59.47	4,465.02	1,116.25
		10.18 14:15:00	0:15:00		408.13	102.03	4,900.73	1,225.18

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		10.18 14:30:00	0:15:00		597.27	149.32	5,321.04	1,330.26
		10.18 14:45:00	0:15:00		803.08	200.77	5,838.52	1,459.63
		10.18 15:00:00	0:15:00		1,027.52	256.88	6,363.72	1,590.93
		10.18 15:15:00	0:15:00		1,292.23	323.06	6,969.19	1,742.30
		10.18 15:30:00	0:15:00		1,578.56	394.64	7,619.66	1,904.92
		10.18 15:45:00	0:15:00		1,921.32	480.33	8,512.46	2,128.12
		10.18 16:00:00	0:15:00		2,296.64	574.16	8,867.40	2,216.85
		10.18 16:15:00	0:15:00		2,909.57	727.39	8,389.43	2,097.36
		10.18 16:30:00	0:15:00		3,809.33	952.33	7,712.37	1,928.09
		10.18 16:45:00	0:15:00		4,926.08	1,231.52	6,901.59	1,725.40
		10.18 17:00:00	0:15:00		6,275.98	1,568.99	6,427.10	1,606.78
		10.18 17:15:00	0:13:12		7,878.90	1,733.36	6,053.77	1,331.83
10.18 17:27:00	0:06:00	9:03:36	9,077.18	907.72	5,291.46	529.15	45,450.39	
25-Oct	15-Feb	10.25 07:30:00	0:07:48		1,189.58	154.65	3,556.06	462.29
		10.25 07:45:00	0:15:00		220.47	55.12	4,001.96	1,000.49
		10.25 08:00:00	0:15:00		0.25	0.06	4,316.13	1,079.03
		10.25 08:15:00	0:15:00		0.25	0.06	4,531.13	1,132.78
		10.25 08:30:00	0:15:00		0.25	0.06	4,633.78	1,158.45
		10.25 08:45:00	0:15:00		0.25	0.06	4,678.77	1,169.69
		10.25 09:00:00	0:15:00		0.00	0.00	4,655.41	1,163.85
		10.25 09:15:00	0:15:00		0.00	0.00	4,639.25	1,159.81
		10.25 09:30:00	0:15:00		0.00	0.00	4,485.90	1,121.47
		10.25 09:45:00	0:15:00		0.00	0.00	4,390.45	1,097.61
		10.25 10:00:00	0:15:00		0.00	0.00	4,282.08	1,070.52
		10.25 10:15:00	0:15:00		0.00	0.00	4,252.01	1,063.00
		10.25 10:30:00	0:15:00		0.00	0.00	4,231.63	1,057.91
		10.25 10:45:00	0:15:00		0.00	0.00	4,280.34	1,070.09
		10.25 11:00:00	0:15:00		0.00	0.00	4,284.57	1,071.14
		10.25 11:15:00	0:15:00		0.00	0.00	4,349.69	1,087.42
		10.25 11:30:00	0:15:00		0.00	0.00	4,366.59	1,091.65
		10.25 11:45:00	0:15:00		0.00	0.00	4,456.57	1,114.14
		10.25 12:00:00	0:15:00		0.00	0.00	4,471.23	1,117.81
		10.25 12:15:00	0:15:00		0.25	0.06	4,551.02	1,137.75
		10.25 12:30:00	0:15:00		0.50	0.12	4,586.31	1,146.58
		10.25 12:45:00	0:15:00		121.54	30.39	4,672.31	1,168.08
		10.25 13:00:00	0:15:00		288.07	72.02	5,098.58	1,274.65
		10.25 13:15:00	0:15:00		475.98	119.00	5,618.80	1,404.70
		10.25 13:30:00	0:15:00		679.05	169.76	6,114.42	1,528.60
		10.25 13:45:00	0:15:00		907.97	226.99	6,749.47	1,687.37
		10.25 14:00:00	0:15:00		1,159.75	289.94	7,373.34	1,843.34
		10.25 14:15:00	0:15:00		1,453.29	363.32	8,109.56	2,027.39
		10.25 14:30:00	0:15:00		1,783.12	445.78	9,008.58	2,252.14
		10.25 14:45:00	0:15:00		2,160.18	540.05	10,120.85	2,530.21
		10.25 15:00:00	0:15:00		2,617.77	654.44	9,720.18	2,430.05
		10.25 15:15:00	0:15:00		3,415.13	853.78	9,160.44	2,290.11
		10.25 15:30:00	0:15:00		4,380.76	1,095.19	8,245.52	2,061.38
10.25 15:45:00	0:15:00		5,550.70	1,387.68	7,353.21	1,838.30		
10.25 16:00:00	0:15:00		6,979.88	1,744.97	6,891.15	1,722.79		
10.25 16:15:00	0:09:00		8,412.30	1,261.84	5,956.34	893.45		
10.25 16:18:00	0:01:48	8:48:36	8,557.45	256.72	5,811.18	174.34	49,700.37	
1-Nov	8-Feb	11.01 07:36:35	0:04:12		1,094.13	76.59	4,006.93	280.49
		11.01 07:45:00	0:11:24		441.43	83.87	4,287.05	814.54
		11.01 08:00:00	0:15:00		1.24	0.31	4,698.66	1,174.66
		11.01 08:15:00	0:15:00		0.25	0.06	4,944.48	1,236.12
		11.01 08:30:00	0:15:00		0.25	0.06	5,122.94	1,280.73
		11.01 08:45:00	0:15:00		0.25	0.06	5,197.75	1,299.44
		11.01 09:00:00	0:15:00		0.00	0.00	5,177.87	1,294.47
		11.01 09:15:00	0:15:00		0.00	0.00	5,172.90	1,293.22
		11.01 09:30:00	0:15:00		0.00	0.00	5,028.98	1,257.25

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		11.01 09:45:00	0:15:00		0.00	0.00	4,924.10	1,231.02
		11.01 10:00:00	0:15:00		0.00	0.00	4,790.62	1,197.66
		11.01 10:15:00	0:15:00		0.00	0.00	4,744.39	1,186.10
		11.01 10:30:00	0:15:00		0.00	0.00	4,713.57	1,178.39
		11.01 10:45:00	0:15:00		0.00	0.00	4,764.03	1,191.01
		11.01 11:00:00	0:15:00		0.00	0.00	4,769.49	1,192.37
		11.01 11:15:00	0:15:00		0.00	0.00	4,844.56	1,211.14
		11.01 11:30:00	0:15:00		0.00	0.00	4,871.40	1,217.85
		11.01 11:45:00	0:15:00		0.00	0.00	4,967.34	1,241.84
		11.01 12:00:00	0:15:00		0.00	0.00	4,984.74	1,246.19
		11.01 12:15:00	0:15:00		0.25	0.06	5,067.26	1,266.82
		11.01 12:30:00	0:15:00		4.23	1.06	5,093.86	1,273.46
		11.01 12:45:00	0:15:00		158.33	39.58	5,282.26	1,320.57
		11.01 13:00:00	0:15:00		339.52	84.88	5,772.91	1,443.23
		11.01 13:15:00	0:15:00		541.60	135.40	6,372.91	1,593.23
		11.01 13:30:00	0:15:00		763.31	190.83	6,959.25	1,739.81
		11.01 13:45:00	0:15:00		1,010.62	252.66	7,712.12	1,928.03
		11.01 14:00:00	0:15:00		1,289.00	322.25	8,369.79	2,092.45
		11.01 14:15:00	0:15:00		1,615.85	403.96	9,135.09	2,283.77
		11.01 14:30:00	0:15:00		1,983.21	495.80	10,023.42	2,505.86
		11.01 14:45:00	0:15:00		2,400.03	600.01	10,553.59	2,638.40
		11.01 15:00:00	0:15:00		3,010.73	752.68	10,002.04	2,500.51
		11.01 15:15:00	0:15:00		3,925.66	981.41	9,361.77	2,340.44
		11.01 15:30:00	0:15:00		4,907.19	1,226.80	8,546.76	2,136.69
11.01 15:45:00	0:15:00		6,051.04	1,512.76	7,781.22	1,945.31		
11.01 16:00:00	0:12:36		7,336.06	1,540.57	7,032.58	1,476.84		
11.01 16:10:12	0:05:24	8:33:36	8,052.14	724.69	6,316.49	568.48	53,078.36	
8-Nov	1-Feb	11.08 07:43:48	0:00:36		954.45	9.54	4,459.80	44.60
		11.08 07:45:00	0:07:48		864.97	112.45	4,503.54	585.46
		11.08 08:00:00	0:15:00		78.79	19.70	4,984.49	1,246.12
		11.08 08:15:00	0:15:00		0.25	0.06	5,320.29	1,330.07
		11.08 08:30:00	0:15:00		0.25	0.06	5,565.86	1,391.47
		11.08 08:45:00	0:15:00		0.00	0.00	5,693.87	1,423.47
		11.08 09:00:00	0:15:00		0.00	0.00	5,690.39	1,422.60
		11.08 09:15:00	0:15:00		0.00	0.00	5,690.39	1,422.60
		11.08 09:30:00	0:15:00		0.00	0.00	5,582.02	1,395.50
		11.08 09:45:00	0:15:00		0.00	0.00	5,465.94	1,366.49
		11.08 10:00:00	0:15:00		0.00	0.00	5,305.13	1,326.28
		11.08 10:15:00	0:15:00		0.00	0.00	5,240.26	1,310.06
		11.08 10:30:00	0:15:00		0.00	0.00	5,193.53	1,298.38
		11.08 10:45:00	0:15:00		0.00	0.00	5,245.48	1,311.37
		11.08 11:00:00	0:15:00		0.00	0.00	5,255.91	1,313.98
		11.08 11:15:00	0:15:00		0.00	0.00	5,336.69	1,334.17
		11.08 11:30:00	0:15:00		0.00	0.00	5,368.26	1,342.07
		11.08 11:45:00	0:15:00		0.00	0.00	5,478.12	1,369.53
		11.08 12:00:00	0:15:00		0.00	0.00	5,497.51	1,374.38
		11.08 12:15:00	0:15:00		0.25	0.06	5,581.52	1,395.38
		11.08 12:30:00	0:15:00		20.13	5.03	5,604.39	1,401.10
		11.08 12:45:00	0:15:00		189.40	47.35	5,905.88	1,476.47
		11.08 13:00:00	0:15:00		381.53	95.38	6,479.79	1,619.95
		11.08 13:15:00	0:15:00		600.26	150.06	7,191.65	1,797.91
		11.08 13:30:00	0:15:00		837.38	209.34	7,876.17	1,969.04
		11.08 13:45:00	0:15:00		1,109.30	277.32	8,678.00	2,169.50
		11.08 14:00:00	0:15:00		1,413.03	353.26	9,213.38	2,303.35
		11.08 14:15:00	0:15:00		1,771.69	442.92	9,978.43	2,494.61
		11.08 14:30:00	0:15:00		2,170.37	542.59	10,860.30	2,715.08
		11.08 14:45:00	0:15:00		2,658.03	664.51	10,668.67	2,667.17
		11.08 15:00:00	0:15:00		3,394.75	848.69	9,992.35	2,498.09
		11.08 15:15:00	0:15:00		4,345.96	1,086.49	9,404.77	2,351.19

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		11.08 15:30:00	0:15:00	5,290.71	1,322.68	8,717.77	2,179.44	
		11.08 15:45:00	0:15:00	6,328.42	1,582.11	7,973.60	1,993.40	
		11.08 16:00:00	0:09:00	7,407.15	1,111.07	6,961.49	1,044.22	
		11.08 16:03:00	0:01:48	8:19:12	7,566.97	227.01	6,801.67	204.05
15-Nov	25-Jan	11.15 07:51:00	0:04:48		1,222.88	97.83	4,523.92	361.91
		11.15 08:00:00	0:12:00		245.07	49.02	5,194.52	1,038.90
		11.15 08:15:00	0:15:00		0.25	0.06	5,659.57	1,414.89
		11.15 08:30:00	0:15:00		0.25	0.06	5,930.24	1,482.56
		11.15 08:45:00	0:15:00		0.00	0.00	6,144.49	1,536.12
		11.15 09:00:00	0:15:00		0.00	0.00	6,179.04	1,544.76
		11.15 09:15:00	0:15:00		0.00	0.00	6,185.50	1,546.38
		11.15 09:30:00	0:15:00		0.00	0.00	6,105.22	1,526.31
		11.15 09:45:00	0:15:00		0.00	0.00	6,001.57	1,500.39
		11.15 10:00:00	0:15:00		0.00	0.00	5,825.10	1,456.28
		11.15 10:15:00	0:15:00		0.00	0.00	5,725.68	1,431.42
		11.15 10:30:00	0:15:00		0.00	0.00	5,646.64	1,411.66
		11.15 10:45:00	0:15:00		0.00	0.00	5,705.30	1,426.33
		11.15 11:00:00	0:15:00		0.00	0.00	5,724.93	1,431.23
		11.15 11:15:00	0:15:00		0.00	0.00	5,805.71	1,451.43
		11.15 11:30:00	0:15:00		0.00	0.00	5,846.48	1,461.62
		11.15 11:45:00	0:15:00		0.00	0.00	5,964.79	1,491.20
		11.15 12:00:00	0:15:00		0.00	0.00	5,976.47	1,494.12
		11.15 12:15:00	0:15:00		0.25	0.06	6,070.42	1,517.61
		11.15 12:30:00	0:15:00		31.82	7.95	6,090.06	1,522.52
		11.15 12:45:00	0:15:00		210.03	52.51	6,505.14	1,626.29
		11.15 13:00:00	0:15:00		414.09	103.52	7,163.56	1,790.89
		11.15 13:15:00	0:15:00		647.73	161.93	7,985.28	1,996.32
		11.15 13:30:00	0:15:00		903.24	225.81	8,780.90	2,195.23
		11.15 13:45:00	0:15:00		1,195.05	298.76	9,569.56	2,392.39
		11.15 14:00:00	0:15:00		1,521.65	380.41	10,098.48	2,524.62
		11.15 14:15:00	0:15:00		1,916.35	479.09	10,846.63	2,711.66
		11.15 14:30:00	0:15:00		2,338.89	584.72	11,459.31	2,864.83
		11.15 14:45:00	0:15:00		2,910.81	727.70	10,719.62	2,679.91
		11.15 15:00:00	0:15:00		3,744.46	936.12	9,963.52	2,490.88
		11.15 15:15:00	0:15:00		4,638.01	1,159.50	9,372.71	2,343.18
		11.15 15:30:00	0:15:00		5,491.54	1,372.89	8,732.68	2,183.17
		11.15 15:45:00	0:13:48		6,397.27	1,471.37	7,971.36	1,833.41
		11.15 15:57:36	0:06:36		7,126.28	783.89	7,242.35	796.66
		11.22 07:57:36	0:01:12	8:08:24	2,302.10	46.04	3,705.69	74.11
22-Nov	18-Jan	11.22 08:00:00	0:09:00		1,656.86	248.53	4,272.39	640.86
		11.22 08:15:00	0:15:00		21.13	5.28	5,882.02	1,470.51
		11.22 08:30:00	0:15:00		0.25	0.06	6,198.18	1,549.55
		11.22 08:45:00	0:15:00		0.00	0.00	6,518.57	1,629.64
		11.22 09:00:00	0:15:00		0.00	0.00	6,597.11	1,649.28
		11.22 09:15:00	0:15:00		0.00	0.00	6,633.90	1,658.47
		11.22 09:30:00	0:15:00		0.00	0.00	6,578.96	1,644.74
		11.22 09:45:00	0:15:00		0.00	0.00	6,505.39	1,626.35
		11.22 10:00:00	0:15:00		0.00	0.00	6,299.84	1,574.96
		11.22 10:15:00	0:15:00		0.00	0.00	6,195.20	1,548.80
		11.22 10:30:00	0:15:00		0.00	0.00	6,079.62	1,519.91
		11.22 10:45:00	0:15:00		0.00	0.00	6,126.35	1,531.59
		11.22 11:00:00	0:15:00		0.00	0.00	6,144.49	1,536.12
		11.22 11:15:00	0:15:00		0.00	0.00	6,233.97	1,558.49
		11.22 11:30:00	0:15:00		0.00	0.00	6,281.94	1,570.49
		11.22 11:45:00	0:15:00		0.00	0.00	6,412.43	1,603.11
		11.22 12:00:00	0:15:00		0.00	0.00	6,418.40	1,604.60
		11.22 12:15:00	0:15:00		0.25	0.06	6,516.83	1,629.21
		11.22 12:30:00	0:15:00		33.06	8.26	6,531.49	1,632.87
		11.22 12:45:00	0:15:00		219.72	54.93	7,019.40	1,754.85

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		11.22 13:00:00	0:15:00	433.98	108.49	7,747.91	1,936.98	
		11.22 13:15:00	0:15:00	678.80	169.70	8,687.94	2,171.99	
		11.22 13:30:00	0:15:00	946.49	236.62	9,493.75	2,373.44	
		11.22 13:45:00	0:15:00	1,258.92	314.73	10,187.47	2,546.87	
		11.22 14:00:00	0:15:00	1,606.90	401.73	10,725.34	2,681.33	
		11.22 14:15:00	0:15:00	2,026.71	506.68	11,427.00	2,856.75	
		11.22 14:30:00	0:15:00	2,480.07	620.02	11,518.97	2,879.74	
		11.22 14:45:00	0:15:00	3,117.86	779.46	10,745.47	2,686.37	
		11.22 15:00:00	0:15:00	3,970.40	992.60	9,960.04	2,490.01	
		11.22 15:15:00	0:15:00	4,801.56	1,200.39	9,378.42	2,344.61	
		11.22 15:30:00	0:15:00	5,550.95	1,387.74	8,767.48	2,191.87	
		11.22 15:45:00	0:12:00	6,277.47	1,255.49	8,091.16	1,618.23	
		11.22 15:54:00	0:04:48	7:55:48	6,771.35	541.71	7,597.29	607.78
29-Nov	11-Jan	11.29 08:04:12	0:05:24	3,356.22	302.06	3,048.51	274.37	
		11.29 08:15:00	0:12:36	234.64	49.27	5,883.26	1,235.49	
		11.29 08:30:00	0:15:00	0.00	0.00	6,416.66	1,604.17	
		11.29 08:45:00	0:15:00	0.00	0.00	6,783.52	1,695.88	
		11.29 09:00:00	0:15:00	0.00	0.00	6,954.03	1,738.51	
		11.29 09:15:00	0:15:00	0.00	0.00	7,012.69	1,753.17	
		11.29 09:30:00	0:15:00	0.00	0.00	6,957.01	1,739.25	
		11.29 09:45:00	0:15:00	0.00	0.00	6,924.21	1,731.05	
		11.29 10:00:00	0:15:00	0.00	0.00	6,724.12	1,681.03	
		11.29 10:15:00	0:15:00	0.00	0.00	6,598.60	1,649.65	
		11.29 10:30:00	0:15:00	0.00	0.00	6,463.39	1,615.85	
		11.29 10:45:00	0:15:00	0.00	0.00	6,485.76	1,621.44	
		11.29 11:00:00	0:15:00	0.00	0.00	6,499.68	1,624.92	
		11.29 11:15:00	0:15:00	0.00	0.00	6,598.10	1,649.53	
		11.29 11:30:00	0:15:00	0.00	0.00	6,646.07	1,661.52	
		11.29 11:45:00	0:15:00	0.00	0.00	6,779.05	1,694.76	
		11.29 12:00:00	0:15:00	0.25	0.06	6,809.87	1,702.47	
		11.29 12:15:00	0:15:00	0.25	0.06	6,898.11	1,724.53	
		11.29 12:30:00	0:15:00	24.36	6.09	6,923.46	1,730.87	
		11.29 12:45:00	0:15:00	214.01	53.50	7,390.99	1,847.75	
		11.29 13:00:00	0:15:00	435.71	108.93	8,136.15	2,034.04	
		11.29 13:15:00	0:15:00	689.99	172.50	8,993.91	2,248.48	
		11.29 13:30:00	0:15:00	970.35	242.59	9,811.65	2,452.91	
		11.29 13:45:00	0:15:00	1,294.22	323.56	10,533.70	2,633.43	
		11.29 14:00:00	0:15:00	1,658.85	414.71	10,993.28	2,748.32	
		11.29 14:15:00	0:15:00	2,093.32	523.33	11,574.15	2,893.54	
		11.29 14:30:00	0:15:00	2,566.32	641.58	11,536.86	2,884.22	
		11.29 14:45:00	0:15:00	3,246.36	811.59	10,776.29	2,694.07	
		11.29 15:00:00	0:15:00	4,126.98	1,031.75	9,962.03	2,490.51	
		11.29 15:15:00	0:15:00	4,844.56	1,211.14	9,434.85	2,358.71	
		11.29 15:30:00	0:15:00	5,491.54	1,372.89	8,867.40	2,216.85	
		11.29 15:45:00	0:10:48	6,126.85	1,102.83	8,241.79	1,483.52	
		11.29 15:51:36	0:03:00	7:46:48	6,487.25	324.36	7,881.39	394.07
6-Dec	4-Jan	12.06 08:10:12	0:02:24	4,094.17	163.77	2,695.56	107.82	
		12.06 08:15:00	0:10:12	2,636.16	448.15	3,952.50	671.93	
		12.06 08:30:00	0:15:00	0.25	0.06	6,549.64	1,637.41	
		12.06 08:45:00	0:15:00	0.00	0.00	6,913.77	1,728.44	
		12.06 09:00:00	0:15:00	0.00	0.00	7,189.16	1,797.29	
		12.06 09:15:00	0:15:00	0.00	0.00	7,299.77	1,824.94	
		12.06 09:30:00	0:15:00	0.00	0.00	7,268.45	1,817.11	
		12.06 09:45:00	0:15:00	0.00	0.00	7,244.84	1,811.21	
		12.06 10:00:00	0:15:00	0.00	0.00	7,077.07	1,769.27	
		12.06 10:15:00	0:15:00	0.00	0.00	6,940.86	1,735.22	
		12.06 10:30:00	0:15:00	0.00	0.00	6,767.87	1,691.97	
		12.06 10:45:00	0:15:00	0.00	0.00	6,764.88	1,691.22	
		12.06 11:00:00	0:15:00	0.00	0.00	6,770.85	1,692.71	

