

COPY

Building and Codes Advisory Commission

123 Madison St.

Oak Park, IL 60302-4205

October 25, 2011

Village of Oak Park

123 Madison St.

Oak Park, IL 60302-4205

Attn: Village Manager Tom Barwin

Dear Mr. Barwin:

Enclosed please find the report requested by your office regarding the building façade collapse at 201 Harrison St.

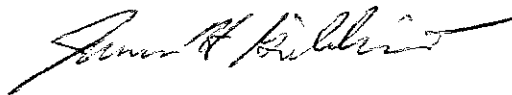
The Commission examined the incident through a variety of materials including, but not limited to, Building & Property Standards records, police and fire department photos and Public Works reports.

The Commission also studied the policies and practices of the Building Department and their relationship to the incident.

We hope that the manager's office and the Board will find the report helpful.

We look forward to any questions you might have regarding the Commission's findings.

Sincerely,



James Gilchrist

Chairman, Building and Codes Advisory Commission

cc: David Pope

Glenn Brewer

Stephen R. Witt

Façade Collapse Report

201-211 Harrison Street, Oak Park, Illinois

Prepared for:

**Village of Oak Park, Illinois
Mr. Tom Barwin, Village Manager**

Prepared by:

**Village of Oak Park, Illinois
Building Code Advisory Commission**

**Mr. Jim Gilchrist, Chairman
Mr. Jack Barclay, Commissioner
Mr. Bill Hudson, Commissioner
Mr. Tim Kelly, Commissioner
Mr. Don Maynard, Commissioner
Mr. Mark Nussbaum, Commissioner
Mr. Matt Visteen, Commissioner**

October 28, 2011

Executive Summary

On Wednesday, August 10, 2011, major portions of the north façade of the building at 201-211 Harrison Street collapsed onto a nearby parked car, the sidewalk and street. While one pedestrian was slightly injured, there were fortunately no serious injuries.

On August 15, 2011, the Building Codes Advisory Commission (BCAC) was requested by the Village Manager, Tom Barwin, to create a report that examines the Department of Building and Property Standards (BPS) requirements for inspections and site protection and how these requirements might be related to the building failure at 201-211 Harrison. The Village Manager specifically asked the commission to address the following questions:

- a) **For the work that was permitted and authorized at 201-211 Harrison, did the codes require a protected pedestrian canopy be installed on the public walkway in front of 201-211 Harrison?**
- b) **Once the façade of the building was exposed (and work stopped for approximately 30 days) were building inspections required, even though not requested by the owner/contractor?**
- c) **If the building code and our current interpretation of the building code did not require inspections to catch the fact that work had occurred outside of the permits, creating a dangerous situation, what policies, practices, or code interpretations or recommendations does the BCAC have to make as certain as possible that a dangerous situation like this never occurs in the Village?**

The BCAC determined that to effectively address all of the questions posed by the Village Manager, a preliminary question needed to be addressed: **What is the apparent cause of the Façade Collapse at the building?**

In the commission's view, the façade collapse was directly caused by unpermitted work that included removing critical masonry support (terra cotta pieces attached to the front of the brick piers) below the steel lintel beam at the top of the storefront windows. This loss of bearing support for the beam caused the beam to be eccentrically loaded by the masonry façade above and ultimately led to the failure. It is unknown why these critical items were removed but it is absolutely clear from photographic evidence that they were indeed removed by contractors working on the building. It is also clear that none of this exterior work was permitted by the BPS. It is interesting to note that the structural report prepared by the Owner's structural engineer, George P. Papadopoulos, P.E., S.E., also points to a loss of bearing surface for the beams at the columns as a cause for the failure. However, Mr. Papadopoulos feels that this occurred due to deterioration/decay of the brick interior of the column (which certainly is present) as opposed to the commission's view that the removal of the supporting terra cotta under the outer 1/3 of the beam plate, coupled with the deteriorated inner brick, is the primary cause.

