



PRIMARY SETTING TANK CONCRETE REPAIR WORK AT THE POQUONOCK WPCF, CT

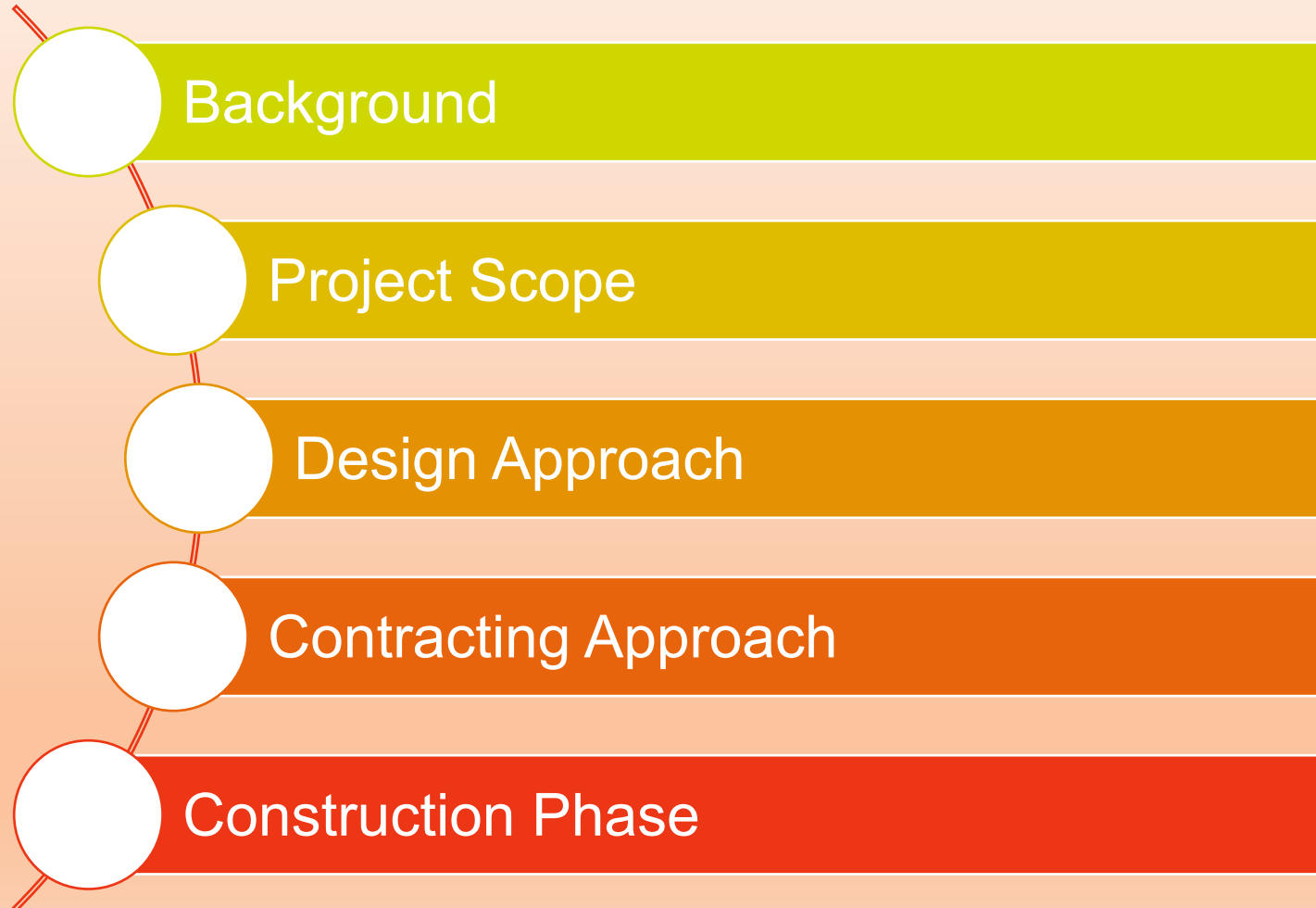
The Success Story of Overcoming
Budgetary Challenges

ALLISON G. ZEOLI EIT, ARCADIS
CARL VEILLEUX, MDC

January 23, 2018

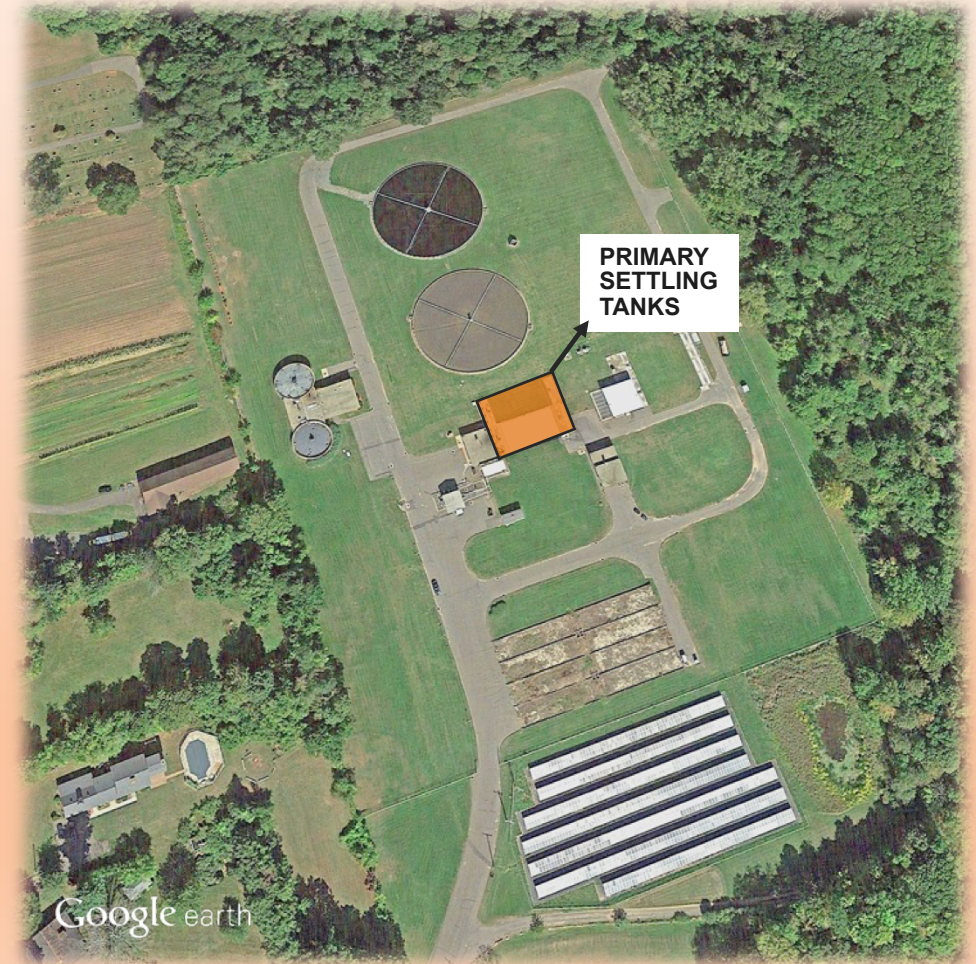


Agenda



Background

- Client: The Metropolitan District
 - 8 Member Towns
 - Water Supply, Water Treatment, Distribution Collection, Wastewater Treatment, All support services
- Location: Poquonock WPCF; Windsor, CT
 - Average 2 MGD; Rated 5 MGD
 - 1962 – Facility Constructed
 - 1965 – Facility Online

