

REPORT FOR:



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ABBREVIATIONS

A	Amp
A/C	air-conditioning
ADA	American Disabilities Act
BR	bedroom
DHW	domestic hot water
ECM	energy conservation measure
EUL	expected useful life
°F	degrees Fahrenheit
gpf	gallon per flush
gpm	gallon per minute
hp	horsepower
HVAC	heating, ventilation, and air-conditioning
kgal	kilogallon
kWh	kilowatt hour
LED	light emitting diode
MBH	Thousand British thermal units per hour
MMBtu	Million British thermal unit
PHA	Peekskill Housing Authority
PNA	physical needs assessment
UFAS	Uniform Federal Accessibility Standards
VCT	Vinyl Composition Tile



EXECUTIVE SUMMARY

Perez Architecture and 2RW Consultants, Inc. have been engaged by the Peekskill Housing Authority (PHA) to perform a physical needs assessment (PNA) for Turnkey Housing. Constructed in 1972, the row/townhouse buildings consist of 33 dwelling units at three scattered sites. None of these units are Section 504 designated for elderly/disabled residents. The focus of this PNA is to assess existing conditions and identify physical deficiencies and repair/replacement needs over the next 15 years.

This report details observations and recommendations based on a review of past energy audit and PNA reports, data provided by PHA, interviews with facility management, and on-site observation of conditions.

General Observations

Based upon the site observations of Turnkey Housing in August 2018, the site and building appear to be in generally satisfactory condition. However, some of the building systems and components in the 46-year-old facility are at the end of their service lives. Additionally, some components have received heavy use and, although not nearing their typical end of service lives, are also approaching a point in which the Housing Authority should consider replacement.

Critical Needs / Immediate Threats

Critical needs and immediate threats are conditions that threaten the health and safety of building occupants or the integrity of building systems. Immediate threats should be addressed by the Owner as soon as possible. Immediate threats threats identified during the August 2018 site visit include:

- Poor site drainage
- Install shock-absorbing materials under playground equipment in compliance with Consumer Product Safety Commission (CPSC) standards
- Exposed concrete masonry units on building exterior needs new protective finish
- Rooftop exhaust fans in need of replacement

Capital Needs for Renovation

The PHA should plan and budget for replacement of a component/system:

- As it reaches the end of its Expected Useful Life (EUL).
- When it fails prematurely and cannot, or soon will not be, able to perform its intended function.

The following table summarizes the estimated capital needs for infrastructure renewal at Turnkey Housing over the 15-year period from 2018 to 2032. Critical needs and immediate threats at Turnkey Housing are estimated to cost \$660 thousand. The short-term physical needs are estimated to cost \$1.5 million with an additional \$3.8 million anticipated during Years 2 through 15. The preponderance of the capital needs through Year 15 are for building system and unit renewals. (All dollar amounts are in 2018 dollars).

Table 1 presents the critical needs/immediate threats that must be addressed as soon as possible. Table 2 presents the short-term physical needs that should be addressed within the next 12 months. Table 3 presents the long-term physical needs that will need to be addressed over the next 15 years. Table 4 and Table 5 present information on the specific costs of certain items that are short term and long-term physical needs, respectively.

Table 1: Critical Needs / Immediate Threats

Category	Cost
Poor Site Drainage	\$ 48,312
Replace Rooftop Exhaust Fans	\$ 72,082
Damaged Siding on All Buildings	\$ 198,636
Replace All Windows with EnergyStar Double Pane Vinyl Windows	\$ 363,194
Replace Railing and Deck at All Three Sites	\$ 24,592
Install a Lightning Protection System at 1227 Howard	\$ 2,156
Install a Lightning Protection System at 1431 Park	\$ 6,968
Install a Lightning Protection System at 1719 Park	\$ 6,968
Environmental Testing	-
Total	\$ 722,908

Tabl	e 2:	Short	Term	Physi	ical N	Veeds

Category	Year 1
Site	\$ 76,962.91
Building Exterior	\$ 200,557.66
Building Systems	\$ 312,640.87
Common Areas	\$ 4,078.89
Unit	\$ 829,928.02
Total	\$ 1,487,168.35

Table 3: Long Term Physical Needs

Category	Years 2-5	Years 6-10	Years 11-15	Total Needs
Site	\$ 505,440.34	\$ 2,798.01	\$ 321,069.93	\$ 829,308.28
Building Exterior	\$ 553,980.70	\$ 208,295.34	\$ 2,078.55	\$ 764,354.59
Building Systems	\$ 542,498.79	\$ 44,802.88	\$ 36,876.56	\$ 624,178.23
Common Areas	\$ 33,866.89	\$-	\$-	\$ 33,866.89
Unit	\$ 1,217,094.10	\$ 274,942.23	\$ 50,716.71	\$ 1,542,753.04
Totals	\$ 2,852,880.82	\$ 530,838.46	\$ 410,741.75	\$ 3,794,461.03



Table 4: Specific Cos	s of Additional Short	-Term Physical Needs
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Category	Cost
Exposed Concrete Masonry Units on Building Exterior Needs New Finish	\$ 4,080
Remove Side Access Path at 1431 Park Street	\$ 21,660
Patch Repairs to Hardscape	\$ 4,875
Install Grease Shields at All Units	\$ 1,744
Replace Shower Bodies and Tubs in All Units	\$ 144,251
Install New Interior Stair Railings in All Units	\$ 8,400
Total	\$185,010

Table 5: Specific Costs of Additional Long-Term Physical Needs

Category	Cost
Install Proper Soft Materials Under Playground Equipment	\$ 2,800
Replace Door Knobs with Lever Handles	\$ 8,702
Total	\$ 11,502

Turnkey Housing has a number of systems that have reached the end of their expected service lives. This fact is not to be interpreted as systems that have already failed. However, the PHA should budget and schedule for replacements immediately. A full list of systems that are past their expected service lives can be found in the Total Physical Needs Summary.

These amounts do not include the following:

- Preventative maintenance of building systems and components.
- On-going operating and maintenance costs for existing systems.
- Improvements to the facility to bring the site into compliance with present government laws, regulations, codes, accessibility requirements, or other mandates or industry recommendations.
- Upgrades to improve marketability of the dwelling units.
- Environmental testing and problem remediation.
- Building system testing and remediation of problems.

These costs are a major component in the calculation of Deferred Maintenance as defined by the Statement of Federal Financial Accounting Standard 40 issued by the Federal Accounting Standards Advisory Board. Over the next 15 years, infrastructure renewal at Turnkey Housing is estimated to cost \$5.3 million, of which almost half will be required inside the dwelling units.



INTRODUCTION

Summary

Perez Architecture and 2RW performed a PNA for the Peekskill Housing Authority (PHA). The assessment consisted of a building survey of dwelling units, maintenance, utility, laundry and other common spaces and a site survey.

Table 6 summarizes the number and size of dwelling units at Turnkey Housing.

Cite	Gross		100	300	200	400		Total
Site	Area	UBR	TRK	ZBK	3BK	4BR	JDR	Total
1227 Howard Street	5,850				5			5
1431 Park Street	17,264		4		8	4		16
1719 Park Street	14,192				8	4		12
Total	37,306		4		21	8		33

Table 6: PHA Site and Unit List

At 1227 Howard Street, the hot water heater was replaced in 2013 and the boilers were replaced in 2014. Site improvements were done at 1431 Park Street and 1719 Park Street in 2014. The site improvements consisted of sidewalks, lighting, and drainage. A roof replacement was done at all three sites in 2017. A boiler replacement at 1431 Park Street and 1719 Park Street was also done in 2017.

Methodology

The primary authors of the PNA report are Perez Architecture and 2RW Consultants, Inc. Perez Architecture, founded in 1940, is 100% Woman and Minority owned, multidisciplinary firm providing a full range of in-house services including architecture, design-build, construction, landscape architecture, planning, interior design, and real estate development. 2RW is a professional engineering firm, established in 1985, with more than 30 years of experience in multi-family design and analysis.

The PNA followed four major steps.

- 1. The Perez Architecture team conducted site visits to gather information about the properties. Perez visited a representative sampling of dwelling units at the site. Perez also visited community spaces, office spaces, and central mechanical rooms. A staff member of the management company accompanied Perez and 2RW during the field visit. The visit included an observation of the site, building envelope, space heating and cooling systems, ventilation, lighting, domestic hot water (DHW) systems, plumbing fixtures, ancillary systems, and appliances. Inventories and measurements of building systems conducted during the site visit have been compared to other documentation (drawings, previous energy audits and assessments, etc.) for verification.
- 2. Based on field observations, drawings, and previous PNAs an inventory of facility systems and components was prepared.
- 3. The building system and component inventory, replacement costs, and other data were determined.
- 4. The PNA report was prepared.

The PNA team used current editions of building codes, laws, regulations, and standards during preparation of this report.



DESCRIPTION OF EXISTING CONDITIONS

Turnkey Housing, AMP NY082000002, 1227 Howard St., 1431 Park St., and 1719 Park St., Peekskill, NY

Property Description

Located at three scattered sites in Peekskill, New York, Turnkey Housing has multi-level dwelling buildings consisting of 33 units built in 1972. A breakdown of the units by bedroom size is as follows:

Number of Bedrooms	0BR	1BR	2BR	3BR	4BR	5BR	6BR	Total	Common Space
Number of Units	-	4	-	21	8	-	-	33	Boiler Rooms
Square Footage	-	570	-	1,003	1,155	-	-	120,877	

In accordance with the agreement between the PHA, NY and Perez Architecture dated July 6, 2018, a PNA was conducted for Turnkey Housing.

A walkthrough visual observation of the property was completed on August 1, 2018 and included 100% of the site, mechanical and maintenance areas, and 10% of the dwelling units. As part of the overall PNA, review and recommendation for this site, the site amenities, unit size, layout, and functional obsolescence were given full consideration.

Site

PHA acquired Turnkey Housing in 1973. The site appears to be well maintained, and generally in good condition. The 14,150 square feet of asphalt parking lots appear to be in good condition, and asphalt replacement is not immediately needed. The 4,968 square feet of pedestrian concrete walk ways are in good condition with only minimal repairs needed. Lawn areas appear to be well maintained, and trees appear to be pruned away from buildings so as not to damage the buildings.

Although they are in good condition, site fall protection guard railing at 1227 Howard does not conform to code requirements. It appears that railing has been replaced at 1431 Park and 1219 Park in the fairly recent past. Considering this, it is recommended that the railing replacement occur at 1227 Howard soon.

Accessibility

The Uniform Federal Accessibility Standards (UFAS) and Section 504 compliance requirements were studied and observed with site and building items during the onsite walkthrough, included parking, accessible routes, and entryways. The Agency made reasonable accommodations to the project for ease of access by providing designated and conveniently located parking spaces.

Site Observations

- Water drainage is an issue on all sites due to extreme grade changes.
- Side access path to the mechanical room at 1431 Park Street needs to be replaced with a proper stair.
- Both Park Street properties exhibited significant pooling of water at multiple unit's entrances.
- Playgrounds do not contain proper soft materials under and around equipment. They also lack proper signage and advisories.
- Replace site railing at 1227 Howard Site.

Building Exterior



Building exteriors and systems for Turnkey buildings appear to be well maintained and in good condition. The two story row/townhouse type buildings are on slab on grade foundations and clad with vinyl siding exteriors in poor condition. The double-pane windows are past their useful life and are therefore considered for replacement. The roofs at Turnkey are gable style asphalt shingle type construction and were replaced in 2017. The exterior doors were replaced in 1985 and appear to be in fair condition.

Building Exterior Observations

- Exposed concrete masonry units on exterior of building needs new finish
- Patch repairs to hardscape including railing curbs and stairs

Building Systems

Heating, Ventilation, and Air-Conditioning (HVAC) Systems

Space Heating

Turnkey housing incorporates three different sites: 1227 Howard, 1431 Park, and 1719 Park. Space heating at all three sites is provided by a central hot water heating system.

At the Howard site, heating is provided by two Alpine condensing boilers (Model ALP210B) located in the mechanical room. Manufactured in 2014, these boilers are fueled by natural gas. With maximum rated input of 210 MBH and output of 194 MBH, these central boilers are currently not considered oversized, and they have a high efficiency of 92.4%. Boilers appear to be in good condition. Heat distribution for this central heating system is hot water. Most distribution pipes are insulated. Heating hot water is circulated by two 1/6 hp Bell & Gossett pumps that are constant flow.

At the 1431 Park site, heating is provided by one Alpine condensing boiler (Model ALP800C) located in its mechanical room. Manufactured in 2017, the boiler is fueled by natural gas, and it appears to be in excellent condition. With maximum rated input of 800 MBH and output of 760 MBH, it has high efficiency of 95%. Heat distribution system is hot water, and most distribution pipes appear to be well insulated. The system also includes two Extrol expansion tanks. Hot water is circulated by two 3/4 hp Bell & Gossett constant flow pumps.

Similar to 1431 Park, heating at the 1719 Park site is provided by one Alpine condensing boiler (Model ALP800C) located in its mechanical room. Manufactured in 2017, the boiler is fueled by natural gas, and it appears to be in excellent condition. With maximum rated input of 800 MBH and output of 760 MBH, it has high efficiency of 95%. Heat distribution system is hot water, which is circulated by two 3/4 hp Bell & Gossett pumps. The pipes carrying hot water are well insulated.

Hydronic baseboard convectors with thermostatic (non-electric) controls provide heat to units. The condition of baseboard convectors and control valves within the dwelling units varies, but some are in very poor condition, missing parts and/or dented. It is recommended that a building-wide replacement should be done within three to five years.

Space Cooling

There is no central air-conditioning (A/C) at Turnkey. Residents provide window A/C units for space cooling in their apartments. These window A/C units can vary widely in capacity, efficiency, and condition.

Ventilation

Roof-mounted, 1 hp exhaust fans in the building serving the bathrooms and kitchen are not currently operable. Some bathrooms are equipped with newer exhaust fans that discharge to attic space.

There is an exhaust grill connected to the exhaust duct risers in both the bathroom and kitchen of the apartments.

HVAC Observations



Important observations of the Turnkey HVAC systems are given below.

- Resident mounted A/C units should not be installed in windows, as it causes damage to the windows and exterior walls and are at risk of falling. Units should be installed through the wall.
- The hydronic baseboard units in the residences are original equipment and are at the ends of their useful lives.
- There is no central A/C for the residences.

Plumbing Systems

Plumbing Fixtures

Each apartment has a full bathroom with a 1.6 gpf tank-type water closet, shower tub, and lavatory that were each replaced in 2011 and are in good condition. Each kitchen has a single-basin stainless steel sink. Faucets are manual, single lever knobs for baths, dual temperature knobs for kitchens, and have 2.2 gpm aerators. City water pressure is sufficient, and no pumps are required to maintain proper water pressure.

Main shutoff valves at the PRV/water meter appear to be in good condition.

Domestic Hot Water

Turnkey has central DHW systems.

The Howard site includes one commercial Rheem Rudd (Model G100-80) water heater. Its capacity is 100 gallons, with an input of 80 MBH and efficiency of 80%. The water heater was replaced in 2013 and appears to be in excellent condition.

The 1431 Park and 1719 Park sites utilize the gas-fired boilers to generate domestic hot water. The sites are equipped with HTP storage tanks equipped with an internal heat exchanger. The 1719 Park site also has a 119-gal AO Smith hot water storage tank (model no. TJV120M000000Y00) to supplement the HTP tank. The DHW piping in these boiler rooms is not insulated. Hot water is circulated from the water heaters throughout the buildings by small 1/4 hp inline Grundfos pumps at the Park St sites. Piping within the boiler room appears to have been replaced, but it is unlikely that pipe replacements occurred elsewhere in the building.

Plumbing Systems Observations

Notable observations concerning the plumbing systems at Turnkey are as follows:

- Dwelling units are equipped with 2.0 gpm showerheads and 2.2 gpm faucet aerators. Many tenants have replaced the authority provided showerheads with their own showerheads.
- The boilers and domestic hot water systems are recently installed and appear to be in good condition.
- Some piping for domestic hot water is not properly insulated.

Electrical Systems

Service

The electrical service for each building is 400Aand serves both Owners panels and Apartment Mains panels.

The load centers (estimated at 60A) in the apartments are Square D equipment as well and are in fair condition.

Exterior Lighting

Exterior light emitting diode (LED) wall-pack lighting fixtures were installed at the Turnkey sites in 2014 and are in good condition. The housing authority pays for exterior lighting, and it is controlled by photo-controls.

One fixture housing a single screw base bulb serves the entrance of every dwelling unit. These entrance fixtures appear to be original construction (1972), are in fair to poor condition. Bulbs employed in these entrance fixtures are a mix of compact fluorescent, LED and incandescent screw-in bulbs.

Interior Lighting

Interior lighting at Turnkey is primarily circline and linear fluorescent, along with some compact fluorescent. The interior light fixtures were replaced in 1995; however, LED replacements are being installed during apartment turn-over renovations.