The answer to the Manager's questions a) and b) are both a very straightforward – No. There was no requirement for a protected pedestrian canopy for any permitted work and there were no required inspections by BPS during the time the building was exposed and work had stopped. In fact there was actually no procedural way that BPS would have been aware that work had stopped. We did not find any specific deficiency in the current procedures and protocols used by BPS in regards to this issue.

The answer to the Manager's last question is quite complicated. The commission spent many weeks reviewing policies and procedures within BPS to search out areas for improved efficiencies as well as looking at other measures that could be implemented to help prevent this type of situation from occurring in the future. A summary of the specific recommendations is as follows:

1. Permit & Inspection Process Improvements

- A. The work already underway by BPS to automate permit acquisition and inspection scheduling via online access should be continued and expanded to the greatest extent possible. *This will provide for quicker turn-around of these online permits plus free up manpower currently needed to address these permits at the counter.*
 - B. Outreach to owners, designers and contractors to ensure they are fully aware of the permit process and resources available. *This will help engage more stakeholders in the process and reduce the incentive to bypass the permit process altogether.*
 - C. Reconsider a revamped Open Plan Review program previously tried and abandoned. *This will help improve the quality of projects being permitted by earlier involvement of BPS and a more facilitated approach to resolution of permit related questions.*
 - D. Continuation of the process of reclassification of certain project types to lessen or eliminate the need for a full permit and inspection process. *This will reduce the workload for BPS staff on minor and less significant type of work freeing them for other tasks. Additionally it will make it easier for contractors specializing in this type of work to more effectively perform their jobs.*
 - E. Continuation of the process already underway by BPS to track and close-out all permits once complete. *This will help set the tone that BPS will be following up and ensuring that projects are finished and final inspected – thus eliminating the opportunity for expansion of scope beyond permit.*
 - F. Continuation of the process already underway by BPS to track and identify idle projects so they can be revisited by staff to determine their current status and possibly discover unpermitted work.
 - G. Implementation of unannounced site inspections on certain types of projects.
 - H. Implementation of point-of-sale inspections when buildings are being sold in the VOP.
 - I. Adoption of the International Property Maintenance Code.
2. Public Education
 - A. Better promotion of the existing resources available on the VOP website and through the BPS counter.
 - B. Adding additional information re-enforcing why a permit is advantageous and protective for all parties involved.
 - C. Adding an additional signature line to the permit which requires acknowledgement that the property owner or tenant has received and read the attached copy of the Illinois Attorney General's "HOME REPAIR: Know Your Consumer Rights" pamphlet or similar BPS created document, which recommends not paying the contractor fully until all inspections, including the final inspection, have been completed.
 3. Contractor Testing & Registration
 - A. Adding a testing requirement for General Contractors that helps ensure a level of competence. This test could be the International Code Council's General Contractor test which is currently available.
 4. Adjudication

In conjunction with the implementation of other procedures and requirements, consideration should be given to increasing penalties for performing work without a permit, to include fines and possible bans on working within the VOP for a period of time. This will provide a much needed financial disincentive for working without the proper permit.
 5. BPS Staffing

While many of our recommendations are intended to improve efficiencies with BPS to help free up staff for other duties, there are some recommendations that suggest an increased staffing level be considered. Specifically, bringing on staff to serve in code compliance would help BPS keep track of on-going projects better as well as re-engaging with owners to encourage them to improve their properties in the proper way. Additional staff on the street will also increase the chances that a situation like occurred at 201-211 Harrison is caught before a problem might occur.

Introduction

On Wednesday, August 10, 2011, major portions of the north façade of the building at 201-211 Harrison Street collapsed, exposing brick piers, wood framing members and steel I-beams from the northeast corner of the building through approximately two-thirds of the total north façade. This building sits at the southeast corner of Harrison Street and South Lombard Avenue. This façade collapse caused damage to a vehicle parked on the street, the sidewalk and associated landscaping and more importantly, in minor injury to a passerby. Fortunately there were no serious injuries.