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		12.06 11:15:00	0:15:00		0.00	0.00	6,875.24	1,718.81
		12.06 11:30:00	0:15:00		0.00	0.00	6,928.93	1,732.23
		12.06 11:45:00	0:15:00		0.00	0.00	7,077.31	1,769.33
		12.06 12:00:00	0:15:00		0.25	0.06	7,107.89	1,776.97
		12.06 12:15:00	0:15:00		0.25	0.06	7,188.67	1,797.17
		12.06 12:30:00	0:15:00		7.46	1.86	7,217.50	1,804.38
		12.06 12:45:00	0:15:00		195.86	48.97	7,602.51	1,900.63
		12.06 13:00:00	0:15:00		421.05	105.26	8,331.27	2,082.82
		12.06 13:15:00	0:15:00		678.80	169.70	9,164.42	2,291.11
		12.06 13:30:00	0:15:00		964.39	241.10	9,973.21	2,493.30
		12.06 13:45:00	0:15:00		1,297.45	324.36	10,661.95	2,665.49
		12.06 14:00:00	0:15:00		1,668.54	417.14	11,067.59	2,766.90
		12.06 14:15:00	0:15:00		2,115.44	528.86	11,613.17	2,903.29
		12.06 14:30:00	0:15:00		2,596.39	649.10	11,583.09	2,895.77
		12.06 14:45:00	0:15:00		3,288.86	822.22	10,823.27	2,705.82
		12.06 15:00:00	0:15:00		4,171.72	1,042.93	10,021.93	2,505.48
		12.06 15:15:00	0:15:00		4,789.38	1,197.35	9,535.26	2,383.82
		12.06 15:30:00	0:15:00		5,380.19	1,345.05	8,988.44	2,247.11
12.06 15:45:00	0:10:12		5,944.16	1,010.51	8,424.48	1,432.16		
12.06 15:51:00	0:03:00	7:40:48	6,273.00	313.65	8,095.64	404.78	62,253.89	
13-Dec	27-Dec	12.13 08:15:36	0:07:12		4,670.57	560.47	2,418.68	290.24
		12.13 08:30:00	0:15:00		304.23	76.06	6,302.57	1,575.64
		12.13 08:45:00	0:15:00		0.00	0.00	6,955.52	1,738.88
		12.13 09:00:00	0:15:00		0.00	0.00	7,302.50	1,825.63
		12.13 09:15:00	0:15:00		0.00	0.00	7,472.52	1,868.13
		12.13 09:30:00	0:15:00		0.00	0.00	7,458.60	1,864.65
		12.13 09:45:00	0:15:00		0.00	0.00	7,454.12	1,863.53
		12.13 10:00:00	0:15:00		0.00	0.00	7,338.05	1,834.51
		12.13 10:15:00	0:15:00		0.00	0.00	7,177.73	1,794.43
		12.13 10:30:00	0:15:00		0.00	0.00	6,981.37	1,745.34
		12.13 10:45:00	0:15:00		0.00	0.00	6,948.07	1,737.02
		12.13 11:00:00	0:15:00		0.00	0.00	6,951.55	1,737.89
		12.13 11:15:00	0:15:00		0.00	0.00	7,048.73	1,762.18
		12.13 11:30:00	0:15:00		0.00	0.00	7,094.71	1,773.68
		12.13 11:45:00	0:15:00		0.00	0.00	7,239.87	1,809.97
		12.13 12:00:00	0:15:00		0.00	0.00	7,281.87	1,820.47
		12.13 12:15:00	0:15:00		0.25	0.06	7,373.84	1,843.46
		12.13 12:30:00	0:15:00		0.50	0.12	7,399.44	1,849.86
		12.13 12:45:00	0:15:00		163.55	40.89	7,661.66	1,915.42
		12.13 13:00:00	0:15:00		385.26	96.32	8,381.97	2,095.49
		12.13 13:15:00	0:15:00		644.75	161.19	9,198.97	2,299.74
		12.13 13:30:00	0:15:00		930.09	232.52	9,992.85	2,498.21
		12.13 13:45:00	0:15:00		1,261.41	315.35	10,711.42	2,677.85
		12.13 14:00:00	0:15:00		1,630.01	407.50	11,066.85	2,766.71
		12.13 14:15:00	0:15:00		2,080.15	520.04	11,575.39	2,893.85
		12.13 14:30:00	0:15:00		2,562.09	640.52	11,700.66	2,925.17
		12.13 14:45:00	0:15:00		3,233.19	808.30	10,918.71	2,729.68
12.13 15:00:00	0:15:00		4,090.94	1,022.74	10,137.75	2,534.44		
12.13 15:15:00	0:15:00		4,697.41	1,174.35	9,646.86	2,411.72		
12.13 15:30:00	0:15:00		5,249.20	1,312.30	9,119.43	2,279.86		
12.13 15:45:00	0:10:48		5,754.02	1,035.72	8,614.62	1,550.63		
12.13 15:52:11	0:03:36		6,148.47	368.91	8,220.16	493.21		
20-Dec	No Mirror	12.20 08:19:48	0:04:48		4,786.89	382.95	2,396.55	191.72
		12.20 08:30:00	0:12:36		1,625.04	341.26	5,071.74	1,065.06
		12.20 08:45:00	0:15:00		0.00	0.00	6,927.19	1,731.80
		12.20 09:00:00	0:15:00		0.00	0.00	7,297.28	1,824.32
		12.20 09:15:00	0:15:00		0.00	0.00	7,522.72	1,880.68
		12.20 09:30:00	0:15:00		0.00	0.00	7,529.68	1,882.42
		12.20 09:45:00	0:15:00		0.00	0.00	7,538.88	1,884.72

Quantitative Shadow Results - Impact Times

1979 Mission Street - ALTERNATIVE C RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School Playground

Date	Mirror	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	New SFHR Total/day
		12.20 10:00:00	0:15:00		0.00	0.00	7,447.66	1,861.92
		12.20 10:15:00	0:15:00		0.00	0.00	7,298.78	1,824.69
		12.20 10:30:00	0:15:00		0.00	0.00	7,093.72	1,773.43
		12.20 10:45:00	0:15:00		0.00	0.00	7,026.36	1,756.59
		12.20 11:00:00	0:15:00		0.00	0.00	7,017.66	1,754.42
		12.20 11:15:00	0:15:00		0.00	0.00	7,106.40	1,776.60
		12.20 11:30:00	0:15:00		0.00	0.00	7,148.90	1,787.22
		12.20 11:45:00	0:15:00		0.00	0.00	7,286.35	1,821.59
		12.20 12:00:00	0:15:00		0.00	0.00	7,343.52	1,835.88
		12.20 12:15:00	0:15:00		0.00	0.00	7,435.73	1,858.93
		12.20 12:30:00	0:15:00		0.25	0.06	7,465.56	1,866.39
		12.20 12:45:00	0:15:00		122.04	30.51	7,588.09	1,897.02
		12.20 13:00:00	0:15:00		339.77	84.94	8,296.97	2,074.24
		12.20 13:15:00	0:15:00		593.05	148.26	9,101.04	2,275.26
		12.20 13:30:00	0:15:00		873.42	218.35	9,880.50	2,470.13
		12.20 13:45:00	0:15:00		1,198.53	299.63	10,678.36	2,669.59
		12.20 14:00:00	0:15:00		1,565.39	391.35	11,024.35	2,756.09
		12.20 14:15:00	0:15:00		2,002.60	500.65	11,482.43	2,870.61
		12.20 14:30:00	0:15:00		2,476.09	619.02	11,838.61	2,959.65
		12.20 14:45:00	0:15:00		3,103.44	775.86	11,063.12	2,765.78
		12.20 15:00:00	0:15:00		3,932.12	983.03	10,290.86	2,572.72
		12.20 15:15:00	0:15:00		4,582.83	1,145.71	9,751.75	2,437.94
		12.20 15:30:00	0:15:00		5,128.16	1,282.04	9,240.48	2,310.12
		12.20 15:45:00	0:12:36		5,593.20	1,174.57	8,775.43	1,842.84
		12.20 15:54:36	0:04:48	7:34:48	6,101.49	488.12	8,267.14	661.37
								62,941.73
			234:59:24				3,440,948.07	829,767.86



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
172	06.21 06:46:48	0:06:36	3718.113	408.992	0	0	10650.52	1171.557
172	06.21 07:00:00	0:13:48	2018.255	464.199	0	0	12350.378	2840.587
172	06.21 07:15:00	0:15:00	753.863	188.466	0	0	13614.77	3403.693
172	06.21 07:30:00	0:15:00	332.813	83.203	0	0	14035.82	3508.955
172	06.21 07:45:00	0:15:00	221.213	55.303	0	0	14147.421	3536.855
172	06.21 08:00:00	0:15:00	163.3	40.825	0	0	14205.334	3551.333
172	06.21 08:15:00	0:15:00	111.352	27.838	0	0	14257.281	3564.32
172	06.21 08:30:00	0:15:00	68.104	17.026	0	0	14300.53	3575.132
172	06.21 08:45:00	0:15:00	39.023	9.756	0	0	14329.61	3582.403
172	06.21 09:00:00	0:15:00	15.659	3.915	0	0	14352.974	3588.244
172	06.21 09:15:00	0:15:00	6.462	1.616	3.231	0.808	14358.94	3589.735
172	06.21 09:30:00	0:15:00	4.474	1.118	90.473	22.618	14273.686	3568.421
172	06.21 09:45:00	0:15:00	3.231	0.808	184.675	46.169	14180.727	3545.182
172	06.21 10:00:00	0:15:00	1.491	0.373	260.733	65.183	14106.409	3526.602
172	06.21 10:15:00	0:15:00	0.994	0.249	332.813	83.203	14034.826	3508.706
172	06.21 10:30:00	0:15:00	0.746	0.186	385.507	96.377	13982.381	3495.595
172	06.21 10:45:00	0:15:00	0.497	0.124	441.928	110.482	13926.208	3481.552
172	06.21 11:00:00	0:15:00	0.497	0.124	480.703	120.176	13887.434	3471.858
172	06.21 11:15:00	0:15:00	0.249	0.062	530.91	132.728	13837.474	3459.369
172	06.21 11:30:00	0:15:00	0.249	0.062	557.009	139.252	13811.376	3452.844
172	06.21 11:45:00	0:15:00	0.249	0.062	598.02	149.505	13770.365	3442.591
172	06.21 12:00:00	0:15:00	0.249	0.062	608.708	152.177	13759.677	3439.919
172	06.21 12:15:00	0:15:00	0	0	641.268	160.317	13727.365	3431.841
172	06.21 12:30:00	0:15:00	0	0	638.037	159.509	13730.596	3432.649
172	06.21 12:45:00	0:15:00	0	0	666.869	166.717	13701.764	3425.441
172	06.21 13:00:00	0:15:00	0	0	650.465	162.616	13718.169	3429.542
172	06.21 13:15:00	0:15:00	0	0	670.1	167.525	13698.533	3424.633
172	06.21 13:30:00	0:15:00	0	0	651.956	162.989	13716.677	3429.169
172	06.21 13:45:00	0:15:00	0	0	669.106	167.277	13699.527	3424.882
172	06.21 14:00:00	0:15:00	0.249	0.062	636.546	159.136	13731.839	3432.96
172	06.21 14:15:00	0:15:00	0.249	0.062	636.297	159.074	13732.088	3433.022
172	06.21 14:30:00	0:15:00	23.364	5.841	589.321	147.33	13755.949	3438.987
172	06.21 14:45:00	0:15:00	112.595	28.149	563.471	140.868	13692.568	3423.142
172	06.21 15:00:00	0:15:00	207.045	51.761	498.847	124.712	13662.741	3415.685
172	06.21 15:15:00	0:15:00	301.993	75.498	446.402	111.601	13620.238	3405.06
172	06.21 15:30:00	0:15:00	404.397	101.099	361.148	90.287	13603.088	3400.772
172	06.21 15:45:00	0:15:00	511.275	127.819	278.629	69.657	13578.73	3394.683
172	06.21 16:00:00	0:15:00	621.881	155.47	178.959	44.74	13567.794	3391.948
172	06.21 16:15:00	0:15:00	739.944	184.986	65.867	16.467	13562.823	3390.706
172	06.21 16:30:00	0:15:00	866.458	216.614	0	0	13502.176	3375.544
172	06.21 16:45:00	0:15:00	1018.075	254.519	0	0	13350.558	3337.639
172	06.21 17:00:00	0:15:00	1203.248	300.812	0	0	13165.385	3291.346
172	06.21 17:15:00	0:15:00	1413.524	353.381	0	0	12955.109	3238.777
172	06.21 17:30:00	0:15:00	1663.818	415.954	0	0	12704.816	3176.204
172	06.21 17:45:00	0:15:00	1956.365	489.091	0	0	12412.268	3103.067
172	06.21 18:00:00	0:15:00	2335.658	583.914	0	0	12032.975	3008.244
172	06.21 18:15:00	0:15:00	3169.307	792.327	0	0	11199.327	2799.832
172	06.21 18:30:00	0:15:00	4326.572	1081.643	0	0	10042.061	2510.515
172	06.21 18:45:00	0:15:00	5798.009	1449.502	0	0	8570.624	2142.656
172	06.21 19:00:00	0:15:00	7494.387	1873.597	0	0	6874.246	1718.562
172	06.21 19:15:00	0:18:00	9421.92	2826.576	0	0	4946.713	1484.014
172	06.21 19:36:00	0:10:48	13376.656	2407.798	0	0	991.977	178.556
179	06.28 06:48:35	0:06:00	3725.818	372.582	0	0	10642.815	1064.282
179	06.28 07:00:00	0:13:12	2233.751	491.425	0	0	12134.882	2669.674
179	06.28 07:15:00	0:15:00	881.868	220.467	0	0	13486.765	3371.691
179	06.28 07:30:00	0:15:00	346.484	86.621	0	0	14022.15	3505.537
179	06.28 07:45:00	0:15:00	226.184	56.546	0	0	14142.45	3535.612



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
179	06.28 08:00:00	0:15:00	166.531	41.633	0	0	14202.102	3550.526
179	06.28 08:15:00	0:15:00	116.82	29.205	0	0	14251.813	3562.953
179	06.28 08:30:00	0:15:00	69.595	17.399	0	0	14299.038	3574.76
179	06.28 08:45:00	0:15:00	40.017	10.004	0	0	14328.616	3582.154
179	06.28 09:00:00	0:15:00	16.156	4.039	0	0	14352.477	3588.119
179	06.28 09:15:00	0:15:00	6.214	1.553	2.486	0.621	14359.934	3589.983
179	06.28 09:30:00	0:15:00	4.723	1.181	91.219	22.805	14272.692	3568.173
179	06.28 09:45:00	0:15:00	3.48	0.87	186.167	46.542	14178.987	3544.747
179	06.28 10:00:00	0:15:00	1.74	0.435	262.97	65.742	14103.924	3525.981
179	06.28 10:15:00	0:15:00	0.994	0.249	335.299	83.825	14032.34	3508.085
179	06.28 10:30:00	0:15:00	0.746	0.186	388.986	97.247	13978.901	3494.725
179	06.28 10:45:00	0:15:00	0.497	0.124	445.657	111.414	13922.48	3480.62
179	06.28 11:00:00	0:15:00	0.497	0.124	484.928	121.232	13883.208	3470.802
179	06.28 11:15:00	0:15:00	0.249	0.062	534.887	133.722	13833.497	3458.374
179	06.28 11:30:00	0:15:00	0.249	0.062	562.228	140.557	13806.157	3451.539
179	06.28 11:45:00	0:15:00	0.249	0.062	603.24	150.81	13765.145	3441.286
179	06.28 12:00:00	0:15:00	0.249	0.062	615.916	153.979	13752.469	3438.117
179	06.28 12:15:00	0:15:00	0	0	649.719	162.43	13718.914	3429.729
179	06.28 12:30:00	0:15:00	0	0	647.233	161.808	13721.4	3430.35
179	06.28 12:45:00	0:15:00	0	0	674.077	168.519	13694.556	3423.639
179	06.28 13:00:00	0:15:00	0	0	659.661	164.915	13708.972	3427.243
179	06.28 13:15:00	0:15:00	0	0	676.811	169.203	13691.822	3422.955
179	06.28 13:30:00	0:15:00	0	0	661.152	165.288	13707.481	3426.87
179	06.28 13:45:00	0:15:00	0	0	679.545	169.886	13689.088	3422.272
179	06.28 14:00:00	0:15:00	0.249	0.062	646.985	161.746	13721.4	3430.35
179	06.28 14:15:00	0:15:00	0.249	0.062	647.482	161.871	13720.903	3430.226
179	06.28 14:30:00	0:15:00	17.15	4.288	602.245	150.561	13749.238	3437.309
179	06.28 14:45:00	0:15:00	105.635	26.409	577.39	144.347	13685.608	3421.402
179	06.28 15:00:00	0:15:00	196.606	49.151	514.754	128.689	13657.273	3414.318
179	06.28 15:15:00	0:15:00	292.796	73.199	464.547	116.137	13611.291	3402.823
179	06.28 15:30:00	0:15:00	395.697	98.924	381.53	95.382	13591.406	3397.852
179	06.28 15:45:00	0:15:00	501.83	125.457	300.998	75.25	13565.805	3391.451
179	06.28 16:00:00	0:15:00	616.661	154.165	201.577	50.394	13550.395	3387.599
179	06.28 16:15:00	0:15:00	731.493	182.873	91.468	22.867	13545.672	3386.418
179	06.28 16:30:00	0:15:00	854.527	213.632	0	0	13514.106	3378.527
179	06.28 16:45:00	0:15:00	1003.411	250.853	0	0	13365.223	3341.306
179	06.28 17:00:00	0:15:00	1190.323	297.581	0	0	13178.31	3294.578
179	06.28 17:15:00	0:15:00	1394.634	348.659	0	0	12973.999	3243.5
179	06.28 17:30:00	0:15:00	1636.725	409.181	0	0	12731.908	3182.977
179	06.28 17:45:00	0:15:00	1930.018	482.505	0	0	12438.615	3109.654
179	06.28 18:00:00	0:15:00	2308.317	577.079	0	0	12060.316	3015.079
179	06.28 18:15:00	0:15:00	3099.463	774.866	0	0	11269.17	2817.293
179	06.28 18:30:00	0:15:00	4215.717	1053.929	0	0	10152.916	2538.229
179	06.28 18:45:00	0:15:00	5684.917	1421.229	0	0	8683.716	2170.929
179	06.28 19:00:00	0:15:00	7409.133	1852.283	0	0	6959.5	1739.875
179	06.28 19:15:00	0:18:00	9280.245	2784.073	0	0	5088.389	1526.517
179	06.28 19:36:36	0:10:48	13382.87	2408.917	0	0	985.763	177.437
186	07.05 06:52:12	0:03:36	3681.327	220.88	0	0	10687.306	641.238
186	07.05 07:00:00	0:11:24	2524.31	479.619	0	0	11844.323	2250.421
186	07.05 07:15:00	0:15:00	1080.711	270.178	0	0	13287.922	3321.981
186	07.05 07:30:00	0:15:00	353.94	88.485	0	0	14014.693	3503.673
186	07.05 07:45:00	0:15:00	227.427	56.857	0	0	14141.207	3535.302
186	07.05 08:00:00	0:15:00	166.282	41.571	0	0	14202.351	3550.588
186	07.05 08:15:00	0:15:00	112.843	28.211	0	0	14255.79	3563.947
186	07.05 08:30:00	0:15:00	67.358	16.84	0	0	14301.275	3575.319
186	07.05 08:45:00	0:15:00	37.283	9.321	0	0	14331.35	3582.838
186	07.05 09:00:00	0:15:00	13.173	3.293	0	0	14355.46	3588.865



