



The Benefits of Being Prepared

By Victoria Whelan

One of the most important tasks of being a successful environmental consultant is being prepared for anything. At any given time, redevelopment projects can easily get bogged down with unexpected site conditions or test results. Preparation, experience, and open lines of communication with the Client and associated regulatory agencies are key, and help to keep surprises at bay, minimizing unforeseen changes to job cost & schedule.

One of CA RICH's recently-completed projects, Putnam Court in Brooklyn, exemplifies the advantages of such close communication. Putnam Court recently received a Notice of Satisfaction from the New York City Mayor's Office of Environmental Remediation (OER). However, completing this project - converting a vacant eyesore impacted with environmental degradation into a beautiful new housing development to benefit the residents and their local community - could have proceeded quite differently without the essential project coordination described above.

Putnam Court, situated in the Clinton Hill section of Brooklyn, had been a vacant underutilized property for over 20 years. In 2011, Dunn Development Corp. (Dunn) envisioned improving this blighted property with a seven story, 59-unit, affordable residential build-



ing. The Phase I Environmental Site Assessment revealed that it was 'E designated' for hazardous materials.

Before OER took over the City's E designation program in 2010, the New York City Department of Environmental Protection (NYCDEP) acted as the 'lead agency' for environmental review on 'E Sites'.

A limited historical subsurface investigation, done to satisfy NYCDEP information needs was no longer sufficient to satisfy the compliance requirements of the 'E-Site' program newly-administered by OER. A site meeting was conducted with OER, CA RICH and Dunn to determine how much of the limited historical information could be deemed acceptable, and how much new information would need to be obtained to facilitate development of this property.

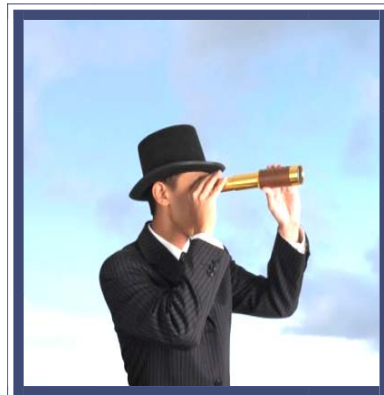
A supplemental Phase II Investigation was negotiated with OER, and performed in March 2011 including ad-

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EPA's New Vapor Intrusion Guidance (a look ahead)

By Richard J. Izzo, CPG

Vapor Intrusion (VI) has been at the forefront of the environmental testing and remediation industry for over a decade. Examples of this include: vapor-related "reopeners" for sites previously "signed-off" by regulators as well as an increase in attention to vapor encroachment in due-diligence transactions, namely the advent of ASTM's E-2600 Vapor Encroachment Screening which is now required by HUD in all of their Phase I ESAs and is now standard procedure for all Phase I ESAs under the new ASTM standard (E-1527-13). In addition, we have experienced an increase in focus and stringency required by State and Federal regulators relative to VI testing



methodology, scope, action levels and mitigative measures.

The most-recent example of this is the highly-anticipated, forthcoming (although no one is sure exactly when) release of the US EPA's Final Subsurface Vapor Intrusion Guidance. How-

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ever, there are those who argue that this latest permutation of VI guidance may be at odds with the practicality of some real-world applications.

Back in 2002, The USEPA released the "OSWER Draft Guidance to Indoor Air Pathway from Groundwater and Soils" (or Subsurface Vapor Intrusion Guidance, for short). This document has since been the benchmark

Sub-slab vapor testing



for VI regulations on the Federal level, although many States (including New York) have adopted their own guidance (i.e. NY State Department of Health; October 2006; "Guidance for Evaluating Soil Vapor Intrusion in the State of New York"). EPA then issued its own internal review of the draft document in August 2010. This review was then used to develop the initial version of the final guidance which was released for public review in 2011

There are several changes from the 2002 draft that will be in the final version. One of the more noteworthy includes new indoor air action levels for perchloroethylene (PCE) and trichloroethylene (TCE) of 9.4 micrograms per cubic meter (ug/m³) and 0.43 ug/m³ (respectively). For comparison purposes, the respective current action levels in New York State for these two compounds are 100 ug/m³ and 5 ug/m³. Critics of the new guidelines argue that such low action levels will greatly complicate testing and remediation of PCE and TCE and may not be achievable with current conventional mitigative measures.