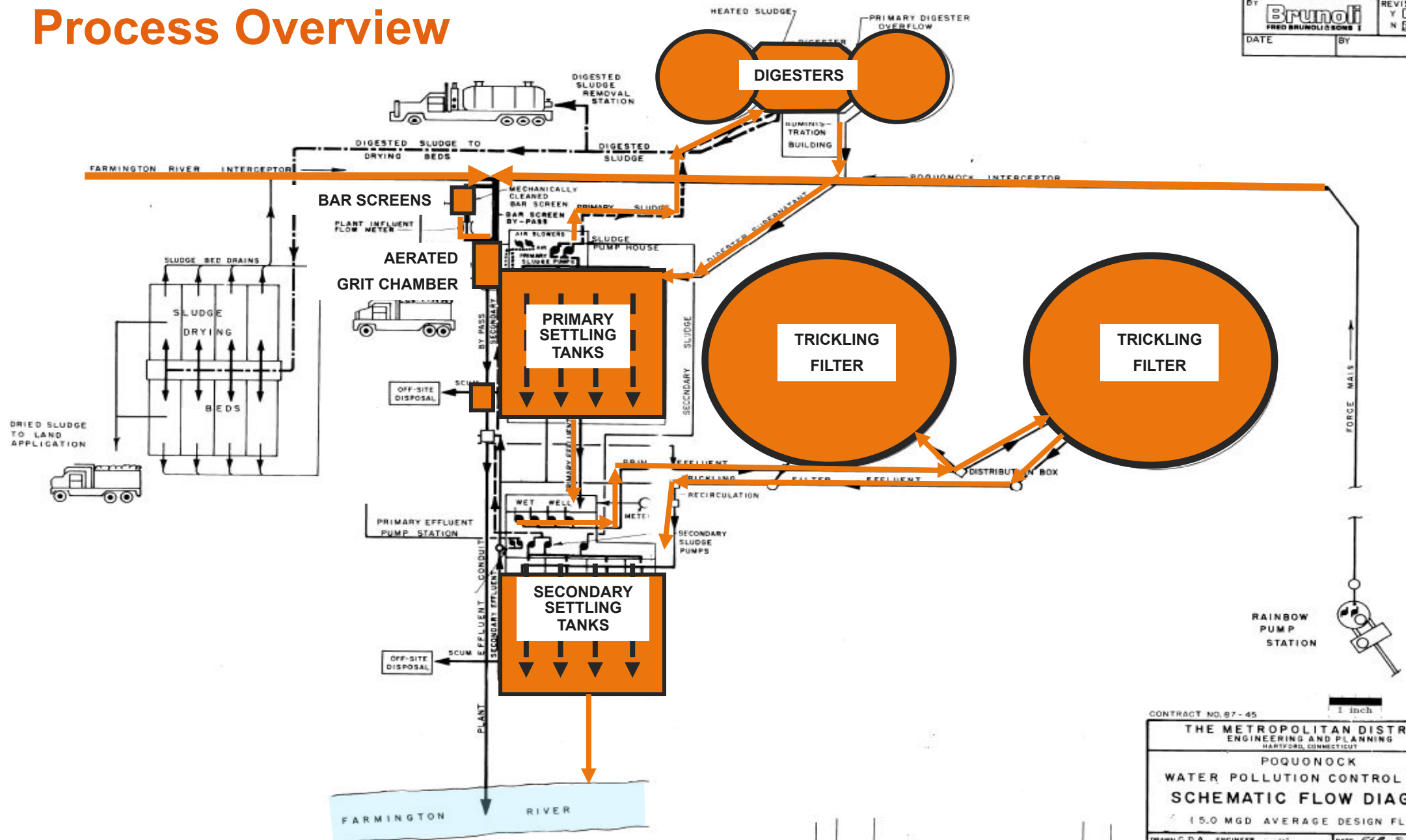


CERTIFIED AS BUILT

BY **Brunoli** FRED BRUNOLI & SONS INC.

REVISION Y ☐ N ☒

DATE By



1	3/11/88	CHANGES PER SHEET #2 DATED 3/11/88	JE
16	DATE	REVISION	BY

CONTRACT NO. 87-45		1 inch	
THE METROPOLITAN DISTRICT ENGINEERING AND PLANNING HARTFORD, CONNECTICUT			
POQUONOCK WATER POLLUTION CONTROL SCHEMATIC FLOW DIAGRAM 15.0 MGD AVERAGE DESIGN FLOW			
DRAWN G.D.A. ENGINEER		DATE FEB. 8, 1987	
SUBMITTED		SERIAL NO. 18623	