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
186	07.05 09:15:00	0:15:00	5.468	1.367	10.936	2.734	14352.229	3588.057
186	07.05 09:30:00	0:15:00	4.971	1.243	107.375	26.844	14256.287	3564.072
186	07.05 09:45:00	0:15:00	2.734	0.684	209.282	52.321	14156.617	3539.154
186	07.05 10:00:00	0:15:00	1.74	0.435	286.334	71.583	14080.56	3520.14
186	07.05 10:15:00	0:15:00	0.746	0.186	359.657	89.914	14008.231	3502.058
186	07.05 10:30:00	0:15:00	0.746	0.186	413.345	103.336	13954.543	3488.636
186	07.05 10:45:00	0:15:00	0.497	0.124	471.258	117.814	13896.879	3474.22
186	07.05 11:00:00	0:15:00	0.497	0.124	512.269	128.067	13855.867	3463.967
186	07.05 11:15:00	0:15:00	0.249	0.062	559.246	139.811	13809.139	3452.285
186	07.05 11:30:00	0:15:00	0.249	0.062	588.575	147.144	13779.81	3444.952
186	07.05 11:45:00	0:15:00	0.249	0.062	629.338	157.334	13739.047	3434.762
186	07.05 12:00:00	0:15:00	0.249	0.062	640.274	160.068	13728.111	3432.028
186	07.05 12:15:00	0:15:00	0	0	674.326	168.581	13694.307	3423.577
186	07.05 12:30:00	0:15:00	0	0	673.58	168.395	13695.053	3423.763
186	07.05 12:45:00	0:15:00	0	0	701.17	175.292	13667.464	3416.866
186	07.05 13:00:00	0:15:00	0	0	685.759	171.44	13682.874	3420.718
186	07.05 13:15:00	0:15:00	0	0	704.898	176.224	13663.735	3415.934
186	07.05 13:30:00	0:15:00	0	0	690.482	172.62	13678.151	3419.538
186	07.05 13:45:00	0:15:00	0	0	708.378	177.094	13660.256	3415.064
186	07.05 14:00:00	0:15:00	0.249	0.062	679.794	169.949	13688.591	3422.148
186	07.05 14:15:00	0:15:00	0.249	0.062	682.031	170.508	13686.354	3421.588
186	07.05 14:30:00	0:15:00	12.925	3.231	638.037	159.509	13717.671	3429.418
186	07.05 14:45:00	0:15:00	99.421	24.855	615.667	153.917	13653.545	3413.386
186	07.05 15:00:00	0:15:00	195.86	48.965	553.28	138.32	13619.493	3404.873
186	07.05 15:15:00	0:15:00	293.045	73.261	505.558	126.389	13570.031	3392.508
186	07.05 15:30:00	0:15:00	393.957	98.489	423.784	105.946	13550.892	3387.723
186	07.05 15:45:00	0:15:00	500.835	125.209	345.987	86.497	13521.811	3380.453
186	07.05 16:00:00	0:15:00	613.182	153.295	250.791	62.698	13504.661	3376.165
186	07.05 16:15:00	0:15:00	732.736	183.184	145.155	36.289	13490.742	3372.686
186	07.05 16:30:00	0:15:00	857.261	214.315	13.67	3.418	13497.702	3374.425
186	07.05 16:45:00	0:15:00	995.457	248.864	0	0	13373.176	3343.294
186	07.05 17:00:00	0:15:00	1177.647	294.412	0	0	13190.986	3297.747
186	07.05 17:15:00	0:15:00	1388.669	347.167	0	0	12979.965	3244.991
186	07.05 17:30:00	0:15:00	1627.529	406.882	0	0	12741.105	3185.276
186	07.05 17:45:00	0:15:00	1921.816	480.454	0	0	12446.817	3111.704
186	07.05 18:00:00	0:15:00	2300.363	575.091	0	0	12068.27	3017.068
186	07.05 18:15:00	0:15:00	3107.417	776.854	0	0	11261.217	2815.304
186	07.05 18:30:00	0:15:00	4238.833	1059.708	0	0	10129.801	2532.45
186	07.05 18:45:00	0:15:00	5706.541	1426.635	0	0	8662.092	2165.523
186	07.05 19:00:00	0:15:00	7446.168	1861.542	0	0	6922.465	1730.616
186	07.05 19:15:00	0:18:00	9349.84	2804.952	0	0	5018.794	1505.638
186	07.05 19:36:00	0:10:48	13365.72	2405.83	0	0	1002.914	180.524
193	07.12 06:56:24	0:01:48	3567.986	107.04	0	0	10800.647	324.019
193	07.12 07:00:00	0:09:00	3021.417	453.213	0	0	11347.216	1702.082
193	07.12 07:15:00	0:15:00	1349.894	337.474	0	0	13018.739	3254.685
193	07.12 07:30:00	0:15:00	385.755	96.439	0	0	13982.878	3495.72
193	07.12 07:45:00	0:15:00	224.195	56.049	0	0	14144.438	3536.109
193	07.12 08:00:00	0:15:00	161.063	40.266	0	0	14207.571	3551.893
193	07.12 08:15:00	0:15:00	101.41	25.352	0	0	14267.223	3566.806
193	07.12 08:30:00	0:15:00	60.896	15.224	0	0	14307.738	3576.934
193	07.12 08:45:00	0:15:00	30.572	7.643	0	0	14338.061	3584.515
193	07.12 09:00:00	0:15:00	7.208	1.802	0	0	14361.425	3590.356
193	07.12 09:15:00	0:15:00	5.717	1.429	49.959	12.49	14312.957	3578.239
193	07.12 09:30:00	0:15:00	4.971	1.243	154.6	38.65	14209.062	3552.265
193	07.12 09:45:00	0:15:00	1.988	0.497	255.513	63.878	14111.132	3527.783
193	07.12 10:00:00	0:15:00	0.994	0.249	332.813	83.203	14034.826	3508.706
193	07.12 10:15:00	0:15:00	0.746	0.186	405.639	101.41	13962.248	3490.562



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
193	07.12 10:30:00	0:15:00	0.497	0.124	457.836	114.459	13910.301	3477.575
193	07.12 10:45:00	0:15:00	0.497	0.124	516.743	129.186	13851.393	3462.848
193	07.12 11:00:00	0:15:00	0.249	0.062	555.517	138.879	13812.868	3453.217
193	07.12 11:15:00	0:15:00	0.249	0.062	603.24	150.81	13765.145	3441.286
193	07.12 11:30:00	0:15:00	0.249	0.062	632.072	158.018	13736.313	3434.078
193	07.12 11:45:00	0:15:00	0.249	0.062	673.332	168.333	13695.053	3423.763
193	07.12 12:00:00	0:15:00	0.249	0.062	684.517	171.129	13683.868	3420.967
193	07.12 12:15:00	0:15:00	0	0	719.563	179.891	13649.071	3412.268
193	07.12 12:30:00	0:15:00	0	0	719.065	179.766	13649.568	3412.392
193	07.12 12:45:00	0:15:00	0	0	745.164	186.291	13623.47	3405.867
193	07.12 13:00:00	0:15:00	0	0	730.747	182.687	13637.886	3409.471
193	07.12 13:15:00	0:15:00	0	0	753.863	188.466	13614.77	3403.693
193	07.12 13:30:00	0:15:00	0	0	737.707	184.427	13630.926	3407.732
193	07.12 13:45:00	0:15:00	0	0	758.337	189.584	13610.296	3402.574
193	07.12 14:00:00	0:15:00	0.249	0.062	731.742	182.935	13636.643	3409.161
193	07.12 14:15:00	0:15:00	0.249	0.062	736.216	184.054	13632.169	3408.042
193	07.12 14:30:00	0:15:00	11.185	2.796	694.21	173.553	13663.238	3415.81
193	07.12 14:45:00	0:15:00	98.676	24.669	675.569	168.892	13594.389	3398.597
193	07.12 15:00:00	0:15:00	193.623	48.406	615.17	153.793	13559.84	3389.96
193	07.12 15:15:00	0:15:00	292.796	73.199	568.442	142.111	13507.395	3376.849
193	07.12 15:30:00	0:15:00	397.189	99.297	489.153	122.288	13482.291	3370.573
193	07.12 15:45:00	0:15:00	503.57	125.892	414.836	103.709	13450.228	3362.557
193	07.12 16:00:00	0:15:00	617.904	154.476	325.108	81.277	13425.621	3356.405
193	07.12 16:15:00	0:15:00	742.678	185.67	225.935	56.484	13400.02	3350.005
193	07.12 16:30:00	0:15:00	869.44	217.36	83.265	20.816	13415.927	3353.982
193	07.12 16:45:00	0:15:00	1007.139	251.785	0	0	13361.494	3340.374
193	07.12 17:00:00	0:15:00	1177.398	294.35	0	0	13191.235	3297.809
193	07.12 17:15:00	0:15:00	1390.657	347.664	0	0	12977.976	3244.494
193	07.12 17:30:00	0:15:00	1638.714	409.678	0	0	12729.92	3182.48
193	07.12 17:45:00	0:15:00	1925.793	481.448	0	0	12442.84	3110.71
193	07.12 18:00:00	0:15:00	2330.935	582.734	0	0	12037.698	3009.424
193	07.12 18:15:00	0:15:00	3186.705	796.676	0	0	11181.928	2795.482
193	07.12 18:30:00	0:15:00	4351.924	1087.981	0	0	10016.709	2504.177
193	07.12 18:45:00	0:15:00	5854.679	1463.67	0	0	8513.954	2128.488
193	07.12 19:00:00	0:15:00	7685.028	1921.257	0	0	6683.605	1670.901
193	07.12 19:15:00	0:16:48	9695.578	2714.762	0	0	4673.056	1308.456
193	07.12 19:33:36	0:09:00	13306.564	1995.985	0	0	1062.069	159.31
200	07.19 07:01:11	0:07:48	3426.808	445.485	0	0	10941.825	1422.437
200	07.19 07:16:11	0:14:24	1577.57	378.617	0	0	12791.064	3069.855
200	07.19 07:30:00	0:14:24	515.749	123.78	0	0	13852.885	3324.692
200	07.19 07:45:00	0:15:00	215.496	53.874	0	0	14153.137	3538.284
200	07.19 08:00:00	0:15:00	151.121	37.78	0	0	14217.513	3554.378
200	07.19 08:15:00	0:15:00	87.491	21.873	0	0	14281.142	3570.286
200	07.19 08:30:00	0:15:00	49.711	12.428	0	0	14318.923	3579.731
200	07.19 08:45:00	0:15:00	19.139	4.785	0	0	14349.495	3587.374
200	07.19 09:00:00	0:15:00	6.959	1.74	5.468	1.367	14356.206	3589.051
200	07.19 09:15:00	0:15:00	5.468	1.367	128.254	32.063	14234.911	3558.728
200	07.19 09:30:00	0:15:00	2.983	0.746	235.132	58.783	14130.519	3532.63
200	07.19 09:45:00	0:15:00	1.74	0.435	332.565	83.141	14034.329	3508.582
200	07.19 10:00:00	0:15:00	0.994	0.249	405.639	101.41	13962	3490.5
200	07.19 10:15:00	0:15:00	0.746	0.186	475.483	118.871	13892.405	3473.101
200	07.19 10:30:00	0:15:00	0.497	0.124	526.188	131.547	13841.948	3460.487
200	07.19 10:45:00	0:15:00	0.497	0.124	579.875	144.969	13788.261	3447.065
200	07.19 11:00:00	0:15:00	0.249	0.062	616.91	154.227	13751.475	3437.869
200	07.19 11:15:00	0:15:00	0.249	0.062	667.366	166.842	13701.018	3425.255
200	07.19 11:30:00	0:15:00	0.249	0.062	694.707	173.677	13673.678	3418.419
200	07.19 11:45:00	0:15:00	0.249	0.062	735.221	183.805	13633.163	3408.291



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
200	07.19 12:00:00	0:15:00	0.249	0.062	748.892	187.223	13619.493	3404.873
200	07.19 12:15:00	0:15:00	0	0	780.707	195.177	13587.927	3396.982
200	07.19 12:30:00	0:15:00	0	0	780.955	195.239	13587.678	3396.919
200	07.19 12:45:00	0:15:00	0	0	808.793	202.198	13559.84	3389.96
200	07.19 13:00:00	0:15:00	0	0	796.863	199.216	13571.771	3392.943
200	07.19 13:15:00	0:15:00	0	0	816.996	204.249	13551.638	3387.909
200	07.19 13:30:00	0:15:00	0	0	805.811	201.453	13562.823	3390.706
200	07.19 13:45:00	0:15:00	0	0	825.446	206.362	13543.187	3385.797
200	07.19 14:00:00	0:15:00	0.249	0.062	804.319	201.08	13564.065	3391.016
200	07.19 14:15:00	0:15:00	0.249	0.062	808.296	202.074	13560.089	3390.022
200	07.19 14:30:00	0:15:00	15.41	3.853	772.007	193.002	13581.216	3395.304
200	07.19 14:45:00	0:15:00	105.138	26.285	753.366	188.341	13510.129	3377.532
200	07.19 15:00:00	0:15:00	202.074	50.519	694.707	173.677	13471.852	3367.963
200	07.19 15:15:00	0:15:00	301.744	75.436	653.944	163.486	13412.945	3353.236
200	07.19 15:30:00	0:15:00	406.137	101.534	574.656	143.664	13387.841	3346.96
200	07.19 15:45:00	0:15:00	519.974	129.994	505.558	126.389	13343.101	3335.775
200	07.19 16:00:00	0:15:00	636.546	159.136	425.027	106.257	13307.061	3326.765
200	07.19 16:15:00	0:15:00	758.834	189.709	333.062	83.265	13276.737	3319.184
200	07.19 16:30:00	0:15:00	892.556	223.139	195.86	48.965	13280.217	3320.054
200	07.19 16:45:00	0:15:00	1035.226	258.806	36.04	9.01	13297.367	3324.342
200	07.19 17:00:00	0:15:00	1192.311	298.078	0	0	13176.322	3294.08
200	07.19 17:15:00	0:15:00	1403.085	350.771	0	0	12965.548	3241.387
200	07.19 17:30:00	0:15:00	1658.101	414.525	0	0	12710.532	3177.633
200	07.19 17:45:00	0:15:00	1953.383	488.346	0	0	12415.251	3103.813
200	07.19 18:00:00	0:15:00	2430.357	607.589	0	0	11938.276	2984.569
200	07.19 18:15:00	0:15:00	3358.953	839.738	0	0	11009.68	2752.42
200	07.19 18:30:00	0:15:00	4573.883	1143.471	0	0	9794.751	2448.688
200	07.19 18:45:00	0:15:00	6171.834	1542.958	0	0	8196.8	2049.2
200	07.19 19:00:00	0:15:00	8161.008	2040.252	0	0	6207.625	1551.906
200	07.19 19:15:00	0:15:00	10331.378	2582.844	0	0	4037.256	1009.314
200	07.19 19:30:00	0:07:48	13260.084	1723.811	0	0	1108.549	144.111
207	07.26 07:07:12	0:03:36	3262.266	195.736	0	0	11106.368	666.382
207	07.26 07:15:00	0:11:24	2157.445	409.915	0	0	12211.188	2320.126
207	07.26 07:30:00	0:15:00	765.794	191.448	0	0	13602.84	3400.71
207	07.26 07:45:00	0:15:00	199.837	49.959	0	0	14168.796	3542.199
207	07.26 08:00:00	0:15:00	134.219	33.555	0	0	14234.414	3558.604
207	07.26 08:15:00	0:15:00	70.341	17.585	0	0	14298.293	3574.573
207	07.26 08:30:00	0:15:00	33.306	8.327	0	0	14335.327	3583.832
207	07.26 08:45:00	0:15:00	7.208	1.802	0	0	14361.425	3590.356
207	07.26 09:00:00	0:15:00	5.22	1.305	94.947	23.737	14268.466	3567.117
207	07.26 09:15:00	0:15:00	4.723	1.181	231.9	57.975	14132.01	3533.003
207	07.26 09:30:00	0:15:00	1.988	0.497	338.033	84.508	14028.612	3507.153
207	07.26 09:45:00	0:15:00	0.994	0.249	432.732	108.183	13934.907	3483.727
207	07.26 10:00:00	0:15:00	0.746	0.186	501.333	125.333	13866.555	3466.639
207	07.26 10:15:00	0:15:00	0.497	0.124	567.945	141.986	13800.191	3450.048
207	07.26 10:30:00	0:15:00	0.497	0.124	616.413	154.103	13751.723	3437.931
207	07.26 10:45:00	0:15:00	0.249	0.062	667.118	166.779	13701.267	3425.317
207	07.26 11:00:00	0:15:00	0.249	0.062	702.164	175.541	13666.221	3416.555
207	07.26 11:15:00	0:15:00	0.249	0.062	748.395	187.099	13619.99	3404.997
207	07.26 11:30:00	0:15:00	0.249	0.062	776.233	194.058	13592.152	3398.038
207	07.26 11:45:00	0:15:00	0.249	0.062	819.73	204.932	13548.655	3387.164
207	07.26 12:00:00	0:15:00	0	0	831.412	207.853	13537.222	3384.305
207	07.26 12:15:00	0:15:00	0	0	865.712	216.428	13502.921	3375.73
207	07.26 12:30:00	0:15:00	0	0	865.464	216.366	13503.17	3375.792
207	07.26 12:45:00	0:15:00	0	0	893.55	223.388	13475.083	3368.771
207	07.26 13:00:00	0:15:00	0	0	881.62	220.405	13487.014	3371.753
207	07.26 13:15:00	0:15:00	0	0	901.752	225.438	13466.881	3366.72



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
207	07.26 13:30:00	0:15:00	0	0	893.302	223.325	13475.332	3368.833
207	07.26 13:45:00	0:15:00	0	0	915.92	228.98	13452.713	3363.178
207	07.26 14:00:00	0:15:00	0.249	0.062	895.041	223.76	13473.343	3368.336
207	07.26 14:15:00	0:15:00	0.249	0.062	905.978	226.494	13462.407	3365.602
207	07.26 14:30:00	0:15:00	22.618	5.655	869.192	217.298	13476.823	3369.206
207	07.26 14:45:00	0:15:00	115.826	28.956	858.007	214.502	13394.8	3348.7
207	07.26 15:00:00	0:15:00	213.259	53.315	807.302	201.825	13348.072	3337.018
207	07.26 15:15:00	0:15:00	315.166	78.791	767.782	191.945	13285.685	3321.421
207	07.26 15:30:00	0:15:00	425.027	106.257	686.505	171.626	13257.102	3314.275
207	07.26 15:45:00	0:15:00	537.87	134.467	623.621	155.905	13207.142	3301.786
207	07.26 16:00:00	0:15:00	661.152	165.288	552.286	138.072	13155.195	3288.799
207	07.26 16:15:00	0:15:00	790.897	197.724	471.755	117.939	13105.981	3276.495
207	07.26 16:30:00	0:15:00	929.59	232.398	341.264	85.316	13097.779	3274.445
207	07.26 16:45:00	0:15:00	1077.728	269.432	188.155	47.039	13102.75	3275.687
207	07.26 17:00:00	0:15:00	1238.294	309.573	8.202	2.051	13122.137	3280.534
207	07.26 17:15:00	0:15:00	1436.64	359.16	0	0	12931.994	3232.998
207	07.26 17:30:00	0:15:00	1701.598	425.399	0	0	12667.036	3166.759
207	07.26 17:45:00	0:15:00	2007.07	501.768	0	0	12361.563	3090.391
207	07.26 18:00:00	0:15:00	2618.76	654.69	0	0	11749.873	2937.468
207	07.26 18:15:00	0:15:00	3614.466	903.617	0	0	10754.167	2688.542
207	07.26 18:30:00	0:15:00	4925.835	1231.459	0	0	9442.799	2360.7
207	07.26 18:45:00	0:15:00	6663.97	1665.992	0	0	7704.664	1926.166
207	07.26 19:00:00	0:15:00	8935.252	2233.813	0	0	5433.381	1358.345
207	07.26 19:15:00	0:12:36	11268.425	2366.369	0	0	3100.209	651.044
207	07.26 19:25:12	0:05:24	13219.819	1189.784	0	0	1148.815	103.393
214	08.02 07:12:36	0:01:12	3025.643	60.513	0	0	11342.991	226.86
214	08.02 07:15:00	0:09:00	2678.413	401.762	0	0	11690.22	1753.533
214	08.02 07:30:00	0:15:00	1088.665	272.166	0	0	13279.969	3319.992
214	08.02 07:45:00	0:15:00	203.814	50.953	0	0	14164.819	3541.205
214	08.02 08:00:00	0:15:00	97.682	24.42	0	0	14270.952	3567.738
214	08.02 08:15:00	0:15:00	46.977	11.744	0	0	14321.657	3580.414
214	08.02 08:30:00	0:15:00	11.185	2.796	0	0	14357.448	3589.362
214	08.02 08:45:00	0:15:00	5.717	1.429	77.052	19.263	14285.865	3571.466
214	08.02 09:00:00	0:15:00	5.468	1.367	238.86	59.715	14124.305	3531.076
214	08.02 09:15:00	0:15:00	1.988	0.497	373.079	93.27	13993.566	3498.391
214	08.02 09:30:00	0:15:00	1.243	0.311	472.252	118.063	13895.139	3473.785
214	08.02 09:45:00	0:15:00	0.746	0.186	562.725	140.681	13805.162	3451.291
214	08.02 10:00:00	0:15:00	0.497	0.124	625.361	156.34	13742.775	3435.694
214	08.02 10:15:00	0:15:00	0.497	0.124	687.251	171.813	13680.886	3420.221
214	08.02 10:30:00	0:15:00	0.497	0.124	726.274	181.568	13641.863	3410.466
214	08.02 10:45:00	0:15:00	0.249	0.062	780.707	195.177	13587.678	3396.919
214	08.02 11:00:00	0:15:00	0.249	0.062	813.267	203.317	13555.117	3388.779
214	08.02 11:15:00	0:15:00	0.249	0.062	860.99	215.247	13507.395	3376.849
214	08.02 11:30:00	0:15:00	0.249	0.062	885.099	221.275	13483.285	3370.821
214	08.02 11:45:00	0:15:00	0.249	0.062	925.365	231.341	13443.02	3360.755
214	08.02 12:00:00	0:15:00	0	0	937.047	234.262	13431.586	3357.897
214	08.02 12:15:00	0:15:00	0	0	969.607	242.402	13399.026	3349.756
214	08.02 12:30:00	0:15:00	0	0	968.365	242.091	13400.269	3350.067
214	08.02 12:45:00	0:15:00	0	0	994.463	248.616	13374.17	3343.543
214	08.02 13:00:00	0:15:00	0	0	984.272	246.068	13384.361	3346.09
214	08.02 13:15:00	0:15:00	0	0	1004.654	251.163	13363.98	3340.995
214	08.02 13:30:00	0:15:00	0	0	1001.671	250.418	13366.962	3341.741
214	08.02 13:45:00	0:15:00	0	0	1025.035	256.259	13343.598	3335.9
214	08.02 14:00:00	0:15:00	0.249	0.062	1009.127	252.282	13359.257	3339.814
214	08.02 14:15:00	0:15:00	0.249	0.062	1021.804	255.451	13346.581	3336.645
214	08.02 14:30:00	0:15:00	34.3	8.575	989.243	247.311	13345.09	3336.272
214	08.02 14:45:00	0:15:00	131.485	32.871	989.74	247.435	13247.408	3311.852