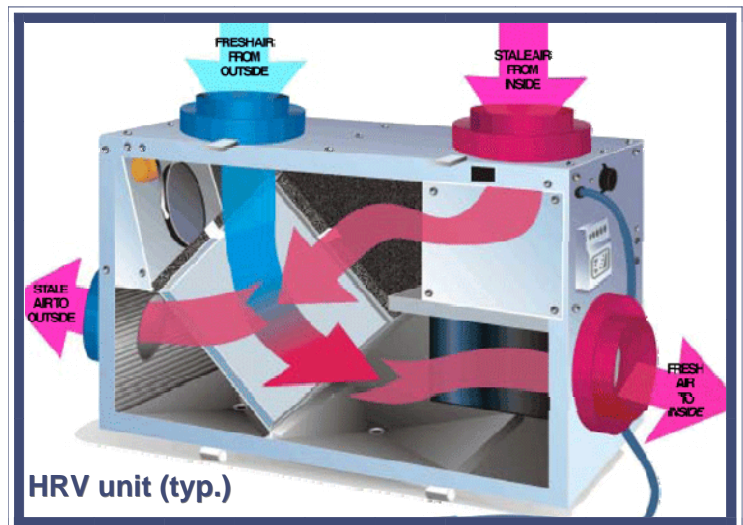
A second change to be considered is the proposed testing time. Current industry standards include sampling over a period of between two to 24 hours with the use of stainless steel vacuum canisters called SUMMA canisters. While the sampling methodology will remain

the same, the new EPA guidance allows for testing over a period of days, weeks or even months in some cases to allow for seasonal variations. It is clear that such lengthy testing could greatly complicate real estate transactions, which normally do not afford such a long environmental due diligence period.

A third noteworthy addition is the issue of preemptive mitigation. This allows for property owners to incorporate engineering controls into their buildings as a cost and time benefit to head off the potential for building occupant impacts and associated claims, lawsuits, etc., prior to (or instead of) a full-fledged VI investigation.

In terms of recommended mitigative measures, the conventional sub-slab depressurization system (SSD) remains the industry's preferred engineering control option. However, more attention is currently being given to the use of heat recovery ventilators (HRV) for applications in which a conventional SSD system is not practicable (e.g. shallow groundwater or bedrock immediately under the building slab). An HRV unit is an air-to-air heat exchanger which introduces fresh exterior air into an area of potential indoor air impact (such as a basement). Aside from providing fresh air, the HRV employs a counter-flow heat exchange between the air coming in and the interior air, thus maintaining climate control within the building.

It is noted that EPA's forthcoming VI guidance would only be immediately applicable to those States in which no State VI guidance exists. States that have their own VI guidance (such as New York) will continue to operate under their existing regulations. However, in this era of ever-evolving awareness and regulatory attention to vapor intrusion, increased stringency in VI guidelines at the State level is likely only a matter of time.



HRV unit (typ.)

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ditional soil testing to fill in the gaps and a soil vapor study. The Phase II investigation included more thorough testing methodologies and amplified earlier exiguous results by others. SVOCs and inorganic com-

pounds commonly associated with ‘urban fill’ were found present above applicable standards. It was agreed that underlying groundwater quality did not need to be sampled because its greater depth-to-ground water beneath the planned building’s basement footprint negated its significance as a potential contaminant exposure pathway. This decision precluded a costly groundwater sampling program that would have no bearing on remediation decision-making related to project build-out.

Working in close cooperation with OER & Dunn, CA RICH achieved agreement of its recommendation for an expedient cost-effective cleanup. Previously, CA RICH & Dunn had worked on many redevelopment projects but with NYCDEP as the lead agency. As this was a residential (affordable housing) project, costs to meet the additional work requirements stipulated by OER’s E-Site program would be significantly higher, so a different technical approach to job management was called for. Through further meetings to better define agency requirements and associated Client concerns, an approved Remedial Action Work Plan (RAWP) was developed to be closely coordinated with construction.