Inside the dwelling units are the following dominant light fixtures:

- Kitchen: circline fluorescent
- Bathroom: linear fluorescent
- Hallway/Foyer: circline fluorescent

Fire Protection Systems

The Turnkey sites do not have fire protection systems installed.

Fire Detection Systems

Smoke detectors are present in each dwelling unit wall-mounted to the living room as well as in the hallways near the bedroom doors. Residential smoke detectors are hard-wired and were replaced in 2004. The current fire code requires one smoke detector to be located in each bedroom.

Security Systems

Similar to Bohlmann Towers & Dunbar Heights, a camera surveillance system provides security for Turnkey. Security for all PHA sites is monitored at Bohlmann Towers.

Security cameras are all fixed mini dome CCTV and they were observed on the exterior walls of building. Overall, there are fewer cameras in Turnkey compared to Dunbar Heights.

Electrical Systems Observations

• Some residents have replaced authority supplied ceiling-mounted fluorescent fixtures with ceiling fan/lighting fixtures, which may contain a mix of incandescent, compact fluorescent and LED bulbs

Units

The most recent modernization project for all baths, kitchens, and floors occurred in 2011. The units were assessed with an overall condition of fair. Unit kitchens were in fair condition and show signs of normal wear and tear. The cabinets, countertops, and appliances are in fair condition and should be considered for upgrading and replacement by the PHA. Unit baths are in moderate condition. The toilets installed throughout Turnkey are 1.6 gpf type toilets. The bathtubs are in fair condition. Unit flooring is in good condition.

Accessibility

At present, none of the apartments at Turnkey are designated as UFAS accessible. UFAS Section 4.1.4, Occupancy Classifications, paragraph (11) Residential, states that accessible housing shall be provided for federally funded, multifamily housing, in "5% of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations." Following this guideline, 5% of the 33 dwelling units at Turnkey, equal to two dwelling units, should be accessible.

The following modifications would need to be implemented to convert existing dwelling units to accessible units:



- Kitchen
 - o Install a height-adjustable countertop in place of existing countertops in the work area.
 - Provide refrigerator with a bottom freezer.
 - Install a sink that has a depth no greater than 6.5 inches.
 - The sink should have a faucet with a goose neck and single lever controls.
 - Eliminate padding on the sink trap. Install padding on the trap.
 - Install electrical receptacles on the front of the counter.
 - Move all controls (light switches, range hood controls) to the front of the counter.
- Bathroom
 - Reconfigure the bathroom to provide a five-foot (minimum) turning radius for a wheelchair.
 - Provide a roll-in shower stall.
 - Install grab bars in the shower.
 - Provide a transfer bench.
 - Install an adjustable shower head.
 - Provide single lever controls for the shower.
 - o Install a lavatory having:
 - A faucet with a gooseneck and lever handle control.
 - A padded the trap beneath the lavatory.
 - A sloped mirror above the lavatory.
 - Install bathroom accessories (toothbrush holder, glass holder, toilet tissue dispenser) in an accessible location.
 - Install grab bars in the vicinity of the lavatory.
- Electrical
 - Relocate the electrical load center so that the top of the panel is no more than 48 inches above the floor.
 - Verify that electrical receptacles, telephone jacks, and television jacks are at least 18 inches above the floor.
 - Verify that light switches are no more than 48 inches above the floor.
- Interiors
 - Install new main entry doors and frames that have:
 - Fire rating equal to that required for the egress corridor.
 - Lever handles
 - Dead bolt mounted no higher than 48 inches above the floor.
 - A peephole should be provided at a height so that an individual in a wheelchair can see out.
 - Self- closer that requires no more than five pounds of force to open.
 - o Doors would need to have a minimum width of 32 inches.
 - Install lever handles on all interior hinged doors.
 - o Install open storage with accessible shelves.
 - \circ ~ Clothes rods cannot be more than 54 inches above the floor.

Appurtenances and Finishes

Ceilings

Ceilings in the Turnkey dwelling units are painted gypsum board and are in generally good condition.

Walls

Unit walls are painted gypsum board. The walls have baseboard heaters. Bathroom walls are tiled with 4" ceramic tiles from the floor to a height of 42". The remainder of the wall is painted gypsum board. The tile throughout the buildings is in generally good condition. The gypsum board throughout the complex is in fair condition due to years of patch repairs and repainting.



Floors

Throughout Turnkey housing, apartment floors are 12" resilient vinyl composition tile and bathroom floors are 2" ceramic tile. Two-story units have wood stairs. Flooring throughout Turnkey is in good condition. One unit surveyed had carpet that a resident installed over the vinyl tile.

Interior Doors

The dwelling units have hollow core, painted wood doors that are in overall good condition. The doors have knobs, not lever handles. Door hardware is brass or nickel plated.

Appurtenances

The galley type kitchens have wood wall and base cabinets and plastic laminate countertops at Howard and 1431 Park, and pressboard as well as plastic laminate countertops at 1719 Park. The cabinets and countertops appeared to be in satisfactory condition in most of the apartments visited during the site inspection. Kitchens have one stainless steel sink at all sites.

Bathrooms have vanities. The condition of vanities varies from unit to unit, but they are in overall moderate condition and do not need replacement.

Stair railings in many of the units are in poor condition. If the connections to the wall cannot be repaired, the loose railings need to be replaced.

Appliances

Most apartments are equipped with a 30-inch, four-burner gas range provided by the PHA. All kitchens have a Frigidaire double-door refrigerator (model no. FFTR1814QW9B). Each apartment has a recirculating range hood. The gas ranges appear to be in good condition. Some apartments have grease shields protecting the wall behind the range.

Unit Observations

- New wood decking was added to the 1227 Howard Street property. It appears as if pieces of decking have needed constant replacement over the years.
- Most units have severe window sill damage.
- Poorly repaired holes in the wall do not hold up to constant re-paintings when units are changed over.
- Interior stair railings are in poor condition.
- The shower assemblies are splitting and failing, and bathroom fixtures are not uniform.
- Kitchen Millwork is in acceptable condition.



CRITICAL NEEDS / IMMEDIATE THREATS

Poor Site Drainage

SUMMARY

Positive drainage can be achieved by a redesign of grading around the building foundation. This diverts water away from the building and eliminates any areas where water currently pools, preventing easy access to units and potentially damaging property.

- The sites are not designed to achieve positive draining, which is a sloping of adjacent grade such that water is guided away from the foundation.
- Site drainage is an issue on all sites due to extreme grade changes.
- Both Park Street properties exhibited significant pooling at multiple unit's entrances.

We recommend that a civil engineering consultant be engaged to design this work. It is assumed that this work will be packaged with other exterior site work.



Figure 1 Example of Poor Site Drainage

COST ESTIMATE

Table 7 presents the cost estimate to repair the poor site drainage.

Table 7: Repair Site Drainage Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Landscape Redesign and Infill	33	CY	\$1,464	\$48,312



Replace Rooftop Exhaust Fans

SUMMARY

Each building at Turnkey is equipped with rooftop exhaust fans providing ventilation for the dwelling units' kitchens and bathrooms. It was noticed that none of the exhaust vents inspected during the site visit were drawing air; PHA personnel indicated that the rooftop fans have not been operational for several years. Several of the units visited had bathrooms equipped with newer ceiling exhaust fans, ventilating the bathroom into the building attic spaces. It is recommended that the building exhaust fans be repaired and/or replaced in order to provide ventilation of the bathrooms and kitchens.

We recommend that a mechanical engineering consultant be engaged to design this work. It is assumed that this work will be packaged with other work.



Figure 2: Rooftop Exhaust Fans at 1719 Park, Interior Exhaust Vent, and Newer Bathroom Exhaust Fan

COST ESTIMATE

Table 8 provides a cost estimate for replacement of the building exhaust fans. Repair of the existing fans, if possible, would likely be less costly than replacement.

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Rooftop Exhaust Fan	23	Each	\$3,134	\$72,082

Table 8: Replace Rooftop Exhaust Fan Cost Estimate



Damaged Siding on all Buildings

SUMMARY

All Turnkey buildings are clad in vinyl siding. Siding serves an integral role in the esterior wall assembly of a building. It provides the first line of defense of the interior occupants, shedding precipitation and absorbing the direct sunlight to protect further interior components of the assembly. Over the years, general use, mechanical attachments, and other installations have caused damage to this building system. Many holes, cracks, and bowed sections of siding were witnessed during the field visit. It is recommended that PHA remove and replace the vinyl siding system of the building in order to ensure a properly sealed and protective building envelope. The housing authority might consider a more resilient siding system in lieu of the same vinyl system. However, the cost estimate below is for replacing in kind.

There have been significant advances in the detailing of exterior siding. To take full advantage of these advances, it is recommended that an architectural consultant be procured for this work. It is assumed that this work will be packaged with other work required to be completed by an architect.



Figure 3 Isolated Siding Damage

COST ESTIMATE

Table 9 presents the cost estimate to replace the building siding.

Table 9: Replace Building Siding Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Vinyl Siding	24,923	SF	\$7.97	\$198,636



Replace All Windows with EnergyStar Double Pane Vinyl Windows

SUMMARY

During the assessment of the property by the project team, it was determined that the state of the windows throughout Turnkey estates was 'fair' and therefore they should be considered for replacement. Additionally, it was noted that the window sills are in poor condition. Replacement of current windows with double paned EnergyStar windows will increase energy use efficiency in all units and work in tandem with other improvements to provide the best protection from the elements for the entire building. Replacing the window sills at the same time will ensure that both components, the window and the sill, are designed, detailed, and specified with the other component in mind.



Figure 4 Window and Sill

COST ESTIMATE

Table 10 presents the cost estimate to replace windows at the Turnkey buildings

Table 10: Replace Windows Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Windows and Sills	229	Each	\$1,586	\$363,194





Replace Railing and Decking at All Three Sites

SUMMARY

The Turnkey buildings have two wooden blacony style decks. These decks have framed and sheathed walls on two sides and a framed and sheathed roof. The third side has a fall protection in the form of a guardrail. The guardrails does not conform to building code for minimum sphere size passing through the balustrade. This is a serious concern considering children live in the buildings, and the 4" minimum sphere size is a code requirement to ensure a babies head does not pass through. The decking and guardrail for each deck is constructed of wood. Regardless of the finish or sealing of these decks, years of exposure have taken their toll and created instances of warping, degredation, and bowing. Replacement should be coupled with diligent preventative maintenance to ensure the new decking has a long lifespan and provides the safest area for tenants.



Figure 5 Railing and Decking at Balconies

COST ESTIMATE

Table 11 presents the cost estimate to replace wood railing and decking at all three sites.

Table 11: Replace Decking Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Porches/Balcony	300	SF	\$48	\$14,400
Guard Railings	112	LF	\$91	\$10,192



Install a Lightning Protection System at 1227 Howard

SUMMARY

The National Fire Protection Association (NFPA), Section 780, "Standard for the Installation of Lightning Protection Systems ", publishes a protocol to assess the risk to a structure from lightning strikes, with the object of "... determining the risk of damage or injury due to lightning" (Annex L).

Annex L, Section L.1.1, lists several situations where "serious consideration" should be given to the installation of a lightning protection system regardless of the outcome of the assessment calculations. These include:

- Buildings housing large crowds,
- Continuity of critical service,
- High lightning flash sequence,
- Tall isolated structure,
- Building containing an explosive or flammable material,
- Building containing irreplaceable cultural heritage.

ASSESSMENT

<u>Methodology</u>

The Simplified Risk Assessment methodology (Section L.5) is based on two calculated quantities, the Annual Threat of Occurrence (N_d) and the Tolerable Lightning Frequency (N_c), as summarized below.

Annual Threat of Occurrence (N_d)

The Annual Threat of Occurrence, N_d , is the yearly lightning strike frequency to the structure. N_d is defined by the equation below:

 $N_d = N_g * A_e * C_1 * 10^{-6}$

where

N_g is the lightning ground flash density (flashes/km²/year)

 A_e is the equivalent collection area of the structure (m²)

$A_e = (L^*W) + [6^*H^*(L+W)] + (9^*\pi^*H^2)$

L = building length (m)

W = building width (m)

H = building height (m)

C1 is an environmental coefficient

Tolerable Lightning Frequency (N_c)

The Tolerable Lightning Frequency, N_c , is the "... measure of the risk to the damage of the structure ...". N_c is defined by the following equation:

 $N_c = (1.5 * 10^{-3}) / C$ where $C = C_2 * C_3 * C_4 * C_5$ where $C_2 = Construction Coefficient$ $C_3 = Determination of Structure Contents$



- C₄ = Determination of Structure Occupancy
- C₅ = Determination of Lightning Consequence
- Values for C_2 , C_3 , C_4 , and C_5 are tabulated in Standard 780, part L.5.2.

Risk Calculation

If the Annual Threat of Occurrence, N_d , exceeds the Tolerable Lightning Frequency, N_c , the NFPA recommends a lightning protection system for the structure.

Annual Threat of Occurrence Calculation Results

1) Lightning Ground Flash Density (Ng)





2) Equivalent Collection Area (Ae)

L = 17.77 m W = 12.25 m H = 7.51 m $A_e = [(17.77)^*(12.25)] + [6^*(7.51)^*(17.77+12.25)] + (9^*\pi^* 7.51^2)$ $A_e = 3,165.06$





Table 12: Environmental Coefficient (C₁)

Relative Structure Location	C ₁
Structure surrounded by taller structures or trees within a distance of 3H	0.25
Structure surrounded by structures of equal or lesser height within a distance of 3H	0.5
Isolated structure, with no other structures located within a distance of 3H	1
Isolated structure on hilltop	2

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

3) Annual Threat of Occurrence (N_d)

 $N_d = (2.5) * (3,165.06) * (0.5) * (10^{-6})$

N_d = 0.00395

Tolerable Lightning Frequency Calculation Results

Table 13: Construction Coefficient (C₂)

Structure	Metal Roof	Nonmetallic Roof	Combustible Roof
Metal	0.5	1.0	2.0
Nonmetallic	1.0	1.0	2.5
Combustible	2.0	2.5	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 14: Determination of Structure Contents (C₃)

Structure Contents	
Low Value and Noncombustible	0.5
Standard Value and noncombustible	1.0
High value, moderate combustibility	
Exceptional value, flammable liquids, computer or electronics	3.0
Exceptional value, irreplaceable cultural items	4.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 15: Determination of Structure Occupancy (C₄)

Structure Occupancy	C ₄
Unoccupied	0.5
Normally Occupied	1.0
Difficult to evacuate or risk of panic	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 16: Determination of Lightning Consequence (C₅)

Lightning Consequence	
Continuity of facility services not required, no environmental impact	1.0
Continuity of facility serves required, no environmental impact	5.0
Consequences to the environment	10.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014



(Note: Selection for this Analysis is highlighted)

1) Tolerable Lightning Frequency (N_c)

$$C = (3) * (2) * (1) * (1) = 6$$
$$N_{C} = (1.5 * 10^{-3}) / 6$$
$$N_{c} = 0.00025$$

<u>Conclusion</u>: Since $N_d > N_c$ a lightning protection system is recommended.

SCOPE OF WORK

General

- Design a lightning protection system in accordance with LPI and NFPA 780.
 - Size conductors to handle current flows per LPI protocols.
 - Submit calculations to Owner for review.
- Prepare scale drawings and specifications to illustrate the design
 - Drawings shall indicate the following:
 - Location of aerials
 - Size and location of conductors
 - Details illustrating conductor and aerial mounting techniques
 - Location and sizing of ground loops and rods
 - Drawings Shall be sealed by a professional engineer with a current license in the Commonwealth of Pennsylvania

INSTALLATION

- Install lightning protection system per the drawings, the codes and standards of the City of Philadelphia and the Commonwealth of Pennsylvania, and UL/LPI code requirements.
- Contractor shall secure building permits as necessary.
- Upon completion, an independent third party shall commission the installation, verifying conductor resistance and grounds.
- Upon satisfactory completion and testing of the lightning protection system, the Contractor shall post a framed UP/LPI certification of the system at a prominent location near the door onto the roof of the building.
- Contractor shall take care so that the roof warranty is not voided by the lightning protection system installation.
- Installation shall include restoration of the site to its original condition after installation of the ground loop.

COST ESTIMATE

Table 17 presents the cost estimate to install a lightning protection system on the entire building.

Table 17: Install Lightning Protection System Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Lightning Protection System	Each	1	\$2,156	\$2,156



Install a Lightning Protection System at 1431 Park

SUMMARY

The National Fire Protection Association (NFPA), Section 780, "Standard for the Installation of Lightning Protection Systems ", publishes a protocol to assess the risk to a structure from lightning strikes, with the object of "... determining the risk of damage or injury due to lightning" (Annex L).

Annex L, Section L.1.1, lists several situations where "serious consideration" should be given to the installation of a lightning protection system regardless of the outcome of the assessment calculations. These include:

- Buildings housing large crowds,
- Continuity of critical service,
- High lightning flash sequence,
- Tall isolated structure,
- Building containing an explosive or flammable material,
- Building containing irreplaceable cultural heritage.