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
214	08.02 15:00:00	0:15:00	232.895	58.224	952.209	238.052	13183.53	3295.882
214	08.02 15:15:00	0:15:00	339.773	84.943	921.885	230.471	13106.975	3276.744
214	08.02 15:30:00	0:15:00	452.616	113.154	844.088	211.022	13071.929	3267.982
214	08.02 15:45:00	0:15:00	574.407	143.602	784.435	196.109	13009.791	3252.448
214	08.02 16:00:00	0:15:00	698.684	174.671	707.881	176.97	12962.069	3240.517
214	08.02 16:15:00	0:15:00	836.134	209.034	636.794	159.199	12895.705	3223.926
214	08.02 16:30:00	0:15:00	979.053	244.763	517.986	129.496	12871.595	3217.899
214	08.02 16:45:00	0:15:00	1137.133	284.283	374.322	93.58	12857.179	3214.295
214	08.02 17:00:00	0:15:00	1310.872	327.718	171.253	42.813	12886.508	3221.627
214	08.02 17:15:00	0:15:00	1495.298	373.825	0	0	12873.335	3218.334
214	08.02 17:30:00	0:15:00	1753.545	438.386	0	0	12615.088	3153.772
214	08.02 17:45:00	0:15:00	2117.925	529.481	0	0	12250.708	3062.677
214	08.02 18:00:00	0:15:00	2901.863	725.466	0	0	11466.77	2866.693
214	08.02 18:15:00	0:15:00	3987.793	996.948	0	0	10380.84	2595.21
214	08.02 18:30:00	0:15:00	5418.716	1354.679	0	0	8949.917	2237.479
214	08.02 18:45:00	0:15:00	7397.948	1849.487	0	0	6970.685	1742.671
214	08.02 19:00:00	0:15:00	9886.715	2471.679	0	0	4481.918	1120.479
214	08.02 19:15:00	0:09:00	12557.672	1883.651	0	0	1810.961	271.644
214	08.02 19:18:36	0:01:48	13146.744	394.402	0	0	1221.889	36.657
221	08.09 07:19:12	0:05:24	2811.638	253.047	0	0	11556.995	1040.13
221	08.09 07:30:00	0:12:36	1479.391	310.672	0	0	12889.242	2706.741
221	08.09 07:45:00	0:15:00	359.657	89.914	0	0	14008.976	3502.244
221	08.09 08:00:00	0:15:00	64.375	16.094	0	0	14304.258	3576.064
221	08.09 08:15:00	0:15:00	17.15	4.288	0	0	14351.483	3587.871
221	08.09 08:30:00	0:15:00	5.965	1.491	67.109	16.777	14295.559	3573.89
221	08.09 08:45:00	0:15:00	5.22	1.305	258.247	64.562	14105.167	3526.292
221	08.09 09:00:00	0:15:00	2.237	0.559	427.015	106.754	13939.381	3484.845
221	08.09 09:15:00	0:15:00	1.243	0.311	548.806	137.202	13818.584	3454.646
221	08.09 09:30:00	0:15:00	0.994	0.249	640.274	160.068	13727.365	3431.841
221	08.09 09:45:00	0:15:00	0.746	0.186	717.077	179.269	13650.811	3412.703
221	08.09 10:00:00	0:15:00	0.497	0.124	773.499	193.375	13594.637	3398.659
221	08.09 10:15:00	0:15:00	0.497	0.124	833.4	208.35	13534.736	3383.684
221	08.09 10:30:00	0:15:00	0.249	0.062	873.417	218.354	13494.967	3373.742
221	08.09 10:45:00	0:15:00	0.249	0.062	924.371	231.093	13444.014	3361.004
221	08.09 11:00:00	0:15:00	0.249	0.062	948.729	237.182	13419.656	3354.914
221	08.09 11:15:00	0:15:00	0.249	0.062	993.966	248.491	13374.419	3343.605
221	08.09 11:30:00	0:15:00	0.249	0.062	1012.359	253.09	13356.026	3339.007
221	08.09 11:45:00	0:15:00	0	0	1053.37	263.343	13315.263	3328.816
221	08.09 12:00:00	0:15:00	0	0	1060.33	265.082	13308.304	3327.076
221	08.09 12:15:00	0:15:00	0	0	1093.139	273.285	13275.495	3318.874
221	08.09 12:30:00	0:15:00	0	0	1091.399	272.85	13277.235	3319.309
221	08.09 12:45:00	0:15:00	0	0	1112.774	278.194	13255.859	3313.965
221	08.09 13:00:00	0:15:00	0	0	1103.081	275.77	13265.553	3316.388
221	08.09 13:15:00	0:15:00	0	0	1128.93	282.233	13239.703	3309.926
221	08.09 13:30:00	0:15:00	0	0	1126.196	281.549	13242.437	3310.609
221	08.09 13:45:00	0:15:00	0	0	1154.78	288.695	13213.853	3303.463
221	08.09 14:00:00	0:15:00	0.249	0.062	1145.335	286.334	13223.05	3305.762
221	08.09 14:15:00	0:15:00	0.249	0.062	1163.231	290.808	13205.154	3301.289
221	08.09 14:30:00	0:15:00	52.445	13.111	1130.422	282.605	13185.767	3296.442
221	08.09 14:45:00	0:15:00	154.352	38.588	1153.289	288.322	13060.993	3265.248
221	08.09 15:00:00	0:15:00	260.733	65.183	1132.659	283.165	12975.242	3243.81
221	08.09 15:15:00	0:15:00	370.345	92.586	1118.74	279.685	12879.549	3219.887
221	08.09 15:30:00	0:15:00	489.899	122.475	1046.411	261.603	12832.324	3208.081
221	08.09 15:45:00	0:15:00	617.159	154.29	998.688	249.672	12752.787	3188.197
221	08.09 16:00:00	0:15:00	748.146	187.037	911.694	227.924	12708.793	3177.198
221	08.09 16:15:00	0:15:00	891.562	222.89	838.868	209.717	12638.203	3159.551
221	08.09 16:30:00	0:15:00	1048.15	262.038	728.013	182.003	12592.469	3148.117



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
221	08.09 16:45:00	0:15:00	1214.681	303.67	599.263	149.816	12554.689	3138.672
221	08.09 17:00:00	0:15:00	1398.859	349.715	406.882	101.721	12562.892	3140.723
221	08.09 17:15:00	0:15:00	1604.91	401.228	168.519	42.13	12595.204	3148.801
221	08.09 17:30:00	0:15:00	1832.088	458.022	0	0	12536.545	3134.136
221	08.09 17:45:00	0:15:00	2360.762	590.19	0	0	12007.871	3001.968
221	08.09 18:00:00	0:15:00	3281.404	820.351	0	0	11087.229	2771.807
221	08.09 18:15:00	0:15:00	4489.126	1122.282	0	0	9879.507	2469.877
221	08.09 18:30:00	0:15:00	6104.724	1526.181	0	0	8263.909	2065.977
221	08.09 18:45:00	0:20:24	8410.307	2859.504	0	0	5958.326	2025.831
221	08.09 19:10:48	0:12:36	13303.83	2793.804	0	0	1064.803	223.609
228	08.16 07:25:12	0:02:24	2542.454	101.698	0	0	11826.179	473.047
228	08.16 07:30:00	0:10:12	1977.244	336.131	0	0	12391.39	2106.536
228	08.16 07:45:00	0:15:00	642.262	160.566	0	0	13726.371	3431.593
228	08.16 08:00:00	0:15:00	23.861	5.965	0	0	14344.772	3586.193
228	08.16 08:15:00	0:15:00	6.214	1.553	79.786	19.946	14282.634	3570.658
228	08.16 08:30:00	0:15:00	4.971	1.243	286.085	71.521	14077.577	3519.394
228	08.16 08:45:00	0:15:00	2.486	0.621	478.217	119.554	13887.931	3471.983
228	08.16 09:00:00	0:15:00	1.243	0.311	638.783	159.696	13728.608	3432.152
228	08.16 09:15:00	0:15:00	0.994	0.249	758.585	189.646	13609.054	3402.263
228	08.16 09:30:00	0:15:00	0.746	0.186	835.886	208.971	13532.002	3383
228	08.16 09:45:00	0:15:00	0.497	0.124	904.486	226.122	13463.65	3365.912
228	08.16 10:00:00	0:15:00	0.497	0.124	957.18	239.295	13410.956	3352.739
228	08.16 10:15:00	0:15:00	0.249	0.062	1018.821	254.705	13349.564	3337.391
228	08.16 10:30:00	0:15:00	0.249	0.062	1052.127	263.032	13316.257	3329.064
228	08.16 10:45:00	0:15:00	0.249	0.062	1090.405	272.601	13277.98	3319.495
228	08.16 11:00:00	0:15:00	0.249	0.062	1110.04	277.51	13258.344	3314.586
228	08.16 11:15:00	0:15:00	0.249	0.062	1145.832	286.458	13222.553	3305.638
228	08.16 11:30:00	0:15:00	0.249	0.062	1162.734	290.683	13205.651	3301.413
228	08.16 11:45:00	0:15:00	0	0	1198.028	299.507	13170.605	3292.651
228	08.16 12:00:00	0:15:00	0	0	1205.982	301.495	13162.651	3290.663
228	08.16 12:15:00	0:15:00	0	0	1233.82	308.455	13134.813	3283.703
228	08.16 12:30:00	0:15:00	0	0	1231.583	307.896	13137.05	3284.263
228	08.16 12:45:00	0:15:00	0	0	1251.964	312.991	13116.669	3279.167
228	08.16 13:00:00	0:15:00	0	0	1243.016	310.754	13125.617	3281.404
228	08.16 13:15:00	0:15:00	0	0	1267.126	316.782	13101.507	3275.377
228	08.16 13:30:00	0:15:00	0	0	1273.588	318.397	13095.045	3273.761
228	08.16 13:45:00	0:15:00	0	0	1306.646	326.662	13061.987	3265.497
228	08.16 14:00:00	0:15:00	0.249	0.062	1303.663	325.916	13064.721	3266.18
228	08.16 14:15:00	0:15:00	0.497	0.124	1322.056	330.514	13046.08	3261.52
228	08.16 14:30:00	0:15:00	77.3	19.325	1296.207	324.052	12995.126	3248.782
228	08.16 14:45:00	0:15:00	181.196	45.299	1353.374	338.344	12834.064	3208.516
228	08.16 15:00:00	0:15:00	290.311	72.578	1351.883	337.971	12726.44	3181.61
228	08.16 15:15:00	0:15:00	410.859	102.715	1370.027	342.507	12587.747	3146.937
228	08.16 15:30:00	0:15:00	535.881	133.97	1325.288	331.322	12507.464	3126.866
228	08.16 15:45:00	0:15:00	670.846	167.712	1290.242	322.56	12407.546	3101.886
228	08.16 16:00:00	0:15:00	809.539	202.385	1191.814	297.954	12367.28	3091.82
228	08.16 16:15:00	0:15:00	964.636	241.159	1098.11	274.527	12305.887	3076.472
228	08.16 16:30:00	0:15:00	1130.422	282.605	984.272	246.068	12253.94	3063.485
228	08.16 16:45:00	0:15:00	1315.843	328.961	871.429	217.857	12181.362	3045.34
228	08.16 17:00:00	0:15:00	1516.674	379.168	694.459	173.615	12157.501	3039.375
228	08.16 17:15:00	0:15:00	1741.863	435.466	468.772	117.193	12157.998	3039.499
228	08.16 17:30:00	0:15:00	2029.688	507.422	150.375	37.594	12188.57	3047.142
228	08.16 17:45:00	0:15:00	2722.159	680.54	0	0	11646.475	2911.619
228	08.16 18:00:00	0:15:00	3750.673	937.668	0	0	10617.96	2654.49
228	08.16 18:15:00	0:15:00	5119.209	1279.802	0	0	9249.424	2312.356
228	08.16 18:30:00	0:15:00	7010.702	1752.675	0	0	7357.931	1839.483
228	08.16 18:45:00	0:16:12	9675.445	2612.37	0	0	4693.188	1267.161



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
228	08.16 19:02:23	0:08:24	13244.177	1854.185	0	0	1124.456	157.424
235	08.23 07:31:48	0:06:36	2352.56	258.782	0	0	12016.074	1321.768
235	08.23 07:45:00	0:13:48	979.053	225.182	0	0	13389.581	3079.604
235	08.23 08:00:00	0:15:00	64.624	16.156	101.41	25.352	14202.6	3550.65
235	08.23 08:15:00	0:15:00	5.22	1.305	340.021	85.005	14023.392	3505.848
235	08.23 08:30:00	0:15:00	2.486	0.621	550.049	137.512	13816.099	3454.025
235	08.23 08:45:00	0:15:00	1.243	0.311	733.979	183.495	13633.412	3408.353
235	08.23 09:00:00	0:15:00	0.994	0.249	888.33	222.083	13479.309	3369.827
235	08.23 09:15:00	0:15:00	0.746	0.186	1006.145	251.536	13361.743	3340.436
235	08.23 09:30:00	0:15:00	0.497	0.124	1068.035	267.009	13300.101	3325.025
235	08.23 09:45:00	0:15:00	0.497	0.124	1133.901	283.475	13234.235	3308.559
235	08.23 10:00:00	0:15:00	0.249	0.062	1182.121	295.53	13186.264	3296.566
235	08.23 10:15:00	0:15:00	0.249	0.062	1232.08	308.02	13136.305	3284.076
235	08.23 10:30:00	0:15:00	0.249	0.062	1252.959	313.24	13115.426	3278.857
235	08.23 10:45:00	0:15:00	0.249	0.062	1280.051	320.013	13088.334	3272.083
235	08.23 11:00:00	0:15:00	0.249	0.062	1290.49	322.623	13077.895	3269.474
235	08.23 11:15:00	0:15:00	0.249	0.062	1320.317	330.079	13048.068	3262.017
235	08.23 11:30:00	0:15:00	0	0	1333.987	333.497	13034.646	3258.662
235	08.23 11:45:00	0:15:00	0	0	1365.553	341.388	13003.08	3250.77
235	08.23 12:00:00	0:15:00	0	0	1369.033	342.258	12999.6	3249.9
235	08.23 12:15:00	0:15:00	0	0	1392.894	348.224	12975.739	3243.935
235	08.23 12:30:00	0:15:00	0	0	1388.42	347.105	12980.213	3245.053
235	08.23 12:45:00	0:15:00	0	0	1408.802	352.2	12959.832	3239.958
235	08.23 13:00:00	0:15:00	0	0	1401.096	350.274	12967.537	3241.884
235	08.23 13:15:00	0:15:00	0	0	1431.669	357.917	12936.965	3234.241
235	08.23 13:30:00	0:15:00	0	0	1442.356	360.589	12926.277	3231.569
235	08.23 13:45:00	0:15:00	0	0	1481.131	370.283	12887.503	3221.876
235	08.23 14:00:00	0:15:00	0.249	0.062	1481.379	370.345	12887.005	3221.751
235	08.23 14:15:00	0:15:00	6.462	1.616	1504.743	376.186	12857.428	3214.357
235	08.23 14:30:00	0:15:00	109.861	27.465	1503.003	375.751	12755.769	3188.942
235	08.23 14:45:00	0:15:00	218.727	54.682	1590.494	397.624	12559.412	3139.853
235	08.23 15:00:00	0:15:00	336.79	84.198	1625.54	406.385	12406.303	3101.576
235	08.23 15:15:00	0:15:00	461.564	115.391	1670.529	417.632	12236.541	3059.135
235	08.23 15:30:00	0:15:00	593.546	148.386	1662.575	415.644	12112.513	3028.128
235	08.23 15:45:00	0:15:00	737.956	184.489	1658.101	414.525	11972.577	2993.144
235	08.23 16:00:00	0:15:00	889.822	222.455	1581.546	395.387	11897.265	2974.316
235	08.23 16:15:00	0:15:00	1057.347	264.337	1495.05	373.762	11816.237	2954.059
235	08.23 16:30:00	0:15:00	1237.797	309.449	1330.01	332.503	11800.826	2950.207
235	08.23 16:45:00	0:15:00	1442.605	360.651	1227.606	306.902	11698.422	2924.606
235	08.23 17:00:00	0:15:00	1660.338	415.084	1033.983	258.496	11674.313	2918.578
235	08.23 17:15:00	0:15:00	1918.585	479.646	832.406	208.101	11617.642	2904.411
235	08.23 17:30:00	0:15:00	2418.426	604.607	533.147	133.287	11417.06	2854.265
235	08.23 17:45:00	0:15:00	3256.797	814.199	137.202	34.3	10974.634	2743.659
235	08.23 18:00:00	0:15:00	4379.265	1094.816	0	0	9989.368	2497.342
235	08.23 18:15:00	0:15:00	5958.326	1489.582	0	0	8410.307	2102.577
235	08.23 18:30:00	0:15:00	8266.395	2066.599	0	0	6102.239	1525.56
235	08.23 18:45:00	0:11:24	11410.1	2167.919	0	0	2958.533	562.121
235	08.23 18:52:48	0:03:36	13009.542	780.573	0	0	1359.091	81.545
242	08.30 07:37:48	0:03:36	2148.497	128.91	12.925	0.775	12207.211	732.433
242	08.30 07:45:00	0:11:24	1421.726	270.128	121.294	23.046	12825.613	2436.866
242	08.30 08:00:00	0:15:00	318.894	79.724	382.524	95.631	13667.215	3416.804
242	08.30 08:15:00	0:15:00	2.237	0.559	639.28	159.82	13727.117	3431.779
242	08.30 08:30:00	0:15:00	1.243	0.311	845.082	211.271	13522.308	3380.577
242	08.30 08:45:00	0:15:00	0.994	0.249	1023.544	255.886	13344.095	3336.024
242	08.30 09:00:00	0:15:00	0.746	0.186	1167.953	291.988	13199.934	3299.984
242	08.30 09:15:00	0:15:00	0.497	0.124	1292.479	323.12	13075.658	3268.914
242	08.30 09:30:00	0:15:00	0.497	0.124	1348.155	337.039	13019.982	3254.995