Project Scope

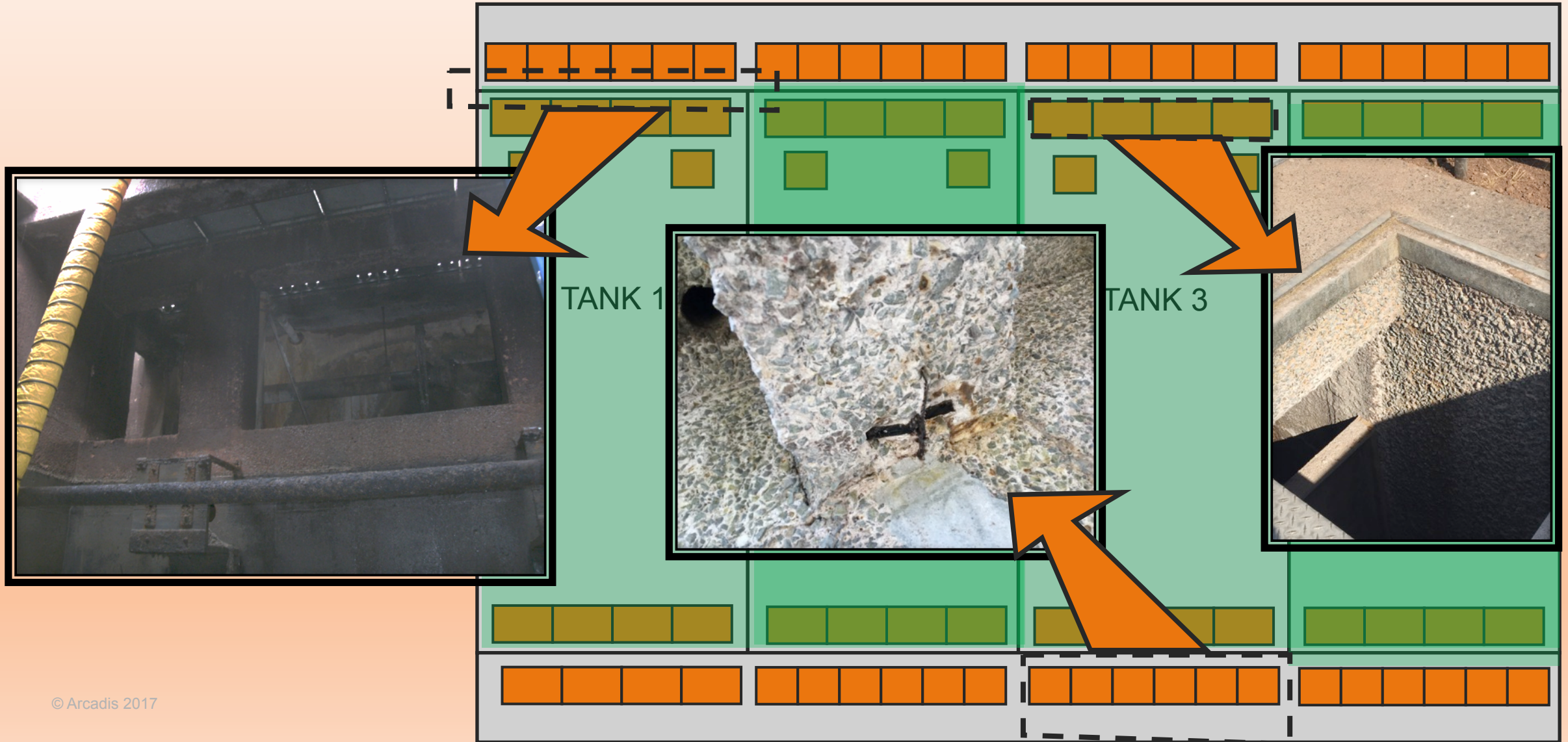
- Equipment Replacement
 - Sole Sourced – Polychem
 - Chain/flights, influent/effluent gates, scum troughs, aeration piping
- SCADA and Automation Capabilities
 - Influent gates, Scum collection system
- Safety Upgrades
 - Fall Protection
- Concrete Repairs



