



# Use of Background Cleanup Target Levels to Cost Effectively Transfer an Industrial Downtown Property to a City Park

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**Terracon**



# Purpose + Need

Portion of this land was purchased by the City of Tampa for \$1.56 million and another portion was given as a donation, for a total of approximately 43,000 square feet.

The donated portion of land came from Ken Stoltenberg of TM Tampa LLC, next to his 24-story Martin at Meridian mixed use – 300 apartments and retail space.

Stoltenberg had a vision: *“My vision is for an active sports park that can be highly programmed to meet the needs of the growing number of young urban professionals”*

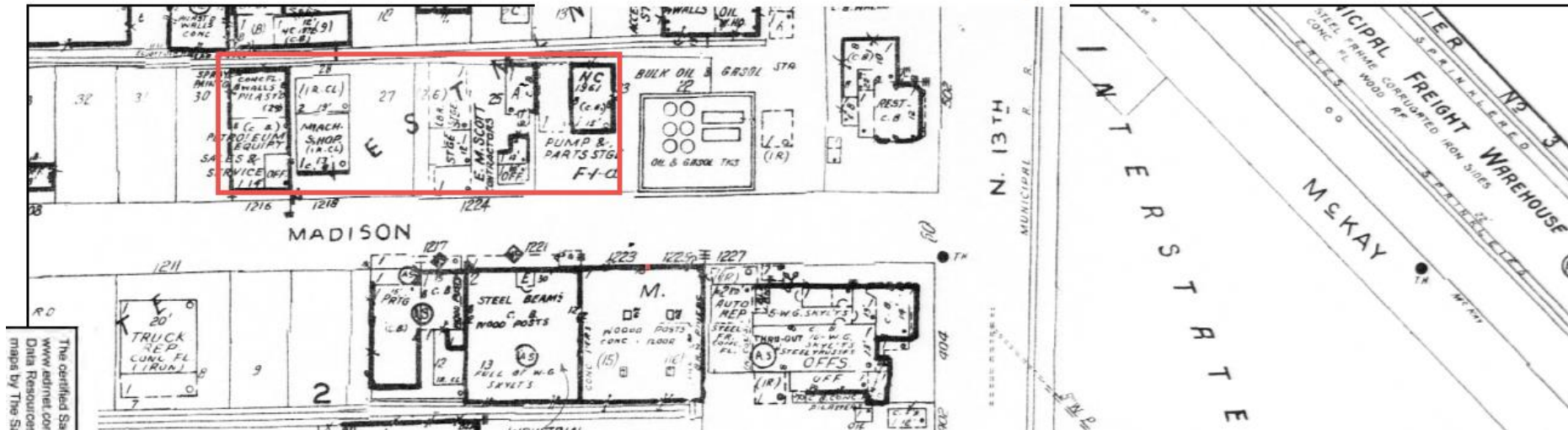


February 2017, Google Earth