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
242	08.30 09:45:00	0:15:00	0.249	0.062	1407.31	351.828	12961.074	3240.269
242	08.30 10:00:00	0:15:00	0.249	0.062	1436.888	359.222	12931.497	3232.874
242	08.30 10:15:00	0:15:00	0.249	0.062	1474.171	368.543	12894.214	3223.553
242	08.30 10:30:00	0:15:00	0.249	0.062	1477.9	369.475	12890.485	3222.621
242	08.30 10:45:00	0:15:00	0.249	0.062	1495.05	373.762	12873.335	3218.334
242	08.30 11:00:00	0:15:00	0.249	0.062	1492.316	373.079	12876.069	3219.017
242	08.30 11:15:00	0:15:00	0.249	0.062	1517.171	379.293	12851.214	3212.803
242	08.30 11:30:00	0:15:00	0	0	1522.639	380.66	12845.994	3211.499
242	08.30 11:45:00	0:15:00	0	0	1549.234	387.309	12819.399	3204.85
242	08.30 12:00:00	0:15:00	0	0	1550.477	387.619	12818.156	3204.539
242	08.30 12:15:00	0:15:00	0	0	1571.356	392.839	12797.278	3199.319
242	08.30 12:30:00	0:15:00	0	0	1563.899	390.975	12804.734	3201.184
242	08.30 12:45:00	0:15:00	0	0	1581.546	395.387	12787.087	3196.772
242	08.30 13:00:00	0:15:00	0	0	1573.841	393.46	12794.792	3198.698
242	08.30 13:15:00	0:15:00	0	0	1614.604	403.651	12754.029	3188.507
242	08.30 13:30:00	0:15:00	0	0	1631.257	407.814	12737.376	3184.344
242	08.30 13:45:00	0:15:00	0.249	0.062	1674.008	418.502	12694.376	3173.594
242	08.30 14:00:00	0:15:00	0.249	0.062	1686.187	421.547	12682.197	3170.549
242	08.30 14:15:00	0:15:00	37.034	9.259	1711.54	427.885	12620.059	3155.015
242	08.30 14:30:00	0:15:00	146.895	36.724	1760.008	440.002	12461.73	3115.433
242	08.30 14:45:00	0:15:00	261.727	65.432	1880.556	470.139	12226.35	3056.588
242	08.30 15:00:00	0:15:00	388.738	97.184	1951.643	487.911	12028.253	3007.063
242	08.30 15:15:00	0:15:00	521.962	130.491	2042.365	510.591	11804.306	2951.077
242	08.30 15:30:00	0:15:00	663.141	165.785	2078.654	519.663	11626.839	2906.71
242	08.30 15:45:00	0:15:00	818.487	204.622	2100.526	525.132	11449.62	2862.405
242	08.30 16:00:00	0:15:00	981.538	245.385	2048.827	512.207	11338.268	2834.567
242	08.30 16:15:00	0:15:00	1166.959	291.74	2001.353	500.338	11200.321	2800.08
242	08.30 16:30:00	0:15:00	1367.79	341.948	1908.891	477.223	11091.952	2772.988
242	08.30 16:45:00	0:15:00	1595.714	398.928	1771.938	442.985	11000.981	2750.245
242	08.30 17:00:00	0:15:00	1841.036	460.259	1544.263	386.066	10983.334	2745.833
242	08.30 17:15:00	0:15:00	2191.497	547.874	1295.213	323.803	10881.924	2720.481
242	08.30 17:30:00	0:15:00	2953.811	738.453	1022.301	255.575	10392.522	2598.13
242	08.30 17:45:00	0:15:00	3939.077	984.769	652.453	163.113	9777.103	2444.276
242	08.30 18:00:00	0:15:00	5209.186	1302.296	99.173	24.793	9060.275	2265.069
242	08.30 18:15:00	0:15:00	7058.673	1764.668	0	0	7309.96	1827.49
242	08.30 18:30:00	0:13:48	9911.819	2279.718	0	0	4456.814	1025.067
242	08.30 18:42:36	0:06:36	12459.493	1370.544	0	0	1909.14	210.005
249	09.06 07:44:24	0:07:48	2123.393	276.041	394.952	51.344	11850.289	1540.538
249	09.06 08:00:00	0:15:00	678.303	169.576	684.517	171.129	13005.814	3251.454
249	09.06 08:15:00	0:15:00	1.243	0.311	960.411	240.103	13406.98	3351.745
249	09.06 08:30:00	0:15:00	0.994	0.249	1169.942	292.485	13197.697	3299.424
249	09.06 08:45:00	0:15:00	0.746	0.186	1345.669	336.417	13022.219	3255.555
249	09.06 09:00:00	0:15:00	0.497	0.124	1480.137	370.034	12888	3222
249	09.06 09:15:00	0:15:00	0.497	0.124	1602.673	400.668	12765.463	3191.366
249	09.06 09:30:00	0:15:00	0.249	0.062	1656.112	414.028	12712.272	3178.068
249	09.06 09:45:00	0:15:00	0.249	0.062	1711.788	427.947	12656.596	3164.149
249	09.06 10:00:00	0:15:00	0.249	0.062	1721.731	430.433	12646.654	3161.664
249	09.06 10:15:00	0:15:00	0.249	0.062	1739.875	434.969	12628.51	3157.127
249	09.06 10:30:00	0:15:00	0.249	0.062	1731.176	432.794	12637.209	3159.302
249	09.06 10:45:00	0:15:00	0.249	0.062	1734.158	433.54	12634.226	3158.557
249	09.06 11:00:00	0:15:00	0.249	0.062	1718.748	429.687	12649.637	3162.409
249	09.06 11:15:00	0:15:00	0	0	1735.401	433.85	12633.232	3158.308
249	09.06 11:30:00	0:15:00	0	0	1735.898	433.975	12632.735	3158.184
249	09.06 11:45:00	0:15:00	0	0	1762.99	440.748	12605.643	3151.411
249	09.06 12:00:00	0:15:00	0	0	1755.037	438.759	12613.597	3153.399
249	09.06 12:15:00	0:15:00	0	0	1777.407	444.352	12591.227	3147.807
249	09.06 12:30:00	0:15:00	0	0	1761.002	440.251	12607.631	3151.908



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
249	09.06 12:45:00	0:15:00	0	0	1782.626	445.657	12586.007	3146.502
249	09.06 13:00:00	0:15:00	0	0	1772.187	443.047	12596.446	3149.112
249	09.06 13:15:00	0:15:00	0	0	1821.401	455.35	12547.233	3136.808
249	09.06 13:30:00	0:15:00	0	0	1845.013	461.253	12523.62	3130.905
249	09.06 13:45:00	0:15:00	0.249	0.062	1896.215	474.054	12472.17	3118.042
249	09.06 14:00:00	0:15:00	0.249	0.062	1914.111	478.528	12454.274	3113.568
249	09.06 14:15:00	0:15:00	73.075	18.269	1942.695	485.674	12352.864	3088.216
249	09.06 14:30:00	0:15:00	190.392	47.598	2072.191	518.048	12106.05	3026.513
249	09.06 14:45:00	0:15:00	315.414	78.854	2229.774	557.444	11823.445	2955.861
249	09.06 15:00:00	0:15:00	448.639	112.16	2345.849	586.462	11574.146	2893.536
249	09.06 15:15:00	0:15:00	592.303	148.076	2494.981	623.745	11281.349	2820.337
249	09.06 15:30:00	0:15:00	744.418	186.104	2576.506	644.127	11047.709	2761.927
249	09.06 15:45:00	0:15:00	913.186	228.296	2630.442	657.611	10825.005	2706.251
249	09.06 16:00:00	0:15:00	1098.358	274.59	2614.535	653.634	10655.74	2663.935
249	09.06 16:15:00	0:15:00	1299.935	324.984	2639.887	659.972	10428.811	2607.203
249	09.06 16:30:00	0:15:00	1522.142	380.536	2611.552	652.888	10234.939	2558.735
249	09.06 16:45:00	0:15:00	1780.389	445.097	2531.27	632.817	10056.975	2514.244
249	09.06 17:00:00	0:15:00	2075.174	518.793	2223.063	555.766	10070.396	2517.599
249	09.06 17:15:00	0:15:00	2704.511	676.128	1909.389	477.347	9754.733	2438.683
249	09.06 17:30:00	0:15:00	3610.489	902.622	1635.98	408.995	9122.165	2280.541
249	09.06 17:45:00	0:15:00	4774.466	1193.616	1307.889	326.972	8286.279	2071.57
249	09.06 18:00:00	0:15:00	6344.578	1586.145	748.892	187.223	7275.163	1818.791
249	09.06 18:15:00	0:16:12	8723.485	2355.341	1.988	0.537	5643.16	1523.653
249	09.06 18:31:48	0:08:24	11881.855	1663.46	0	0	2486.778	348.149
256	09.13 07:50:24	0:04:48	2119.416	169.553	822.215	65.777	11427.002	914.16
256	09.13 08:00:00	0:12:36	1139.618	239.32	1000.925	210.194	12228.09	2567.899
256	09.13 08:15:00	0:15:00	116.82	29.205	1295.213	323.803	12956.6	3239.15
256	09.13 08:30:00	0:15:00	0.746	0.186	1524.876	381.219	12843.011	3210.753
256	09.13 08:45:00	0:15:00	0.497	0.124	1696.13	424.032	12672.007	3168.002
256	09.13 09:00:00	0:15:00	0.497	0.124	1823.638	455.909	12544.499	3136.125
256	09.13 09:15:00	0:15:00	0.249	0.062	1934.741	483.685	12433.644	3108.411
256	09.13 09:30:00	0:15:00	0.249	0.062	908	497.977	12376.476	3094.119
256	09.13 09:45:00	0:15:00	0.249	0.062	2042.116	510.529	12326.269	3081.567
256	09.13 10:00:00	0:15:00	0.249	0.062	2041.868	510.467	12326.517	3081.629
256	09.13 10:15:00	0:15:00	0.249	0.062	2036.648	509.162	12331.737	3082.934
256	09.13 10:30:00	0:15:00	0.249	0.062	2007.816	501.954	12360.569	3090.142
256	09.13 10:45:00	0:15:00	0.249	0.062	2003.59	500.898	12364.794	3091.199
256	09.13 11:00:00	0:15:00	0	0	1985.943	496.486	12382.69	3095.673
256	09.13 11:15:00	0:15:00	0	0	2001.602	500.4	12367.031	3091.758
256	09.13 11:30:00	0:15:00	0	0	2002.596	500.649	12366.037	3091.509
256	09.13 11:45:00	0:15:00	0	0	2036.399	509.1	12332.234	3083.058
256	09.13 12:00:00	0:15:00	0	0	2030.683	507.671	12337.951	3084.488
256	09.13 12:15:00	0:15:00	0	0	2061.006	515.252	12307.627	3076.907
256	09.13 12:30:00	0:15:00	0	0	2051.561	512.89	12317.072	3079.268
256	09.13 12:45:00	0:15:00	0	0	2075.422	518.856	12293.211	3073.303
256	09.13 13:00:00	0:15:00	0	0	2074.428	518.607	12294.205	3073.551
256	09.13 13:15:00	0:15:00	0	0	2126.127	531.532	12242.506	3060.627
256	09.13 13:30:00	0:15:00	0	0	2144.272	536.068	12224.362	3056.09
256	09.13 13:45:00	0:15:00	0.249	0.062	2193.734	548.433	12174.651	3043.663
256	09.13 14:00:00	0:15:00	4.971	1.243	2201.936	550.484	12161.726	3040.432
256	09.13 14:15:00	0:15:00	116.82	29.205	2269.294	567.324	11982.519	2995.63
256	09.13 14:30:00	0:15:00	241.097	60.274	2436.819	609.205	11690.717	2922.679
256	09.13 14:45:00	0:15:00	375.067	93.767	2631.934	657.983	11361.632	2840.408
256	09.13 15:00:00	0:15:00	518.98	129.745	2792.002	698.001	11057.651	2764.413
256	09.13 15:15:00	0:15:00	673.083	168.271	2992.834	748.208	10702.717	2675.679
256	09.13 15:30:00	0:15:00	840.36	210.09	3141.966	785.491	10386.308	2596.577
256	09.13 15:45:00	0:15:00	1028.266	257.067	3262.017	815.504	10078.35	2519.588



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
256	09.13 16:00:00	0:15:00	1229.097	307.274	3293.583	823.396	9845.953	2461.488
256	09.13 16:15:00	0:15:00	1459.755	364.939	3438.49	859.623	9470.388	2367.597
256	09.13 16:30:00	0:15:00	1715.02	428.755	3472.542	868.135	9181.072	2295.268
256	09.13 16:45:00	0:15:00	2004.585	501.146	3380.577	845.144	8983.472	2245.868
256	09.13 17:00:00	0:15:00	2489.513	622.378	2979.909	744.977	8899.212	2224.803
256	09.13 17:15:00	0:15:00	3336.832	834.208	2634.668	658.667	8397.134	2099.283
256	09.13 17:30:00	0:15:00	4416.3	1104.075	2412.212	603.053	7540.121	1885.03
256	09.13 17:45:00	0:15:00	5828.581	1457.145	2102.515	525.629	6437.537	1609.384
256	09.13 18:00:00	0:15:00	7834.657	1958.664	1482.622	370.656	5051.354	1262.839
256	09.13 18:15:00	0:10:48	10562.035	1901.166	682.777	122.9	3123.821	562.288
256	09.13 18:21:00	0:03:00	11405.875	570.294	344.992	17.25	2617.766	130.888
263	09.20 07:57:00	0:01:12	2031.18	40.624	1262.155	25.243	11075.298	221.506
263	09.20 08:00:00	0:09:00	1683.453	252.518	1324.542	198.681	11360.638	1704.096
263	09.20 08:15:00	0:15:00	440.188	110.047	1629.517	407.379	12298.928	3074.732
263	09.20 08:30:00	0:15:00	0.497	0.124	1894.724	473.681	12473.412	3118.353
263	09.20 08:45:00	0:15:00	0.497	0.124	2074.428	518.607	12293.708	3073.427
263	09.20 09:00:00	0:15:00	0.249	0.062	2189.011	547.253	12179.373	3044.843
263	09.20 09:15:00	0:15:00	0.249	0.062	2295.144	573.786	12073.241	3018.31
263	09.20 09:30:00	0:15:00	0.249	0.062	2351.814	587.953	12016.571	3004.143
263	09.20 09:45:00	0:15:00	0.249	0.062	2398.045	599.511	11970.34	2992.585
263	09.20 10:00:00	0:15:00	0.249	0.062	2389.097	597.274	11979.288	2994.822
263	09.20 10:15:00	0:15:00	0.249	0.062	2364.49	591.123	12003.895	3000.974
263	09.20 10:30:00	0:15:00	0.249	0.062	2318.259	579.565	12050.126	3012.531
263	09.20 10:45:00	0:15:00	0	0	2307.82	576.955	12060.813	3015.203
263	09.20 11:00:00	0:15:00	0	0	2281.225	570.306	12087.409	3021.852
263	09.20 11:15:00	0:15:00	0	0	2298.375	574.594	12070.258	3017.565
263	09.20 11:30:00	0:15:00	0	0	2300.115	575.029	12068.519	3017.13
263	09.20 11:45:00	0:15:00	0	0	2336.652	584.163	12031.981	3007.995
263	09.20 12:00:00	0:15:00	0	0	2339.138	584.784	12029.496	3007.374
263	09.20 12:15:00	0:15:00	0	0	2368.964	592.241	11999.669	2999.917
263	09.20 12:30:00	0:15:00	0	0	2364.242	591.06	12004.392	3001.098
263	09.20 12:45:00	0:15:00	0	0	2396.554	599.138	11972.08	2993.02
263	09.20 13:00:00	0:15:00	0	0	2404.507	601.127	11964.126	2991.032
263	09.20 13:15:00	0:15:00	0	0	2458.94	614.735	11909.693	2977.423
263	09.20 13:30:00	0:15:00	0.249	0.062	2478.328	619.582	11890.057	2972.514
263	09.20 13:45:00	0:15:00	0.249	0.062	2533.009	633.252	11835.375	2958.844
263	09.20 14:00:00	0:15:00	40.514	10.129	2534.998	633.749	11793.121	2948.28
263	09.20 14:15:00	0:15:00	165.04	41.26	2683.384	670.846	11520.209	2880.052
263	09.20 14:30:00	0:15:00	296.524	74.131	2876.262	719.065	11195.847	2798.962
263	09.20 14:45:00	0:15:00	444.414	111.103	3110.896	777.724	10813.323	2703.331
263	09.20 15:00:00	0:15:00	599.014	149.754	3313.965	828.491	10455.654	2613.914
263	09.20 15:15:00	0:15:00	771.51	192.878	3571.466	892.867	10025.657	2506.414
263	09.20 15:30:00	0:15:00	955.688	238.922	3778.76	944.69	9634.185	2408.546
263	09.20 15:45:00	0:15:00	1162.236	290.559	4002.955	1000.739	9203.442	2300.86
263	09.20 16:00:00	0:15:00	1387.675	346.919	4149.85	1037.463	8831.108	2207.777
263	09.20 16:15:00	0:15:00	1649.899	412.475	4379.017	1094.754	8339.718	2084.929
263	09.20 16:30:00	0:15:00	1940.209	485.052	4517.461	1129.365	7910.963	1977.741
263	09.20 16:45:00	0:15:00	2316.768	579.192	4175.451	1043.863	7876.414	1969.104
263	09.20 17:00:00	0:15:00	3095.735	773.934	3764.592	941.148	7508.306	1877.077
263	09.20 17:15:00	0:15:00	4099.145	1024.786	3491.183	872.796	6778.304	1694.576
263	09.20 17:30:00	0:15:00	5385.162	1346.29	3367.652	841.913	5615.819	1403.955
263	09.20 17:45:00	0:15:00	7173.007	1793.252	2973.446	743.362	4222.179	1055.545
263	09.20 18:00:00	0:12:36	9440.065	1982.414	2206.161	463.294	2722.407	571.706
263	09.20 18:09:36	0:04:48	10827.242	866.179	1596.46	127.717	1944.932	155.595
270	09.27 08:03:00	0:06:00	1786.603	178.66	1716.511	171.651	10865.519	1086.552
270	09.27 08:15:00	0:13:12	762.562	167.764	1967.55	432.861	11638.521	2560.475
270	09.27 08:30:00	0:15:00	11.931	2.983	2273.022	568.256	12083.68	3020.92



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
270	09.27 08:45:00	0:15:00	0.249	0.062	2475.096	618.774	11893.288	2973.322
270	09.27 09:00:00	0:15:00	0.249	0.062	2593.159	648.29	11775.225	2943.806
270	09.27 09:15:00	0:15:00	0.249	0.062	2682.887	670.722	11685.498	2921.374
270	09.27 09:30:00	0:15:00	0.249	0.062	2734.089	683.522	11634.295	2908.574
270	09.27 09:45:00	0:15:00	0.249	0.062	2778.829	694.707	11589.556	2897.389
270	09.27 10:00:00	0:15:00	0.249	0.062	2775.349	693.837	11593.036	2898.259
270	09.27 10:15:00	0:15:00	0.249	0.062	2724.147	681.037	11644.238	2911.059
270	09.27 10:30:00	0:15:00	0.249	0.062	2658.778	664.694	11709.607	2927.402
270	09.27 10:45:00	0:15:00	0	0	2639.39	659.848	11729.243	2932.311
270	09.27 11:00:00	0:15:00	0	0	2606.581	651.645	11762.052	2940.513
270	09.27 11:15:00	0:15:00	0	0	2622.737	655.684	11745.896	2936.474
270	09.27 11:30:00	0:15:00	0	0	2625.968	656.492	11742.665	2935.666
270	09.27 11:45:00	0:15:00	0	0	2663.251	665.813	11705.382	2926.345
270	09.27 12:00:00	0:15:00	0	0	2664.743	666.186	11703.89	2925.973
270	09.27 12:15:00	0:15:00	0	0	2702.523	675.631	11666.11	2916.528
270	09.27 12:30:00	0:15:00	0	0	2706.5	676.625	11662.133	2915.533
270	09.27 12:45:00	0:15:00	0	0	2750.245	687.561	11618.388	2904.597
270	09.27 13:00:00	0:15:00	0.249	0.062	2760.436	690.109	11607.949	2901.987
270	09.27 13:15:00	0:15:00	0	0	2819.095	704.774	11549.539	2887.385
270	09.27 13:30:00	0:15:00	0.249	0.062	2840.222	710.055	11528.163	2882.041
270	09.27 13:45:00	0:15:00	0.249	0.062	2897.389	724.347	11470.996	2867.749
270	09.27 14:00:00	0:15:00	85.502	21.376	2898.383	724.596	11384.748	2846.187
270	09.27 14:15:00	0:15:00	218.479	54.62	3151.162	787.791	10998.993	2749.748
270	09.27 14:30:00	0:15:00	364.131	91.033	3379.831	844.958	10624.671	2656.168
270	09.27 14:45:00	0:15:00	523.702	130.926	3668.402	917.101	10176.529	2544.132
270	09.27 15:00:00	0:15:00	692.222	173.055	3923.915	980.979	9752.496	2438.124
270	09.27 15:15:00	0:15:00	883.856	220.964	4253.249	1063.312	9231.528	2307.882
270	09.27 15:30:00	0:15:00	1083.445	270.861	4532.126	1133.031	8753.062	2188.266
270	09.27 15:45:00	0:15:00	1315.843	328.961	4833.621	1208.405	8219.169	2054.792
270	09.27 16:00:00	0:15:00	1579.558	394.889	5173.394	1293.348	7615.681	1903.92
270	09.27 16:15:00	0:15:00	1872.851	468.213	5540.011	1385.003	6955.772	1738.943
270	09.27 16:30:00	0:15:00	2215.109	553.777	5406.289	1351.572	6747.235	1686.809
270	09.27 16:45:00	0:15:00	2863.834	715.959	4956.407	1239.102	6548.392	1637.098
270	09.27 17:00:00	0:15:00	3794.17	948.543	4533.866	1133.466	6040.597	1510.149
270	09.27 17:15:00	0:15:00	4996.921	1249.23	4346.208	1086.552	5025.505	1256.376
270	09.27 17:30:00	0:15:00	6572.751	1643.188	4267.665	1066.916	3528.218	882.054
270	09.27 17:45:00	0:13:48	8655.132	1990.68	3774.037	868.029	1939.464	446.077
270	09.27 17:58:11	0:06:36	10373.88	1141.127	2862.84	314.912	1131.913	124.51
277	10.04 08:09:36	0:02:24	1588.506	63.54	2165.15	86.606	10614.977	424.599
277	10.04 08:15:00	0:10:12	1112.526	189.129	2295.889	390.301	10960.218	1863.237
277	10.04 08:30:00	0:15:00	148.884	37.221	2633.922	658.481	11585.828	2896.457
277	10.04 08:45:00	0:15:00	0.249	0.062	2887.447	721.862	11480.938	2870.234
277	10.04 09:00:00	0:15:00	0.249	0.062	3021.666	755.416	11346.719	2836.68
277	10.04 09:15:00	0:15:00	0.249	0.062	3110.399	777.6	11257.985	2814.496
277	10.04 09:30:00	0:15:00	0.249	0.062	3139.729	784.932	11228.656	2807.164
277	10.04 09:45:00	0:15:00	0.249	0.062	3179.497	794.874	11188.887	2797.222
277	10.04 10:00:00	0:15:00	0.249	0.062	3181.983	795.496	11186.402	2796.6
277	10.04 10:15:00	0:15:00	0.249	0.062	3120.342	780.085	11248.043	2812.011
277	10.04 10:30:00	0:15:00	0	0	3038.816	759.704	11329.817	2832.454
277	10.04 10:45:00	0:15:00	0	0	3005.758	751.44	11362.875	2840.719
277	10.04 11:00:00	0:15:00	0	0	2962.013	740.503	11406.62	2851.655
277	10.04 11:15:00	0:15:00	0	0	2970.961	742.74	11397.672	2849.418
277	10.04 11:30:00	0:15:00	0	0	2972.701	743.175	11395.933	2848.983
277	10.04 11:45:00	0:15:00	0	0	3018.932	754.733	11349.702	2837.425
277	10.04 12:00:00	0:15:00	0	0	3026.637	756.659	11341.996	2835.499
277	10.04 12:15:00	0:15:00	0	0	3068.394	767.098	11300.239	2825.06
277	10.04 12:30:00	0:15:00	0	0	3075.353	768.838	11293.28	2823.32