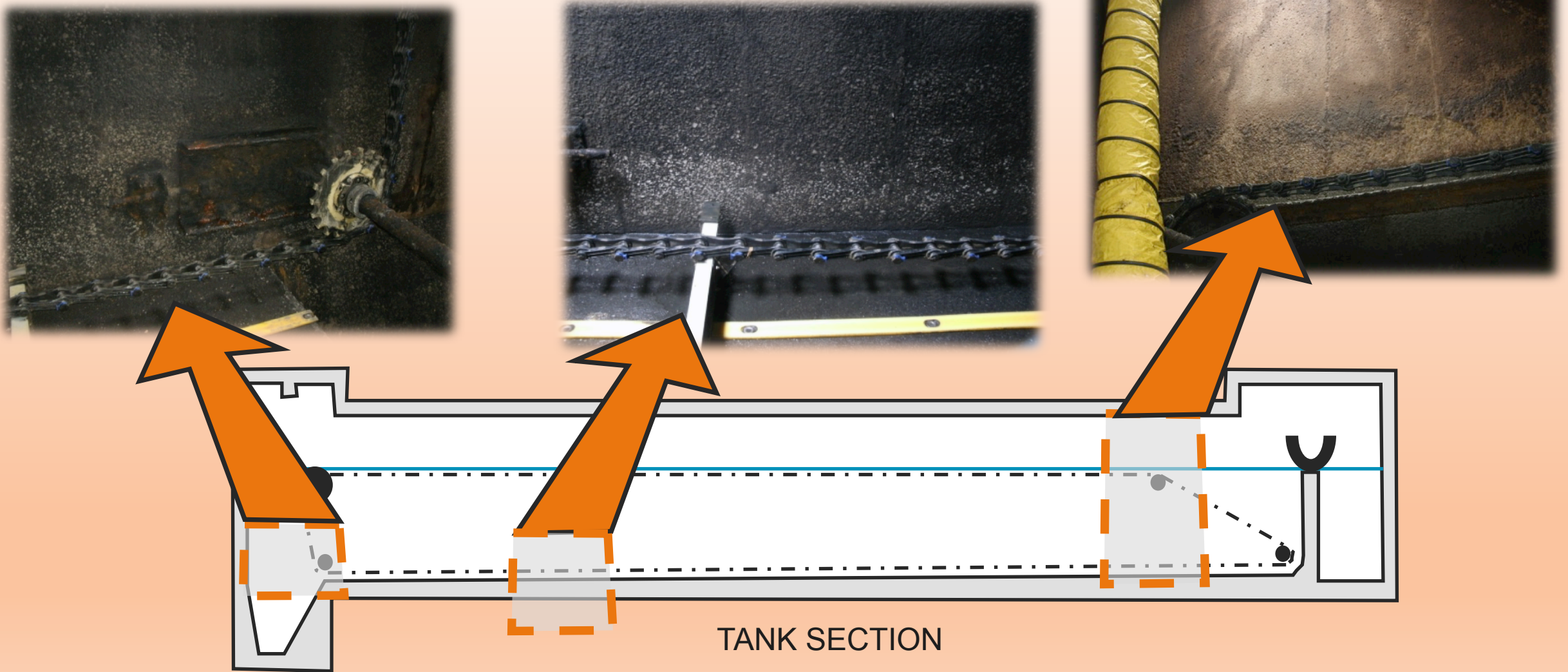
DESIGN APPROACH



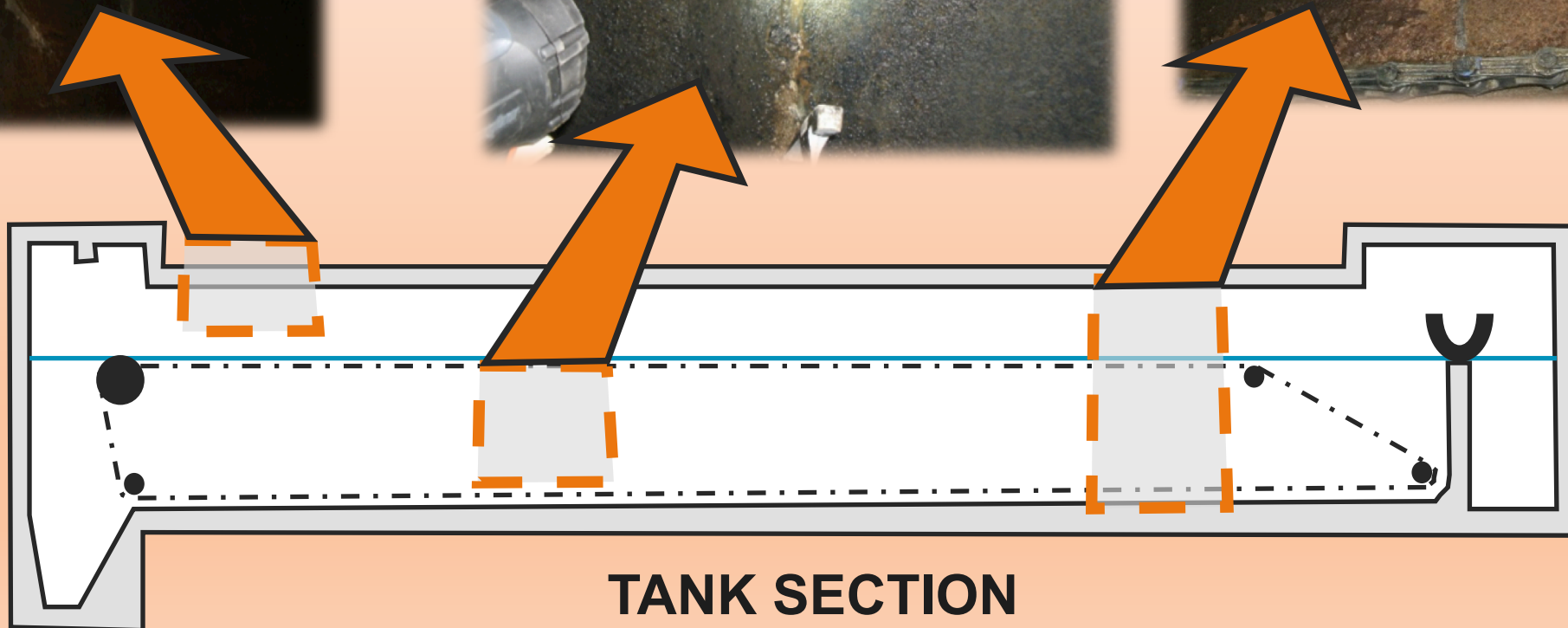
Design Approach



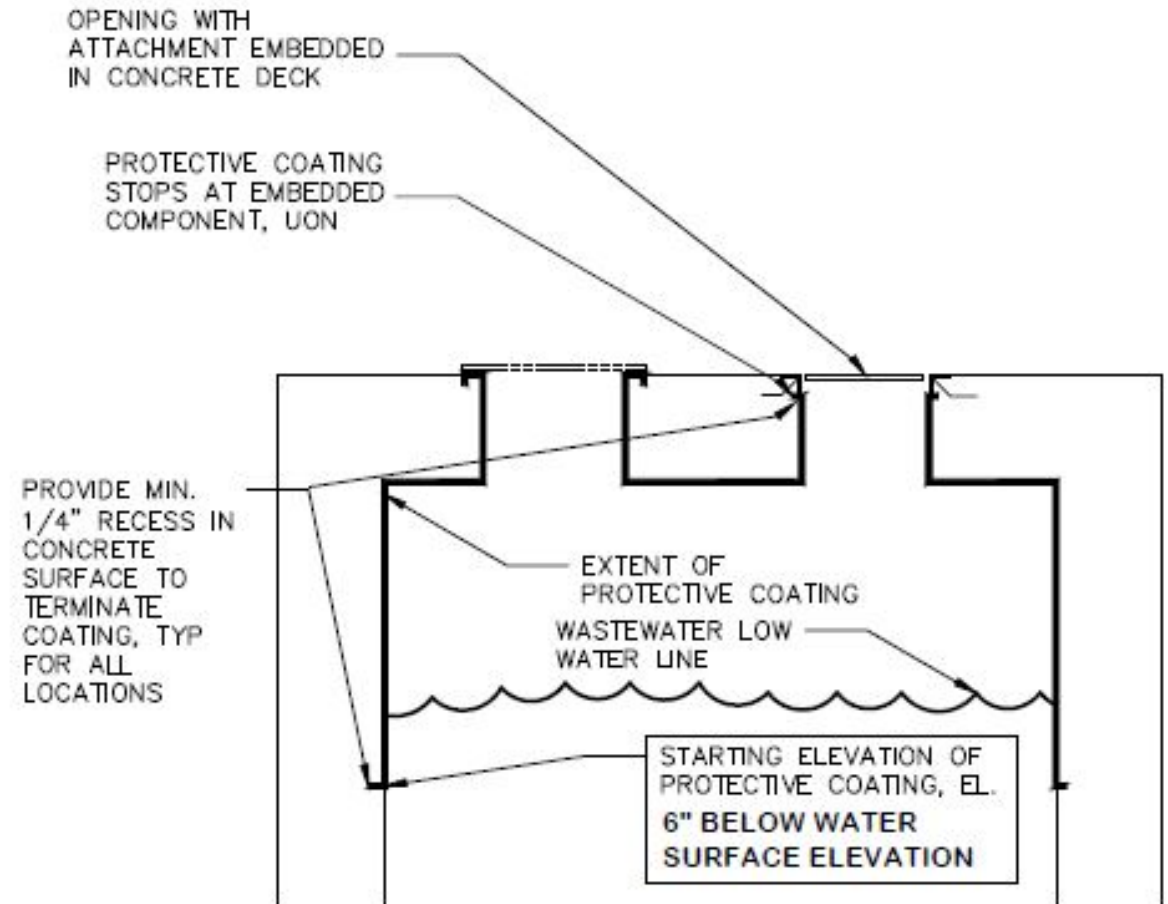
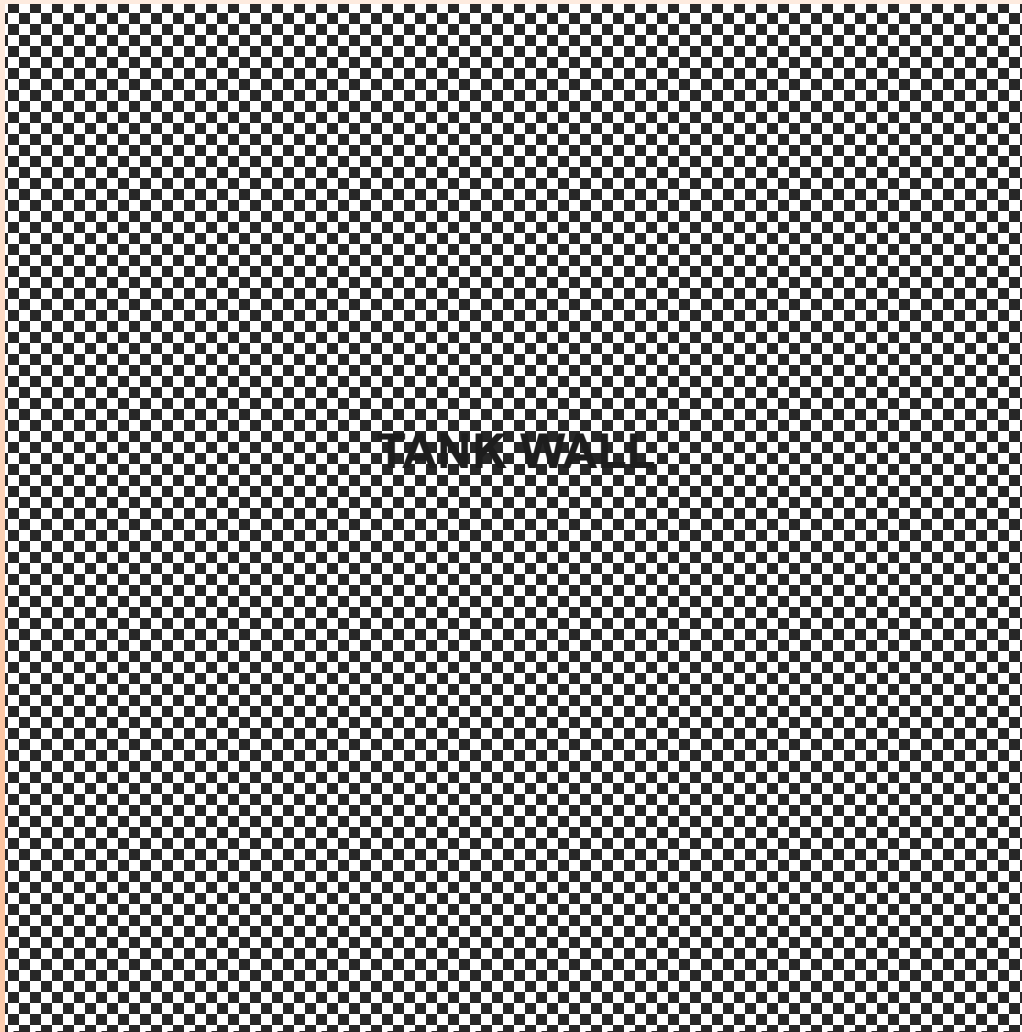
Design Approach