On August 15, 2011, the Building Advisory Code Commission (BCAC) was requested by the Village Manager, Tom Barwin, to create a report that examines the Department of Building and Property Standards (BPS) requirements for inspections and site protection and how these requirements might be related to the building failure at 201-211 Harrison. The Village Manager specifically asked the commission to address the following questions:

- d) For the work that was permitted and authorized at 201-211 Harrison, did the codes require a protected pedestrian canopy be installed on the public walkway in front of 201-211 Harrison?
- e) Once the façade of the building was exposed (and work stopped for approximately 30 days) were building inspections required, even though not requested by the owner/contractor?
- f) If the building code and our current interpretation of the building code did not require inspections to catch the fact that work had occurred outside of the permits, creating a dangerous situation, what policies, practices, or code interpretations or recommendations does the BCAC have to make as certain as possible that a dangerous situation like this never occurs in the Village?

The BCAC initially met on this issue at their regularly scheduled meeting on August 18, 2011. The commission subsequently met once each week since that time (nine meetings total) reviewing material related to the incident at 201-211 Harrison Street as well as an extensive review of BPS practices, permit and inspection requirements. The commission also heard public comment from VOP residents who attended several meetings. Meeting minutes for all meetings, including public comment are available as part of the public record.

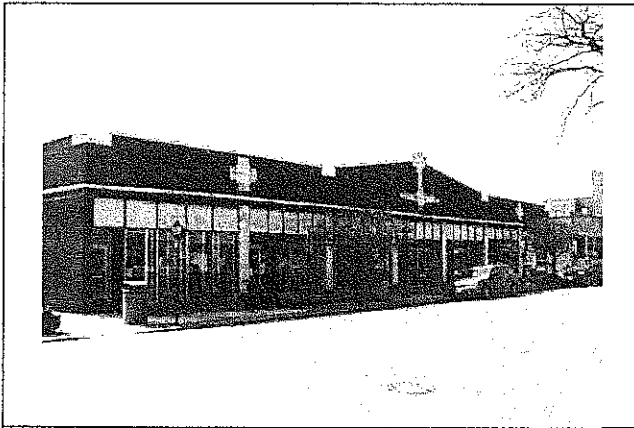
While not specifically tasked with determining the precise cause of the façade collapse, the commission determined it was important to understand as much of the underlying cause as possible from the material available since it would be difficult to effectively address the Manager's questions or recommend any specific corrective measures without this understanding. To that end, the BCAC reviewed the available material with this additional question in mind and some commissioners visited the site to review the actual structure that remains.

Preliminary Question: What is the apparent cause of the Façade Collapse at 201-211 Harrison?

In order to answer this question, the BCAC relied on: a review of the permit drawings for the work in progress prepared by Kinman Auyeung Architect; the structural reports prepared by the building owner's engineer George P. Papadopoulos P.E., S.E.; photographs of the building before and after the collapse; a site visit by commissioners Kelly and Nussbaum; follow-up information regarding street and water main repair work undertaken near the site; and discussion during the meetings. The summary of

this process and discussion is included in the BCAC meeting minutes. The conclusion derived by the commission of what caused the collapse of the façade at 201-211 Harrison is as follows:

1. A water main break and repair occurred in May 2011. The commission asked for and received information regarding what type of equipment was used to facilitate the street repair (see Director of Public Works email, dated 8/19/2011) Given the length of time between the water main break and the façade collapse (approximately three months), the physical distance of the water main break from this building (approximately 44 feet), standard methods of repair used, and the lack of any other examples of façade failure after similar occurrences in the VOP, the commission found no compelling evidence to support the claim by the owner's structural engineer that this work could have been a contributing cause for the collapse.
2. Similarly, road micro-surfacing work occurred on Harrison Street from Ridgeland to Austin the two days immediately prior to the collapse. Given the prevalence of this type of street repair and no examples of issues with any other buildings in the VOP, the commission does not feel this work contributed to the building failure.
3. The commission agrees in part with the 8/23/11 Papadopoulos report that the failure appears to have occurred due to a loss of bearing surface at the column. However in the commission's view, had the supporting terra cotta not been removed under the outer 1/3 of the beam plate, the beam would have remained much more stable and the likelihood of collapse would have been greatly reduced.
4. No exception to the staff report to the Village Manager regarding the probable cause of collapse was raised.
 - a. In general the collapse was due to actions by the contractor and a lack of action by the property owner.
 - b. Specifically, the likely cause of the collapse was the removal of the terra cotta under the lintel beam bearing points and the poor condition of the masonry piers (loose and missing mortar in the joints).
 - c. The collapse appears to have started at the location of the second masonry pier from the east end of the building. This is where the most damage to any of the piers occurred.
 - d. The electrical work and terra cotta removal that was performed at the building façade was clearly outside the scope of permitted work. If that work had not been performed the collapse would not have occurred.
5. There was interior work performed near the location of the second masonry pier.
 - a. A new opening was cut into the wall per the project drawings.
 - b. The actual opening width cut into the wall was approximately twice that shown on the approved permit drawings – another indication of work performed without proper review by BPS.
 - c. Inspection of the wall after the collapse did not reveal any stress cracks in the vicinity of the opening so the likelihood this work contributed to the collapse was remote.
6. A picture acquired by the commission from a local newspaper reporter, taken July 7, 2011 at 8:15 PM (after normal BPS work and inspection hours), clearly shows the supporting terra cotta removed below the beam on the north façade of the building as well as the terra cotta trim and soldier brick course at the lintel.
 - a. This work was never permitted.
 - b. Review at the site shows pencil numbering of the individual terra cotta pieces, which is typically done so that the pieces are reinstalled in the correct location – which is further evidence that this terra cotta was removed and partially reinstalled.
 - c. Removal of the terra cotta trim and soldier brick course at the lintel made the parapet less stable to resist vertical (self dead load) and lateral loads such as wind.



Picture 1 – 2010 VOP Planning Dept Survey Photo



Picture 2 – 2011 Photo after collapse



Picture 3 – 2011.07.07 Photo showing un-permitted work underway – removal of terra cotta at pier, terra cotta trim & soldier brick course at lintel. Note there is no electrical junction box at surface of exposed brick near top of pier



Picture 4 – 2011.08.10 Photo after collapse showing same pier as Picture 3 - terra cotta replaced up to unpermitted electrical junction box installation



Picture 5 – 2011.08.10 Close-up of top of pier showing unpermitted electrical work after unpermitted terra cotta removal and replacement & loss of bearing for beam due to removal of terra cotta



Picture 6 – 2011.08.10 Photo showing terra cotta missing under beam flange resulting in loss of bearing surface for beam

Village Manager Question: a) *For the work that was permitted and authorized at 201-211 Harrison, did the codes require a protected pedestrian canopy be installed on the public walkway in front of 201-211 Harrison?*

BCAC Response: A protective canopy was not required for the permitted work as it was actually conducted. The sidewalk was taped off from pedestrian traffic when the wall was tuck pointed.

The 201-211 Harrison building has active building permits. Current permitted work included: 1) removal and replacement of the parapet wall along Lombard (had removal and replacement actually occurred a protective canopy would have been required but the owner chose to tuck point the parapet instead which only required the sidewalk to be taped off from pedestrians); 2) the interior build-out of the east tenant spaces for a restaurant.