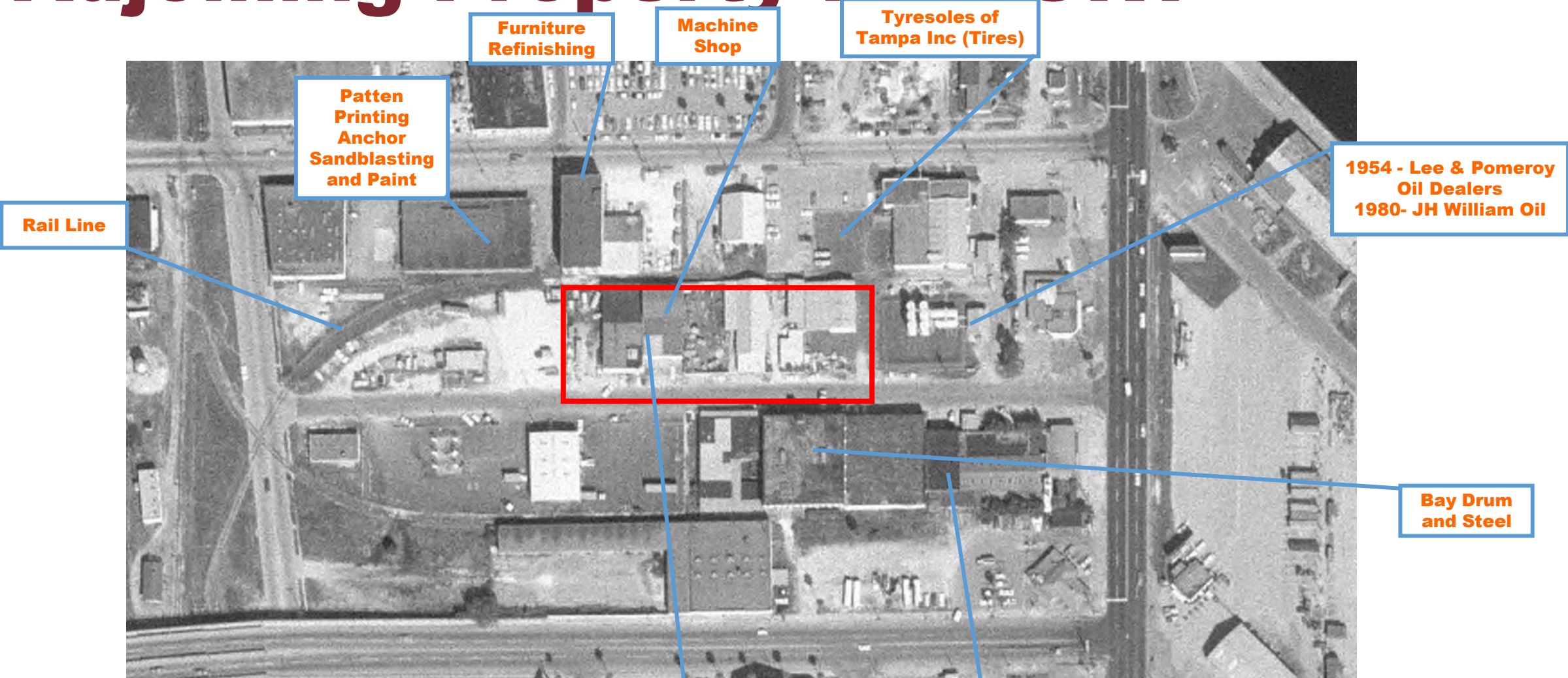
# On-Site HISTORY

1976 Certified Sanborn Map



- Rail line within the north portion of the site
- 1931 Sanborn identifies “Concrete Block Works”
- 1950 and 1979 Sanborn Map depicts **Petroleum Equipment Sales & Services** in the (central portion)
- 1954 - 2012, City Directories identified **E.M. Scott Contractors**, a carpentry pole barn/workshop, included usage of solvents, adhesive, hazardous waste.
- 1950 Sanborn, within the western portion of the site depicts an **Auto Repair Shop, Spray Booth**, 1979 a **Machine shop**. City directories identified **Ship Rigging**, and Rowland U Joints. In 1985 the onsite business existed as **Universal Ship Supply**.
- In 1982 the rail line was removed.
- In 2012 the entire site was cleared.