Design Approach



Design Approach



TYP PROTECTIVE COATING DETAIL

CONTRACTING APPROACH

Bid Form – Bid Items

Bid Item	Description	Unit of Measure
1	General Construction for All Work not Listed Separately in Bid Items 2 through 10	Lump Sum
2	Mobilization and Demobilization	Lump Sum
3	General Conditions	Lump Sum
4 – 9	Critical Concrete Repair Line Items	Unit Price
10	Contingency Allowance – Additional Concrete Repair Work	Lump Sum
11	Contingency Allowance for Undocumented Site Conditions	Lump Sum

Bid Form – Bid Items

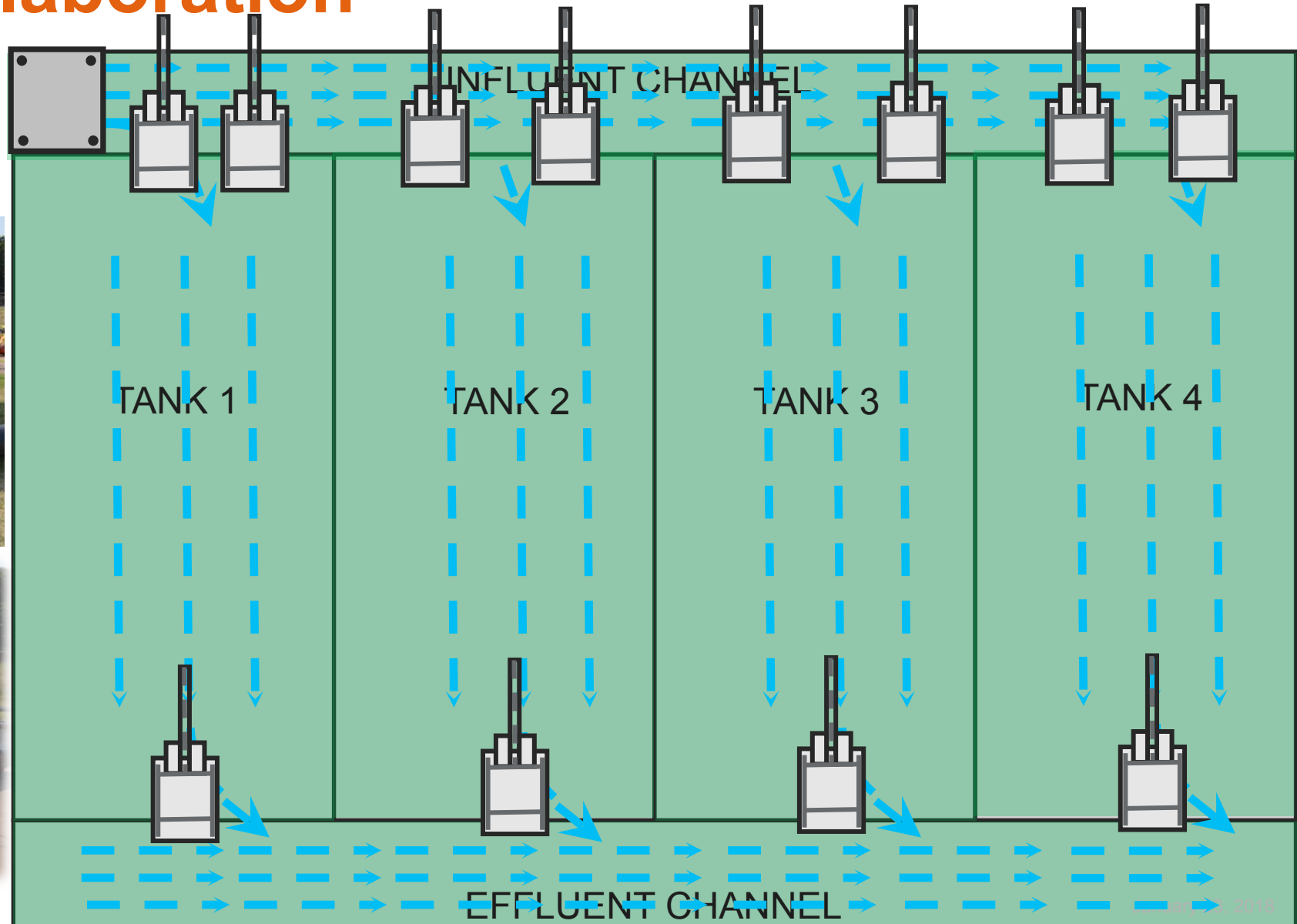
Bid Item No.	Description of Scheduled Item	Unit Bid Prices	Est. Quantity
4.00A	Patching of overexposed rebar	--- \$/SF	120 SF
4.00B	Patching of voids without rebar	--- \$/SF	120 SF
4.00C	Patching of voids with rebar less than 4"	--- \$/SF	560 SF
4.00D	Patching of voids with rebar 4"-8"	--- \$/SF	60 SF
5.00A	Corner repair of beams without rebar	--- \$/SF	80 LF
5.00B	Corner repair of beams with rebar	--- \$/SF	120 LF
5.00C	Corner repair of beams with rebar 3"-6"	--- \$/SF	40 LF
6	Concrete beam bottom repair	--- \$/SF	40 LF
7.00A	Structural crack repairs	--- \$/LF	120 LF
7.00B	Non-structural crack repairs	--- \$/LF	750 LF
8.00A	Expansion joint repair with concrete edge	--- \$/LF	40 LF
8.00B	Expansion joint repair without concrete edge	--- \$/LF	40 LF
9	Foundation concrete delamination repairs	--- \$/SF	140 LF