The interior work completed to date includes:

- a. Installation of the kitchen exhaust hood
- b. Installation of roof-top HVAC units and exhaust units
- c. Construction of the fire-rated masonry wall around the kitchen
- d. Under-slab plumbing work in the kitchen
- e. Removal of masonry wall to create opening into dining room
- f. Metal stud framing and furring of some masonry walls
- g. Two runs of ductwork in the dining room and storage area
- h. Installation of the electric service

The permitted work in progress appears to be independent of the failure. Work outside the existing permits, however, does seem to the commission, to be related to the façade failure.

Village Manager Question: b) *Once the façade of the building was exposed (and work stopped for approximately 30 days) were building inspections required, even though not requested by the owner/contractor?*

BCAC Response: No. There were no reasonable and apparent triggers that should have caused a building inspector to perform additional inspections at the site prior to the time of the collapse.

Inspections are required during the course of construction on all permitted projects. BPS has a document available at the counter and which is handed out with each permit placard issued that lists all required inspections. There were several inspections required up to the point of the collapse, but since work was stopped about one month prior to the collapse*, there was no standard inspections called for or required. Furthermore, short of a contractor informing BPS that they have stopped work, there is no mechanism within the code or VOP ordinances that would trigger a non-standard inspection that might have caught this unpermitted work.

(* The contractor reported to BPS staff on 8/17/11 when picking up a permit for the stabilization work required after the façade collapse, that he had stopped all work on the project about one month before the collapse because he had heard that the building was in foreclosure and he was worried about how he was to be paid. See BPS memo in appendix)

Village Manager Question: c) *If the building code and our current interpretation of the building code did not require inspections to catch the fact that work had occurred outside of the permits, creating a dangerous situation, what policies, practices, or code interpretations or recommendations does the BCAC have to make as certain as possible that a dangerous situation like this never again occurs in the Village?*

BCAC Response: As it is the commission's opinion that there are currently no requirements within the VOP ordinances & codes, or BPS practices that would help prevent this type of dangerous situation from occurring again in the future, the BCAC spent considerable time in evaluating BPS practices, both for permitting and inspections, as well as other mechanisms and procedural requirements that might act to improve the chances of reducing the risk of a similar situation occurring again.

These recommendations can be broken down into several categories: 1) Permit & Inspection Process Improvements; 2) Public Education; 3) Contractor Testing and Registration; 4) Adjudication; 5) BPS Staffing; all of which are outlined in more detail as follows:

1. Permit & Inspection Process Improvements

- A. While the commission generally feels that BPS does an outstanding job with the permit & inspection process, we feel there is a perception by some building owners, design professionals and contractors that the permit & inspection process is expensive, time consuming, and ultimately an unnecessary burden.
 - a. This misconception can be the excuse used to not seek a permit.
 - b. The commission understands that there have been efforts by BPS to streamline the permit process. These efforts include:
 - i. Online permit applications for many categories of permits
 - c. The commission recommends that permit processing be made as automated as possible by adding to the permits available online, thus eliminating this excuse.
- B. One reason permits can take longer to get issued is the review process.
 - a. We understand that BPS spends extra time in this phase of the process to ensure that possible safety issues are identified and addressed, but also to ensure that mistakes or limited drawing scope do not cause problems for the building owner during construction or after the construction process is complete.
 - b. Additionally, because of the permit format, BPS does not require full permit fees to be paid until the permit review is complete, but instead charges only a modest review fee, which helps the building owner from incurring these fees until the permit is ready to be issued.
 - c. The commission recommends that BPS reach out to building owners, design professionals and contractors to ensure that they understand the benefit of this type of process.
- C. The commission understands that BPS had tried an Open Plan Review process which was stopped for a variety of reasons including: inappropriate expectations of the process and goals by applicants; review meetings were time inefficient; and staffing cuts due to budget constraints. In the absence of this program, staff does do "sit-down" reviews of revised drawings when possible.
 - a. The commission recommends that the Open Plan Review program be reconsidered, with changes to address the issues that occurred in the previous version. This reconsideration might be a good future project for the BCAC to assist with as part of their regular commission duties.
- D. Permits are currently required for a broad array of minor projects that might be reasonably reclassified as maintenance. If all contractors were to pull permits for every small project they undertook in a given day, and an inspection were called for each and every one of these projects, it would not only put a large burden on contractors doing this type of maintenance work but it would also place a large burden on the BPS inspection staff since some of these contractors do as many as 12 to 15 repairs in a day which is roughly how many inspections one inspector can handle.

