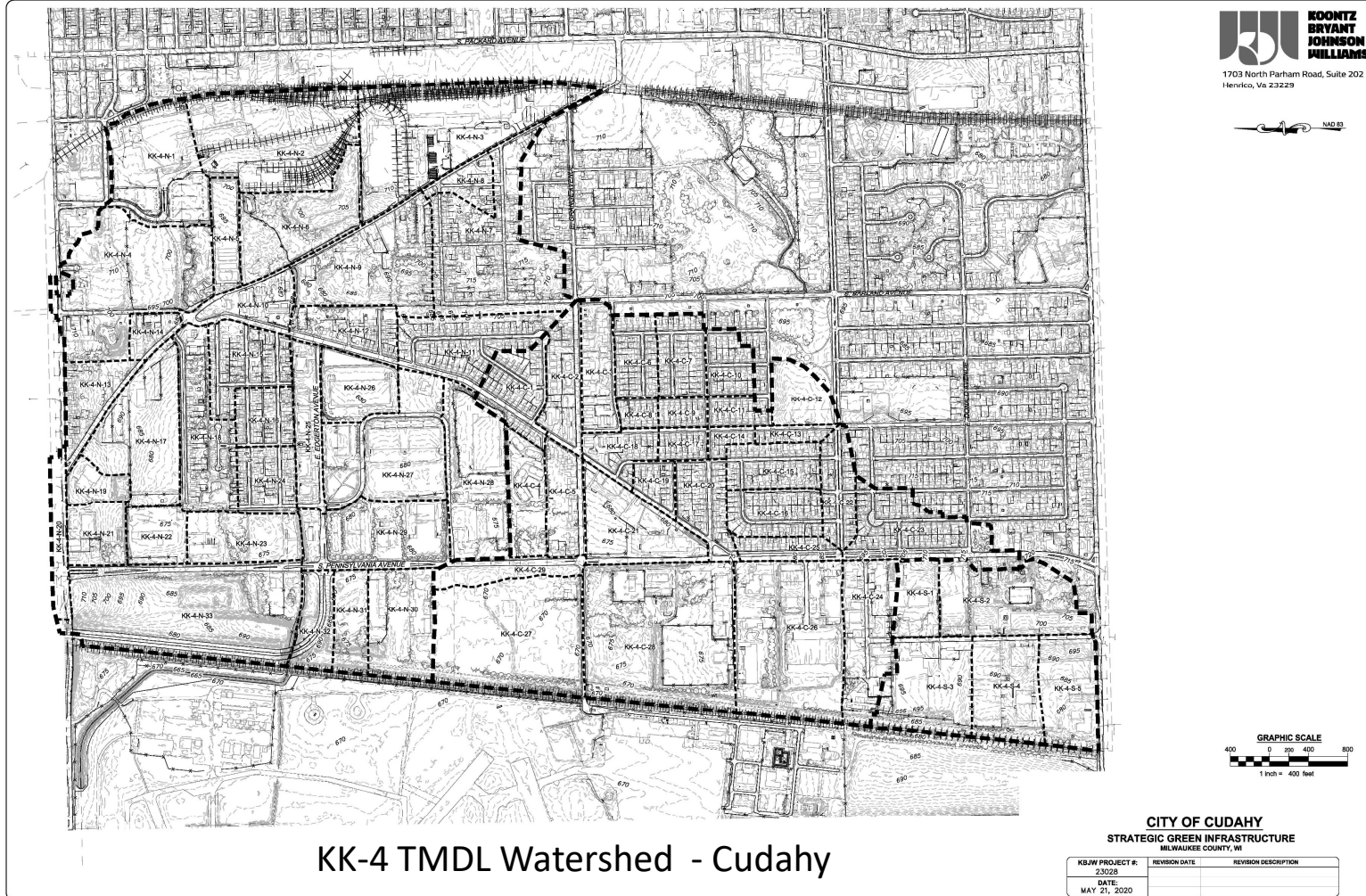




P4 INFRASTRUCTURE

P4 Infrastructure, Inc.
622 N. Water Street, Suite 406
Milwaukee, WI 53202
www.p4i.io
info@p4i.io