# Adjoining Property HISTORY



Madison Street Park 1965 Aerial Photograph

# Terracon's Scope

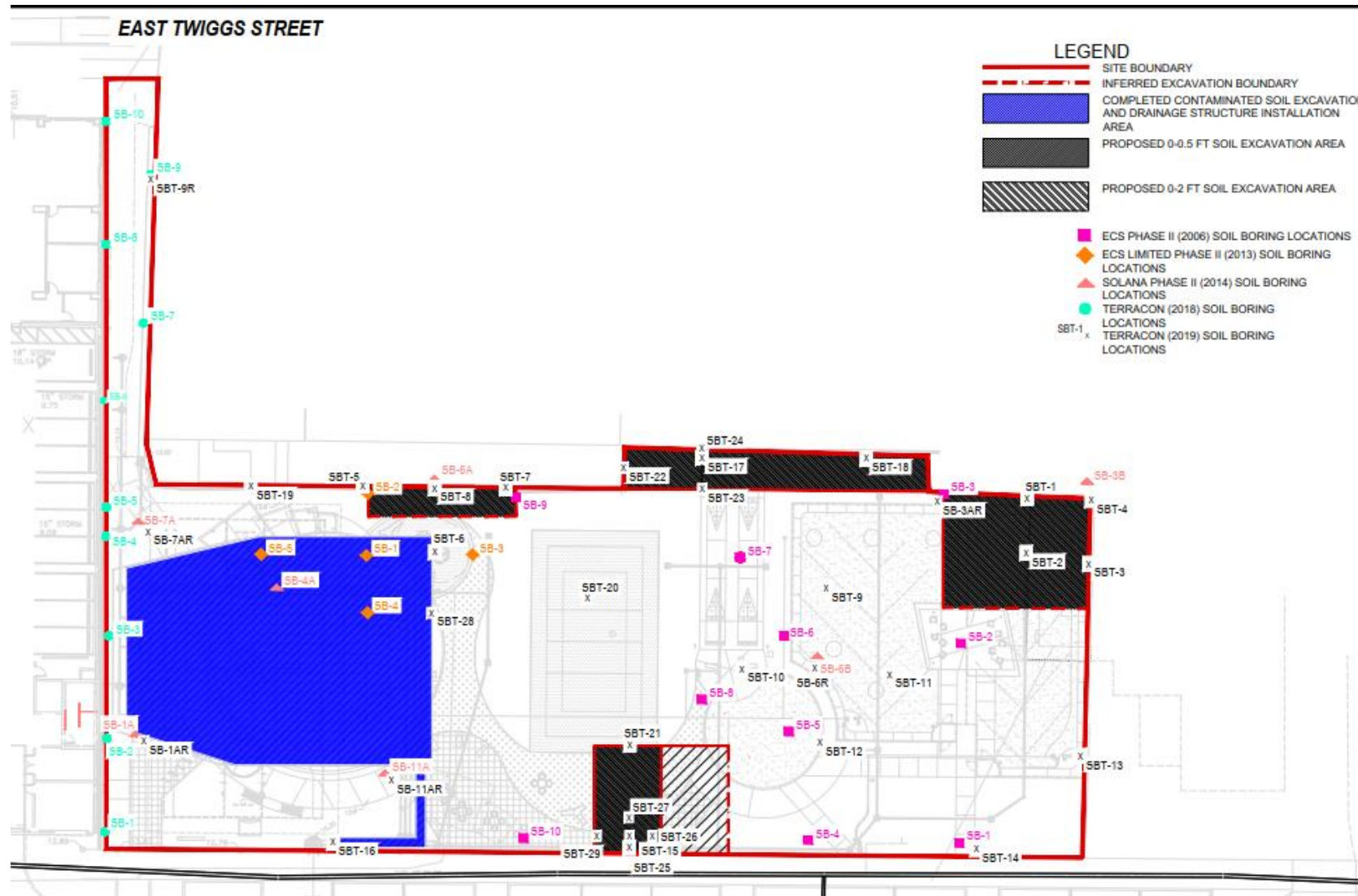
- Review existing Phase I and II ESAs, dating from 2006 to 2014
- Review on-site discharges – 2005 oil spill, 2013 petroleum discharge notification
- Phase II ESAs identified contaminants of concern in soil: arsenic, barium, cadmium, chromium, lead, copper, selenium, zinc, TRPH and benzo(a)pyrene equivalents
- Contaminants of concern in groundwater: arsenic, chromium and lead
- August – December 2018, a stormwater vault was built on the western portion of the site for stormwater management. Included the off-site removal, manifest and disposal of 1,824.98 tons of contaminated soil to the Heart of Florida, Class I landfill. Work was performed by TM Tampa LLC. Terracon prepared the *Technical Specifications for Management of Contaminated Soil*.