Bid Form - Bid Alternatives

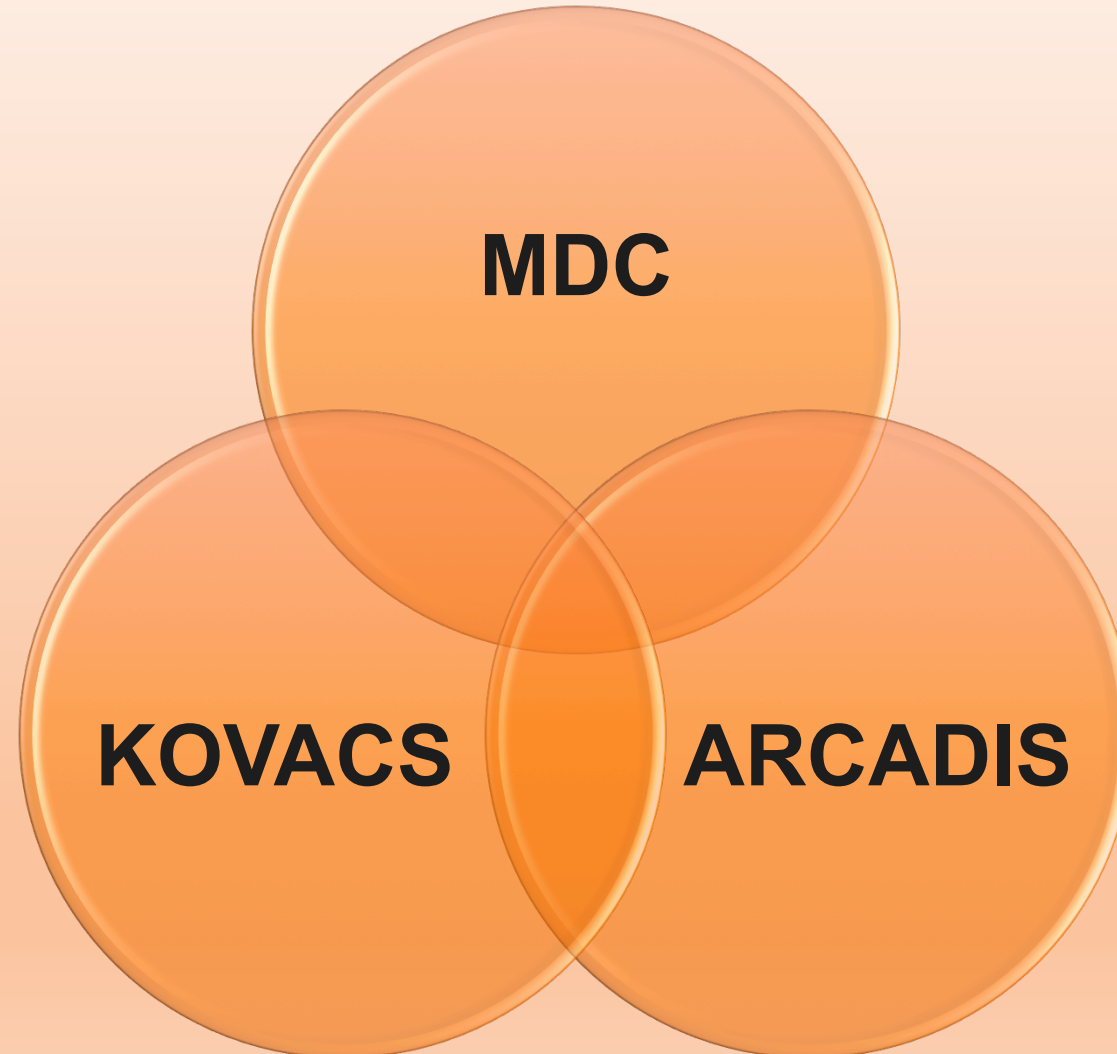
Bid Item	Description of Bid Alternate	Unit of Measure
A	Exposed Aggregate Repairs - Walls	Unit Price
B	Exposed Aggregate Repairs - Ceilings	Unit Price
C	Crystalline Waterproofing of Tank Walls in Contact with Soil	Unit Price
D	Epoxy Liner	Unit Price