- a. The commission recommends that a review be undertaken to reclassify what type of work is inspected and what type of permit should be issued. This effort might be a good future project for the BCAC to assist with as part of their regular commission duties.
- E. It is our understanding that there is no current mechanism to track and closeout all permits when projects have been completed. This is due to a variety of reasons including project delays, failure of contractors & building owners to follow-up as required by code, and staffing issues within BPS.
 - a. The commission feels that a more thorough follow-up on permits would set the correct tone with owners and contractors that there will be a final inspection.
 - b. This final inspection might reveal work that was done off permit under the cover provided by a permit for a portion of the project.
 - c. The on-line permit process does require that permits be final inspected.
 - d. We understand that contract technical staff has been added to BPS that will assist in handling technical questions at the counter and will expedite permit applications, thus freeing up inspector staff to do more of these project close-outs.
 - e. The commission recommends that this process of project and permit close-out continue with the ultimate goal of having a start-to-finish process of engagement between BPS and the permit holder so that all permits are eventually closed.
- F. The commission discussed the possibility of using some staff time to close out existing permits that have been idle for a certain length of time. Revisiting idle permits would allow BPS an additional opportunity to discover work being done without permits and unsafe site conditions.
- G. The commission discussed some more aggressive policy changes. This might include unannounced site inspections. Addresses with active permits and no scheduled appointments can be included with an inspector's scheduled appointment as a drive-by. If there are any physical changes in the site, the inspector has the option to take a closer look.
- H. Some consideration should be given to point-of-sale inspections which would require a BPS inspection prior to sale.
 - a. The commission understands that this has been evaluated by the VOP legal department and found to be an issue in that this process could hold up a sale.
 - b. The commission would encourage a fresh look at this practice and possibly consider modifying the process to allow either the seller or buyer to clear any discrepancies discovered in the inspection so that the sale was not held up. Additionally, given that the building is existing, we would recommend only life safety issues be required to be fixed, but other issues might be highlighted so that the buyer is aware of deficiencies in the building – from the code compliance stand point.
- I. Adoption of the International Property Maintenance Code (IPMC). The commission feels that by adopting the IMPC, many issues with the existing building stock can be addressed in a fair way so that building owners can be assured a reasonable process requirement for maintaining their buildings.
 - a. Internationally, code officials recognize the need for a modern, up-to-date property maintenance code governing the maintenance of existing buildings. The *International Property Maintenance Code*® is designed to meet this need through model code regulations that contain clear and specific property maintenance requirements with required property improvement provisions.
 - b. The IPMC is fully compatible with all *International Codes*® (I-Codes®) published by the International Code Council (ICC)®.

- c. The IPMC is founded on principles intended to establish provisions consistent with the scope of a property maintenance code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.
- d. The BCAC has it on our agenda in upcoming meetings to work through this code, as part of our normal duties, for ultimate recommendation to the Village Board for adoption.