# Terracon's Scope

- Conduct Limited Site Investigation and Remediation Design and Oversight.
- Original COT recommendation was to implement an engineering control by simply removing the top 2 feet of soil across the entire site and backfill with clean material.
- **This would require the removal, manifest, and disposal of an estimated 3,310 tons of contaminated soil to achieve an RMO II Closure with Conditions! Requiring the development of an Engineering Control Maintenance Plan, and annual inspections in perpetuity!**
- **Assessment data suggested otherwise, we got creative and thought we could achieve an RMO 1 Closure with only a third of the soil excavation...**



# Terracon's SA and ISR



# BACKGROUND ARSENIC

Reference: *FDEP Guidance for Comparing Background and Site Chemical Concentrations in Soil*, dated March 2019

- On-site data collected for arsenic was used in the calculation
- Samples used in the background calculation were located outside of the former rail spur line and outside the “hot spot” areas.
- Utilized the **non-statistical approach** to calculate background arsenic concentration, whereby the upper end of the range of background concentrations are defined as the lower of:
  - Maximum background concentration, or
  - Twice the mean background concentration.
- Following conditions as outlined in the guidance were satisfied:
  - Minimum of seven background samples,
  - Discrete sample collection,
  - Concentrations for each soil horizon, i.e. 0-0.5 feet bgs and 0.5-2 ft bgs.
  - One-half the detection limit was used in the calculation for non-detect background samples.



# BACKGROUND CALCULATIONS

Remove all soil data collected from within the former rail spur and “hot spot” locations