**KOONTZ
BRYANT
JOHNSON
WILLIAMS**
 1703 North Parham Road, Suite 202
 Henrico, Va 23229

NAD 83

KK-4 TMDL Watershed - Cudahy

CITY OF CUDAHY
STRATEGIC GREEN INFRASTRUCTURE
 MILWAUKEE COUNTY, WI

KSJW PROJECT #:	REVISION DATE	REVISION DESCRIPTION
230228		
DATE:		
MAY 21, 2020		



How fast does my storage gallery discharge?

Do I have excess pollutant removal to allow Water Quality Trading?

Can I increase the efficiency of my existing and new BMPs using technology?

Does my subgrade infiltration rate change?

PaveDrain



Detention Cistern



Biofiltration



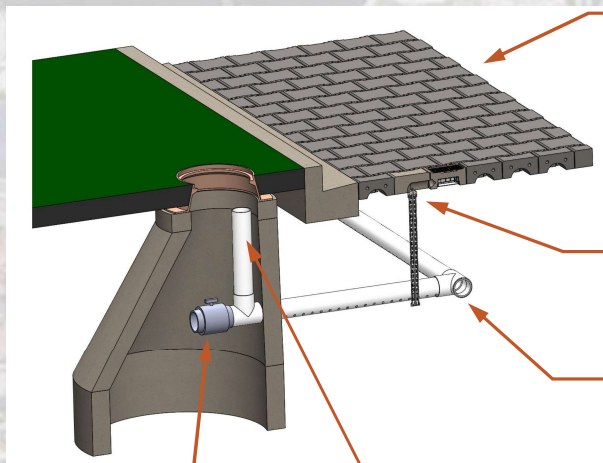
How much stormwater am I capturing?

When should I perform maintenance?

Which type of BMP do I build?

How effective is my BMP in removing pollutants?

PaveDrain and INFIL-Tracker & INFIL-Tracker-RTC



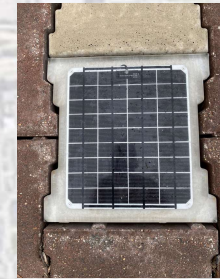
PaveDrain
(Stormwater BMP)