ASSESSMENT

<u>Methodology</u>

The Simplified Risk Assessment methodology (Section L.5) is based on two calculated quantities, the Annual Threat of Occurrence (N_d) and the Tolerable Lightning Frequency (N_c), as summarized below.

Annual Threat of Occurrence (N_d)

The Annual Threat of Occurrence, N_d , is the yearly lightning strike frequency to the structure. N_d is defined by the equation below:

 $N_d = N_g * A_e * C_1 * 10^{-6}$

where

N_g is the lightning ground flash density (flashes/km²/year)

 A_e is the equivalent collection area of the structure (m²)

$A_e = (L^*W) + [6^*H^*(L+W)] + (9^*\pi^*H^2)$

L = building length (m)

W = building width (m)

H = building height (m)

 C_1 is an environmental coefficient

Tolerable Lightning Frequency (N_c)

The Tolerable Lightning Frequency, N_c , is the "... measure of the risk to the damage of the structure ...". N_c is defined by the following equation:

```
N_c = (1.5 * 10^{-3}) / C
where
C = C_2 * C_3 * C_4 * C_5
where
C_2 = Construction Coefficient
C_3 = Determination of Structure Contents
```



- C₄ = Determination of Structure Occupancy
- C₅ = Determination of Lightning Consequence
- Values for C_2 , C_3 , C_4 , and C_5 are tabulated in Standard 780, part L.5.2.

Risk Calculation

If the Annual Threat of Occurrence, N_d , exceeds the Tolerable Lightning Frequency, N_c , the NFPA recommends a lightning protection system for the structure.

Annual Threat of Occurrence Calculation Results

4) Lightning Ground Flash Density (Ng)





5) Equivalent Collection Area (A_e)

L = 30.95 m W = 11.32 m H = 10.87 m

 $\mathsf{A}_{\mathrm{e}} = [(\ 30.95\)^*(\ 11.32\)] + [6^*(\ 10.87\)^*(\ 30.95 + 11.32\)] + (9^*\pi^*\ 10.87^2)$

A_e = 6,448.01





Table 18: Environmental Coefficient (C₁)

Relative Structure Location	C ₁
Structure surrounded by taller structures or trees within a distance of 3H	0.25
Structure surrounded by structures of equal or lesser height within a distance of 3H	0.5
Isolated structure, with no other structures located within a distance of 3H	1
Isolated structure on hilltop	2

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

6) Annual Threat of Occurrence (N_d)

 $N_d = (2.5) * (6,448.01) * (0.5) * (10^{-6})$

N_d = 0.00806

Tolerable Lightning Frequency Calculation Results

Table 19: Construction Coefficient (C₂)

Structure	Metal Roof	Nonmetallic Roof	Combustible Roof
Metal	0.5	1.0	2.0
Nonmetallic	1.0	1.0	2.5
Combustible	2.0	2.5	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 20: Determination of Structure Contents (C₃)

Structure Contents	C ₃
Low Value and Noncombustible	0.5
Standard Value and noncombustible	1.0
High value, moderate combustibility	2.0
Exceptional value, flammable liquids, computer or electronics	
Exceptional value, irreplaceable cultural items	4.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 21: Determination of Structure Occupancy (C₄)

Structure Occupancy	C ₄
Unoccupied	0.5
Normally Occupied	1.0
Difficult to evacuate or risk of panic	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 22: Determination of Lightning Consequence (C₅)

Lightning Consequence		
Continuity of facility services not required, no environmental impact	1.0	
Continuity of facility serves required, no environmental impact	5.0	
Consequences to the environment	10.0	

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014



(Note: Selection for this Analysis is highlighted)

2) Tolerable Lightning Frequency (N_c)

$$C = (3) * (2) * (1) * (1) = 6$$
$$N_{C} = (1.5 * 10^{-3}) / 6$$
$$N_{c} = 0.00025$$

<u>Conclusion</u>: Since $N_d > N_c$ a lightning protection system is recommended.

SCOPE OF WORK

General

- Design a lightning protection system in accordance with LPI and NFPA 780.
 - Size conductors to handle current flows per LPI protocols.
 - Submit calculations to Owner for review.
- Prepare scale drawings and specifications to illustrate the design
 - Drawings shall indicate the following:
 - Location of aerials
 - Size and location of conductors
 - Details illustrating conductor and aerial mounting techniques
 - Location and sizing of ground loops and rods
 - Drawings Shall be sealed by a professional engineer with a current license in the Commonwealth of Pennsylvania

INSTALLATION

- Install lightning protection system per the drawings, the codes and standards of the City of Philadelphia and the Commonwealth of Pennsylvania, and UL/LPI code requirements.
- Contractor shall secure building permits as necessary.
- Upon completion, an independent third party shall commission the installation, verifying conductor resistance and grounds.
- Upon satisfactory completion and testing of the lightning protection system, the Contractor shall post a framed UP/LPI certification of the system at a prominent location near the door onto the roof of the building.
- Contractor shall take care so that the roof warranty is not voided by the lightning protection system installation.
- Installation shall include restoration of the site to its original condition after installation of the ground loop.

COST ESTIMATE

Table 23 presents the cost estimate to install a lightning protection system on the entire building.

Table 23: Install Lightning Protection System Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Lightning Protection System	Each	1	\$6,968	\$6,968



Install a Lightning Protection System at 1719 Park

SUMMARY

The National Fire Protection Association (NFPA), Section 780, "Standard for the Installation of Lightning Protection Systems ", publishes a protocol to assess the risk to a structure from lightning strikes, with the object of "... determining the risk of damage or injury due to lightning" (Annex L).

Annex L, Section L.1.1, lists several situations where "serious consideration" should be given to the installation of a lightning protection system regardless of the outcome of the assessment calculations. These include:

- Buildings housing large crowds,
- Continuity of critical service,
- High lightning flash sequence,
- Tall isolated structure,
- Building containing an explosive or flammable material,
- Building containing irreplaceable cultural heritage.

ASSESSMENT

Methodology

The Simplified Risk Assessment methodology (Section L.5) is based on two calculated quantities, the Annual Threat of Occurrence (N_d) and the Tolerable Lightning Frequency (N_c), as summarized below.

Annual Threat of Occurrence (N_d)

The Annual Threat of Occurrence, N_d , is the yearly lightning strike frequency to the structure. N_d is defined by the equation below:

 $N_d = N_g * A_e * C_1 * 10^{-6}$

where

N_g is the lightning ground flash density (flashes/km²/year)

 A_e is the equivalent collection area of the structure (m²)

$A_e = (L^*W) + [6^*H^*(L+W)] + (9^*\pi^*H^2)$

L = building length (m)

W = building width (m)

H = building height (m)

C1 is an environmental coefficient

Tolerable Lightning Frequency (N_c)

The Tolerable Lightning Frequency, N_c , is the "... measure of the risk to the damage of the structure ...". N_c is defined by the following equation:

 $N_c = (1.5 * 10^{-3}) / C$ where $C = C_2 * C_3 * C_4 * C_5$ where $C_2 = Construction Coefficient$ $C_3 = Determination of Structure Contents$



- C₄ = Determination of Structure Occupancy
- C₅ = Determination of Lightning Consequence
- Values for C_2 , C_3 , C_4 , and C_5 are tabulated in Standard 780, part L.5.2.

Risk Calculation

If the Annual Threat of Occurrence, N_d , exceeds the Tolerable Lightning Frequency, N_c , the NFPA recommends a lightning protection system for the structure.

Annual Threat of Occurrence Calculation Results

7) Lightning Ground Flash Density (Ng)



Figure 8: Vaisala's National Lightning Detection Network

8) Equivalent Collection Area (A_e)

L = 36.31 m W = 12.63 m H = 10.48 m $A_e = [(36.31)^*(12.63)] + [6^*(10.48)^*(36.31+12.63)] + (9^*\pi^* 10.48^2)$ $A_e = 6,641.32$





Table 24: Environmental Coefficient (C1)

Relative Structure Location	C ₁
Structure surrounded by taller structures or trees within a distance of 3H	0.25
Structure surrounded by structures of equal or lesser height within a distance of 3H	0.5
Isolated structure, with no other structures located within a distance of 3H	1
Isolated structure on hilltop	2

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

9) Annual Threat of Occurrence (N_d)

 $N_d = (2.5) * (6,641.32) * (0.5) * (10^{-6})$

N_d = 0.00830

Tolerable Lightning Frequency Calculation Results

Table 25: Construction Coefficient (C₂)

Structure	Metal Roof	Nonmetallic Roof	Combustible Roof
Metal	0.5	1.0	2.0
Nonmetallic	1.0	1.0	2.5
Combustible	2.0	2.5	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 26: Determination of Structure Contents (C₃)

Structure Contents	C ₃
Low Value and Noncombustible	0.5
Standard Value and noncombustible	1.0
High value, moderate combustibility	2.0
Exceptional value, flammable liquids, computer or electronics	
Exceptional value, irreplaceable cultural items	4.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 27: Determination of Structure Occupancy (C₄)

Structure Occupancy	C ₄
Unoccupied	0.5
Normally Occupied	1.0
Difficult to evacuate or risk of panic	3.0

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014 (Note: Selection for this Analysis is highlighted)

Table 28: Determination of Lightning Consequence (C₅)

Lightning Consequence		
Continuity of facility services not required, no environmental impact	1.0	
Continuity of facility serves required, no environmental impact	5.0	
Consequences to the environment	10.0	

Citation: National Fire Protection Association 780 – Installation of Lightning Protection Systems Handbook, Annex L, 2014



(Note: Selection for this Analysis is highlighted)

3) Tolerable Lightning Frequency (N_c)

$$C = (3) * (2) * (1) * (1) = 6$$
$$N_{C} = (1.5 * 10^{-3}) / 6$$
$$N_{c} = 0.00025$$

<u>Conclusion</u>: Since $N_d > N_c$ a lightning protection system is recommended.

SCOPE OF WORK

General

- Design a lightning protection system in accordance with LPI and NFPA 780.
 - Size conductors to handle current flows per LPI protocols.
 - Submit calculations to Owner for review.
- Prepare scale drawings and specifications to illustrate the design
 - Drawings shall indicate the following:
 - Location of aerials
 - Size and location of conductors
 - Details illustrating conductor and aerial mounting techniques
 - Location and sizing of ground loops and rods
 - Drawings Shall be sealed by a professional engineer with a current license in the Commonwealth of Pennsylvania

INSTALLATION

- Install lightning protection system per the drawings, the codes and standards of the City of Philadelphia and the Commonwealth of Pennsylvania, and UL/LPI code requirements.
- Contractor shall secure building permits as necessary.
- Upon completion, an independent third party shall commission the installation, verifying conductor resistance and grounds.
- Upon satisfactory completion and testing of the lightning protection system, the Contractor shall post a framed UP/LPI certification of the system at a prominent location near the door onto the roof of the building.
- Contractor shall take care so that the roof warranty is not voided by the lightning protection system installation.
- Installation shall include restoration of the site to its original condition after installation of the ground loop.

COST ESTIMATE

Table 29 presents the cost estimate to install a lightning protection system on the entire building.

Table 29: Install Lightning Protection System Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Lightning Protection System	Each	1	\$6,968	\$6,968



Environmental Testing

SUMMARY

To satisfy code and regulatory requirements or HUD initiatives, environmental and health and safety tests are needed periodically. These tests will also be used to diagnose facility problems and/or assess facility condition.

The following diagnostic tests are required by law, code, or Standard.

- Asbestos Inspections
- Radon Gas Tests
- Lead-Based Paint Tests
- Potable Water Lead Tests
- Legionella in Domestic Hot Water Systems



ADDITIONAL SHORT-TERM PHYSICAL NEEDS

Exposed Concrete Masonry Units on Building Exterior Needs New Finish

SUMMARY

The areas surrounding the mechanical rooms at each site are in good condition. In some locations, the protective layer applied to the CMU wall has become exposed. Exposed CMU should be cleaned, parged, and sealed to prevent infiltration and exposure. This work will does not require a design consultant. An experienced masonry contractor can choose the correct products and perform the work.



Figure 9 Exposed concrete masonry units outside of boiler room at 1431 Park and exposed concrete masonry units outside of the boiler room at 1227 Howard

COST ESTIMATE

Table 30 presents the cost estimate to refinish the CMU walls.

Table 30: Remove Side Access Path Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Refinish CMU Walls	75	SF	\$54.40	\$4,080





Remove Side Access Path at 1431 Park Street

SUMMARY

The extreme grading of the 1431 Park Street site has created lengthy and winding access paths. Over the years, and impropmptu method of accessing the mechanical room has developed. The deployment of large timber members as steps leading to the mechanical room should be removed and replaced with a properly designed and built concrete pathway as a method of accessong the mechanical room. Years of rain have washed out the footings of these few steps, and they are dangerous for building maintenance staff and residents to climb.

This work will require a civil engineering design consultant. It is assumed that this work will be packaged with other exterior site work.



Figure 10 Side Access Path

COST ESTIMATE

Table 31 presents the cost estimate to design and build a proper stair to the mechanical room at 1431 Park St.

Table 31: New Pathway at 1431 Park St.

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Remove Timber, Install Concrete Patchway, Stair, and Retaining Wall	1	Each	\$21,660	\$21,660





Patch Repairs to Hardscape

SUMMARY

Over time, the concrete pathways at Turnkey Estates have been damaged and repaired. Currently, there are some large areas of damage, as well as some smaller, but still potentially dangerous, cracks in the hardscape surrounding each property. The proper repair of the hardscape ensures the safety of residents and maintenance staff as the move throughout the site.

This work will require a civil engineering design consultant. It is assumed that this work will be packaged with other exterior site work.



COST ESTIMATE

Table 32 presents the cost estimate to repair hazards in hardscape

 Table 32: Patch Repairs to Hardscape

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Repair/Replace Hardscape	150	sf	32.50	\$4,875





Install Grease Shields at All Units

SUMMARY

Some units visited by the team at Turnkey estates had taken some measures to prevent wall damage by installing grease shields. It is recommended that in every unit, a full height backsplash, in the same material as the countertop, or a stainless-steel metal grease shield be installed on the wall adjacent to and above all over the kitchen stove. This will extend the life of the wall, allowing for less invasive renovations to occur during turnover, while also safeguarding against the potential for a grease fire or major injury to occur if a catastrophe occurs while utilizing the kitchen stove. It is not recommended that a design consultant be procured for this work.



Figure 11 Oven without Grease Shield

COST ESTIMATE

Table 33 presents the cost estimate to provide a grease shield in all units.

Table 33: Install Grease Shields at All Units

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Stainless Steel Grease Shield	33	Each	\$52.84	\$1,744





Replace Shower Enclosures and Tubs in All Units

SUMMARY

Building maintenance staff noted that the shower enclosures in the units are starting to fail. The shower enclosures and tubs were updated in 2011. While the walls and tile are in fine condition, in many cases the shower bodies are beginning to pull from the walls and create instances where moisture can infiltrate the shower casing. It is recommended that all shower bodies and tubs be replaced in the coming years to avoid future water damage, tenant disruption, and undue costs incurred due to finish and equipment replacement. It is not recommended that a design consultant be procured for this work.



COST ESTIMATE

Table 34 presents the cost estimate to repair all of the shower bodies in all units.

Table 34: Complete Shower Body Replacement

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Bathtubs / Shower Units	39	Each	\$3,698.73	\$144,251





Install New Interior Stair Railings in all Units.

SUMMARY

In our visit to each building in the Turnkey properties, the team noticed that many of the interior stair railings were faulty. Due to age and heavy use, these railings need to be addressed to ensure the safety of each resident. The team recommends full replacement of each interior stair railing and all patching and replacement of associated wall work that accompanies the railing replacement.



Figure 12 Replace Railing

COST ESTIMATE

Table 35 presents the cost estimate to replace stair railings

Table 35: Complete Stair Railing Replacement

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Replace Railing	16	ea	\$525	\$8,400



ADDITIONAL LONG-TERM PHYSICAL NEEDS

Install Proper Soft Materials Under Playground Equipment

SUMMARY

The New York State Department of Health recommends that playground surface materials include shredded/recycled rubber, sand, pea gravel, wood mulch, and wood chips. The surfaces present at the Turnkey Sites do not comply with this recommendation and are unsafe surfaces to place under and around equipment.



Figure 13: Playground at 1719 Park

COST ESTIMATE

Table 36 presents the cost estimate to provide 3" of rubber mulch to provide adequate protection for children in the case of a fall of up to 6'.

Table 36: Update Playground Surface Cost Estimate

Component	Quantity	Unit of Measure	Cost per unit	Total Cost
Update Playground Surface	250	CF	\$29.44	\$7,360





Replace Door Knobs with Lever Handles SUMMARY

The doors throughout the units are all operated with a standard knob. Knob handles provide a benefit in their affordability and availability but are generally harder to operate by the elderly and those with certain disabilities. It is recommended that the housing authority consider replacing all door knobs with levers to mitigate any of these issues.