**Table A: Background Arsenic (0-0.5 fbg) Soil Analytical Results and Evaluation**

Facility Name: Madison Street Park, Brownfield Site BF291802001

Boring No.	Date Collected	Sample Interval (fbgs)	Location	EPA Method 6010 Arsenic (mg/kg)	
Direct Exposure Residential Soil Cleanup Target Level (mg/kg)				2.1	
Direct Exposure Commercial Industrial Soil Cleanup Target Level (mg/kg)				12	
<b>SAMPLE LOCATIONS NOT USED IN BACKGROUND ARSENIC EVALUATION</b>					
SB-1A	1/7/2014	0-1	Replaced with SB-1AR, 0-0.5	2.9	
SB-6A	1/7/2014	0-1	Off-site, Former Spur Line	8.7	
SB-6B	1/7/2014	0-1	Resamples, replaced with SB-6R	3.3	
SB-7A	1/7/2014	0-1	Replaced with SBT7-R, 0-0.5	3.2	
SB-11A	1/7/2014	0-1	Replaced with SB-11AR, 0-0.5	2.2	
SB-3B	12/31/2011	0-1	Off-site, Former Spur Line	4.0	
SBT-1, 0-0.5	4/5/2019	0-0.5	Former Spur Line	10.5	
SBT-2, 0-0.5	4/5/2019	0-0.5	Arsenic Source Area	10.4	
SBT-5, 0-0.5	4/3/2019	0-0.5	Former Spur Line	1.6 U	
SBT-7, 0-0.5	4/5/2019	0-0.5	Former Spur Line	1.5	
SBT-8, 0-0.5	4/3/2019	0-0.5	Former Spur Line	2.6	
SBT-15, 0-0.5	4/3/2019	0-0.5	Arsenic Source Area	8.1	
SBT-17, 0-0.5	4/5/2019	0-0.5	Former Spur Line	2.5	
SBT-18, 0-0.5	4/5/2019	0-0.5	Former Spur Line	2.6	
SBT-19, 0-0.5	4/3/2019	0-0.5	Former Spur Line	1.5	
SBT-21, 0-0.5	4/3/2019	0-0.5	Arsenic Source Area	2.4	
SBT-25, 0-0.5	4/19/2019	0-0.5	Arsenic Source Area	35.1	
SBT-26, 0-0.5	4/19/2019	0-0.5	Arsenic Source Area	8.1	
SBT-27, 0-0.5	4/19/2019	0-0.5	Arsenic Source Area	9.5	
SBT-29, 0-0.5	4/19/2019	0-0.5	Arsenic Source Area	1.5	
SB-3AR 0-0.5'	4/19/2019	0-0.5	Former Spur Line	1.9	
<b>SAMPLE LOCATIONS USED IN BACKGROUND ARSENIC EVALUATION</b>					
					Remove Qualifiers <sup>(1)</sup>
SBT-3, 0-0.5	4/3/2019	0-0.5		1.4	1.4
SBT-6, 0-0.5	4/3/2019	0-0.5		1.7	1.7
SBT-13, 0-0.5	4/3/2019	0-0.5		1.9	1.9
SBT-14, 0-0.5	4/3/2019	0-0.5		0.61 I	0.61
SBT-16, 0-0.5	4/3/2019	0-0.5		0.33 U	0.165
SBT-20, 0-0.5	4/5/2019	0-0.5		1.9	1.9
SB-1AR, 0-0.5'	4/19/2019	0-0.5		1.8	1.8
SBT-7R, 0-0.5'	4/19/2019	0-0.5		0.64	0.64
SB-11AR 0-0.5'	4/19/2019	0-0.5		0.49 I	0.49
SB-1, 0.5'	11/02/2018	0.5		2.7	2.7
SB-2, 0.5'	11/02/2018	0.5		2.8 U	1.4
SB-3, 0.5'	11/02/2018	0.5		1.7	1.7
SB-4, 0.5'	11/02/2018	0.5		2.2	2.2
SB-5, 0.5'	11/02/2018	0.5		2.2	2.2
SB-6, 0.5'	11/02/2018	0.5		1.5	1.5
SB-7, 0.5'	11/02/2018	0.5		2.0	2.0
SB-9, 0.5'	11/02/2018	0.5		2.4	2.4
SB-10, 0.5'	11/02/2018	0.5		0.66	0.66
SB-6R (SB-6B)	12/31/2011	0-0.5		0.59	0.59

Mean Concentration for As	1.5
2x Mean	2.9
Maximum Background Concentration	2.7
Lower Limit of Background As (mg/kg) <sup>(2)</sup>	2.7

# Background Calculations

SAMPLE LOCATIONS USED IN BACKGROUND ARSENIC EVALUATION				Remove Qualifiers <sup>(1)</sup>	
SBT-3, 0-0.5	4/3/2019	0-0.5		1.4	1.4
SBT-6, 0-0.5	4/3/2019	0-0.5		1.7	1.7
SBT-13, 0-0.5	4/3/2019	0-0.5		1.9	1.9
SBT-14, 0-0.5	4/3/2019	0-0.5		0.61 I	0.61
SBT-16, 0-0.5	4/3/2019	0-0.5		0.33 U	0.165
SBT-20, 0-0.5	4/5/2019	0-0.5		1.9	1.9
SB-1AR, 0-0.5'	4/19/2019	0-0.5		1.8	1.8
SBT-7R, 0-0.5'	4/19/2019	0-0.5		0.64	0.64
SB-11AR 0-0.5'	4/19/2019	0-0.5		0.49 I	0.49
<b>SB-1, 0.5'</b>	11/02/2018	0.5		<b>2.7</b>	<b>2.7</b>
SB-2, 0.5'	11/02/2018	0.5		2.8 U	1.4
SB-3, 0.5'	11/02/2018	0.5		1.7	1.7
<b>SB-4, 0.5'</b>	11/02/2018	0.5		<b>2.2</b>	2.2
<b>SB-5, 0.5'</b>	11/02/2018	0.5		<b>2.2</b>	2.2
SB-6, 0.5'	11/02/2018	0.5		1.5	1.5
SB-7, 0.5'	11/02/2018	0.5		2.0	2.0
<b>SB-9, 0.5'</b>	11/02/2018	0.5		<b>2.4</b>	2.4
SB-10, 0.5'	11/02/2018	0.5		0.66	0.66
SB-6R (SB-6B)	12/31/2011	0-0.5		0.59	0.59