Soil disposal was planned well in advance of excavation. To accomplish this, CA RICH conducted waste characterization sampling with exploratory test pits ahead of time to characterize where the “historical urban fill horizon” ends and underlying native soil begins. However, waste characterization testing revealed what wasn’t known before; hazardous levels of lead in some site soils. This condition was important because the transportation and disposal of ‘hazardous’ wastes, as opposed to petroleum or urban fill-related waste adds significant cost to overall cleanup.

A new interim strategy to ‘get the lead out’ had to be developed and approved with OER & Dunn. After discussion of both best & worst-case scenarios, additional expedited sampling delineated the limited horizontal and vertical extent of the hazardous lead. In accordance with the RAWP, the hazardous lead ‘hot spot’ was then dug up and removed. Fortunately, since hazardous lead levels had been previously delineated beforehand, the total volume of impacted soil to be disposed of off-site was easily calculated.

Typically, such a calculation would have necessitated collection of additional endpoint samples burdening the project with added cost and delayed construction schedule.

Once CA RICH managed removal of the hazardous lead, remaining soil excavation for the foundation could proceed expeditiously. To speed this process further, the site was divided into two horizons of soil/fill requiring disposal: 1) the uppermost historic fill layer to be disposed of as ‘non-hazardous regulated waste’, and 2) ‘beneficial reuse’ for the native soils below. During soil excavation, a 275-gallon leaking underground heating oil storage tank (UST) was discovered. CA RICH had included a contingency in its approved RAWP for the likelihood of just such an event allowing the buried tank to be handled quickly in full compliance with State and local regulations. Mandated by law, a petroleum ‘spill’ was called in to the State (NYSDEC) generating a Spill Number. The agreed-upon response action included UST excavation, exhumation, and removal of impacted soils until encountering clean soil, facilitating Spill Case Closure - all efficiently coordinated without interrupting or slowing ongoing construction.

Shortly after provision of the last waste manifest, CA RICH submitted the requisite Remedial Action Closure Report documenting the approved cleanup to OER thus, prompting their issuance of the Notice of Satisfaction required for the building to receive its Certificate of Occupancy (CO). As demonstrated, this case exemplifies the value of coordinating interests right from the start thru to the eventual issuance of the CO.

Working closely with regulators, the construction team, and the community, discussing the site-specific range of best and worst-case environmental scenarios through input from open dialogue based upon professional expertise and local experience, CA RICH was able to develop a remedial strategy that kept overall costs down without any sacrifice in quality, and in so doing, completed the environmental cleanup at this construction project in an economic and timely fashion.



What's new at CA RICH

Congratulations to Jason Cooper, Proj. Mgr., who recently received his Professional Geologist Certification by the American Institute of Professional Geologists (AIPG).

Proj. Mgr. Victoria Whelan (author of this issue's lead article) was featured in the Long Island Business News' most recent 2013 issue of 'Who's Who in Green'. Victoria was also featured in the New York Real Estate Journal's 'Year in Review Spotlight'. Reprints of Victoria's articles are available upon request.

CA RICH continues to participate in the New York City Office of Environmental Remediation's Turbo Training Certification Program convened in December at the CUNY Graduate Center in Manhattan. Participation further advances the Firm's technical qualifications in providing remediation services for E-Designated Sites and the City's Voluntary Cleanup Program.

CA RICH was recently awarded (through a competitive bid/selection process) a 2-year contract to provide on-call re-development-related investigation and remediation support to the New York City Housing Authority (NYCHA).

CA RICH recently assisted our valued Client, Delco Properties, LLC in gaining acceptance into the New York State Brownfield Cleanup Program in support of their planned redevelopment of a former cabinet factory in Long Island City into a new 17-story luxury hotel.

The Firm was pleased to host intern, Colin Holl, helping out over the holiday break. Colin is a Junior at SUNY Binghamton majoring in Biology with a minor in Environmental Studies.

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