COST ESTIMATE

Table 37 presents the cost replace door knobs with lever handles.

Table 37: Replace Door Knobs with Lever Handles

Component	Quantity	Unit of Measure	Cost per unit	Total Cost		
Interior Door Lever Handles	168	Each	\$34.18	\$5,742.24		
Front Door Lever Handles	43	Each	\$75.12	\$3,230.16		



TOTAL PHYSICAL NEEDS SUMMARY

Basis for Cost Estimates

The cost estimates presented in the PNA report are largely based upon the values published by the RS Means Company in its suite of 2018 manuals. In areas where standard unit prices are not sufficient, such as recessing electrical conduit in apartments, estimates were built considering the material cost, labor rates, and estimated hours to complete the work. This type of estimating provides a more accurate cost for discrete areas of work where labor is the primary driver of the overall cost. The cost estimates are derived from applicable line items, modified by applying appropriate multipliers as documented in the following table.

Please note the following about the multiplier values:

- A contingency of 20% is utilized. This contingency amount is to intended cover the costs of incidental equipment (such as small valves, electrical connections to equipment, etc.) and minor hidden conditions. It is not intended to cover new components or systems not presently part of the building's major environmental remediation (e.g., asbestos removal), or accommodation/correction of a major hidden condition.
- Unless otherwise noted, the cost multipliers include design costs for architectural and engineering services.
- The cost estimating multipliers do not include identification, employee and occupant protection, abatement, encapsulation or transport of asbestos, lead paint, lead piping, or other hazardous materials that may be affected during project and implementation.
- These multipliers do not include the cost of construction management, commissioning or other professional services.

	Cost Estimating	Multipliers		
So	urce: 2018 Means Cost Estima	ting Manuals (Unless No	ted)	
Description	Line No.	Architectural	Electrical	Mechanical
Professional Fees				-
- Architectural	01-11-31.10-0090	16%		
- Other Disciplines	01-11-31.30-0300/1100		10.1%	10.1%
Contingency				
- Conceptual Design	01-21-16.50-0020	20%	20%	20%
Construction Factors				
- Cut/Patch (Max)	01-21-53.50-0550	5%M / 9%L	5%M / 9%L	5%M / 9%L
- Dust Protection (Max)	01-21-53.50-0850	4%M / 11%L	4%M / 11%L	4%M / 11%L
- Equipment Curtailment (Avg. Min & Max)	01-21-53.50-1100/1150	2%M / 5.5%L	2%M / 5.5%L	2%M / 5.5%L
- Materials Handling/Storage	01-21-53.50/1450	6%	6%	6%
- Protect Existing Work (Avg. Min & Max)	01-21-53.50-1700/1750	3.5%M / 4.5%L	3.5%M / 4.5%L	3.5%M / 4.5%L
Job Conditions				
- Work Space Unavailable	01-21-55.50-1400	5% M,L	5% M,L	5% M,L
- Sales Tax (New York)		7.375% M,L	7.375% M,L	7.375% M,L
Insurance				
- Builders Risk (Avg. Min & Max)	01-31-13.30-0020/0050	0.44% M,L	0.44% M,L	0.44% M,L
- Public Liability	01-31-13.30-0600	2.02% M,L	2.02% M,L	2.02% M,L
	01-31-13.30-1000		5.22%L	
Worker's Componentier (Aug.)	01-31-13.30-1550			8.27%L
- worker's compensation (Avg.)	01-31-13.30-1450			6.94%L (Plumbing)
	01-31-13.30-2100	11.53%L		
Sub-contractor Overhead & Profit	01-31-13.80-0350	25%	25%	25%
Performance Bond (Max)	01-13-13.90-0100	2.5%	2.5%	2.5%
Permits (Avg. Min & Max)	01-41-26.50-0020/0100	1.25%	1.25%	1.25%
Geographic Multipliers				
- Site	.913M / 1.112L			
- All Other Disciplines (Avg.)		1.034M / 1.323L	0.975M / 1.7L	1.041M / 1.417L

*Avg: Average; L: Labor; M: Materials; Max: Maximum; Min: Minimum

Note: The cost estimating multipliers do not include identification, employee and occupant protection, abatement, encapsulation or transport of existing environmental, hazards such as asbestos-containing materials, lead-based paint, underground oil storage tanks, etc.



Component Inventory - Site

The figure below presents the site component inventory for all three scattered sites at Turnkey Housing.

Line ID	Component	Line Item		Estimated Useful Life (in yrs)	Remaining Useful Life Method (in yrs)		Total Quantity	Cost Per Quantity	One time replacement Cost (\$)	
		Site								
1009	Fencing and Gates	Chain Link - 5' High	2011	10	3	LF	1173	\$ 56.54	\$ 66,321.42	
1010	Fencing and Gates	Chain Link - 8' High	2011	10	3	LF	25	\$ 87.66	\$ 2,191.50	
1012	Fencing and Gates	Wood	1972	25	-21	LF	84	\$ 39.66	\$ 3,331.44	
1014	Fencing and Gates	Wrought Iron - 4' High	1993	20	-5	LF	250	\$ 93.87	\$ 23,467.50	
1222	Mailboxes/Project Signs	Bulletin Board	2013	10	5	Each	1	\$ 216.48	\$ 216.48	
1320	Parking Lots/Driveways/Roads	Parking Stripes And Curb Painting (Traffic Paint)	2006	10	-2	LF	440	\$ 0.97	\$ 426.80	
1330	Parking Lots/Driveways/Roads	Parking, Re-Surface or Replace Asphalt Paving	2011	10	3	SF	14150	\$ 7.05	\$ 99,757.50	
1340	Parking Lots/Driveways/Roads	Parking, Precast Wheelstops	2011	20	13	Each	5	\$ 154.97	\$ 774.85	
1370	Parking Lots/Driveways/Roads	Curbing - Concrete	1972	50	4	LF	166	\$ 26.67	\$ 4,427.22	
1372	Parking Lots/Driveways/Roads	Traffic Signs	2007	20	9	Each	7	\$ 25.41	\$ 177.87	
1440	Play Areas and Equipment	Playground, Surfacing	2009	20	11	SF	2250	\$ 38.06	\$ 85,635.00	
1450	Play Areas and Equipment	Site Furniture - Bench	2001	20	3	Each	11	\$ 634.25	\$ 6,976.75	
1451	Play Areas and Equipment	Play Structure/Play Equipment	2009	20	11	Each	2	\$ 32,981.43	\$ 65,962.86	
1456	Play Areas and Equipment	Trash Cans	2009	15	6	Each	3	\$ 801.22	\$ 2,403.66	
1510	Refuse Disposal	Dumpster/Trash Enclosure	1972	50	4	SF	300	\$ 121.62	\$ 36,486.00	
1610	Retaining Walls	Retaining Wall, Concrete	1972	50	4	SF	1880	\$ 121.62	\$ 228,645.60	
1620	Retaining Walls	Retaining Wall, Masonry	1972	50	4	SF	150	\$ 36.79	\$ 5,518.50	
1630	Retaining Walls	Retaining Wall, Wood	1972	15	-31	SF	189	\$ 16.17	\$ 3,056.13	
1640	Retaining Walls	Retaining Wall, Stone	1972	50	4	SF	123	\$ 206.75	\$ 25,430.25	
1710	Walkways/Steps	Pedestrian Paving - Concrete	2014	25	21	SF	9647	\$ 9.46	\$ 91,260.62	
1750	Walkways/Steps	Sidewalk Handrails	1972	75	29	LF	1006	\$ 100.53	\$ 101,133.18	
1811	Lighting	Pole Mounted Lighting - Decorative	2014	20	16	Each	6	\$ 1,958.02	\$ 11,748.12	
1910	Sanitary System	Site Sanitary Line	1972	50	4	LF	434	\$ 17.08	\$ 7,412.72	
1920	Domestic Water	Site Water Lines	1972	40	-6	LF	434	\$ 107.56	\$ 46,681.04	
1930	Storm Drainage	Storm Drain Lines	1972	50	4	LF	434	\$ 51.32	\$ 22,272.88	
1940	Plumbing	Site Gas Lines	1972	75	29	LF	434	\$ 342.68	\$ 148,723.12	
Site Subtotal	S	·							\$ 1,090,439.01	
	GR	AND TOTAL								





Development Projection Outlook – Years 1 through 15: Site

Category Site	2018	2019	2020	2021 Years 1 - 5		2022 \$ 582,403,25		2023		2024		2025		2026 Years 6 - 10	s	2027
Chain Link - 5' High	\$ -	\$ -	\$	ŝ	66,321.42	\$	-	\$	-	\$	-	\$		\$ -	\$	-
Chain Link - 8' High	\$ -	\$ -	\$ -	\$	2,191.50	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Wood	\$ 3,331.44	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Wrought Iron - 4' High	\$ 23,467.50	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Bulletin Board	\$ -	\$ -	\$ -	\$	-	\$	-	\$	216.48	\$	-	\$	-	\$ -	\$	-
Parking Stripes And Curb Painting (Traffic Paint)	\$ 426.80	\$ -	\$ 	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Parking, Re-Surface or Replace Asphalt Paving	\$ -	\$ -	\$ 	\$	99,757.50	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Parking, Precast Wheelstops	\$ -	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Curbing - Concrete	\$ -	\$	\$ -	\$	-	\$	4,427.22	\$	-	\$	-	\$		\$	\$	-
Traffic Signs	\$	\$	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	177.87
Playground, Surfacing	\$ -	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Site Furniture - Bench	\$	\$	\$	\$	6,976.75	\$	-	\$	-	\$	-	\$	-	\$ -	\$	
Play Structure/Play Equipment	\$	\$	\$	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	
Trash Cans	\$ -	\$	\$ 	\$	-	\$	-	\$	-	\$	2,403.66	\$		\$	\$	
Dumpster/Trash Enclosure	\$ -	\$ -	\$ -	\$	-	\$	36,486.00	\$	-	\$	-	\$	-	\$ -	\$	-
Retaining Wall, Concrete	\$	\$	\$ -	\$	-	\$	228,645.60	\$	-	\$	-	\$	-	\$ -	\$	-
Retaining Wall, Masonry	\$	\$	\$ -	\$	-	\$	5,518.50	\$	-	\$	-	\$	-	\$ -	\$	-
Retaining Wall, Wood	\$ 3,056.13	\$	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Retaining Wall, Stone	\$ -	\$	\$ -	\$	-	\$	25,430.25	\$	-	\$	-	\$	-	\$ -	\$	-
Pedestrian Paving - Concrete	\$	\$	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Sidewalk Handrails	\$ -	\$ -	\$ 	\$	-	\$	-	\$	-	\$	-	\$		\$	\$	
Pole Mounted Lighting - Decorative	\$ -	\$ -	\$ 	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Site Sanitary Line	\$ 	\$ -	\$ -	\$	-	\$	7,412.72	\$	-	\$	-	\$	-	\$ -	\$	-
Site Water Lines	\$ 46,681.04	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
Storm Drain Lines	\$ -	\$	\$ 	\$		\$	22,272.88	\$		\$	-	\$		\$ 	\$	
Site Gas Lines	\$ -	\$ -	\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$ -	\$	-
	\$ 76,962.91	\$ -	\$ -	\$	175,247.17	\$	330,193.17	\$	216.48	\$	2,403.66	\$		\$ 	\$	177.87
	\$ 76,962.91	\$ -	\$ -	\$	175,247.17	\$	330,193.17	\$	216.48	\$	2,403.66	\$		\$	\$	177.87

Category	2028	2029	2030	2031	2032
Site				Years 11 - 15	\$ 321,069.93
Chain Link - 5' High	\$ -	\$ -	\$	\$ 66,321.42	\$ -
Chain Link - 8' High	\$ -	\$ -	\$ -	\$ 2,191.50	\$ -
Wood	\$	\$ -	\$	\$ -	\$ -
Wrought Iron - 4' High	\$ 	\$ -	\$	\$ -	\$ -
Bulletin Board	\$ -	\$ -	\$ -	\$ -	\$ -
Parking Stripes And Curb Painting (Traffic Paint)	\$ 426.80	\$ -	\$	\$ -	\$ -
Parking, Re-Surface or Replace Asphalt Paving	\$ -	\$ -	\$ -	\$ 99,757.50	\$ -
Parking, Precast Wheelstops	\$ -	\$ -	\$ -	\$ 774.85	\$ -
Curbing - Concrete	\$ -	\$ -	\$	\$ -	\$ -
Traffic Signs	\$ -	\$ -	\$ -	\$ -	\$ -
Playground, Surfacing	\$ 	\$ 85,635.00	\$	\$ -	\$ -
Site Furniture - Bench	\$ -	\$ -	\$	\$ -	\$ -
Play Structure/Play Equipment	\$ 	\$ 65,962.86	\$	\$ -	\$ -
Trash Cans	\$ 	\$ -	\$	\$ -	\$ -
Dumpster/Trash Enclosure	\$ -	\$ -	\$ -	\$ -	\$ -
Retaining Wall, Concrete	\$ -	\$ -	\$	\$ -	\$ -
Retaining Wall, Masonry	\$ 	\$ -	\$	\$ -	\$ -
Retaining Wall, Wood	\$ -	\$ -	\$	\$ -	\$ -
Retaining Wall, Stone	\$ -	\$ -	\$	\$ -	\$ -
Pedestrian Paving - Concrete	\$ 	\$ -	\$	\$ -	\$ -
Sidewalk Handrails	\$ -	\$ -	\$	\$ -	\$ -
Pole Mounted Lighting - Decorative	\$ 	\$ -	\$ 	\$ -	\$ -
Site Sanitary Line	\$ -	\$ -	\$ -	\$ -	\$ -
Site Water Lines	\$ -	\$ -	\$ -	\$ -	\$ -
Storm Drain Lines	\$ 	\$ -	\$ 	\$ -	\$ -
Site Gas Lines	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 426.80	\$ 151,597.86	\$ -	\$ 169,045.27	\$ -
	\$ 426.80	\$ 151,597.86	\$ -	\$ 169,045.27	\$ -



Component Inventory – 1227 Howard

Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life (in yrs)	Method	Total Quantity	Cost Per Quantity		One time replacement Cost (\$)
	B	Suilding Exterior								
2220	Roofs	Asphalt Shingles	2017	40	39	SF	2,750	\$	1.93	\$ 10,807.50
2261	Roofs	Roof Drainage Exterior (Gutter And Fascia)	2017	40	39	LF	265	\$ 10	.83	\$ 2,869.95
2290	Roofs	Attic/Ceiling Insulation	1972	50	4	SF	2,334	\$	1.38	\$ 7,888.92
2291	Floors	Floor Insulation	1972	50	4	SF	2,334	\$ /	.47	\$ 10,432.98
2292	Walls	Wall Insulation	1972	50	4	SF	4,056	\$	2.65	\$ 10,748.40
2341	Walls	Vinyl Siding	1987	30	-1	SF	3,897	\$	1.49	\$ 29,188.53
2370	Walls	Caulking & Sealant	1999	20	1	LF	706	\$ 4	1.45	\$ 3,141.70
2380	Walls	Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	1972	75	29	LF	157	\$ 10	.48	\$ 1,645.36
2392	Walls	Wall Mounted Mailbox	1972	10	-36	Each	5	\$ 6	1.05	\$ 335.25
2421	Doors/Exterior	Solid Core (Wood Or Metal)	1985	40	7	Each	9	\$ 3,71	.31	\$ 33,401.79
2422	Doors/Exterior	Storm/Screen Doors	2003	20	5	Each	5	\$ 973	2.66	\$ 4,863.30
2430	Windows	Windows	1972	50	4	SF	475	\$ 10	5.23	\$ 49,984.25
2431	Windows	Storm/Screen Windows	1972	40	-6	SF	238	\$ (5.84	\$ 1,627.92
Building Exte	erior Subtotals	•								\$ 166,935.85
	B	uilding Systems								
2510	Fire Protection	Smoke/Fire Detection Infrastructure	1972	15	-31	SF	5,840	\$ 1	3.26	\$ 19,038.40
2522	Communication Systems	Phone System	1972	50	4	SF	5,840	\$ 1	1.05	\$ 17,812.00
2630	Lighting	Building Mounted Exterior Lighting	2014	6	2	Each	10	\$ 650	3.51	\$ 6,585.10
2631	Security	Security System	1972	15	-31	SF	5,840	\$ 1	.02	\$ 5,956.80
2831	Central HVAC	Heating Hot Water Circulation Pump	1972	15	-31	Each	2	\$ 2,56	3.32	\$ 5,130.64
2839	Central HVAC	Boiler	2014	30	26	Each	2	\$ 55,759	.57	\$ 111,519.14
2844	Central HVAC	Boiler Room Piping	1972	75	29	LF	85	\$ 80	5.64	\$ 7,364.40
2846	Central HVAC	Boiler Room Valves	2014	40	36	Each	6	\$ 33:	.80	\$ 1,990.80
2847	Central HVAC	Boiler Temperature Controls	2014	50	46	Each	2	\$ 1,36	1.95	\$ 2,735.90
2848	Central HVAC	Hydronic Piping	1972	50	4	LF	693	\$ 55	5.87	\$ 38,717.91
2867	Central HVAC	Rooftop Exhaust Fans	1972	20	-26	Each	3	\$ 3,13	.99	\$ 9,401.97
2913	Domestic Water	Hot Water Heater / Local	2013	10	5	Each	1	\$ 7,920	5.32	\$ 7,926.32
2940	Sanitary System	Sanitary Distribution - Cast Iron	1972	40	-6	LF	54	\$ 133	2.17	\$ 7,137.18
Building Syst	ems Subtotals	•								\$ 241,316.56
		Common Areas								
3190	Electrical	Branch Panels	1972	50	4	Each	2	\$ 2,91	5.12	\$ 5,830.24
3193	Electrical	Electrical Distribution System	1972	50	4	SF	210	\$:	2.03	\$ 426.30
3410	Floors	Concrete	1972	75	29	SF	210	\$ 1	.41	\$ 2,396.10
Common Are	eas Subtotals	1								\$ 8,652.64