## Step 1:

Convert I qualified values to the value

Convert U qualified values to ½ the detection limit

## Step 2:

Calculate the mean value, and 2x the mean value

## Step 3:

Locate the maximum value

Mean Concentration for As	1.5
2x Mean	2.9
Maximum Background Concentration	<b>2.7</b>
Lower Limit of Background As (mg/kg) <sup>(2)</sup>	2.7

## Answer:

Lowest of the mean or maximum value

**Arsenic Background SCTL (0-0.5 ft bgs) = 2.7 mg/kg**

# Background Calculations

SAMPLE LOCATIONS USED IN BACKGROUND ARSENIC EVALUATION				Remove Qualifiers <sup>(1)</sup>
SB-4	8/17/2008	2	<1.81	0.905
SB-6	8/17/2008	2	<1.63	0.815
SB-4A	1/7/2014	1.25	Excavated, drainage structure	0.4
SBT-3, 0.5-2	4/3/2019	0.5-2	0.77	0.77
SBT-13, 0.5-2	4/3/2019	0.5-2	1.2	1.2
SBT-14, 0.5-2	4/3/2019	0.5-2	1.7	1.7
SBT-16, 0.5-2	4/3/2019	0.5-2	0.32 U	0.16
SBT-20, 0.5-2	4/5/2019	0.5-2	2.2	2.2
SB-1AR, 0.5-2'	4/19/2019	0.5-2	3.3	3.3
SB-7AR 0.5-2'	4/19/2019	0.5-2	2.6	2.6
SB-1, 0.5-2'	11/02/2018	0.5-2	2.0	2.0
SB-3, 0.5-2'	11/02/2018	0.5-2	1.8	1.8
SB-4, 0.5-2'	11/02/2018	0.5-2	1.9	1.9
SB-5, 0.5-2'	11/02/2018	0.5-2	3.3 U	1.65
SB-6, 0.5-2'	11/02/2018	0.5-2	1.4	1.4
SB-8, 0.5-2'	11/02/2018	0.5-2	0.9	0.9
SB-9, 0.5-2'	11/02/2018	0.5-2	1.2	1.2
SB-10, 0.5-2'	11/02/2018	0.5-2	0.32 U	0.16

## Step 1:

Convert I qualified values to the value

Convert U qualified values to ½ the detection limit

## Step 2:

Calculate the mean value, and 2x the mean value

## Step 3:

Locate the maximum value

Mean Concentration for As	1.4
2x Mean	2.9
Maximum Background Concentration	3.3
Lower Limit of Background As (mg/kg) <sup>(2)</sup>	2.9

## Answer:

Lowest of the mean or maximum value

**Arsenic Background SCTL (0.5 -2 ft bgs) = 2.9 mg/kg**



# REMIATIATON ACTIVITES



Soil excavation, nice work of remedial Contractors!



Where did all this debris come from!?



Oh No! An orphan UST!



Will the rain ever stop flooding the area?!



Will the neighbors ever stop complaining?

# REMIEDIATION SUMMARY – Key Dates

- December 2018 - The City of Tampa entered into a Brownfield Site Rehabilitation Agreement (BSRA) with Hillsborough County Environmental Protection Commission (EPC)
- 2018 – Combined Site Assessment Report and Interim Source Removal Plan submitted in 2018 and approved the use of the Alternative R-SCTL for Benzo(a)pyrene of 1.0 mg/kg. This Alternative R-SCTL is no longer acceptable by FDEP.
- August 2019 – EPC approved the SAR ISR and the Remedial Action Modification.
- Remedial Action Completion Report (RACR) submitted in April and September 2020, documented the removal, manifest, and disposal of 1,855.03 tons of contaminated soil and 50.51 tons of construction debris.
- November 2020 - EPC approved the RACR.
  