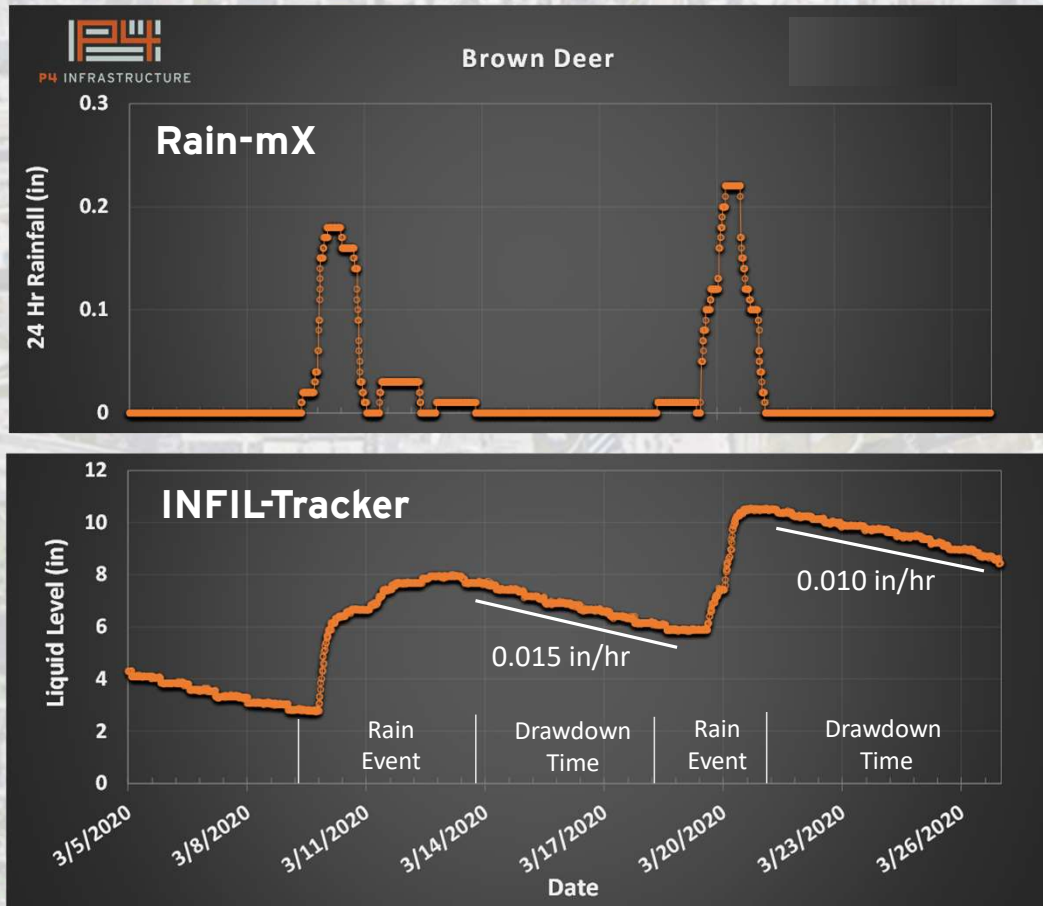
INFIL-Tracker Device

Underdrain
(typical)

Real-Time Control (valve)
INFIL-Tracker-RTC

Vertical Overflow
Standpipe (optional)





Rain Event 1:

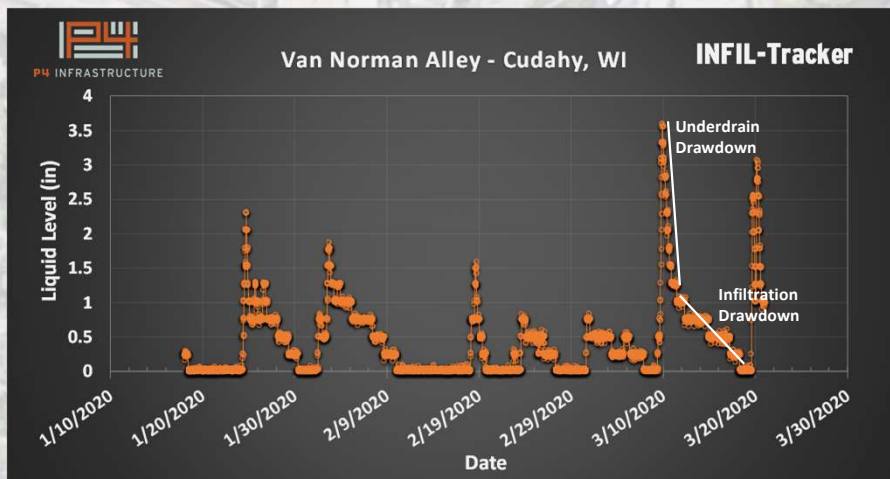
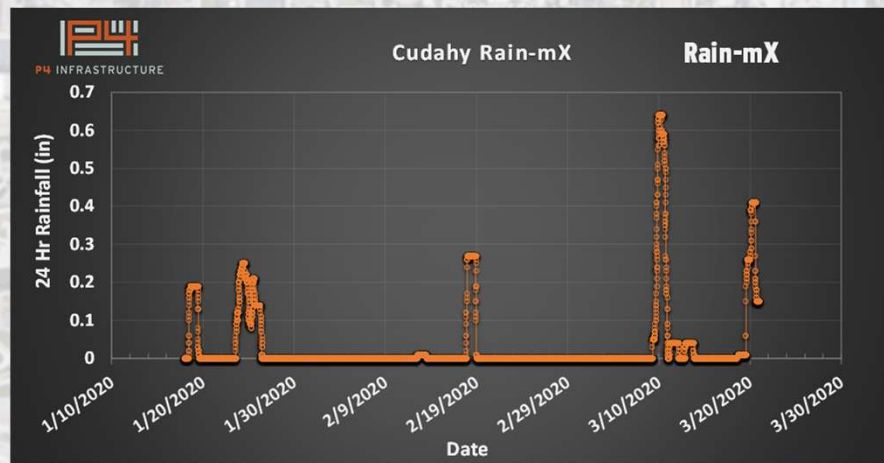
Water level rises 5.2"