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Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life (in yrs)	Method	Total Quantity	Cost Per Quantity	One time replacement Cost (\$)
		Unit							
4011	Porch/Balcony	Porches/Balcony	1972	50	4	SF	120	\$ 11.41	\$ 1,369.20
4013	Porch/Balcony	Guard Railings	2011	50	43	LF	42	\$ 18.04	\$ 757.68
4134	Local HVAC	Thermostatic Control Valve	2002	20	4	Each	5	\$ 495.72	\$ 2,478.60
4139	Local HVAC	Baseboard Convector	2002	20	4	LF	926	\$ 166.74	\$ 154,401.24
4160	Smoke Detectors	Smoke/Fire Detectors	2004	15	1	Each	24	\$ 334.97	\$ 8,039.28
4163	Smoke Detectors	Carbon Monoxide Detectors	2004	5	-9	Each	5	\$ 804.94	\$ 4,024.70
4172	Lighting	Interior Lighting (In Unit) - Surface Mounted Incandescent	1995	20	-3	Each	23	\$ 433.61	\$ 9,973.03
4180	Domestic Water	Hot and Cold Water Distribution - Galvanized	1972	50	4	LF	206	\$ 34.54	\$ 7,115.24
4190	Electrical	Branch Panels	1972	50	4	Each	5	\$ 2,915.12	\$ 14,575.60
4194	Electrical	Electrical Distribution System	1972	50	4	SF	5636	\$ 2.03	\$ 11,441.08
4223	Floors/Stairs	Resilient	1998	18	-2	SF	104	\$ 5.47	\$ 568.88
4309	Doors/Interior	Panel Door, Interior	1993	30	5	Each	45	\$ 434.60	\$ 19,557.00
4310	Doors/Interior	Door, Interior	1993	30	5	Each	25	\$ 677.67	\$ 16,941.75
4312	Windows	Blinds and Drapes	2013	20	15	SF	503	\$ 16.94	\$ 8,520.82
4350	Ceiling	Gypsum Board or Plaster	1972	75	29	SF	5636	\$ 6.74	\$ 37,986.64
4420	Floors	Ceramic/Quarry Tile/Terrazzo	1972	75	29	SF	357	\$ 27.75	\$ 9,906.75
4430	Floors	Resilient	1998	18	-2	SF	5059	\$ 5.47	\$ 27,672.73
4460	Floors	Baseboard (Wood or Resilient)	1998	15	-5	LF	1781	\$ 8.44	\$ 15,031.64
4530	Walls	Wall Surface - Gypsum Board	1972	75	29	SF	15588	\$ 5.73	\$ 89,319.24
4580	Walls	Wall Surface - Ceramic Tile/Stone	1972	75	29	SF	741	\$ 17.89	\$ 13,256.49
4610	Kitchen	Wall Cabinets	2001	15	-2	LF	72	\$ 432.60	\$ 31,147.20
4611	Kitchen	Base Cabinets	2001	15	-2	LF	50	\$ 478.71	\$ 23,935.50
4612	Kitchen	Counter Tops	2001	20	3	LF	42	\$ 87.07	\$ 3,656.94
4620	Kitchen	Sink with Fixtures	1972	35	-11	Each	5	\$ 784.16	\$ 3,920.80
4630	Kitchen	Range / Stove	2003	15	0	Each	5	\$ 658.55	\$ 3,292.75
4632	Kitchen	Range Hood	2003	15	0	Each	5	\$ 218.46	\$ 1,092.30
4640	Kitchen	Refrigerator	2003	15	0	Each	5	\$ 875.10	\$ 4,375.50
4710	Bathroom	Bath Accessories	2007	10	-1	Each	9	\$ 45.81	\$ 412.29
4720	Bathroom	Bathtubs / Shower Units	2011	35	28	Each	5	\$ 3.698.73	\$ 18,493,65
4721	Bathroom	Toilet	2011	25	18	Each	9	\$ 1,238,96	\$ 11.150.64
4722	Bathroom	Sink with Fixtures	2011	35	28	Fach	9	\$ 1.006.75	\$ 9.060.75
4740	Bathroom	Bathroom Vanities	1999	20	1	Each	9	\$ 215.27	\$ 1,937,43
4750	Bathroom	Medicine Cabinets	1999	20	1	Each	9	\$ 339.77	\$ 3.057.93
4760	Bathroom	Exhaust Fans	2002	10	-6	Each	14	\$ 266.50	\$ 3,731.00
Unit Subtota	ls .		2002	10			14	- 200.00	\$ 572,202,27
erne sustota		GRAND TOTAL							





Development Projection Outlook – Years 1 through 15: 1227 Howard

Category Building Exterior	2018		2019	2020		2021 Years 1 - 5	Ś	2022		2023	2024		2025	Ye	2026 ars 6 - 10	s	2027
Asphalt Shingles	\$		\$.	\$ -	\$		\$		\$		\$ -	\$	-	\$	-	\$	
Roof Drainage Exterior (Gutter And Fascia)	\$		\$.	\$ -	\$	-	\$	-	\$		\$ -	\$		\$		\$	
Attic/Ceiling Insulation	\$		\$ -	\$ -	\$	-	\$	7,888.92	\$		\$ -	\$	-	\$	-	\$	-
Floor Insulation	\$		\$ -	\$ -	\$	-	\$	10,432.98	\$		\$ -	\$		\$		\$	
Wall Insulation	\$		\$.	\$ -	\$	=	\$	10,748.40	\$		\$ -	\$		\$		\$	
Vinyl Siding	\$ 29,18	8.53	\$ -	\$ -	\$	-	\$	-	\$		\$ -	\$		\$	-	\$	-
Caulking & Sealant	\$		\$ 3,141.70	\$ -	\$		\$		\$		\$ -	\$		\$		\$	
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	\$		\$.	\$ -	\$	-	\$	-	\$		\$ -	\$		\$		\$	
Wall Mounted Mailbox	\$ 33	5.25	\$	\$	\$	-	\$		\$		\$ -	\$		\$		\$	
Solid Core (Wood Or Metal)	\$		\$.	\$ -	\$	-	\$		\$		\$ -	\$	33,401.79	\$		\$	
Storm/Screen Doors	\$		\$	\$	\$	-	\$		\$	4,863.30	\$ -	\$		\$		\$	
Windows	\$		\$.	\$ -	\$		\$	49,984.25	\$		\$ -	\$		\$		\$	
Storm/Screen Windows	\$ 1,62	7.92	\$.	\$ -	\$	-	\$	-	\$		\$ -	\$		\$	-	\$	-
	\$ 31,15	1.70	\$ 3,141.70	\$	\$		\$	79,054.55	\$	4,863.30	\$ -	\$	33,401.79	\$		\$	
						Years 1 - 5	\$	109,780.00				_		Ye	ars 6 - 10	\$	14,511.42
Smoke/Fire Detection Infrastructure	\$ 19,03	8.40	\$.	\$ -	\$	-	\$	-	\$		\$ -	\$		\$	-	\$	-
Phone System	\$	•	\$ -	\$ -	\$	-	\$	17,812.00	\$		\$ -	\$		\$		\$	
Building Mounted Exterior Lighting	\$		\$.	\$ 6,585.10	\$	-	\$	-	\$		\$ -	\$		\$	6,585.10	\$	-
Security System	\$ 5,95	5.80	\$ -	\$ -	\$	-	\$		\$		\$ -	\$		\$		\$	
Heating Hot Water Circulation Pump	\$ 5,13	0.64	\$.	\$ -	\$	-	\$	-	\$	-	\$ -	\$		\$	-	\$	
Boiler	\$		\$.	\$ -	\$		\$		\$		\$ -	\$		\$		\$	
Boller Room Piping	\$	-	\$.	\$ -	\$	=	\$	-	\$	-	\$ -	\$		\$	-	\$	-
Boiler Room Valves	\$		\$.	\$.	\$	-	\$		\$		\$ -	\$		\$		\$	
Boller Temperature Controls	\$	•	\$ -	\$ -	\$	-	\$	-	\$		\$ -	\$		\$		\$	
Hydronic Piping	\$		\$.	\$ -	\$		\$	38,717.91	\$		\$ -	\$		\$		Ş	
Rooftop Exhaust Fans	\$ 9,40	1.97	\$ -	\$ -	\$	-	\$	-	\$		\$ -	\$		\$	-	\$	
Hot Water Heater / Local	\$	•	\$ -	\$ -	\$	-	\$	-	\$	7,926.32	\$ -	\$		\$		\$	
Sanitary Distribution - Cast Iron	\$ 7,13	7.18	\$ ·	ş -	Ş		Ş		Ş		ş -	\$		\$		Ş	
	\$ 46,66	4.99	\$ -	\$ 6,585.10	\$		\$	56,529.91	\$	7,926.32	ş -	\$		\$	6,585.10	\$	
						Years 1 - 5	Ş	6,256.54						Ye	ars 6 - 10	\$	-
Branch Panels	ş	-	ş -	ş -	\$	-	\$	5,830.24	\$	-	ş -	\$	-	\$	-	ş	-
Electrical Distribution System	\$		5	5	Ş	-	Ş	426.30	\$	-	\$ ·	\$		\$	-	Ş	-
Concrete	\$	•	\$.	ş -	\$	-	\$	-	\$		ş -	\$		\$		\$	-
	Ş		ş .	ş .	\$		\$	6,256.54	\$		ş .	\$		Ş		Ş	



Category	2018	2019	2020	2021 Years 1 - 5	2022 \$ 337,250,86	2023	2024	2025	2026 Years 6 - 10	2027 \$ 40.523.45
Porches/Balcony	\$.	\$.	\$ -	\$ -	\$ 1,369.20) \$ -	\$ -	\$ -	\$ -	\$ -
Guard Railings	\$ -	\$.	\$ -	\$ -	\$ -	\$ -	\$ -	\$	\$	ţ,
Thermostatic Control Valve	\$ -	\$ -	\$ -	\$ -	\$ 2,478.60) \$ -	\$ -	\$ -	\$ -	\$ -
Baseboard Convector	\$	\$ -	\$ -	\$ -	\$ 154,401.24	\$ -	\$ -	\$ -	\$ -	\$.
Smoke/Fire Detectors	\$ -	\$ 8,039.28	\$ -	\$ -	\$ -	\$ -	\$ -	\$.	\$ -	ŝ,
Carbon Monoxide Detectors	\$ 4,024.7	0\$.	\$ -	\$ -	\$ -	\$ 4,024.70	\$ -	\$ -	\$ -	\$ -
Interior Lighting (In Unit) - Surface Mounted Incandescent	\$ 9,973.0	3 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$
Hot and Cold Water Distribution - Galvanized	\$.	\$.	\$ -	\$ -	\$ 7,115.24	S -	\$ -	\$ -	\$ -	\$.
Branch Panels	\$ -	\$ -	\$ -	\$ -	\$ 14,575.60	\$ -	\$ -	\$ -	\$ -	\$.
Electrical Distribution System	\$.	\$.	\$ -	\$ -	\$ 11,441.08	\$ -	\$ -	\$ -	\$ -	\$.
Resilient	\$ 568.8	8 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Panel Door, Interior	\$.	\$.	\$ -	\$ -	\$ -	\$ 19,557.00	s -	\$ -	\$ -	\$ -
Door, Interior	\$ -	\$.	\$ -	\$ -	\$ -	\$ 16,941.75	\$ -	\$	\$	ţ,
Blinds and Drapes	\$.	\$.	\$ -	\$ -	\$ -	s -	s -	\$ -	\$ -	\$ -
Gypsum Board or Plaster	\$.	\$.	\$ -	\$ -	\$.	\$.	\$.	\$ -	\$ -	\$
Ceramic/Quarry Tile/Terrazzo	\$.	\$.	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -
Resilient	\$ 27,672.7	3 \$ -	\$ -	\$ -	\$.	\$.	\$.	\$ -	\$ -	\$
Baseboard (Wood or Resilient)	\$ 15,031.6	4 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wall Surface - Gypsum Board	\$ -	\$ -	\$ -	\$ -	\$ -	\$.	\$.	\$ -	\$ -	\$
Wall Surface - Ceramic Tile/Stone	\$.	\$.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wall Cabinets	\$ 31,147.2	0 \$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Base Cabinets	\$ 23,935.5	0 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.	\$ -	\$ -
Counter Tops	\$ -	\$ -	s -	\$ 3,656.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sink with Fixtures	\$ 3,920.8	0 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Range / Stove	\$ 3,292.7	5 \$.	\$ -	\$ -	\$ -	s -	s -	\$ -	\$ -	\$ -
Range Hood	\$ 1,092.3	0 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Refrigerator	\$ 4,375.5	0 \$ -	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -
Bath Accessories	\$ 412.2	9 \$ -	\$.	\$ -	\$.	\$.	\$.	\$.	\$.	\$.
Bathtubs / Shower Units	\$ -	\$ -	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -
Toilet	\$.	\$.	\$.	\$ -	\$.	\$.	\$.	\$.	\$ -	\$.
Sink with Fixtures	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Bathroom Vanities	\$ -	\$ 1,937.43	\$ -	\$ -	\$ -	\$ -	\$ -	\$.	\$ -	\$.
Medicine Cabinets	\$.	\$ 3,057.93	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$.
Exhaust Fans	\$ 3,731.0	0 \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 129,178.3	2 \$ 13,034.64	\$.	\$ 3,656.94	\$ 191,380.96	\$ 40,523.45	\$.	\$.	\$.	\$.
	\$ 206,995.0	1 \$ 16,176.34	\$ 6,585.10	\$ 3,656.94	\$ 333,221.96	\$ 53,313.07	\$ -	\$ 33,401.79	\$ 6,585.10	\$ -

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Category		2028		2029		2030		2031		2032
Building Exterior		2020		LOLD		1000		Years 11 - 15	s	335.25
Asphalt Shingles	Ś		Ś		Ś		Ś		s	-
Roof Drainage Exterior (Gutter And Fascia)	\$		\$		\$	-	\$		\$	
Attic/Ceiling Insulation	\$		\$		\$		\$	-	\$	-
Floor Insulation	\$		\$		\$	-	\$	-	\$	-
Wall Insulation	\$		\$		\$	-	\$	-	\$	-
Vinyl Siding	\$		\$		\$		\$		\$	
Caulking & Sealant	\$		\$		\$		\$	-	\$	-
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	\$		\$		\$		\$	-	\$	-
Wall Mounted Mailbox	\$	335.25	\$		\$		\$		\$	
Solid Core (Wood Or Metal)	\$		\$		\$		\$	-	\$	-
Storm/Screen Doors	\$	-	\$		\$	-	\$		\$	-
Windows	\$		\$		\$		\$		\$	
Storm/Screen Windows	\$		\$		\$	-	\$	-	\$	-
	\$	335.25	\$		\$		\$		\$	
								Years 11 - 15	\$	6,585.10
Smoke/Fire Detection Infrastructure	\$	-	\$		\$	-	\$		\$	-
Phone System	\$		\$		\$		\$	-	\$	-
Building Mounted Exterior Lighting	\$		\$	-	\$	-	\$		\$	6,585.10
Security System	\$	-	\$	-	\$	-	\$	-	\$	-
Heating Hot Water Circulation Pump	\$	-	\$	-	\$	-	\$	-	\$	-
Boller	\$		\$		\$		\$		\$	
Boiler Room Piping	\$		\$		\$	-	\$	-	\$	-
Boiler Room Valves	\$		\$		\$		\$		\$	
Boiler Temperature Controls	\$	-	\$	-	\$	-	\$	-	\$	-
Hydronic Piping	\$		\$		\$		\$		\$	
Rooftop Exhaust Fans	\$		\$		\$	-	\$	-	\$	-
Hot Water Heater / Local	\$		\$	-	\$	-	\$		\$	-
Sanitary Distribution - Cast Iron	\$		\$	-	\$	-	\$		\$	-
	\$	-	\$	-	\$	-	\$		\$	6,585.10
								Years 11 - 15	\$	-
Branch Panels	\$		\$	-	\$	-	\$		\$	-
Electrical Distribution System	\$		\$		\$	-	\$	-	\$	-
Concrete	\$	-	\$	-	\$	-	\$	-	\$	
	\$		\$		\$		\$		\$	