- Based on use of ASCTL for BaP TEQ, an **RMO III without controls** was issued for the site. Once Noticing Requirements are complete, an SRCO will be issued by EPC.



# MADISON STREET PARK

Madison Street Park features a dog park, event space, water features, a putting green and recreation courts for volleyball and pickleball. There will also be plenty of space to relax and enjoy the outdoors.

“Madison Street Park is a neighborhood park,” says Laurie Potier-Brown, of the COT Parks and Recreation Department. “As a neighborhood park, its purpose is to provide recreational opportunities for the neighbors that are within a walkable distance.”

“The Park provides the respite of a natural green space in an urban area,” Potier-Brown says. “The benefits of Madison Street Park will be improved health and well-being for the neighborhood.”





# MADISON STREET PARK

## Event space, picnic space





# MADISON STREETPARK



Green Space



[Photo Source: Madison Street Park In Tampa \(floridaescape.com\)](http://floridaescape.com)



Unwind at one of the lounge chairs



# MADISON STREET PARK

Paddle ball, pickle ball or volleyball at the mix-use recreation court!



[Photo Source: Madison Street Park In Tampa \(floridaescape.com\)](https://www.floridaescape.com)



[Photo Source: Madison Street Park In Tampa \(floridaescape.com\)](https://www.floridaescape.com)

*Putting Green!*



[Photo Source: Madison Street Park In Tampa \(floridaescape.com\)](https://www.floridaescape.com)

*2 shuffleboard courts!*



# MADISON STREET PARK Dog Park



Photo Source: [Madison Street Park In Tampa \(floridaescape.com\)](http://Madison Street Park In Tampa (floridaescape.com))





# MADISON STREET PARK

## Dedicated Artists



*Sand and Sea by Susan Gott*

*In the center of the park, is a 51-foot arched bench consisting of thousands of pieces of hand-blown glass.  
The artist responsible for this unique creation is Susan Gott, also known as Susan Gott Glass.*



# 2020 Awards in Excellence: Entertainment and Redevelopment Award Winner

*Located in Tampa's Channel District, Madison Street Park was designed with a modern industrial theme as a tribute to the area's industrial past. At just under an acre, the judges commended how they were able to maximize the limited space and how **residents' preferences were incorporated in the design**. By making them stakeholders in the planning process, the City of Tampa created a park that offers its residents a variety of ways to spend time outdoors and is fully accessible to pedestrians, bicyclists, and those with limited mobility. A pavilion offers the community the opportunity to hold music performances, movies, festivals, and more. Court activities such as shuffleboard, volleyball, pickleball and an artificial turf putting green are available for unscheduled play. It even features a new dog park with artificial turf with separate areas for small and large dogs. While small in size, Madison Street Park offers people and pets of all ages and activity levels **a special place to enjoy the outdoors in their unique urban setting**.*

-The Hillsborough County City-County Planning Commission



# *Key Take Aways:*

- ❑ Be a partner with the regulator, share ideas and intentions. There is a lot of Tools in the Toolbox!
- ❑ Sometimes it may seem impossible (rain, USTs, unhappy neighbors), keep up the communication and carry on!
- ❑ State Brownfield program brings shareholders together, and the ultimate outcome is rewarding

# Terracon



*City of*  
**Tampa**  
Florida



*Special Thanks Goes To*

Dan Fahey, Engineer II – Supervisory, City of Tampa  
Allison Amram, PG, Brownfield Coordinator, EPC

**RESPONSIVE.  
RESOURCEFUL.  
RELIABLE.**

Environmental



Facilities



Geotechnical



Materials