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
277	10.04 12:45:00	0:15:00	0	0	3128.047	782.012	11240.587	2810.147
277	10.04 13:00:00	0:15:00	0.249	0.062	3140.474	785.119	11227.91	2806.978
277	10.04 13:15:00	0:15:00	0	0	3210.566	802.642	11158.067	2789.517
277	10.04 13:30:00	0:15:00	0.249	0.062	3232.936	808.234	11135.448	2783.862
277	10.04 13:45:00	0:15:00	5.22	1.305	3291.843	822.961	11071.57	2767.893
277	10.04 14:00:00	0:15:00	134.965	33.741	3350.999	837.75	10882.669	2720.667
277	10.04 14:15:00	0:15:00	279.126	69.781	3672.628	918.157	10416.88	2604.22
277	10.04 14:30:00	0:15:00	435.466	108.866	3956.227	989.057	9976.94	2494.235
277	10.04 14:45:00	0:15:00	608.211	152.053	4306.688	1076.672	9453.735	2363.434
277	10.04 15:00:00	0:15:00	793.88	198.47	4630.304	1157.576	8944.449	2236.112
277	10.04 15:15:00	0:15:00	1005.896	251.474	5049.366	1262.341	8313.371	2078.343
277	10.04 15:30:00	0:15:00	1232.826	308.206	5400.075	1350.019	7735.733	1933.933
277	10.04 15:45:00	0:15:00	1497.287	374.322	5861.639	1465.41	7009.708	1752.427
277	10.04 16:00:00	0:15:00	1792.071	448.018	6330.162	1582.541	6246.4	1561.6
277	10.04 16:15:00	0:15:00	2129.607	532.402	6680.623	1670.156	5558.403	1389.601
277	10.04 16:30:00	0:15:00	2628.454	657.113	6230.492	1557.623	5509.687	1377.422
277	10.04 16:45:00	0:15:00	3505.102	876.276	5705.796	1426.449	5157.735	1289.434
277	10.04 17:00:00	0:15:00	4600.727	1150.182	5242.74	1310.685	4525.166	1131.292
277	10.04 17:15:00	0:15:00	6051.037	1512.759	5074.967	1268.742	3242.63	810.657
277	10.04 17:30:00	0:16:12	7922.148	2138.98	4854.997	1310.849	1591.489	429.702
277	10.04 17:47:23	0:08:24	10038.83	1405.436	4134.192	578.787	195.612	27.386
284	10.11 08:16:11	0:07:12	1473.923	176.871	2614.535	313.744	10280.176	1233.621
284	10.11 08:30:00	0:14:24	425.524	102.126	2970.961	713.031	10972.149	2633.316
284	10.11 08:45:00	0:15:00	0.249	0.062	3299.549	824.887	11068.836	2767.209
284	10.11 09:00:00	0:15:00	0.249	0.062	3462.848	865.712	10905.536	2726.384
284	10.11 09:15:00	0:15:00	0.249	0.062	3590.108	897.527	10778.277	2694.569
284	10.11 09:30:00	0:15:00	0.249	0.062	3626.645	906.661	10741.74	2685.435
284	10.11 09:45:00	0:15:00	0.249	0.062	3651.998	912.999	10716.387	2679.097
284	10.11 10:00:00	0:15:00	0.249	0.062	3631.368	907.842	10737.017	2684.254
284	10.11 10:15:00	0:15:00	0	0	3573.206	893.302	10795.427	2698.857
284	10.11 10:30:00	0:15:00	0	0	3454.398	863.599	10914.236	2728.559
284	10.11 10:45:00	0:15:00	0	0	3400.461	850.115	10968.172	2742.043
284	10.11 11:00:00	0:15:00	0	0	3343.791	835.948	11024.842	2756.211
284	10.11 11:15:00	0:15:00	0	0	3349.756	837.439	11018.877	2754.719
284	10.11 11:30:00	0:15:00	0	0	3348.762	837.191	11019.871	2754.968
284	10.11 11:45:00	0:15:00	0	0	3396.485	849.121	10972.149	2743.037
284	10.11 12:00:00	0:15:00	0	0	3407.172	851.793	10961.461	2740.365
284	10.11 12:15:00	0:15:00	0	0	3454.895	863.724	10913.739	2728.435
284	10.11 12:30:00	0:15:00	0	0	3473.039	868.26	10895.594	2723.899
284	10.11 12:45:00	0:15:00	0	0	3539.9	884.975	10828.733	2707.183
284	10.11 13:00:00	0:15:00	0	0	3557.05	889.263	10811.583	2702.896
284	10.11 13:15:00	0:15:00	0	0	3624.408	906.102	10744.225	2686.056
284	10.11 13:30:00	0:15:00	0.249	0.062	3654.483	913.621	10713.902	2678.475
284	10.11 13:45:00	0:15:00	42.503	10.626	3706.679	926.67	10619.451	2654.863
284	10.11 14:00:00	0:15:00	183.93	45.982	3880.17	970.042	10304.534	2576.133
284	10.11 14:15:00	0:15:00	343.252	85.813	4255.486	1063.871	9769.895	2442.474
284	10.11 14:30:00	0:15:00	514.009	128.502	4605.946	1151.487	9248.678	2312.17
284	10.11 14:45:00	0:15:00	704.898	176.224	5030.227	1257.557	8633.508	2158.377
284	10.11 15:00:00	0:15:00	908.215	227.054	5445.312	1361.328	8015.107	2003.777
284	10.11 15:15:00	0:15:00	1140.115	285.029	5958.326	1489.582	7270.192	1817.548
284	10.11 15:30:00	0:15:00	1400.102	350.026	6421.63	1605.408	6546.901	1636.725
284	10.11 15:45:00	0:15:00	1701.349	425.337	7085.765	1771.441	5581.519	1395.38
284	10.11 16:00:00	0:15:00	2030.186	507.546	7746.669	1936.667	4591.779	1147.945
284	10.11 16:15:00	0:15:00	2437.565	609.391	7574.173	1893.543	4356.896	1089.224
284	10.11 16:30:00	0:15:00	3190.682	797.671	6963.725	1740.931	4214.226	1053.556
284	10.11 16:45:00	0:15:00	4210	1052.5	6399.509	1599.877	3759.124	939.781
284	10.11 17:00:00	0:15:00	5481.849	1370.462	5841.257	1460.314	3045.527	761.382



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
284	10.11 17:15:00	0:15:00	7186.429	1796.607	5642.912	1410.728	1539.292	384.823
284	10.11 17:30:00	0:11:24	9142.049	1736.989	5076.707	964.574	149.878	28.477
284	10.11 17:37:12	0:03:36	9637.168	578.23	4730.72	283.843	0.746	0.045
291	10.18 08:22:48	0:03:36	1323.548	79.413	3086.787	185.207	9958.299	597.498
291	10.18 08:30:00	0:10:48	759.331	136.68	3291.843	592.532	10317.459	1857.143
291	10.18 08:45:00	0:15:00	28.335	7.084	3682.818	920.705	10657.48	2664.37
291	10.18 09:00:00	0:15:00	0.249	0.062	3892.1	973.025	10476.284	2619.071
291	10.18 09:15:00	0:15:00	0.249	0.062	4070.562	1017.64	10297.823	2574.456
291	10.18 09:30:00	0:15:00	0.249	0.062	4130.463	1032.616	10237.922	2559.48
291	10.18 09:45:00	0:15:00	0.249	0.062	4160.29	1040.072	10208.095	2552.024
291	10.18 10:00:00	0:15:00	0.249	0.062	4137.423	1034.356	10230.962	2557.741
291	10.18 10:15:00	0:15:00	0	0	4095.169	1023.792	10273.465	2568.366
291	10.18 10:30:00	0:15:00	0	0	3960.453	990.113	10408.181	2602.045
291	10.18 10:45:00	0:15:00	0	0	3877.933	969.483	10490.701	2622.675
291	10.18 11:00:00	0:15:00	0	0	3785.471	946.368	10583.162	2645.791
291	10.18 11:15:00	0:15:00	0	0	3773.292	943.323	10595.342	2648.835
291	10.18 11:30:00	0:15:00	0	0	3760.864	940.216	10607.769	2651.942
291	10.18 11:45:00	0:15:00	0	0	3806.349	951.587	10562.284	2640.571
291	10.18 12:00:00	0:15:00	0	0	3811.072	952.768	10557.561	2639.39
291	10.18 12:15:00	0:15:00	0	0	3868.488	967.122	10500.146	2625.036
291	10.18 12:30:00	0:15:00	0	0	3887.875	971.969	10480.758	2620.19
291	10.18 12:45:00	0:15:00	0	0	3969.401	992.35	10399.233	2599.808
291	10.18 13:00:00	0:15:00	0	0	3988.042	997.011	10380.591	2595.148
291	10.18 13:15:00	0:15:00	0.249	0.062	4057.388	1014.347	10310.996	2577.749
291	10.18 13:30:00	0:15:00	0.249	0.062	4094.672	1023.668	10273.713	2568.428
291	10.18 13:45:00	0:15:00	82.023	20.506	4148.359	1037.09	10138.252	2534.563
291	10.18 14:00:00	0:15:00	237.866	59.466	4465.016	1116.254	9665.751	2416.438
291	10.18 14:15:00	0:15:00	408.125	102.031	4900.731	1225.183	9059.778	2264.944
291	10.18 14:30:00	0:15:00	597.274	149.319	5321.035	1330.259	8450.324	2112.581
291	10.18 14:45:00	0:15:00	803.077	200.769	5838.523	1459.631	7727.033	1931.758
291	10.18 15:00:00	0:15:00	1027.52	256.88	6363.717	1590.929	6977.396	1744.349
291	10.18 15:15:00	0:15:00	1292.23	323.058	6969.194	1742.298	6107.21	1526.802
291	10.18 15:30:00	0:15:00	1578.564	394.641	7619.658	1904.915	5170.411	1292.603
291	10.18 15:45:00	0:15:00	1921.319	480.33	8512.463	2128.116	3934.852	983.713
291	10.18 16:00:00	0:15:00	2296.635	574.159	8867.397	2216.849	3204.601	801.15
291	10.18 16:15:00	0:15:00	2909.568	727.392	8389.429	2097.357	3069.637	767.409
291	10.18 16:30:00	0:15:00	3809.332	952.333	7712.369	1928.092	2846.933	711.733
291	10.18 16:45:00	0:15:00	4926.083	1231.521	6901.587	1725.397	2540.963	635.241
291	10.18 17:00:00	0:15:00	6275.978	1568.994	6427.098	1606.775	1665.557	416.389
291	10.18 17:15:00	0:13:12	7878.9	1733.358	6053.771	1331.83	435.963	95.912
291	10.18 17:27:00	0:06:00	9077.176	907.718	5291.457	529.146	0	0
298	10.25 07:30:00	0:07:48	1189.577	154.645	3556.056	462.287	9623	1250.99
298	10.25 07:45:00	0:15:00	220.467	55.117	4001.961	1000.49	10146.205	2536.551
298	10.25 08:00:00	0:15:00	0.249	0.062	4316.133	1079.033	10052.252	2513.063
298	10.25 08:15:00	0:15:00	0.249	0.062	4531.132	1132.783	9837.253	2459.313
298	10.25 08:30:00	0:15:00	0.249	0.062	4633.784	1158.446	9734.601	2433.65
298	10.25 08:45:00	0:15:00	0.249	0.062	4678.772	1169.693	9689.612	2422.403
298	10.25 09:00:00	0:15:00	0	0	4655.408	1163.852	9713.225	2428.306
298	10.25 09:15:00	0:15:00	0	0	4639.252	1159.813	9729.381	2432.345
298	10.25 09:30:00	0:15:00	0	0	4485.895	1121.474	9882.738	2470.685
298	10.25 09:45:00	0:15:00	0	0	4390.45	1097.613	9978.183	2494.546
298	10.25 10:00:00	0:15:00	0	0	4282.081	1070.52	10086.552	2521.638
298	10.25 10:15:00	0:15:00	0	0	4252.006	1063.001	10116.627	2529.157
298	10.25 10:30:00	0:15:00	0	0	4231.625	1057.906	10137.009	2534.252
298	10.25 10:45:00	0:15:00	0	0	4280.341	1070.085	10088.292	2522.073
298	10.25 11:00:00	0:15:00	0	0	4284.566	1071.142	10084.067	2521.017
298	10.25 11:15:00	0:15:00	0	0	4349.687	1087.422	10018.946	2504.736



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
298	10.25 11:30:00	0:15:00	0	0	4366.589	1091.647	10002.044	2500.511
298	10.25 11:45:00	0:15:00	0	0	4456.565	1114.141	9912.068	2478.017
298	10.25 12:00:00	0:15:00	0	0	4471.23	1117.808	9897.403	2474.351
298	10.25 12:15:00	0:15:00	0.249	0.062	4551.016	1137.754	9817.369	2454.342
298	10.25 12:30:00	0:15:00	0.497	0.124	4586.31	1146.578	9781.826	2445.456
298	10.25 12:45:00	0:15:00	121.543	30.386	4672.31	1168.077	9574.781	2393.695
298	10.25 13:00:00	0:15:00	288.074	72.018	5098.579	1274.645	8981.98	2245.495
298	10.25 13:15:00	0:15:00	475.98	118.995	5618.802	1404.7	8273.851	2068.463
298	10.25 13:30:00	0:15:00	679.048	169.762	6114.418	1528.604	7575.167	1893.792
298	10.25 13:45:00	0:15:00	907.966	226.992	6749.472	1687.368	6711.195	1677.799
298	10.25 14:00:00	0:15:00	1159.751	289.938	7373.342	1843.335	5835.541	1458.885
298	10.25 14:15:00	0:15:00	1453.293	363.323	8109.557	2027.389	4805.783	1201.446
298	10.25 14:30:00	0:15:00	1783.123	445.781	9008.576	2252.144	3576.934	894.234
298	10.25 14:45:00	0:15:00	2160.179	540.045	10120.853	2530.213	2087.601	521.9
298	10.25 15:00:00	0:15:00	2617.766	654.442	9720.184	2430.046	2030.683	507.671
298	10.25 15:15:00	0:15:00	3415.126	853.782	9160.442	2290.11	1793.065	448.266
298	10.25 15:30:00	0:15:00	4380.757	1095.189	8245.516	2061.379	1742.361	435.59
298	10.25 15:45:00	0:15:00	5550.698	1387.675	7353.209	1838.302	1464.726	366.182
298	10.25 16:00:00	0:15:00	6979.881	1744.97	6891.148	1722.787	497.604	124.401
298	10.25 16:15:00	0:09:00	8412.296	1261.844	5956.338	893.451	0	0
298	10.25 16:18:00	0:01:48	8557.451	256.724	5811.182	174.335	0	0
305	11.01 07:36:35	0:04:12	1094.133	76.589	4006.932	280.485	9267.568	648.73
305	11.01 07:45:00	0:11:24	441.431	83.872	4287.052	814.54	9640.15	1831.629
305	11.01 08:00:00	0:15:00	1.243	0.311	4698.657	1174.664	9668.734	2417.183
305	11.01 08:15:00	0:15:00	0.249	0.062	4944.476	1236.119	9423.909	2355.977
305	11.01 08:30:00	0:15:00	0.249	0.062	5122.938	1280.734	9245.447	2311.362
305	11.01 08:45:00	0:15:00	0.249	0.062	5197.752	1299.438	9170.632	2292.658
305	11.01 09:00:00	0:15:00	0	0	5177.868	1294.467	9190.765	2297.691
305	11.01 09:15:00	0:15:00	0	0	5172.897	1293.224	9195.736	2298.934
305	11.01 09:30:00	0:15:00	0	0	5028.984	1257.246	9339.649	2334.912
305	11.01 09:45:00	0:15:00	0	0	4924.095	1231.024	9444.539	2361.135
305	11.01 10:00:00	0:15:00	0	0	4790.621	1197.655	9578.012	2394.503
305	11.01 10:15:00	0:15:00	0	0	4744.391	1186.098	9624.243	2406.061
305	11.01 10:30:00	0:15:00	0	0	4713.57	1178.392	9655.063	2413.766
305	11.01 10:45:00	0:15:00	0	0	4764.026	1191.007	9604.607	2401.152
305	11.01 11:00:00	0:15:00	0	0	4769.494	1192.374	9599.139	2399.785
305	11.01 11:15:00	0:15:00	0	0	4844.558	1211.139	9524.076	2381.019
305	11.01 11:30:00	0:15:00	0	0	4871.401	1217.85	9497.232	2374.308
305	11.01 11:45:00	0:15:00	0	0	4967.343	1241.836	9401.29	2350.323
305	11.01 12:00:00	0:15:00	0	0	4984.742	1246.185	9383.891	2345.973
305	11.01 12:15:00	0:15:00	0.249	0.062	5067.262	1266.815	9301.123	2325.281
305	11.01 12:30:00	0:15:00	4.225	1.056	5093.857	1273.464	9270.551	2317.638
305	11.01 12:45:00	0:15:00	158.329	39.582	5282.26	1320.565	8928.044	2232.011
305	11.01 13:00:00	0:15:00	339.524	84.881	5772.905	1443.226	8256.204	2064.051
305	11.01 13:15:00	0:15:00	541.598	135.4	6372.914	1593.228	7454.122	1863.53
305	11.01 13:30:00	0:15:00	763.308	190.827	6959.251	1739.813	6646.074	1661.518
305	11.01 13:45:00	0:15:00	1010.619	252.655	7712.12	1928.03	5645.894	1411.474
305	11.01 14:00:00	0:15:00	1288.999	322.25	8369.793	2092.448	4709.842	1177.46
305	11.01 14:15:00	0:15:00	1615.847	403.962	9135.089	2283.772	3617.697	904.424
305	11.01 14:30:00	0:15:00	1983.209	495.802	10023.42	2505.855	2362.005	590.501
305	11.01 14:45:00	0:15:00	2400.033	600.008	10553.585	2638.396	1415.015	353.754
305	11.01 15:00:00	0:15:00	3010.729	752.682	10002.044	2500.511	1355.86	338.965
305	11.01 15:15:00	0:15:00	3925.655	981.414	9361.77	2340.443	1081.208	270.302
305	11.01 15:30:00	0:15:00	4907.193	1226.798	8546.763	2136.691	914.677	228.669
305	11.01 15:45:00	0:15:00	6051.037	1512.759	7781.218	1945.305	536.379	134.095
305	11.01 16:00:00	0:12:36	7336.059	1540.572	7032.575	1476.841	0	0
305	11.01 16:10:12	0:05:24	8052.141	724.693	6316.492	568.484	0	0