2. Public Education

- A. There are currently many resources available on the VOP website that can assist owners, designers and contractors through the permit & inspection process.
 - a. The commission feels that there could be a benefit of an effort to help educate the public to the existence of these resources.
 - b. This outreach should include reaching out specifically to design professionals and contractors as they are often the ones to pull permits.
 - c. Additionally, targeting organizations like BOMA and other building owner organizations might help to reach this group of our community to ensure they are aware of the resources available.
- B. Adding information that helps owners, contractors and designers to better understand and appreciate why a permit is advantageous to all concerned.
- C. While BPS currently has a guideline posted on the VOP website which highlights recommended practices related to dealing with contractors, the commission discussed adding an additional signature line to the permit which requires acknowledgement that the property owner or tenant has received and read an attached copy of this BPS created document or a similar pamphlet prepared by the Illinois Attorney General's office: "HOME REPAIR: Know Your Consumer Rights", which recommends not paying the contractor fully until all inspections, including the final inspection, have been completed (see appendix). The list might also include minimum site protection requirements.
 - a. The purpose of this signed acknowledgement by the owner is to circumvent the fact that many contractors get the permit on behalf of the property owner or tenant. By requiring the owner/tenant to sign that they have read this document, there is less chance that the important information contained in this document will go unheeded.

3. Contractor Testing & Registration

- A. While there is a state requirement for licensure for plumbing and electrical contractors, no such requirement exists for general and HVAC contractors. One way to help ensure that contractors serving the VOP residents are of highest quality is to require that these unlicensed contractors take a recognized test that verifies they have the basic skills required to engage in the work they contract to do.
 - a. The commission discussed offering a test for licensed contractors through the International Code Council that would create a higher level of understanding of code requirements.
 - b. Contractors that pass the test might be allowed a shorter plan review process.
 - c. Specific acknowledgement of VOP ordinances and permit and inspection requirements could be made a part of this testing and registration requirement.

4. Adjudication

- A. In conjunction with other recommendations contained in this report, some consideration of penalties or fines should be considered. Unless there are consequences significant enough to help deter work outside of the permit process, all of

the rules in the world will not prevent some individuals, be they building owners or contractors, from performing unpermitted work.

- B. To this end, the commission discussed increasing fines and banning contractors that violate BPS ordinances from working in the Village.
 - a. Increasing fines for working without permits, expanding the scope of work without notice, failing to call for inspection etc, on a case by case basis might discourage contractors from violating VOP ordinances.
 - b. The Board might also consider creating an ordinance that would ban repeat violators from working in the Village.
 - c. The commission feels that there could be a benefit of an effort to help educate the public to the existence of these resources.
 - C. It is important however, that implementation of increased penalties and fines go hand-in-hand with other recommendations outlined this report.
 - a. Reclassifying certain types of work so they are not subject to the same level of permit and inspection process as other more complicated projects.
 - b. Improving the efficiency of the permit process through online permitting and other measures.
 - c. Public education so that everyone possible is made aware of the process and why permits are to everyone's advantage.
- 5. BPS Staffing**
- A. Many of our recommendations in the previous sections of this report could reasonably be read to imply the need for additional BPS staff. As VOP residents, the commissioners are all very aware of the financial and political issues related to staffing decisions. We have tried to provide some recommendations to improve system efficiencies that do not necessarily require increased staffing levels. However, the commission does feel that it is important to point out certain points related to past and present BPS staffing.
 - a. It is our understanding that two code compliance officers and the assistant director are no longer with the VOP. We also understand that these employees were all involved with the Kleronomos properties, among others.
 - b. This type of proactive approach to working with building owners by maintaining an on-going dialogue with them, would almost certainly have provided additional scrutiny of these buildings and any projects – permitted or unpermitted – that were going on.
 - c. The commission would also like to point out that, assuming the time and date were correct on the camera used to capture the image of the unpermitted work at 201-211 Harrison, specifically 7/7/11 at 8:16 PM – this was outside the normal working hours of BPS staff. With increased staffing, it is possible that some off-hours time could be spent driving by work sites to see if unpermitted work is being slipped in around the edges of the normal BPS hours of operation.
 - d. If the goal of the VOP is to minimize the risk of this type of incident in the future, then discovering unauthorized work like 201-211 Harrison will require more inspectors. Of course, more inspectors will only increase the probability of finding work being done without permit but not guarantee it. Increasing staff would increase the likelihood of discovering unsafe conditions and possibly prevent similar failures.