CONSTRUCTION PHASE

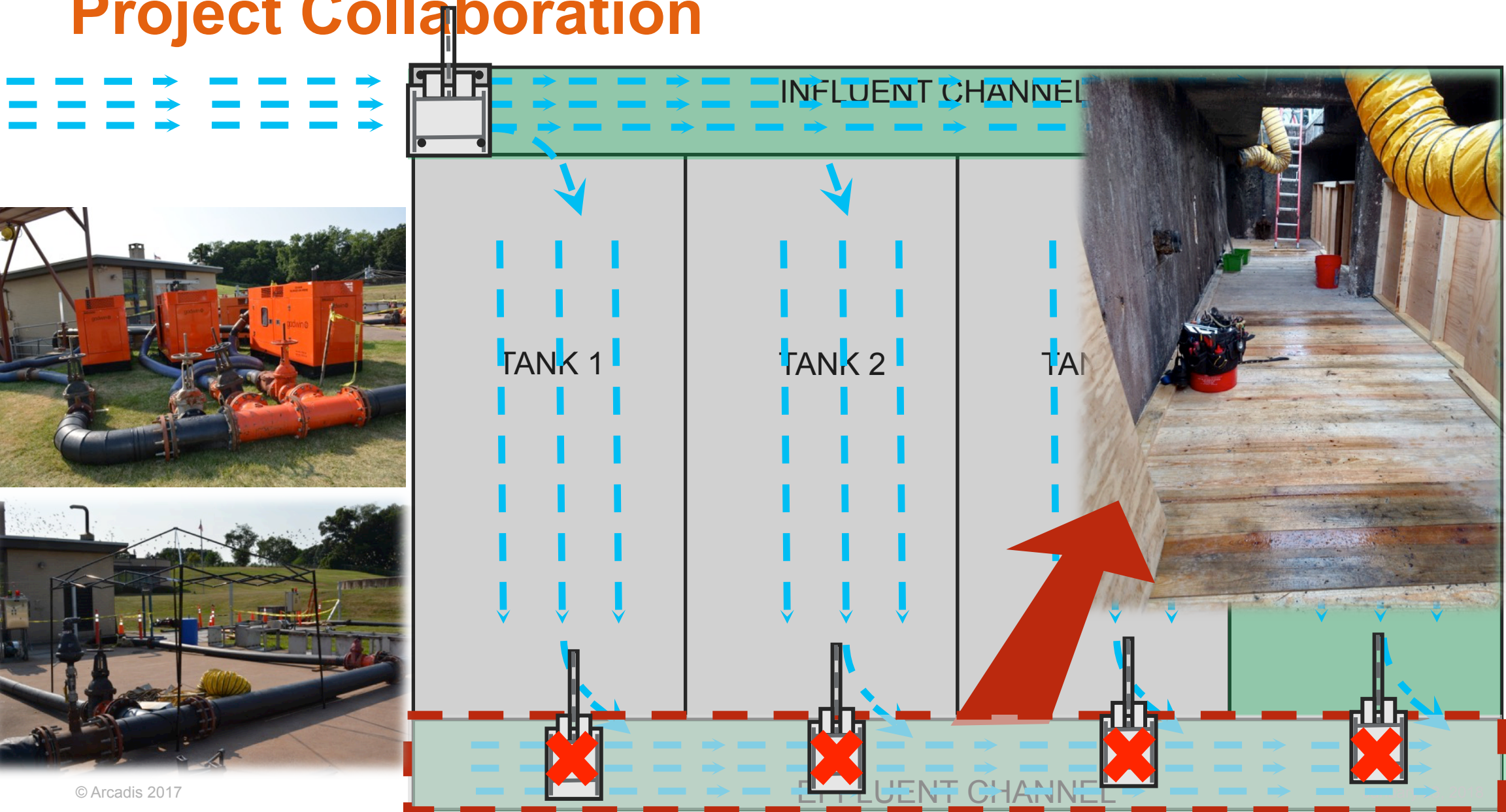
Project Collaboration



Project Collaboration



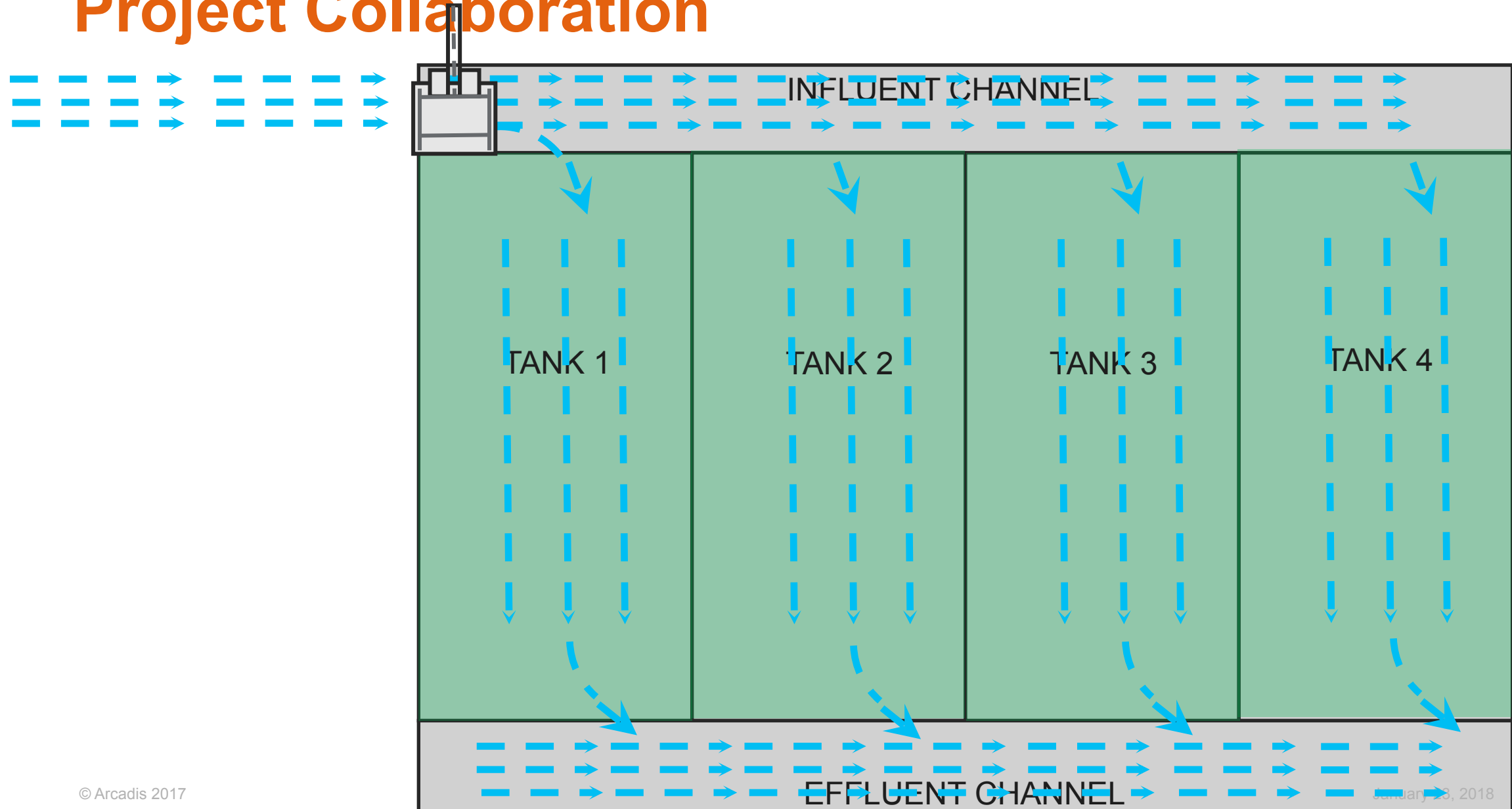
Project Collaboration

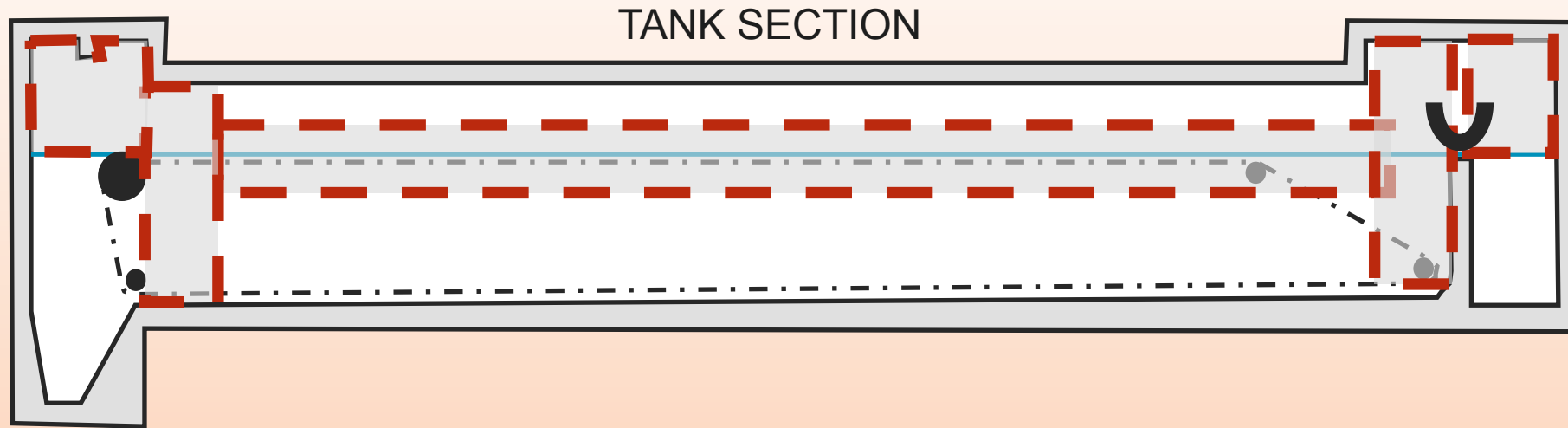


Project Collaboration

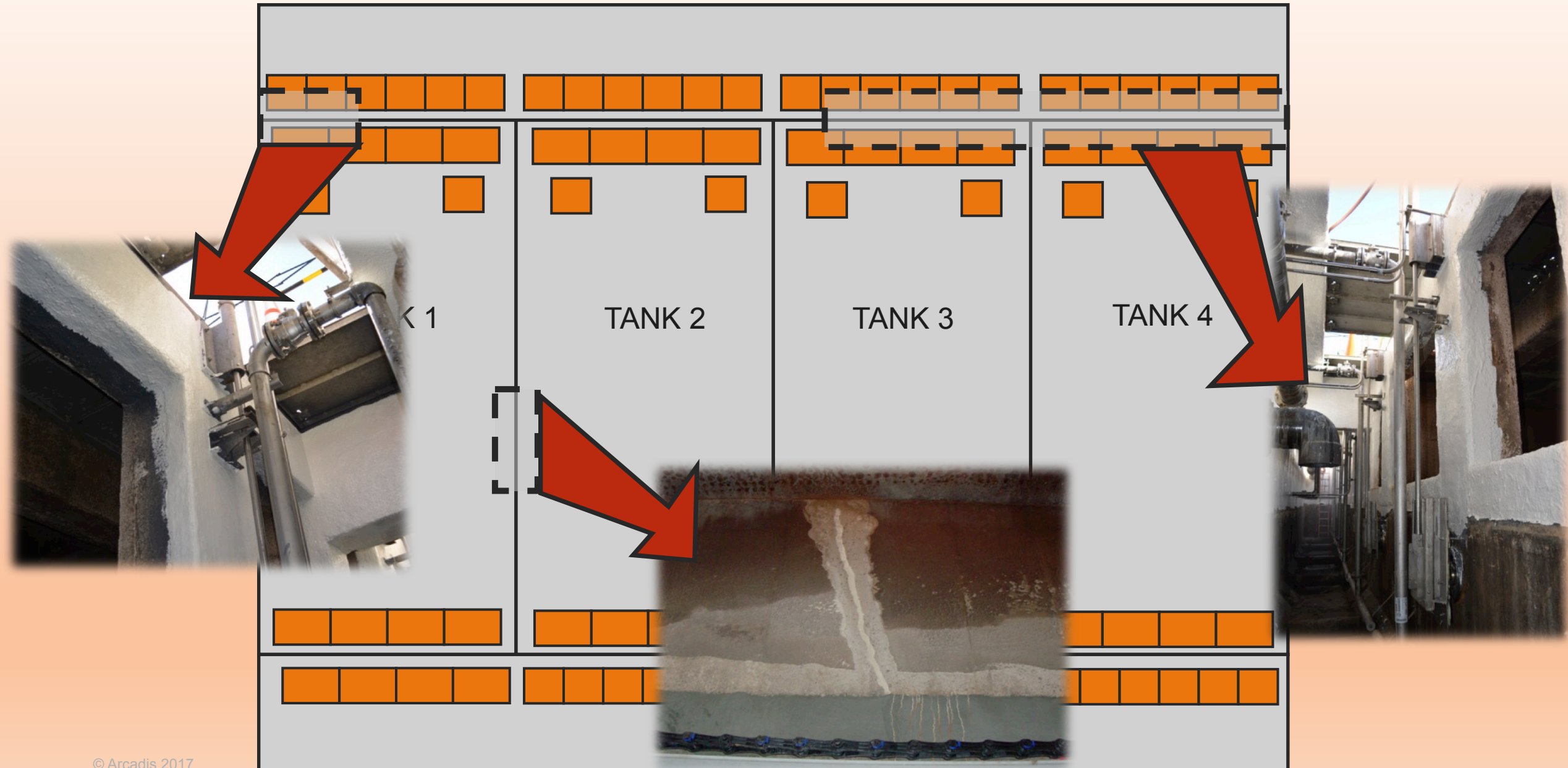


Project Collaboration





Location	Repair Type
Effluent Channel	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B) Crystalline Waterproofing (Bid Alt C) Epoxy Liner(Bid Alt D)
Influent Channel	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B) Epoxy Liner (Bid Alt D)
Tank 4	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B)
Tank 3	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B)
Tank 2	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B)
Tank 1	<ul style="list-style-type: none"> Exposed Aggregate Repair Mortar on Walls/Ceiling (Bid Alt A&B)



Acknowledgements



QUESTIONS?

Speaker Contact Info:



Allison Zeoli, EIT
Arcadis US
Middletown, CT
Ph: 860-503-1436
allison.zeoli@arcadis.com

Repair Products

COPIES	DATE	NO.	DESCRIPTION	No Pages
1		A	Repair Mortar Horizontal & Vertical: PDS - SikaTop 122 Plus	2
1		B	Repair Mortar Vertical & Overhead: PDS - SikaTop 123 Plus	2
1		C	Expansion Joint Repair: PDS Sikaflex - 2c NS	2
1		D	Anti Corrosion Coating: PDS Sika Armatec 110 EpoCem	2
1		E	Protective Slurry Mortar: PDS SikaTop 107 Seal	2
1		F	Crack Injection Structural: PDS Sikadur 35, Hi-Mod LV	2
1		G	Crack Injection Non-Structural: PDS de neef Hydro Active Flex SLV	2
1		H	Crystalline Waterproofing: PDS Xypex Concentrate	2