Infiltrates 1.1" within 72 hrs of last rain drop

Rain Event 2:

Water level rises 4.5"

Infiltrates 0.7" within 72 hrs of last rain drop



Tech Standards/Guidance
(WI DNR)

**Pollutant
Removal
Efficiency**

Underdrain Present
65% TSS
35% TP

No Underdrain
100% TSS
100% TP

Filter/Drain
65% TSS
35% TP

May/May Not Infiltrate
100% TSS
100% TP

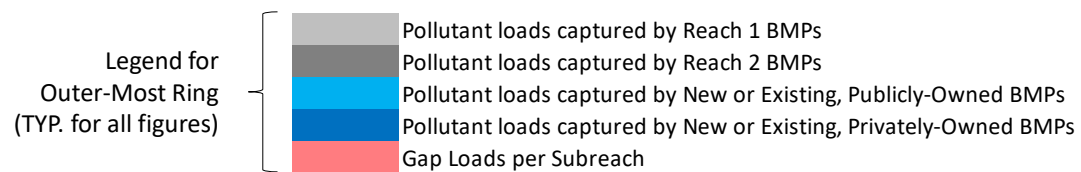
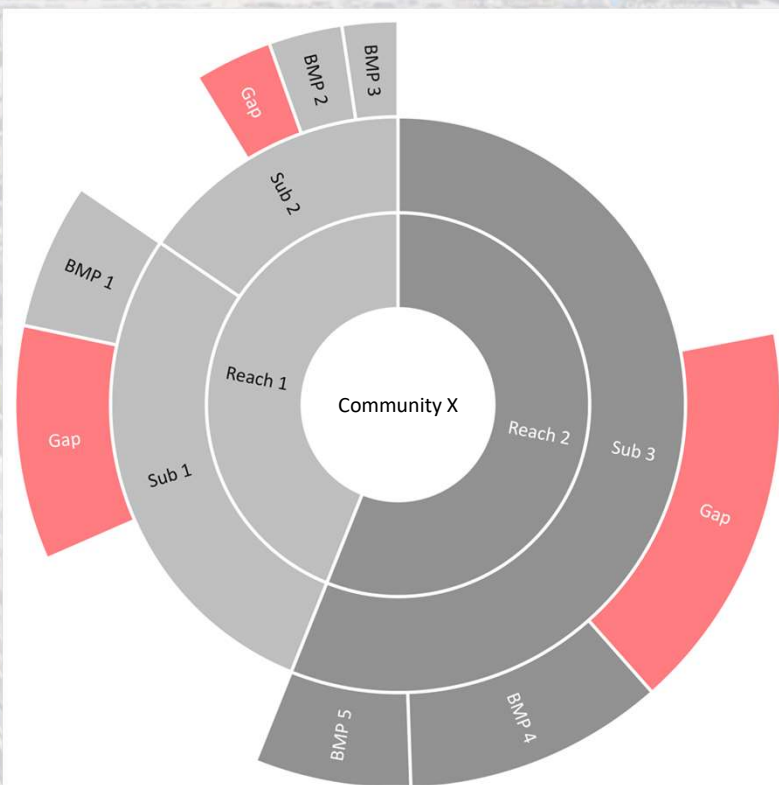
Infiltrate for Drawdown Period
100% TSS
100% TP

P4 Products and Systems

- **DOCUMENT FULL VALUE** of BMPs
- **Data for BMP Modeling**
- **Maximize Pollutant Capture per Dollar**
- **Drive Maintenance Intervention**
- **Data for Water Quality Trading**

Drain Only when Required

65% TSS (100% TSS when infiltrating)
35% TP (100% TP when infiltrating)