Category	2028	2029	2030	2031	2032
				Years 11 - 15	\$ 8,167.99
Porches/Balcony	\$	\$ 	\$ -	\$	\$
Guard Railings	\$ 	\$	\$	\$	\$
Thermostatic Control Valve	\$ 	\$	\$	\$	\$
Baseboard Convector	\$ -	\$	\$ -	\$	\$ -
Smoke/Fire Detectors	\$	\$	\$	\$	\$
Carbon Monoxide Detectors	\$ 4,024.70	\$	\$ -	\$	\$ -
Interior Lighting (In Unit) - Surface Mounted Incandescent	\$ -	\$ -	\$ -	\$	\$
Hot and Cold Water Distribution - Galvanized	\$ 	\$	\$	\$ 	\$
Branch Panels	\$ -	\$ -	\$ -	\$	\$
Electrical Distribution System	\$ 	\$	\$	\$ 	\$
Resilient	\$	\$ -	\$ -	\$	\$
Panel Door, Interior	\$ 	\$	\$	\$	\$
Door, Interior	\$ 	\$ -	\$ -	\$	\$
Blinds and Drapes	\$ 	\$	\$	\$	\$
Gypsum Board or Plaster	\$ 	\$ -	\$	\$	\$
Ceramic/Quarry Tile/Terrazzo	\$	\$ -	\$	\$	\$
Resilient	\$ 	\$ -	\$	\$	\$
Baseboard (Wood or Resilient)	\$	\$ -	\$	\$	\$
Wall Surface - Gypsum Board	\$	\$ -	\$ -	\$	\$
Wall Surface - Ceramic Tile/Stone	\$ 	\$	\$	\$	\$
Wall Cabinets	\$ 	\$ -	\$	\$ 	\$
Base Cabinets	\$	\$ -	\$ -	\$	\$
Counter Tops	\$ 	\$ -	\$	\$ 	\$
Sink with Fixtures	\$	\$ -	\$ -	\$	\$
Range / Stove	\$ 	\$	\$	\$ 	\$
Range Hood	\$ -	\$ -	\$ -	\$	\$
Refrigerator	\$	\$ -	\$ -	\$	\$
Bath Accessories	\$ 412.29	\$ -	\$ -	\$ -	\$
Bathtubs / Shower Units	\$ 	\$	\$	\$	\$
Toilet	\$	\$ -	\$ -	\$	\$
Sink with Fixtures	\$ 	\$	\$	\$	\$
Bathroom Vanities	\$	\$ -	\$ -	\$	\$
Medicine Cabinets	\$ -	\$ -	\$ -	\$ -	\$ -
Exhaust Fans	\$ 3,731.00	\$	\$ -	\$ -	\$ -
	\$ 8,167.99	\$	\$ -	\$	\$
	\$ 8,503.24	\$ -	\$ -	\$ -	\$ 6,585.10



Component Inventory – 1431 Park

Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life (in yrs)	Method	Total Quantity	Cost Per Quantity	One time replacement Cost (\$)
		Building Exterior							
2220	Roofs	Asphalt Shingles	2017	40	39	SF	7,400	\$ 3.93	\$ 29,082.00
2261	Roofs	Roof Drainage Exterior (Gutter And Fascia)	2017	40	39	LF	1036	\$ 10.83	\$ 11,219.88
2290	Roofs	Attic/Ceiling Insulation	1972	50	4	SF	6,280	\$ 3.38	\$ 21,226.40
2291	Floors	Floor Insulation	1972	50	4	SF	6,280	\$ 4.47	\$ 28,071.60
2292	Walls	Wall Insulation	1972	50	4	SF	11,940	\$ 2.65	\$ 31,641.00
2341	Walls	Vinyl Siding	1987	30	-1	SF	11,940	\$ 7.49	\$ 89,430.60
2370	Walls	Caulking & Sealant	1999	20	1	LF	1,249	\$ 4.45	\$ 5,558.05
2380	Walls	Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	1972	75	29	LF	440	\$ 10.48	\$ 4,611.20
2392	Walls	Wall Mounted Mailbox	1972	10	-36	Each	16	\$ 67.05	\$ 1,072.80
2421	Doors/Exterior	Solid Core (Wood Or Metal)	1985	40	7	Each	22	\$ 3,711.31	\$ 81,648.82
2422	Doors/Exterior	Storm/Screen Doors	2003	20	5	Each	16	\$ 972.66	\$ 15,562.56
2430	Windows	Windows	1972	50	4	SF	1,504	\$ 105.23	\$ 158,265.92
2431	Windows	Storm/Screen Windows	1972	40	-6	SF	752	\$ 6.84	\$ 5,143.68
Building Exte	rior Subtotals	+							\$ 482,534.51
		Building Systems							
2510	Fire Protection	Smoke/Fire Detection Infrastructure	1972	15	-31	SF	17870	\$ 3.26	\$ 58,256.20
2522	Communication Systems	Phone System	1972	50	4	SF	17870	\$ 3.05	\$ 54,503.50
2630	Lighting	Building Mounted Exterior Lighting	2014	6	2	Each	28	\$ 658.51	\$ 18,438.28
2631	Security	Security System	1972	15	-31	SF	17870	\$ 1.02	\$ 18,227.40
2831	Central HVAC	Heating Hot Water Circulation Pump	1972	15	-31	Each	3	\$ 4,782.00	\$ 14,346.00
2839	Central HVAC	Boiler	2017	30	29	Each	1	\$ 135,807.90	\$ 135,807.90
2844	Central HVAC	Boiler Room Piping	1972	75	29	LF	88	\$ 86.64	\$ 7,581.00
2846	Central HVAC	Boiler Room Valves	2017	40	39	Each	4	\$ 331.80	\$ 1.327.20
2847	Central HVAC	Boiler Temperature Controls	2017	50	49	Each	2	\$ 1,367.95	\$ 2,735.90
2848	Central HVAC	Hydronic Piping	1972	50	4	LF	2684	\$ 55.87	\$ 149,955.08
2867	Central HVAC	Rooftop Exhaust Fans	1972	20	-26	Each	12	\$ 3,133,99	\$ 37,607,88
2917	Domestic Water	Hot Water Storage Tank	1972	50	4	Each	1	\$ 14,268,10	\$ 14,268,10
2940	Sanitary System	Sanitary Distribution - Cast Iron	1972	40	-6	LF	168	\$ 132.17	\$ 22,204.56
Building Syste	ems Subtotals								\$ 535,259,00
		Common Areas							
3178	Lighting	Lighting Fixtures - Surface Mounted Flourescent 2'x4'	1972	20	-26	Each	4	\$ 453.21	\$ 1,812.84
3190	Electrical	Branch Panels	1972	50	4	Each	4	\$ 2,915.12	\$ 11,660.48
3193	Electrical	Electrical Distribution System	1972	50	4	SF	1,110	\$ 2.03	\$ 2,253.30
3410	Floors	Concrete	1972	75	29	SF	1.110	\$ 11.41	\$ 12,665.10
Common Are	as Subtotals	·							\$ 28,391.72



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Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life (in yrs)	Method	Total Quantity	Cost Per Quantity	One time replacement Cost (\$)
4011	Dearth (Delease)	Dante (Dalaanse	1072	50		65	114	A 11.41	ć 1 200 74
4011	Porch/Balcony	Porches/Balcony	1972	50	4	56	114	\$ 11.41	\$ 1,300.74
4013	Porch/Balcony	Guard Railings	2011	50	43	LF Cook	20	\$ 18.04	\$ 360.80
4134	Local HVAC	Inermostatic Control Valve	2002	20	4	Each	16	\$ 495.72	\$ 7,931.52
4139	Local HVAC	Baseboard Convector	2002	20	4	LF	2640	\$ 166.74	\$ 440,193.60
4160	Smoke Detectors	Smoke/Fire Detectors	2004	15	1	Each	68	\$ 334.97	\$ 22,777.96
4163	Smoke Detectors	Carbon Monoxide Detectors	2004	5	-9	Each	16	\$ 804.94	\$ 12,879.04
4172	Lighting	Interior Lighting (In Unit) - Surface Mounted Incandescent	1995	20	-3	Each	64	\$ 433.61	\$ 27,751.04
4180	Domestic Water	Hot and Cold Water Distribution - Galvanized	1972	50	4	LF	600	\$ 34.54	\$ 20,724.00
4190	Electrical	Branch Panels	1972	50	4	Each	16	\$ 2,915.12	\$ 46,641.92
4194	Electrical	Electrical Distribution System	1972	50	4	SF	16764	\$ 2.03	\$ 34,030.92
4221	Floors/Stairs	Wood	1978	40	0	Flight	17	\$ 4,995.53	\$ 84,924.01
4309	Doors/Interior	Panel Door, Interior	1993	30	5	Each	166	\$ 434.60	\$ 72,143.60
4310	Doors/Interior	Door, Interior	1993	30	5	Each	70	\$ 677.67	\$ 47,436.90
4312	Windows	Blinds and Drapes	2013	20	15	SF	1670	\$ 16.94	\$ 28,289.80
4350	Ceiling	Gypsum Board or Plaster	1972	75	29	SF	16764	\$ 6.74	\$ 112,989.36
4420	Floors	Ceramic/Quarry Tile/Terrazzo	1972	75	29	SF	1042	\$ 27.75	\$ 28,915.50
4430	Floors	Resilient	1998	18	-2	SF	15282	\$ 5.47	\$ 83,592.54
4460	Floors	Baseboard (Wood or Resilient)	1998	15	-5	LF	5225	\$ 8.44	\$ 44,099.00
4530	Walls	Wall Surface - Gypsum Board	1972	75	29	SF	45872	\$ 5.73	\$ 262,846.56
4580	Walls	Wall Surface - Ceramic Tile/Stone	1972	75	29	SF	1418	\$ 17.89	\$ 25,368.02
4610	Kitchen	Wall Cabinets	2001	15	-2	LF	241	\$ 432.60	\$ 104,256.60
4611	Kitchen	Base Cabinets	2001	15	-2	LF	161	\$ 478.71	\$ 77,072.31
4612	Kitchen	Counter Tops	2001	20	3	LF	137	\$ 87.07	\$ 11.928.59
4620	Kitchen	Sink with Fixtures	1972	35	-11	Each	16	\$ 784.16	\$ 12,546.56
4630	Kitchen	Range / Stove	2003	15	0	Each	16	\$ 658.55	\$ 10.536.80
4632	Kitchen	Bange Hood	2003	15	0	Each	16	\$ 218.46	\$ 3,495,36
4640	Kitchen	Befrigerator	2003	15	0	Each	16	\$ 875.10	\$ 14,001,60
4710	Bathroom	Bath Accessories	2007	10	-1	Each	72	\$ 45.81	\$ 3,298,32
4720	Bathroom	Bathtubs / Shower Units	2011	35	28	Each	20	\$ 3,698,73	\$ 73,974,60
4721	Bathroom	Toilet	2011	25	18	Each	24	\$ 1,238.96	\$ 29,735.04
4722	Bathroom	Sink with Fixtures	2011	25	20	Fach	24	\$ 1,006.75	\$ 24,162.00
4740	Bathroom	Bathroom Vanities	1999	20	1	Each	24	\$ 215.27	\$ 5,166,48
4760	Bathroom	Exhaust Fans	2002	10	-6	Fach	40	\$ 266.50	\$ 10,660,00
Unit Subtotal	c		2002	10	-0	Sacht .	40	200.00	\$ 1 786 031 09
onic Subtotal	J	GRAND TOTAL							\$ 1,700,031.03





Development Projection Outlook – Years 1 through 15: 1431 Park

Category		2018	2019	2020	2021		2022		2023	2024		2025	2026		2027
Building Exterior	4				Years 1 - 5	\$	340,410.05	4					Years 6 - 10	\$	97,211.38
Asphalt Shingles	\$	-	ş -	ş -	ş -	Ş	-	\$		ş -	Ş	-	<u>ş</u> -	Ş	-
Roof Drainage Exterior (Gutter And Fascia)	Ş	-	ş -	ş -	ş -	Ş	-	Ş	-	ş -	Ş	-	ş -	Ş	-
Attic/Ceiling Insulation	\$	-	ş -	ş -	ş -	Ş	21,226.40	Ş	-	ş -	\$	-	ş -	Ş	-
Floor Insulation	Ş	-	ş -	ş -	ş -	Ş	28,071.60	Ş	-	ş -	Ş	-	ş -	Ş	-
Wall Insulation	Ş	-	ş -	ş -	ş -	Ş	31,641.00	Ş	-	ş -	\$	-	ş -	\$	-
Vinyl Siding	\$	89,430.60	\$ -	\$ -	ş -	\$	-	\$	-	ş -	\$	-	ş -	\$	-
Caulking & Sealant	\$		\$ 5,558.05	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	\$	-	\$ -	\$ -	\$ -	\$		\$		\$ -	\$	-	\$ -	\$	-
Wall Mounted Mailbox	\$	1,072.80	\$-	\$ -	ş -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	
Solid Core (Wood Or Metal)	\$	-	\$ -	\$ -	\$-	\$	-	\$	-	\$-	\$	81,648.82	\$ -	\$	-
Storm/Screen Doors	\$		\$-	\$-	\$-	\$		\$	15,562.56	\$-	\$	-	\$ -	\$	-
Windows	\$		\$ -	\$ -	\$ -	\$	158,265.92	\$		\$ -	\$	-	\$ -	\$	-
Storm/Screen Windows	\$	5,143.68	\$ -	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
	\$	95,647.08	\$ 5,558.05	\$ -	\$	\$	239,204.92	\$	15,562.56	\$ -	\$	81,648.82	\$ -	\$	-
Building Systems					Years 1 - 5	\$	387,807.00						Years 6 - 10	\$	18,438.28
Smoke/Fire Detection Infrastructure	\$	58,256.20	\$ -	\$ -	\$	\$		\$		\$ -	\$	-	\$ -	\$	-
Phone System	\$	-	\$ -	\$ -	\$ -	\$	54,503.50	\$	-	\$ -	\$	-	\$ -	\$	-
Building Mounted Exterior Lighting	\$	-	\$ -	\$ 18,438.28	\$ -	\$	-	\$	-	\$ -	\$	-	\$ 18,438.28	\$	-
Security System	\$	18,227.40	\$-	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Heating Hot Water Circulation Pump	\$	14,346.00	\$-	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Boiler	\$		\$-	\$ -	\$ -	\$		\$		\$ -	\$	-	\$ -	\$	
Boiler Room Piping	\$	-	\$ -	\$ -	\$ -	\$	-	\$		\$ -	\$	-	\$ -	\$	-
Boiler Room Valves	\$	-	\$ -	\$ -	\$ -	\$	-	\$		\$ -	\$	-	\$ -	\$	
Boiler Temperature Controls	\$	-	\$-	\$-	\$-	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Hydronic Piping	\$	-	\$-	\$-	\$-	\$	149,955.08	\$	-	\$ -	\$	-	\$ -	\$	-
Rooftop Exhaust Fans	\$	37,607.88	\$-	\$ -	\$-	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Hot Water Storage Tank	\$	-	\$ -	\$ -	\$ -	\$	14,268.10	\$	-	\$ -	\$	-	\$ -	\$	-
Sanitary Distribution - Cast Iron	\$	22,204.56	\$ -	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
	\$	150,642.04	\$-	\$ 18,438.28	\$ -	\$	218,726.68	\$		\$ -	\$	-	\$ 18,438.28	\$	
Common Areas					Years 1 - 5	\$	15,726.62						Years 6 - 10	\$	-
Lighting Fixtures - Surface Mounted Flourescent 2'x4'	\$	1,812.84	\$-	\$-	\$-	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
Branch Panels	\$	-	\$ -	\$ -	\$ -	\$	11,660.48	\$	-	\$ -	\$	-	\$ -	\$	-
Electrical Distribution System	\$	-	\$ -	\$ -	\$ -	\$	2,253.30	\$	-	\$ -	\$	-	\$ -	\$	-
Concrete	\$	-	\$ -	\$ -	\$ -	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
	\$	1,812.84	\$ -	\$ -	\$ -	\$	13,913.78	\$	-	\$ -	\$		\$ -	\$	-