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
312	11.08 07:43:48	0:00:36	954.446	9.544	4459.797	44.598	8954.391	89.544
312	11.08 07:45:00	0:07:48	864.966	112.446	4503.542	585.46	9000.125	1170.016
312	11.08 08:00:00	0:15:00	78.791	19.698	4984.493	1246.123	9305.349	2326.337
312	11.08 08:15:00	0:15:00	0.249	0.062	5320.289	1330.072	9048.096	2262.024
312	11.08 08:30:00	0:15:00	0.249	0.062	5565.86	1391.465	8802.525	2200.631
312	11.08 08:45:00	0:15:00	0	0	5693.865	1423.466	8674.768	2168.692
312	11.08 09:00:00	0:15:00	0	0	5690.385	1422.596	8678.248	2169.562
312	11.08 09:15:00	0:15:00	0	0	5690.385	1422.596	8678.248	2169.562
312	11.08 09:30:00	0:15:00	0	0	5582.016	1395.504	8786.617	2196.654
312	11.08 09:45:00	0:15:00	0	0	5465.942	1366.485	8902.692	2225.673
312	11.08 10:00:00	0:15:00	0	0	5305.127	1326.282	9063.506	2265.876
312	11.08 10:15:00	0:15:00	0	0	5240.255	1310.064	9128.378	2282.095
312	11.08 10:30:00	0:15:00	0	0	5193.527	1298.382	9175.106	2293.777
312	11.08 10:45:00	0:15:00	0	0	5245.475	1311.369	9123.159	2280.79
312	11.08 11:00:00	0:15:00	0	0	5255.914	1313.978	9112.72	2278.18
312	11.08 11:15:00	0:15:00	0	0	5336.694	1334.173	9031.94	2257.985
312	11.08 11:30:00	0:15:00	0	0	5368.26	1342.065	9000.373	2250.093
312	11.08 11:45:00	0:15:00	0	0	5478.121	1369.53	8890.513	2222.628
312	11.08 12:00:00	0:15:00	0	0	5497.508	1374.377	8871.125	2217.781
312	11.08 12:15:00	0:15:00	0.249	0.062	5581.519	1395.38	8786.866	2196.716
312	11.08 12:30:00	0:15:00	20.133	5.033	5604.386	1401.096	8744.115	2186.029
312	11.08 12:45:00	0:15:00	189.398	47.349	5905.881	1476.47	8273.354	2068.339
312	11.08 13:00:00	0:15:00	381.53	95.382	6479.792	1619.948	7507.312	1876.828
312	11.08 13:15:00	0:15:00	600.257	150.064	7191.649	1797.912	6576.727	1644.182
312	11.08 13:30:00	0:15:00	837.377	209.344	7876.166	1969.041	5655.091	1413.773
312	11.08 13:45:00	0:15:00	1109.295	277.324	8677.999	2169.5	4581.339	1145.335
312	11.08 14:00:00	0:15:00	1413.027	353.257	9213.384	2303.346	3742.223	935.556
312	11.08 14:15:00	0:15:00	1771.69	442.922	9978.432	2494.608	2618.512	654.628
312	11.08 14:30:00	0:15:00	2170.37	542.592	10860.3	2715.075	1337.964	334.491
312	11.08 14:45:00	0:15:00	2658.032	664.508	10668.665	2667.166	1041.937	260.484
312	11.08 15:00:00	0:15:00	3394.745	848.686	9992.351	2498.088	981.538	245.385
312	11.08 15:15:00	0:15:00	4345.959	1086.49	9404.77	2351.192	617.904	154.476
312	11.08 15:30:00	0:15:00	5290.711	1322.678	8717.768	2179.442	360.154	90.039
312	11.08 15:45:00	0:15:00	6328.422	1582.106	7973.599	1993.4	66.612	16.653
312	11.08 16:00:00	0:09:00	7407.145	1111.072	6961.488	1044.223	0	0
312	11.08 16:03:00	0:01:48	7566.965	227.009	6801.668	204.05	0	0
319	11.15 07:51:00	0:04:48	1222.884	97.831	4523.924	361.914	8621.826	689.746
319	11.15 08:00:00	0:12:00	245.074	49.015	5194.521	1038.904	8929.038	1785.808
319	11.15 08:15:00	0:15:00	0.249	0.062	5659.565	1414.891	8708.82	2177.205
319	11.15 08:30:00	0:15:00	0.249	0.062	5930.24	1482.56	8438.145	2109.536
319	11.15 08:45:00	0:15:00	0	0	6144.493	1536.123	8224.141	2056.035
319	11.15 09:00:00	0:15:00	0	0	6179.042	1544.76	8189.592	2047.398
319	11.15 09:15:00	0:15:00	0	0	6185.504	1546.376	8183.129	2045.782
319	11.15 09:30:00	0:15:00	0	0	6105.221	1526.305	8263.412	2065.853
319	11.15 09:45:00	0:15:00	0	0	6001.574	1500.394	8367.059	2091.765
319	11.15 10:00:00	0:15:00	0	0	5825.101	1456.275	8543.532	2135.883
319	11.15 10:15:00	0:15:00	0	0	5725.68	1431.42	8642.953	2160.738
319	11.15 10:30:00	0:15:00	0	0	5646.64	1411.66	8721.993	2180.498
319	11.15 10:45:00	0:15:00	0	0	5705.299	1426.325	8663.335	2165.834
319	11.15 11:00:00	0:15:00	0	0	5724.934	1431.234	8643.699	2160.925
319	11.15 11:15:00	0:15:00	0	0	5805.714	1451.429	8562.919	2140.73
319	11.15 11:30:00	0:15:00	0	0	5846.477	1461.619	8522.156	2130.539
319	11.15 11:45:00	0:15:00	0	0	5964.789	1491.197	8403.845	2100.961
319	11.15 12:00:00	0:15:00	0	0	5976.471	1494.118	8392.163	2098.041
319	11.15 12:15:00	0:15:00	0.249	0.062	6070.424	1517.606	8297.961	2074.49
319	11.15 12:30:00	0:15:00	31.815	7.954	6090.06	1522.515	8246.759	2061.69
319	11.15 12:45:00	0:15:00	210.028	52.507	6505.144	1626.286	7653.462	1913.365



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
319	11.15 13:00:00	0:15:00	414.09	103.523	7163.562	1790.891	6790.981	1697.745
319	11.15 13:15:00	0:15:00	647.731	161.933	7985.281	1996.32	5735.622	1433.906
319	11.15 13:30:00	0:15:00	903.244	225.811	8780.9	2195.225	4684.489	1171.122
319	11.15 13:45:00	0:15:00	1195.046	298.761	9569.561	2392.39	3604.027	901.007
319	11.15 14:00:00	0:15:00	1521.645	380.411	10098.483	2524.621	2748.505	687.126
319	11.15 14:15:00	0:15:00	1916.348	479.087	10846.629	2711.657	1605.656	401.414
319	11.15 14:30:00	0:15:00	2338.889	584.722	11459.314	2864.828	570.43	142.608
319	11.15 14:45:00	0:15:00	2910.811	727.703	10719.618	2679.905	738.204	184.551
319	11.15 15:00:00	0:15:00	3744.46	936.115	9963.518	2490.88	660.655	165.164
319	11.15 15:15:00	0:15:00	4638.01	1159.502	9372.707	2343.177	357.917	89.479
319	11.15 15:30:00	0:15:00	5491.543	1372.886	8732.681	2183.17	144.41	36.102
319	11.15 15:45:00	0:13:48	6397.272	1471.373	7971.362	1833.413	0	0
319	11.15 15:57:36	0:06:36	7126.279	783.891	7242.354	796.659	0	0
326	11.22 07:57:36	0:01:12	2302.103	46.042	3705.685	74.114	8360.845	167.217
326	11.22 08:00:00	0:09:00	1656.858	248.529	4272.387	640.858	8439.388	1265.908
326	11.22 08:15:00	0:15:00	21.127	5.282	5882.02	1470.505	8465.486	2116.372
326	11.22 08:30:00	0:15:00	0.249	0.062	6198.18	1549.545	8170.204	2042.551
326	11.22 08:45:00	0:15:00	0	0	6518.566	1629.641	7850.067	1962.517
326	11.22 09:00:00	0:15:00	0	0	6597.109	1649.277	7771.524	1942.881
326	11.22 09:15:00	0:15:00	0	0	6633.895	1658.474	7734.739	1933.685
326	11.22 09:30:00	0:15:00	0	0	6578.964	1644.741	7789.669	1947.417
326	11.22 09:45:00	0:15:00	0	0	6505.393	1626.348	7863.241	1965.81
326	11.22 10:00:00	0:15:00	0	0	6299.839	1574.96	8068.795	2017.199
326	11.22 10:15:00	0:15:00	0	0	6195.198	1548.799	8173.436	2043.359
326	11.22 10:30:00	0:15:00	0	0	6079.62	1519.905	8289.013	2072.253
326	11.22 10:45:00	0:15:00	0	0	6126.348	1531.587	8242.285	2060.571
326	11.22 11:00:00	0:15:00	0	0	6144.493	1536.123	8224.141	2056.035
326	11.22 11:15:00	0:15:00	0	0	6233.972	1558.493	8134.661	2033.665
326	11.22 11:30:00	0:15:00	0	0	6281.943	1570.486	8086.69	2021.673
326	11.22 11:45:00	0:15:00	0	0	6412.434	1603.108	7956.2	1989.05
326	11.22 12:00:00	0:15:00	0	0	6418.399	1604.6	7950.234	1987.559
326	11.22 12:15:00	0:15:00	0.249	0.062	6516.826	1629.207	7851.559	1962.89
326	11.22 12:30:00	0:15:00	33.058	8.264	6531.491	1632.873	7804.085	1951.021
326	11.22 12:45:00	0:15:00	219.721	54.93	7019.401	1754.85	7129.511	1782.378
326	11.22 13:00:00	0:15:00	433.975	108.494	7747.912	1936.978	6186.747	1546.687
326	11.22 13:15:00	0:15:00	678.8	169.7	8687.941	2171.985	5001.892	1250.473
326	11.22 13:30:00	0:15:00	946.492	236.623	9493.752	2373.438	3928.389	982.097
326	11.22 13:45:00	0:15:00	1258.924	314.731	10187.465	2546.866	2922.244	730.561
326	11.22 14:00:00	0:15:00	1606.899	401.725	10725.335	2681.334	2036.399	509.1
326	11.22 14:15:00	0:15:00	2026.706	506.676	11427.002	2856.75	914.926	228.731
326	11.22 14:30:00	0:15:00	2480.068	620.017	11518.967	2879.742	369.599	92.4
326	11.22 14:45:00	0:15:00	3117.856	779.464	10745.468	2686.367	505.309	126.327
326	11.22 15:00:00	0:15:00	3970.395	992.599	9960.039	2490.01	438.2	109.55
326	11.22 15:15:00	0:15:00	4801.558	1200.389	9378.423	2344.606	188.652	47.163
326	11.22 15:30:00	0:15:00	5550.947	1387.737	8767.479	2191.87	50.208	12.552
326	11.22 15:45:00	0:12:00	6277.469	1255.494	8091.164	1618.233	0	0
326	11.22 15:54:00	0:04:48	6771.345	541.708	7597.288	607.783	0	0
333	11.29 08:04:12	0:05:24	3356.219	302.06	3048.51	274.366	7963.905	716.751
333	11.29 08:15:00	0:12:36	234.635	49.273	5883.263	1235.485	8250.736	1732.655
333	11.29 08:30:00	0:15:00	0	0	6416.659	1604.165	7951.974	1987.994
333	11.29 08:45:00	0:15:00	0	0	6783.524	1695.881	7585.109	1896.277
333	11.29 09:00:00	0:15:00	0	0	6954.032	1738.508	7414.602	1853.65
333	11.29 09:15:00	0:15:00	0	0	7012.69	1753.173	7355.943	1838.986
333	11.29 09:30:00	0:15:00	0	0	6957.014	1739.254	7411.619	1852.905
333	11.29 09:45:00	0:15:00	0	0	6924.205	1731.051	7444.428	1861.107
333	11.29 10:00:00	0:15:00	0	0	6724.12	1681.03	7644.514	1911.128
333	11.29 10:15:00	0:15:00	0	0	6598.6	1649.65	7770.033	1942.508



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
333	11.29 10:30:00	0:15:00	0	0	6463.387	1615.847	7905.246	1976.312
333	11.29 10:45:00	0:15:00	0	0	6485.757	1621.439	7882.876	1970.719
333	11.29 11:00:00	0:15:00	0	0	6499.676	1624.919	7868.957	1967.239
333	11.29 11:15:00	0:15:00	0	0	6598.103	1649.526	7770.53	1942.633
333	11.29 11:30:00	0:15:00	0	0	6646.074	1661.518	7722.559	1930.64
333	11.29 11:45:00	0:15:00	0	0	6779.05	1694.763	7589.583	1897.396
333	11.29 12:00:00	0:15:00	0.249	0.062	6809.871	1702.468	7558.514	1889.629
333	11.29 12:15:00	0:15:00	0.249	0.062	6898.107	1724.527	7470.278	1867.569
333	11.29 12:30:00	0:15:00	24.358	6.09	6923.46	1730.865	7420.815	1855.204
333	11.29 12:45:00	0:15:00	214.005	53.501	7390.989	1847.747	6763.64	1690.91
333	11.29 13:00:00	0:15:00	435.714	108.929	8136.153	2034.038	5796.766	1449.192
333	11.29 13:15:00	0:15:00	689.985	172.496	8993.911	2248.478	4684.738	1171.184
333	11.29 13:30:00	0:15:00	970.353	242.588	9811.652	2452.913	3586.628	896.657
333	11.29 13:45:00	0:15:00	1294.218	323.555	10533.7	2633.425	2540.715	635.179
333	11.29 14:00:00	0:15:00	1658.847	414.712	10993.276	2748.319	1716.511	429.128
333	11.29 14:15:00	0:15:00	2093.318	523.33	11574.146	2893.536	701.17	175.292
333	11.29 14:30:00	0:15:00	2566.316	641.579	11536.862	2884.216	265.455	66.364
333	11.29 14:45:00	0:15:00	3246.358	811.59	10776.289	2694.072	345.987	86.497
333	11.29 15:00:00	0:15:00	4126.983	1031.746	9962.027	2490.507	279.623	69.906
333	11.29 15:15:00	0:15:00	4844.558	1211.139	9434.845	2358.711	89.231	22.308
333	11.29 15:30:00	0:15:00	5491.543	1372.886	8867.397	2216.849	9.694	2.423
333	11.29 15:45:00	0:10:48	6126.845	1102.832	8241.788	1483.522	0	0
333	11.29 15:51:36	0:03:00	6487.248	324.362	7881.385	394.069	0	0
340	12.06 08:10:12	0:02:24	4094.174	163.767	2695.563	107.823	7578.895	303.156
340	12.06 08:15:00	0:10:12	2636.159	448.147	3952.499	671.925	7779.975	1322.596
340	12.06 08:30:00	0:15:00	0.249	0.062	6549.635	1637.409	7818.75	1954.687
340	12.06 08:45:00	0:15:00	0	0	6913.766	1728.442	7454.867	1863.717
340	12.06 09:00:00	0:15:00	0	0	7189.163	1797.291	7179.47	1794.867
340	12.06 09:15:00	0:15:00	0	0	7299.77	1824.942	7068.864	1767.216
340	12.06 09:30:00	0:15:00	0	0	7268.452	1817.113	7100.181	1775.045
340	12.06 09:45:00	0:15:00	0	0	7244.839	1811.21	7123.794	1780.948
340	12.06 10:00:00	0:15:00	0	0	7077.066	1769.266	7291.568	1822.892
340	12.06 10:15:00	0:15:00	0	0	6940.858	1735.215	7427.775	1856.944
340	12.06 10:30:00	0:15:00	0	0	6767.865	1691.966	7600.768	1900.192
340	12.06 10:45:00	0:15:00	0	0	6764.882	1691.221	7603.751	1900.938
340	12.06 11:00:00	0:15:00	0	0	6770.848	1692.712	7597.786	1899.446
340	12.06 11:15:00	0:15:00	0	0	6875.24	1718.81	7493.393	1873.348
340	12.06 11:30:00	0:15:00	0	0	6928.928	1732.232	7439.705	1859.926
340	12.06 11:45:00	0:15:00	0	0	7077.314	1769.329	7291.319	1822.83
340	12.06 12:00:00	0:15:00	0.249	0.062	7107.886	1776.972	7260.498	1815.125
340	12.06 12:15:00	0:15:00	0.249	0.062	7188.666	1797.167	7179.718	1794.93
340	12.06 12:30:00	0:15:00	7.457	1.864	7217.499	1804.375	7143.678	1785.92
340	12.06 12:45:00	0:15:00	195.86	48.965	7602.508	1900.627	6570.265	1642.566
340	12.06 13:00:00	0:15:00	421.05	105.262	8331.267	2082.817	5616.316	1404.079
340	12.06 13:15:00	0:15:00	678.8	169.7	9164.419	2291.105	4525.415	1131.354
340	12.06 13:30:00	0:15:00	964.388	241.097	9973.212	2493.303	3431.033	857.758
340	12.06 13:45:00	0:15:00	1297.45	324.362	10661.954	2665.488	2409.23	602.307
340	12.06 14:00:00	0:15:00	1668.54	417.135	11067.593	2766.898	1632.5	408.125
340	12.06 14:15:00	0:15:00	2115.439	528.86	11613.168	2903.292	640.025	160.006
340	12.06 14:30:00	0:15:00	2596.391	649.098	11583.093	2895.773	189.149	47.287
340	12.06 14:45:00	0:15:00	3288.861	822.215	10823.265	2705.816	256.507	64.127
340	12.06 15:00:00	0:15:00	4171.723	1042.931	10021.928	2505.482	174.982	43.745
340	12.06 15:15:00	0:15:00	4789.379	1197.345	9535.261	2383.815	43.994	10.998
340	12.06 15:30:00	0:15:00	5380.191	1345.048	8988.443	2247.111	0	0
340	12.06 15:45:00	0:10:12	5944.159	1010.507	8424.475	1432.161	0	0
340	12.06 15:51:00	0:03:00	6272.995	313.65	8095.638	404.782	0	0
347	12.13 08:15:36	0:07:12	4670.57	560.468	2418.675	290.241	7279.388	873.527