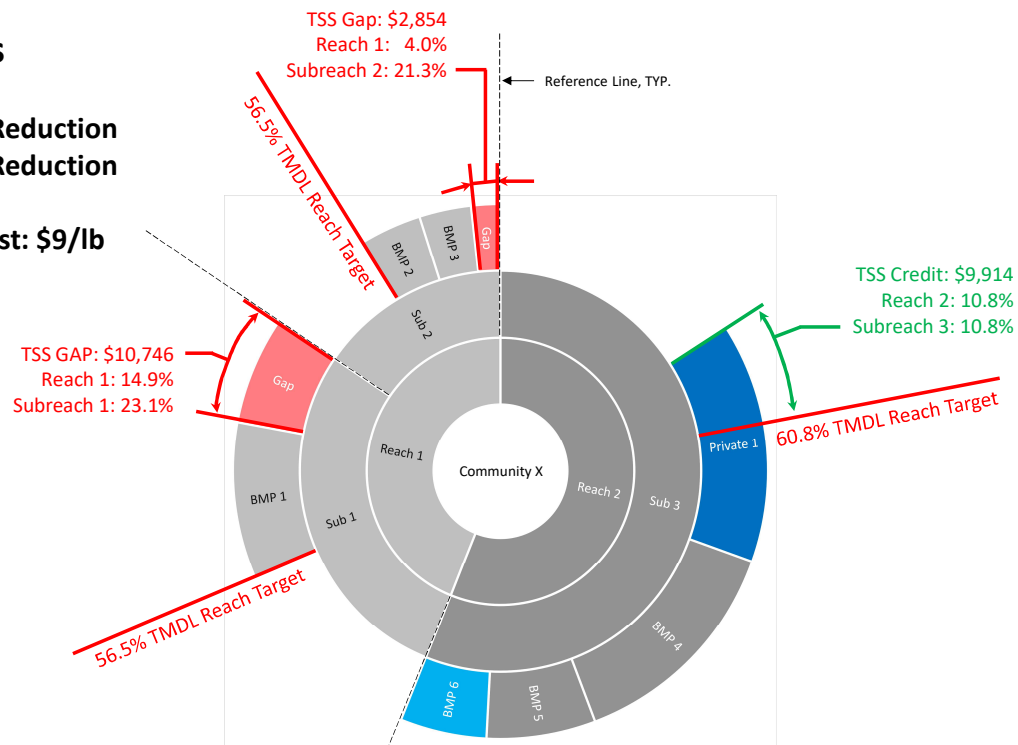
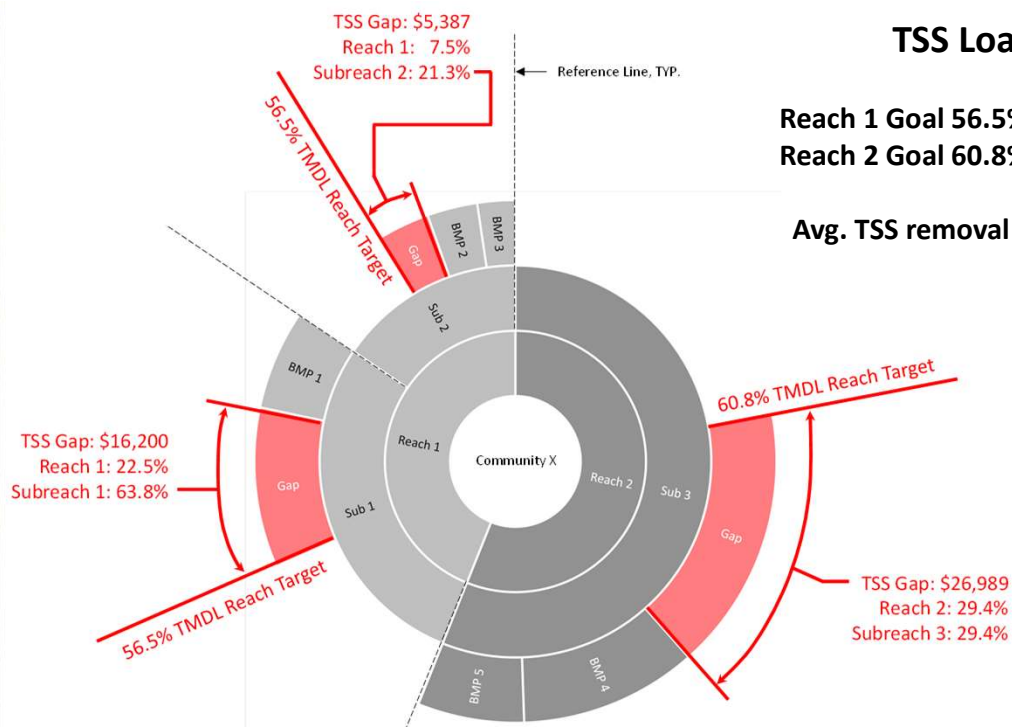
As – Modeled