Category Unit	2018	2019	2020		2021 Years 1 - 5	Ś	2022 1.079.808.91	2023	2024	2025	2 Years	026 5 6 - 10	Ś	20	027 132,459,54
Porches/Balcony	\$ -	\$ -	\$ -	\$	-	\$	1,300.74	\$ -	\$ -	\$ -	\$	-	\$		-
Guard Railings	\$ -	\$ -	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Thermostatic Control Valve	\$ -	\$ -	\$ -	\$	-	\$	7,931.52	\$ -	\$ -	\$ -	\$	-	\$		-
Baseboard Convector	\$ -	\$ -	\$ -	\$	-	\$	440,193.60	\$ -	\$ -	\$ -	\$	-	\$		-
Smoke/Fire Detectors	\$ -	\$ 22,777.96	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Carbon Monoxide Detectors	\$ 12,879.04	\$-	\$ -	\$	-	\$	-	\$ 12,879.04	\$ -	\$ -	\$	-	\$		
Interior Lighting (In Unit) - Surface Mounted Incandescent	\$ 27,751.04	\$ -	\$ -	\$	-	\$	-	\$ -	\$ -	\$	\$		\$		
Hot and Cold Water Distribution - Galvanized	\$ -	\$-	\$-	\$	-	\$	20,724.00	\$ -	\$ -	\$ -	\$	-	\$		-
Branch Panels	\$ -	\$-	\$-	\$	-	\$	46,641.92	\$	\$ -	\$ -	\$	-	\$		-
Electrical Distribution System	\$ -	\$-	\$ -	\$	-	\$	34,030.92	\$ -	\$ -	\$ -	\$	-	\$		-
Wood	\$ 84,924.01	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$	\$	-	\$		-
Panel Door, Interior	\$ -	\$-	\$ -	\$	-	\$	-	\$ 72,143.60	\$ -	\$ -	\$	-	\$		
Door, Interior	\$ -	\$-	\$ -	\$		\$	-	\$ 47,436.90	\$ -	\$ -	\$	-	\$		
Blinds and Drapes	\$ -	\$-	\$ -	\$		\$	-	\$ 	\$ -	\$ -	\$	-	\$		
Gypsum Board or Plaster	\$ -	\$ -	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Ceramic/Quarry Tile/Terrazzo	\$ -	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Resilient	\$ 83,592.54	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Baseboard (Wood or Resilient)	\$ 44,099.00	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Wall Surface - Gypsum Board	\$ 	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ 	\$	-	\$		
Wall Surface - Ceramic Tile/Stone	\$ -	\$-	\$ -	\$		\$	-	\$	\$ -	\$ -	\$	-	\$		
Wall Cabinets	\$ 104,256.60	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Base Cabinets	\$ 77,072.31	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Counter Tops	\$ -	\$-	\$ -	\$	11,928.59	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
Sink with Fixtures	\$ 12,546.56	\$-	\$ -	\$		\$	-	\$ 	\$ -	\$ -	\$		\$		
Range / Stove	\$ 10,536.80	\$-	\$ -	\$		\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Range Hood	\$ 3,495.36	\$-	\$-	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Refrigerator	\$ 14,001.60	\$-	\$-	\$		\$	-	\$	\$ -	\$ -	\$	-	\$		
Bath Accessories	\$ 3,298.32	\$ -	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Bathtubs / Shower Units	\$ -	\$-	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		
Toilet	\$ -	\$ -	\$-	\$	-	\$	-	\$	\$ -	\$ -	\$	-	\$		
Sink with Fixtures	\$ -	\$-	\$ -	\$	-	\$	-	\$	\$ -	\$	\$	-	\$		
Bathroom Vanities	\$ -	\$ 5,166.48	\$ -	\$	-	\$	-	\$ -	\$ -	\$	\$	-	\$		-
Exhaust Fans	\$ 10,660.00	\$ -	\$ -	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-	\$		-
	\$ 489,113.18	\$ 27,944.44	\$ -	\$	11,928.59	\$	550,822.70	\$ 132,459.54	\$ -	\$ -	\$	-	\$		-
	\$ 737,215.14	\$ 33,502.49	\$ 18,438.28	3\$	11,928.59	\$	1,022,668.08	\$ 148,022.10	\$ -	\$ 81,648.82	\$	18,438.2	8\$		-

Category	2028	2029	2030	2031	2032
Building Exterior	2020	2020	2000	Years 11 - 15	\$ 1.072.80
Asphalt Shingles	\$ -	\$ -	\$ -	\$ -	\$ -
Roof Drainage Exterior (Gutter And Fascia)	\$ -	\$ -	\$ -	\$ -	\$ -
Attic/Ceiling Insulation	\$ -	\$ -	\$ -	\$ -	\$ -
Floor Insulation	\$-	\$ -	\$-	\$ -	\$-
Wall Insulation	\$-	\$ -	\$-	\$ -	\$ -
Vinyl Siding	\$-	\$ -	\$-	\$ -	\$-
Caulking & Sealant	\$-	\$ -	\$-	\$ -	\$ -
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	\$-	\$ -	\$ -	\$ -	\$ -
Wall Mounted Mailbox	\$ 1,072.80	\$ -	\$ -	\$ -	\$ -
Solid Core (Wood Or Metal)	\$-	\$ -	\$-	\$ -	\$ -
Storm/Screen Doors	\$-	\$ -	\$-	\$ -	\$ -
Windows	\$-	\$ -	\$-	\$ -	\$ -
Storm/Screen Windows	\$-	\$ -	\$-	\$ -	\$ -
	\$ 1,072.80	\$ -	\$-	\$ -	\$ -
Building Systems				Years 11 - 15	\$ 18,438.28
Smoke/Fire Detection Infrastructure	\$-	\$ -	\$-	\$ -	\$ -
Phone System	\$-	\$-	\$-	\$ -	\$ -
Building Mounted Exterior Lighting	\$-	\$ -	\$ -	\$ -	\$ 18,438.28
Security System	\$-	\$ -	\$ -	\$ -	\$ -
Heating Hot Water Circulation Pump	\$-	\$ -	\$-	\$ -	\$ -
Boiler	\$-	\$ -	\$-	\$ -	\$ -
Boiler Room Piping	\$-	\$ -	\$-	\$ -	\$ -
Boiler Room Valves	\$-	\$ -	\$-	\$ -	\$ -
Boiler Temperature Controls	\$-	\$ -	\$ -	\$ -	\$ -
Hydronic Piping	\$-	\$ -	\$-	\$ -	\$ -
Rooftop Exhaust Fans	\$-	\$ -	\$-	\$ -	\$ -
Hot Water Storage Tank	\$ -	\$ -	\$ -	\$ -	\$ -
Sanitary Distribution - Cast Iron	\$-	\$ -	\$-	\$ -	\$ -
	\$-	\$ -	\$ -	\$ -	\$ 18,438.28
Common Areas				Years 11 - 15	\$-
Lighting Fixtures - Surface Mounted Flourescent 2'x4'	\$-	\$ -	\$ -	\$ -	\$ -
Branch Panels	\$-	\$ -	\$ -	\$ -	\$ -
Electrical Distribution System	\$-	\$ -	\$ -	\$ -	\$ -
Concrete	\$ -	\$ -	\$ -	\$ -	\$ -
	ş -	ş -	\$ -	ş -	Ş -



Category Unit	2028	2029	2030	2031 Years 11 - 15	Ś	2032 26.837.36
Porches/Balcony	\$ -	\$ -	\$ -	\$ -	\$	-
Guard Railings	\$ -	\$ -	\$ -	\$ -	\$	-
Thermostatic Control Valve	\$ -	\$ -	\$ -	\$ -	\$	-
Baseboard Convector	\$ -	\$ -	\$ -	\$ -	\$	-
Smoke/Fire Detectors	\$ -	\$ -	\$ -	\$ -	\$	-
Carbon Monoxide Detectors	\$ 12,879.04	\$ -	\$ -	\$ -	\$	-
Interior Lighting (In Unit) - Surface Mounted Incandescent	\$ -	\$ -	\$ -	\$ -	\$	-
Hot and Cold Water Distribution - Galvanized	\$ -	\$ -	\$ -	\$ -	\$	-
Branch Panels	\$ -	\$ -	\$ -	\$ -	\$	-
Electrical Distribution System	\$ -	\$ -	\$ -	\$ -	\$	-
Wood	\$ -	\$ -	\$ -	\$ -	\$	-
Panel Door, Interior	\$ -	\$ -	\$ -	\$ -	\$	-
Door, Interior	\$ -	\$ -	\$ -	\$ -	\$	-
Blinds and Drapes	\$ -	\$ -	\$ -	\$ -	\$	-
Gypsum Board or Plaster	\$ -	\$ -	\$ -	\$ -	\$	-
Ceramic/Quarry Tile/Terrazzo	\$ -	\$ -	\$ -	\$ -	\$	-
Resilient	\$ -	\$ -	\$ -	\$ -	\$	-
Baseboard (Wood or Resilient)	\$ -	\$ -	\$ -	\$ -	\$	-
Wall Surface - Gypsum Board	\$ -	\$ -	\$ -	\$ -	\$	-
Wall Surface - Ceramic Tile/Stone	\$ -	\$ -	\$ -	\$ -	\$	-
Wall Cabinets	\$ -	\$ -	\$ -	\$ -	\$	-
Base Cabinets	\$ -	\$ -	\$ -	\$ -	\$	-
Counter Tops	\$ -	\$ -	\$ -	\$ -	\$	-
Sink with Fixtures	\$ -	\$ -	\$ -	\$ -	\$	-
Range / Stove	\$ -	\$ -	\$ -	\$ 	\$	-
Range Hood	\$ -	\$ -	\$ -	\$ -	\$	-
Refrigerator	\$ -	\$ -	\$ -	\$ -	\$	-
Bath Accessories	\$ 3,298.32	\$ -	\$ -	\$ 	\$	-
Bathtubs / Shower Units	\$ -	\$ -	\$ -	\$ -	\$	-
Toilet	\$ -	\$ -	\$ -	\$ -	\$	-
Sink with Fixtures	\$ -	\$ -	\$ -	\$ -	\$	-
Bathroom Vanities	\$ -	\$ -	\$ -	\$ -	\$	-
Exhaust Fans	\$ 10,660.00	\$ -	\$ -	\$ -	\$	-
	\$ 26,837.36	\$ -	\$ -	\$ -	\$	-
	\$ 27,910.16	\$	\$	\$	\$	18,438.28



Component Inventory – 1719 Park

Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life Method (in yrs)		Total Quantity	Cost Per Quantity	One time replacement Cost (\$)	
		Building Exterior								
2220	Roofs	Asphalt Shingles	2017	40	39	SF	5,972	\$ 3.93	\$ 23,469.96	
2261	Roofs	Roof Drainage Exterior (Gutter And Fascia)	2017	40	39	LF	894	\$ 10.83	\$ 9,682.02	
2290	Roofs	Attic/Ceiling Insulation	1972	50	4	SF	5,093	\$ 3.38	\$ 17,214.34	
2291	Floors	Floor Insulation	1972	50	4	SF	5,093	\$ 4.47	\$ 22,765.71	
2292	Walls	Wall Insulation	1972	50	4	SF	9,086	\$ 2.65	\$ 24,077.90	
2341	Walls	Vinyl Siding	1987	30	-1	SF	9,086	\$ 7.49	\$ 68,054.14	
2370	Walls	Caulking & Sealant	1999	20	1	LF	1,836	\$ 4.45	\$ 8,170.20	
2380	Walls	Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	1972	75	29	LF	373	\$ 10.48	\$ 3,909.04	
2392	Walls	Wall Mounted Mailbox	1972	10	-36	Each	10	\$ 67.05	\$ 670.50	
2421	Doors/Exterior	Solid Core (Wood Or Metal)	1985	40	7	Each	17	\$ 3,711.31	\$ 63,092.27	
2422	Doors/Exterior	Storm/Screen Doors	2003	20	5	Each	10	\$ 972.66	\$ 9,726.60	
2430	Windows	Windows	1972	50	4	SF	1,471	\$ 105.23	\$ 154,793.33	
2431	Windows	Storm/Screen Windows	1972	40	-6	SF	736	\$ 6.84	\$ 5,034.24	
Building Ext	erior Subtotals								\$ 410,660.25	
		Building Systems								
2510	Fire Protection	Smoke/Fire Detection Infrastructure	1972	15	-31	SF	15,396	\$ 3.26	\$ 50,190.96	
2522	Communication Systems	Phone System	1972	50	4	SF	15,396	\$ 3.05	\$ 46,957.80	
2630	Lighting	Building Mounted Exterior Lighting	2014	6	2	Each	18	\$ 658.51	\$ 11,853.18	
2631	Security	Security System	1972	15	-31	SF	15,396	\$ 1.02	\$ 15,703.92	
2831	Central HVAC	Heating Hot Water Circulation Pump	1972	15	-31	Each	2	\$ 4,782.00	\$ 9,564.00	
2839	Central HVAC	Boiler	2017	30	29	Each	1	\$ 135,807.90	\$ 135,807.90	
2844	Central HVAC	Boiler Room Piping	1972	75	29	LF	87	\$ 86.64	\$ 7,537.68	
2847	Central HVAC	Boiler Room Valves	2017	40	39	each	4	\$ 331.80	\$ 1,327.20	
2847	Central HVAC	Boiler Temperature Controls	2017	50	49	Each	2	\$ 1,367.95	\$ 2,735.90	
2848	Central HVAC	Hydronic Piping	1972	50	4	LF	2772	\$ 55.87	\$ 154,871.64	
2867	Central HVAC	Rooftop Exhaust Fans	1972	20	-26	Each	8	\$ 3,133.99	\$ 25,071.92	
2917	Domestic Water	Hot Water Storage Tank	1972	50	4	Each	2	\$ 14,268.10	\$ 28,536.20	
2940	Sanitary System	Sanitary Distribution - Cast Iron	1972	40	-6	LF	112	\$ 132.17	\$ 14,803.04	
Building Syst	tems Subtotals								\$ 490,158.30	
		Common Areas								
3178	Lighting	Lighting Fixtures - Surface Mounted Flourescent 2'x4'	1972	20	-26	Each	5	\$ 453.21	\$ 2,266.05	
3190	Electrical	Branch Panels	1972	50	4	Each	4	\$ 2,915.12	\$ 11,660.48	
3193	Electrical	Electrical Distribution System	1972	50	4	SF	1003	\$ 2.03	\$ 2,036.09	
3307	Doors/Interior	Solid Core (Wood or Metal)	1993	40	15	Each	1	\$ 1,034.83	\$ 1,034.83	
3410	Floors	Concrete	1972	75	29	SF	1003	\$ 11.41	\$ 11,444.23	
Common Ar	eas Subtotals								\$ 28,441.68	



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Line ID	Component	Line Item	Install Year (in yrs)	Estimated Useful Life (in yrs)	Remaining Useful Life (in yrs)	Method	Total Quantity	Cost Per Quantity	One time replacement Cost (\$)
		Unit							
4011	Porch/Balcony	Porches/Balcony	1972	50	4	SF	171	\$ 11.41	\$ 1,951.11
4013	Porch/Balcony	Guard Railings	2011	50	43	LF	30	\$ 18.04	\$ 541.20
4134	Local HVAC	Thermostatic Control Valve	2002	20	4	Each	10	\$ 495.72	\$ 4,957.20
4139	Local HVAC	Baseboard Convector	2002	20	4	LF	1859	\$ 166.74	\$ 309,969.66
4160	Smoke Detectors	Smoke/Fire Detectors	2004	15	1	Each	50	\$ 334.97	\$ 16,748.50
4163	Smoke Detectors	Carbon Monoxide Detectors	2004	5	-9	Each	10	\$ 804.94	\$ 8,049.40
4172	Lighting	Interior Lighting (In Unit) - Surface Mounted Incandescent	1995	20	-3	Each	42	\$ 433.61	\$ 18,211.62
4180	Domestic Water	Hot and Cold Water Distribution - Galvanized	1972	50	4	LF	398	\$ 34.54	\$ 13,746.92
4190	Electrical	Branch Panels	1972	50	4	Each	10	\$ 2,915.12	\$ 29,151.20
4194	Electrical	Electrical Distribution System	1972	50	4	SF	12078	\$ 2.03	\$ 24,518.34
4221	Floors/Stairs	Wood	1998	40	20	Riser	13	\$ 4,995.53	\$ 64,941.89
4309	Doors/Interior	Panel Door, Interior	1993	30	5	Each	135	\$ 434.60	\$ 58,671.00
4310	Doors/Interior	Door, Interior	1993	30	5	Each	52	\$ 677.67	\$ 35,238.84
4312	Windows	Blinds and Drapes	2013	20	15	SF	1198	\$ 16.94	\$ 20,294.12
4350	Ceiling	Gypsum Board or Plaster	1972	75	29	SF	12078	\$ 6.74	\$ 81,405.72
4420	Floors	Ceramic/Quarry Tile/Terrazzo	1972	75	29	SF	698	\$ 27.75	\$ 19,369.50
4430	Floors	Resilient	1998	18	-2	SF	11050	\$ 5.47	\$ 60,443.50
4460	Floors	Baseboard (Wood or Resilient)	1998	15	-5	LF	3789	\$ 8.44	\$ 31,978.32
4530	Walls	Wall Surface - Gypsum Board	1972	75	29	SF	32900	\$ 5.73	\$ 188,517.00
4580	Walls	Wall Surface - Ceramic Tile/Stone	1972	75	29	SF	908	\$ 17.89	\$ 16,244.12
4610	Kitchen	Wall Cabinets	2001	15	-2	LF	161	\$ 432.60	\$ 69,648.60
4611	Kitchen	Base Cabinets	2001	15	-2	LF	111	\$ 478.71	\$ 53,280.42
4612	Kitchen	Counter Tops	2001	20	3	LF	97	\$ 87.07	\$ 8,402.26
4620	Kitchen	Sink with Fixtures	1972	35	-11	Each	10	\$ 784.16	\$ 7,841.60
4630	Kitchen	Range / Stove	2003	15	0	Each	10	\$ 658.55	\$ 6,585.50
4632	Kitchen	Range Hood	2003	15	0	Each	10	\$ 218.46	\$ 2,184.60
4640	Kitchen	Refrigerator	2003	15	0	Each	10	\$ 875.10	\$ 8,751.00
4710	Bathroom	Bath Accessories	2007	10	-1	Each	16	\$ 45.81	\$ 732.96
4720	Bathroom	Bathtubs / Shower Units	2011	35	28	Each	14	\$ 3,698.73	\$ 51,782.22
4721	Bathroom	Toilet	2011	25	18	Each	16	\$ 1,238.96	\$ 19,823.36
4722	Bathroom	Sink with Fixtures	2011	35	28	Each	16	\$ 1,006.75	\$ 16,108.00
4740	Bathroom	Bathroom Vanities	1999	20	1	Each	16	\$ 215.27	\$ 3,444.32
4750	Bathroom	Medicine Cabinets	1999	20	1	Each	16	\$ 339.77	\$ 5,436.32
4760	Bathroom	Exhaust Fans	2002	10	-6	Each	26	\$ 266,50	\$ 6,929,00
Unit Subtota	als								\$ 1,265,899.31
		GRAND TOTAL							