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
347	12.13 08:30:00	0:15:00	304.23	76.057	6302.573	1575.643	7761.831	1940.458
347	12.13 08:45:00	0:15:00	0	0	6955.523	1738.881	7413.11	1853.278
347	12.13 09:00:00	0:15:00	0	0	7302.504	1825.626	7066.129	1766.532
347	12.13 09:15:00	0:15:00	0	0	7472.515	1868.129	6896.119	1724.03
347	12.13 09:30:00	0:15:00	0	0	7458.596	1864.649	6910.038	1727.509
347	12.13 09:45:00	0:15:00	0	0	7454.122	1863.53	6914.512	1728.628
347	12.13 10:00:00	0:15:00	0	0	7338.047	1834.512	7030.586	1757.647
347	12.13 10:15:00	0:15:00	0	0	7177.73	1794.432	7190.903	1797.726
347	12.13 10:30:00	0:15:00	0	0	6981.373	1745.343	7387.261	1846.815
347	12.13 10:45:00	0:15:00	0	0	6948.066	1737.017	7420.567	1855.142
347	12.13 11:00:00	0:15:00	0	0	6951.546	1737.887	7417.087	1854.272
347	12.13 11:15:00	0:15:00	0	0	7048.731	1762.183	7319.903	1829.976
347	12.13 11:30:00	0:15:00	0	0	7094.713	1773.678	7273.92	1818.48
347	12.13 11:45:00	0:15:00	0	0	7239.868	1809.967	7128.765	1782.191
347	12.13 12:00:00	0:15:00	0	0	7281.874	1820.468	7086.759	1771.69
347	12.13 12:15:00	0:15:00	0.249	0.062	7373.839	1843.46	6994.546	1748.636
347	12.13 12:30:00	0:15:00	0.497	0.124	7399.44	1849.86	6968.696	1742.174
347	12.13 12:45:00	0:15:00	163.548	40.887	7661.664	1915.416	6543.421	1635.855
347	12.13 13:00:00	0:15:00	385.258	96.315	8381.972	2095.493	5601.403	1400.351
347	12.13 13:15:00	0:15:00	644.748	161.187	9198.968	2299.742	4524.918	1131.229
347	12.13 13:30:00	0:15:00	930.087	232.522	9992.848	2498.212	3445.698	861.425
347	12.13 13:45:00	0:15:00	1261.409	315.352	10711.416	2677.854	2395.808	598.952
347	12.13 14:00:00	0:15:00	1630.014	407.504	11066.848	2766.712	1671.771	417.943
347	12.13 14:15:00	0:15:00	2080.145	520.036	11575.388	2893.847	713.1	178.275
347	12.13 14:30:00	0:15:00	2562.09	640.523	11700.659	2925.165	105.884	26.471
347	12.13 14:45:00	0:15:00	3233.185	808.296	10918.71	2729.677	216.739	54.185
347	12.13 15:00:00	0:15:00	4090.943	1022.736	10137.754	2534.439	139.936	34.984
347	12.13 15:15:00	0:15:00	4697.414	1174.353	9646.861	2411.715	24.358	6.09
347	12.13 15:30:00	0:15:00	5249.203	1312.301	9119.43	2279.858	0	0
347	12.13 15:45:00	0:10:48	5754.015	1035.723	8614.618	1550.631	0	0
347	12.13 15:52:11	0:03:36	6148.47	368.908	8220.164	493.21	0	0
354	12.20 08:19:48	0:04:48	4786.893	382.951	2396.554	191.724	7185.187	574.815
354	12.20 08:30:00	0:12:36	1625.043	341.259	5071.736	1065.064	7671.854	1611.089
354	12.20 08:45:00	0:15:00	0	0	6927.188	1731.797	7441.445	1860.361
354	12.20 09:00:00	0:15:00	0	0	7297.284	1824.321	7071.349	1767.837
354	12.20 09:15:00	0:15:00	0	0	7522.722	1880.681	6845.911	1711.478
354	12.20 09:30:00	0:15:00	0	0	7529.682	1882.42	6838.951	1709.738
354	12.20 09:45:00	0:15:00	0	0	7538.878	1884.72	6829.755	1707.439
354	12.20 10:00:00	0:15:00	0	0	7447.659	1861.915	6920.974	1730.244
354	12.20 10:15:00	0:15:00	0	0	7298.776	1824.694	7069.858	1767.464
354	12.20 10:30:00	0:15:00	0	0	7093.719	1773.43	7274.914	1818.729
354	12.20 10:45:00	0:15:00	0	0	7026.361	1756.59	7342.272	1835.568
354	12.20 11:00:00	0:15:00	0	0	7017.661	1754.415	7350.972	1837.743
354	12.20 11:15:00	0:15:00	0	0	7106.395	1776.599	7262.238	1815.56
354	12.20 11:30:00	0:15:00	0	0	7148.898	1787.224	7219.736	1804.934
354	12.20 11:45:00	0:15:00	0	0	7286.348	1821.587	7082.285	1770.571
354	12.20 12:00:00	0:15:00	0	0	7343.515	1835.879	7025.118	1756.28
354	12.20 12:15:00	0:15:00	0	0	7435.729	1858.932	6932.905	1733.226
354	12.20 12:30:00	0:15:00	0.249	0.062	7465.555	1866.389	6902.83	1725.707
354	12.20 12:45:00	0:15:00	122.04	30.51	7588.092	1897.023	6658.502	1664.625
354	12.20 13:00:00	0:15:00	339.773	84.943	8296.967	2074.242	5731.894	1432.973
354	12.20 13:15:00	0:15:00	593.049	148.262	9101.037	2275.259	4674.547	1168.637
354	12.20 13:30:00	0:15:00	873.417	218.354	9880.501	2470.125	3614.715	903.679
354	12.20 13:45:00	0:15:00	1198.525	299.631	10678.358	2669.59	2491.75	622.937
354	12.20 14:00:00	0:15:00	1565.39	391.348	11024.345	2756.086	1778.898	444.724
354	12.20 14:15:00	0:15:00	2002.596	500.649	11482.429	2870.607	883.608	220.902
354	12.20 14:30:00	0:15:00	2476.091	619.023	11838.607	2959.652	53.936	13.484



Quantitative Shadow Results - FULL SUN ANGLE SAMPLE

Summary of Results - 1979 Mission Street - RAISED PLAYGROUND - Upper Level Only - Marshall Elementary School

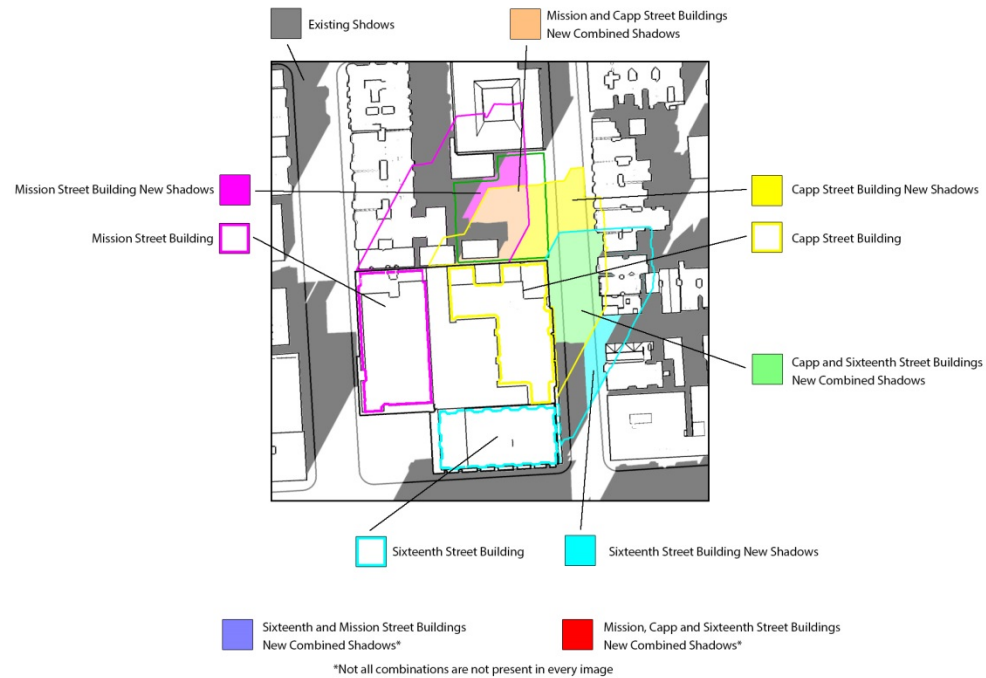
DayNum	Date+Time	Duration	ExSF	ExSFHr	NewSF	NewSFHr	SunnySF	SunnySFHr
354	12.20 14:45:00	0:15:00	3103.44	775.86	11063.119	2765.78	202.074	50.519
354	12.20 15:00:00	0:15:00	3932.117	983.029	10290.863	2572.716	145.652	36.413
354	12.20 15:15:00	0:15:00	4582.831	1145.708	9751.751	2437.938	34.052	8.513
354	12.20 15:30:00	0:15:00	5128.157	1282.039	9240.476	2310.119	0	0
354	12.20 15:45:00	0:12:36	5593.201	1174.572	8775.432	1842.841	0	0
354	12.20 15:54:36	0:04:48	6101.493	488.119	8267.14	661.371	0	0

EXHIBIT I.1

1979 Mission Street Shadow Projection Graphics

ALTERNATIVE D

Reduced Shadow Alternative 1
(Reduced Capp Component, Sculpted
northeast side)



1979 Mission Street
Shadow Projections Key



1979 Mission Street
June 21 Sunrise +1 Hour

- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
June 21 7:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
June 21 8:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
June 21 9:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
June 21 9:45 am

- | | | |
|---|--|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copmbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | Existing Shadows |





1979 Mission Street
June 21 10:00 am

- | | | |
|---|--|---|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Copmbined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | Existing Shadows |

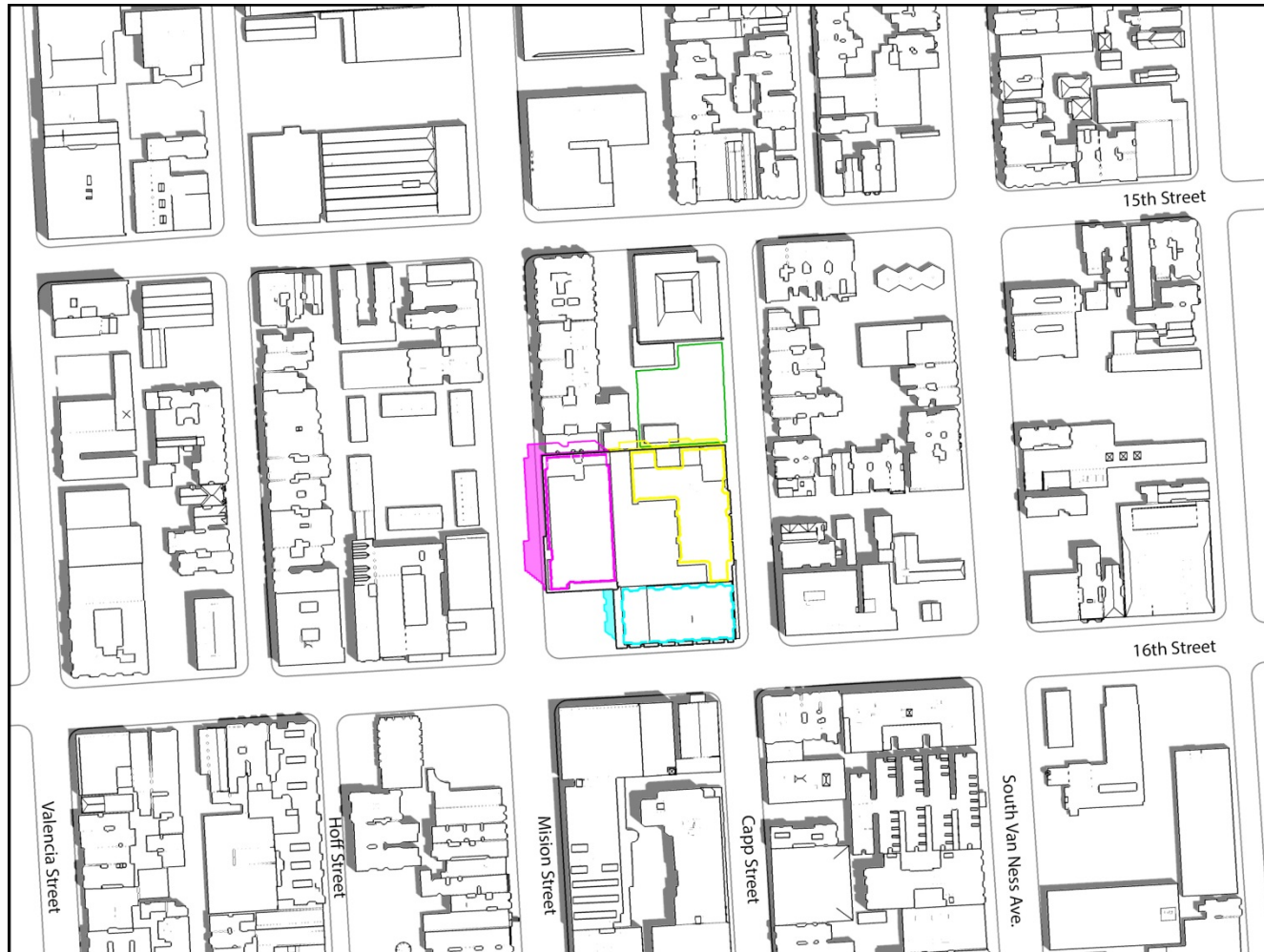




1979 Mission Street
June 21 11:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
June 21 12:00 noon

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
June 21 1:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |

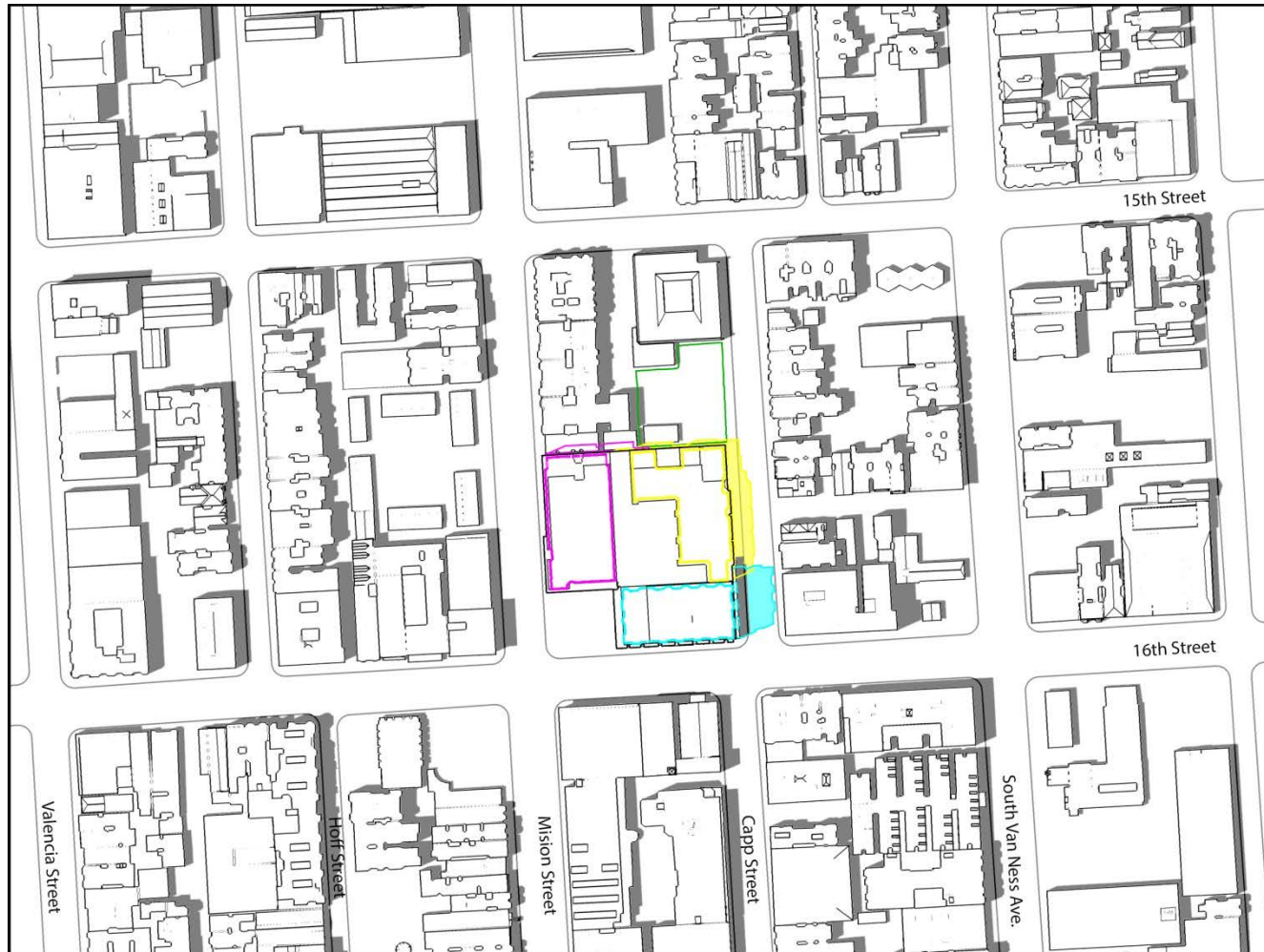




1979 Mission Street
June 21 2:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
June 21 3:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
June 21 4:00 pm

- | | | |
|---|--|--|
| Mission Street Building | Capp Street Building | Sixteenth Street Building |
| Mission Street Building New Shadows | Capp Street Building New Shadows | Sixteenth Street Building New Shadows |
| Mission and Capp Street Buildings New Combined Shadows | Capp and Sixteenth Street Buildings New Combined Shadows | Sixteenth and Mission Street Buildings New Combined Shadows |
| Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | Existing Shadows |





1979 Mission Street
June 21 5:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
June 21 6:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
June 21 7:00 pm

- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
June 21 Sunset -1 Hour

- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
June 28 9:45 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
September 20 Sunrise +1 Hour

- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
September 20 8:00 am

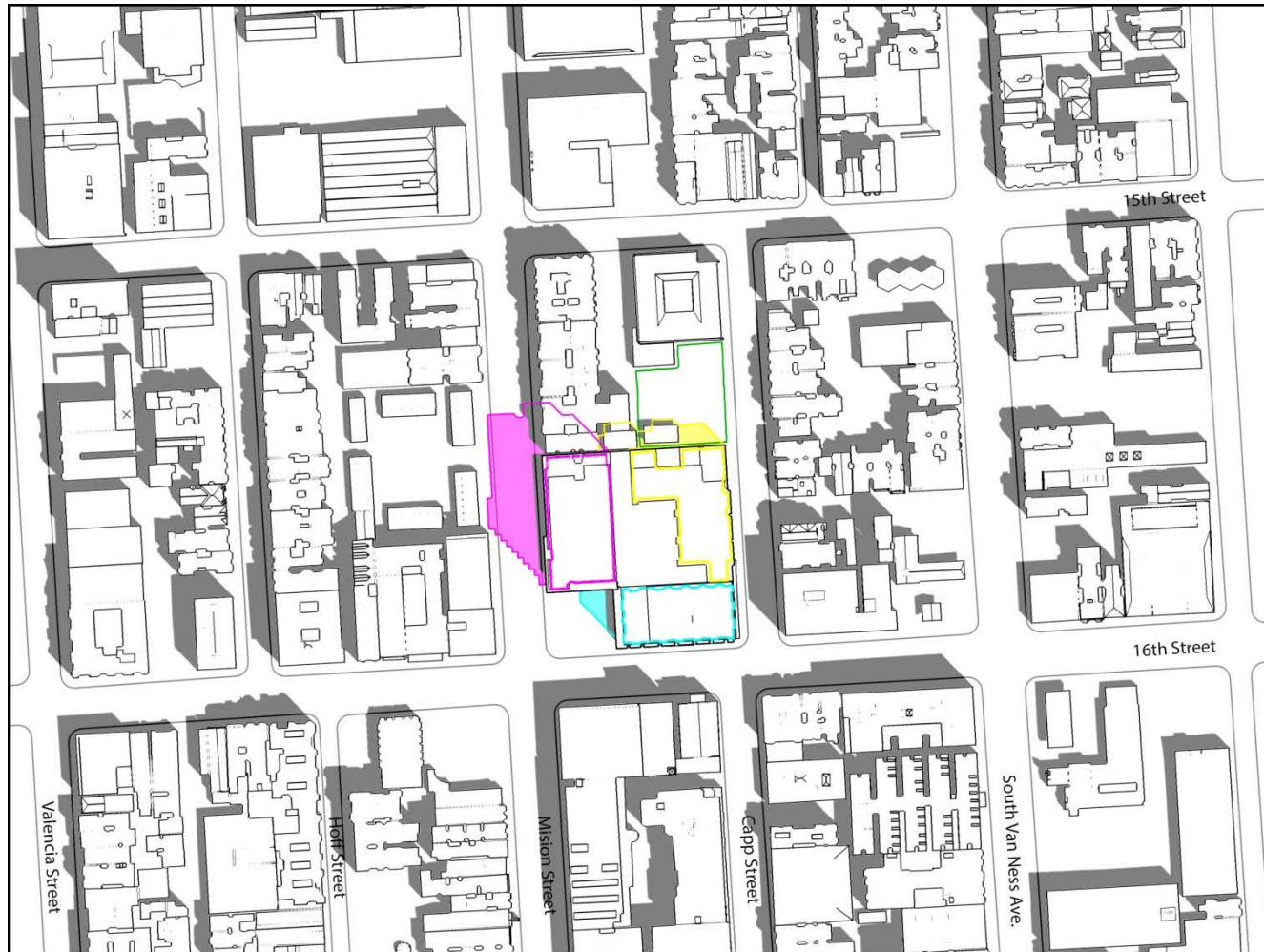
- | | | |
|--|---|---|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Combined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
September 20 9:00 am

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |





1979 Mission Street
September 20 11:00 am

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
September 20 12:00 noon

- Capp Street Building
- Mission Street Building
- Sixteenth Street Building
- Capp Street Building New Shadows
- Mission Street Building New Shadows
- Sixteenth Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
September 20 1:00 pm

- | | | |
|--|---|--|
| ■ Mission Street Building | ■ Capp Street Building | ■ Sixteenth Street Building |
| ■ Mission Street Building New Shadows | ■ Capp Street Building New Shadows | ■ Sixteenth Street Building New Shadows |
| ■ Mission and Capp Street Buildings New Combined Shadows | ■ Capp and Sixteenth Street Buildings New Combined Shadows | ■ Sixteenth and Mission Street Buildings New Copmbined Shadows |
| ■ Mission, Capp and Sixteenth Street Buildings New Combined Shadows | | ■ Existing Shadows |



1979 Mission Street
September 20 2:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows





1979 Mission Street
September 20 3:00 pm

- Mission Street Building
- Mission Street Building New Shadows
- Mission and Capp Street Buildings New Combined Shadows
- Mission, Capp and Sixteenth Street Buildings New Combined Shadows
- Capp Street Building
- Capp Street Building New Shadows
- Capp and Sixteenth Street Buildings New Combined Shadows
- Sixteenth Street Building
- Sixteenth Street Building New Shadows
- Sixteenth and Mission Street Buildings New Copmbined Shadows
- Existing Shadows