Development Projection Outlook – Years 1 through 15: 1719 Park

Coterony		2018	2010	2020	2021	2022	2023	2024	2025	2026	2027
Building Exterior		2010	2015	2020	Vears 1 - 5	\$ 300 780 36	2023	2024	2023	Vears 6 - 10	\$ 72 818 87
Asphalt Shineles	4	s -	\$ -	s -	\$.	\$ -	s -	s -	s -	s -	\$ -
Roof Drainage Exterior (Gutter And Fascia)		s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Attic/Ceiling Insulation		· ·	š -	š -	š -	\$ 17,214.34	š -	š -	\$ -	š -	š -
Floor Insulation	-	s -	s -	s -	s -	\$ 22,765,71	\$ -	\$ -	\$ -	s -	s -
Wall Insulation		s -	\$ -	\$ -	\$ -	\$ 24,077.90	\$ -	\$ -	\$ -	\$ -	\$ -
Vinyl Siding	4	68,054.14	\$ -	\$-	s -	S -	\$ -	\$ -	\$ -	\$ -	s -
Caulking & Sealant	-	s -	\$ 8,170.20	\$-	s -	s -	\$ -	\$ -	\$ -	\$ -	s -
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	-	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	s -
Wall Mounted Mailbox		\$ 670.50	\$ -	\$-	s -	s -	\$ -	\$ -	\$ -	\$ -	s -
Solid Core (Wood Or Metal)	-	s -	\$ -	\$ -	ş -	\$ -	\$ -	\$ -	\$ 63,092.27	\$ -	s -
Storm/Screen Doors		s -	\$ -	\$-	\$ -	\$ -	\$ 9,726.60	\$ -	\$.	\$ -	\$ -
Windows	-	ş -	\$ -	\$ -	s -	\$ 154,793.33	\$ -	\$ -	\$-	\$ -	s -
Storm/Screen Windows	4	\$ 5,034.24	\$ -	\$-	\$ -	s -	\$ -	\$ -	\$ -	\$-	s -
	-	\$ 73,758.88	\$ 8,170.20	\$ -	ş -	\$ 218,851.28	\$ 9,726.60	\$ -	\$ 63,092.27	\$ -	ş -
Building Systems					Years 1 - 5	\$ 357,552.66				Years 6 - 10	\$ 11,853.18
Smoke/Fire Detection Infrastructure	4	\$ 50,190.96	\$ -	\$ -	\$ -	s -	\$ -	\$ 1	\$	\$ -	s -
Phone System		s -	\$ -	\$ -	\$ -	\$ 46,957.80	\$ -	\$ -	\$ -	\$ -	s -
Building Mounted Exterior Lighting	\$	ş -	\$ -	\$ 11,853.18	\$ -	s -	\$ -	\$ -	\$ -	\$ 11,853.18	s -
Security System	4	\$ 15,703.92	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	s -
Heating Hot Water Circulation Pump		\$ 9,564.00	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Boiler		\$-	s -	\$-	\$ -	s -	\$ -	\$ -	\$ -	\$ -	s -
Boiler Room Piping		ş -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Boiler Room Valves		s -	\$ -	\$-	\$ -	s -	\$ -	\$ -	\$-	\$ -	s -
Boiler Temperature Controls		ş -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hydronic Piping		s -	\$ -	\$-	\$ -	\$ 154,871.64	\$.	\$ -	\$.	\$ -	s -
Rooftop Exhaust Fans		\$ 25,071.92	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hot Water Storage Tank	-	s -	s -	\$ -	s -	\$ 28,536.20	\$ -	\$ -	\$-	\$ -	s -
Sanitary Distribution - Cast Iron		\$ 14,803.04	\$ -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		\$ 115,333.84	\$ -	\$ 11,853.18	\$ -	\$ 230,365.64	\$ -	\$ -	\$ -	\$ 11,853.18	\$ -
Common Areas					Years 1 - 5	\$ 15,962.62				Years 6 - 10	\$ -
Lighting Fixtures - Surface Mounted Flourescent 2'x4'	-	\$ 2,266.05	s -	\$ -	s -	s -	\$ -	s -	\$-	\$ -	s -
Branch Panels	\$	s -	s -	\$-	\$ -	\$ 11,660.48	\$ -	\$ -	\$ -	s -	s -
Electrical Distribution System	-	s -	s -	s -	s -	\$ 2,036.09	s -	s -	\$ -	s -	s -
Solid Core (Wood or Metal)	\$	s -	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	s -
Concrete		s -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -	\$ -	\$ -	s -
		\$ 2,266.05	\$ -	\$ -	\$ -	\$ 13,696.57	\$ -	\$ -	\$ -	\$ -	s -



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Caterory		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Unit					Years 1-5	\$ 692,962.34				Years 6 - 10	\$ 101,959.24
Porches/Balcony	3	s -	\$ -	\$ -	\$ -	\$ 1,951.11	\$ -	\$ -	\$ -	\$ -	\$ -
Guard Railings	1	s -	\$ -	\$ -	s -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Thermostatic Control Valve		s -	s -	\$ -	\$ -	\$ 4,957.20	\$ -	\$ -	\$ -	\$ -	\$ -
Baseboard Convector	1	s -	\$ -	\$ -	s -	\$ 309,969.66	\$ -	\$ -	\$ -	\$ -	\$ -
Smoke/Fire Detectors	1	s -	\$ 16,748.50	\$ -	\$ -	s -	s -	\$ -	\$ -	\$ -	\$ -
Carbon Monoxide Detectors		\$ 8,049.40	\$ -	\$ -	\$	s -	\$ 8,049.40	\$ -	\$ -	\$ -	\$ -
Interior Lighting (In Unit) - Surface Mounted Incandescent		5 18,211.62	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Hot and Cold Water Distribution - Galvanized	1	s -	\$ -	\$ -	\$	\$ 13,746.92	\$ -	\$ -	\$ -	\$ -	\$ -
Branch Panels	1	s -	\$ -	\$ -	\$ -	\$ 29,151.20	\$ -	\$ -	\$ -	\$ -	\$ -
Electrical Distribution System	1	s -	\$ -	\$ -	\$ -	\$ 24,518.34	\$	\$ -	\$ -	\$ -	\$
Wood	1	s -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Panel Door, Interior	1	s -	\$ -	\$ -	\$ -	s -	\$ 58,671.00	\$ -	\$ -	\$ -	\$ -
Door, Interior	1	s -	\$ -	\$ -	\$ -	\$ -	\$ 35,238.84	\$ -	\$ -	\$ -	\$ -
Blinds and Drapes	1	s -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Gypsum Board or Plaster	1	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ceramic/Quarry Tile/Terrazzo	1	s -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Resilient		\$ 60,443.50	\$ -	\$ -	\$ -	\$ -	\$	\$ -	\$ -	\$ -	\$
Baseboard (Wood or Resilient)		\$ 31,978.32	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Wall Surface - Gypsum Board	1	s -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Wall Surface - Ceramic Tile/Stone	1	5 -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wall Cabinets		69,648.60	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Base Cabinets	1	53,280.42	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Counter Tops	1	s -	s -	\$ -	\$ 8,402.26	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Sink with Fixtures		\$ 7,841.60	\$ -	\$ -	\$ -	\$ -	\$	\$ -	\$ -	\$ -	\$ -
Range / Stove		6,585.50	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Range Hood		\$ 2,184.60	\$ -	\$ -	\$ -	\$ -	\$	\$ -	\$ -	\$ -	\$
Refrigerator		\$ 8,751.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bath Accessories		\$ 732.96	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Bathtubs / Shower Units		s -	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Toilet	1	s -	s -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Sink with Fixtures	1	s -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bathroom Vanities	1	s -	\$ 3,444.32	\$ -	\$ -	\$ -	\$	\$ -	\$ -	\$ -	\$
Medicine Cabinets	1	s -	\$ 5,436.32	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
Exhaust Fans		\$ 6,929.00	\$ -	\$ -	\$ -	s -	\$ -	\$ -	\$ -	\$ -	\$ -
	1	\$ 274,636.52	\$ 25,629.14	\$ -	\$ 8,402.26	\$ 384,294.43	\$ 101,959.24	\$ -	\$ -	\$ -	s -
		465,995.29	\$ 33,799.34	\$ 11,853.18	\$ 8,402.26	\$ 847,207.92	\$ 111,685.84	\$ -	\$ 63,092.27	\$ 11,853.18	\$ -

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Category	2028		2029		2030		2031			2032
Building Exterior Asphalt Shineles	¢		¢		¢		¢	Years 11 - 15	5	670.50
Roof Drainage Exterior (Gutter And Farria)	- č		é		é		é		é	
Attic/Ceiling Insulation			é		è		÷.		è	
Floor Insulation	- č		é		é		é		é	
Wall Insulation	- 2	-	ž	-	ž		ž		ž	-
Vinvl Siding	š	-	ŝ	-	Ś	-	Ś	-	ŝ	-
Caulking & Sealant	Č.	-	Č.	-	¢	-	ŝ		š	-
Soffit/Fascia (Metal Or Vinyl or Hardboard or Stucco)	š	-	ŝ	-	Ś	-	ŝ	-	ŝ	-
Wall Mounted Mailbox	Ś	670.50	Ś	-	Ś	-	ŝ	-	Ś	-
Solid Core (Wood Or Metal)	ŝ	-	ŝ	-	ŝ	-	ŝ	-	š	-
Storm/Screen Doors	Ś	-	Ś	-	Ś	-	Ś	-	Ś	-
Windows	ŝ	-	ŝ	-	ŝ	-	ŝ	-	š	-
Storm/Screen Windows	Ś	-	Ś	-	Ś	-	Ś	-	Ś	-
	Ś	670.50	S	-	\$	-	\$	-	S	-
Building Systems								Years 11 - 15	\$	11,853.18
Smoke/Fire Detection Infrastructure	\$	-	\$	-	\$	-	\$	-	\$	-
Phone System	s	-	\$	-	Ś	-	ŝ	-	\$	-
Building Mounted Exterior Lighting	\$	-	\$	-	\$	-	\$	-	\$	11,853.18
Security System	\$	-	\$	-	\$	-	\$	-	\$	-
Heating Hot Water Circulation Pump	\$	-	\$	-	\$	-	\$	-	\$	-
Boiler	\$	-	\$	-	\$	-	\$	-	\$	-
Boiler Room Piping	\$	-	\$	-	\$	-	\$	-	\$	-
Boiler Room Valves	\$	-	\$	-	\$	-	\$	-	\$	-
Boiler Temperature Controls	\$	-	\$	-	\$	-	\$	-	\$	-
Hydronic Piping	\$	-	\$	-	\$	-	\$	-	\$	-
Rooftop Exhaust Fans	\$	-	\$	-	\$	-	\$	-	\$	-
Hot Water Storage Tank	\$	-	\$	-	\$	-	\$	-	\$	-
Sanitary Distribution - Cast Iron	\$	-	\$	-	\$	-	\$	-	\$	-
	\$	-	\$	-	\$	-	\$	-	\$	11,853.18
Common Areas								Years 11 - 15	\$	
Lighting Fixtures - Surface Mounted Flourescent 2'x4'	\$	-	\$	-	\$	-	\$	-	\$	-
Branch Panels	\$	-	\$	-	\$	-	\$	-	\$	-
Electrical Distribution System	\$	-	\$	-	\$	-	\$	-	\$	-
Solid Core (Wood or Metal)	\$	-	\$	-	\$	-	\$	-	\$	-
Concrete	\$	-	\$	-	\$	-	\$	-	\$	-
	5	-	S	-	\$	-	\$	-	\$	-

Category Unit		2028		2029		2030		2031 Vears 11 - 15		2032
Porches/Balcony	\$	-	\$	-	\$	-	\$	-	\$	-
Guard Railings	\$	-	\$	-	\$	-	\$	-	\$	-
Thermostatic Control Valve	\$	-	\$	-	\$	-	\$	-	\$	-
Baseboard Convector	s	-	\$	-	\$	-	\$	-	\$	-
Smoke/Fire Detectors	\$	-	\$	-	\$	-	\$	-	\$	-
Carbon Monoxide Detectors	\$	8,049.40	\$	-	\$	-	\$	-	\$	-
Interior Lighting (In Unit) - Surface Mounted Incandescent	\$	-	\$	-	\$	-	\$	-	\$	-
Hot and Cold Water Distribution - Galvanized	\$	-	\$	-	\$	-	\$	-	\$	-
Branch Panels	s	-	\$	-	\$	-	\$	-	\$	-
Electrical Distribution System	\$	-	\$	-	\$	-	\$	-	\$	-
Wood	\$	-	\$	-	\$	-	\$	-	\$	-
Panel Door, Interior	\$	-	\$	-	\$	-	\$	-	\$	-
Door, Interior	\$	-	\$	-	\$	-	\$	-	\$	-
Blinds and Drapes	\$	-	\$	-	\$	-	\$	-	\$	-
Gypsum Board or Plaster	\$	-	\$	-	\$	-	\$	-	\$	-
Ceramic/Quarry Tile/Terrazzo	\$	-	\$	-	\$	-	\$	-	\$	-
Resilient	\$	-	\$	-	\$	-	\$	-	\$	-
Baseboard (Wood or Resilient)	\$	-	\$	-	\$	-	\$	-	\$	-
Wall Surface - Gypsum Board	s	-	\$	-	\$	-	\$	-	\$	-
Wall Surface - Ceramic Tile/Stone	\$	-	\$	-	\$	-	\$	-	\$	-
Wall Cabinets	s	-	\$	-	\$	-	\$	-	\$	-
Base Cabinets	\$	-	\$	-	\$	-	\$	-	\$	-
Counter Tops	\$	-	\$	-	\$	-	\$	-	\$	-
Sink with Fixtures	\$	-	\$	-	\$	-	\$	-	\$	-
Range / Stove	\$	-	\$	-	\$	-	\$	-	\$	-
Range Hood	s	-	\$	-	\$	-	\$	-	\$	-
Refrigerator	\$	-	\$	-	\$	-	\$	-	\$	-
Bath Accessories	s	732.96	\$	-	\$	-	\$	-	\$	-
Bathtubs / Shower Units	\$	-	\$	-	\$	-	\$	-	\$	-
Toilet	\$	-	\$	-	\$	-	\$	-	\$	-
Sink with Fixtures	s	-	\$	-	\$	-	\$	-	\$	-
Bathroom Vanities	\$	-	\$	-	\$	-	\$	-	\$	-
Medicine Cabinets	\$	-	\$	-	\$	-	\$	-	\$	-
Exhaust Fans	\$	6,929.00	\$	-	\$	-	\$	-	\$	-
	\$	15,711.36	\$	-	\$	-	\$	-	\$	-
	\$	16,381.86	\$	-	\$	-	\$	-	\$	11,853.18