P4 – Measured

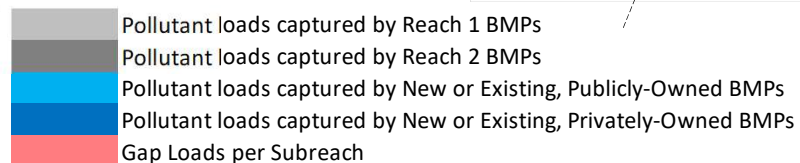
TSS Loads

Reach 1 Goal 56.5% Reduction
Reach 2 Goal 60.8% Reduction

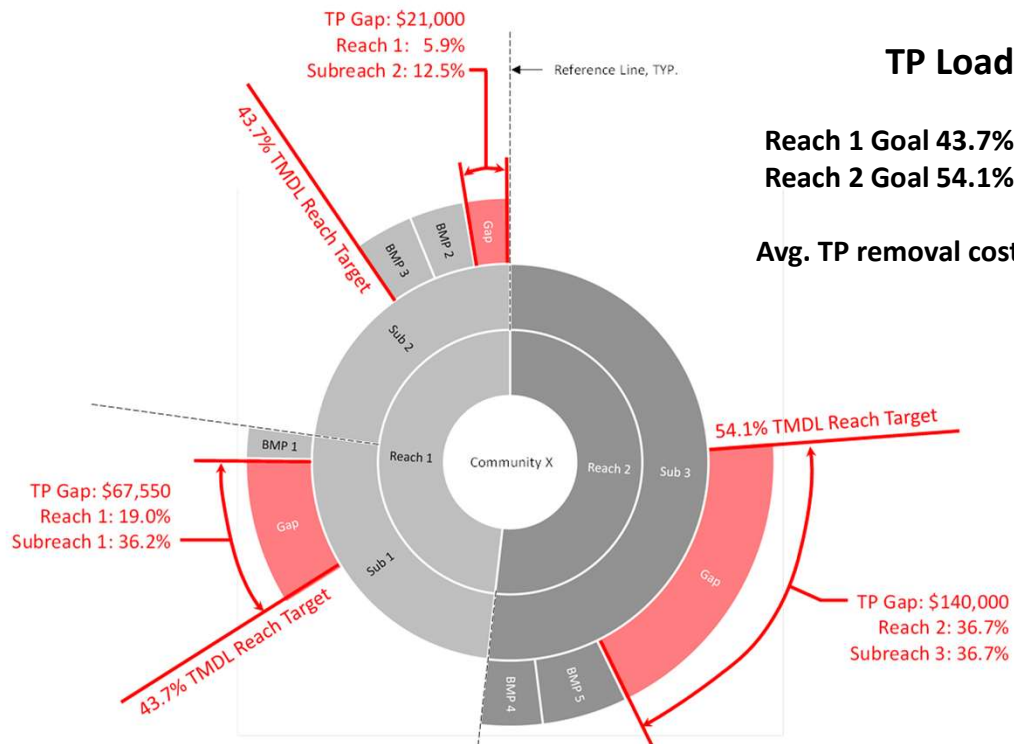
Avg. TSS removal cost: \$9/lb



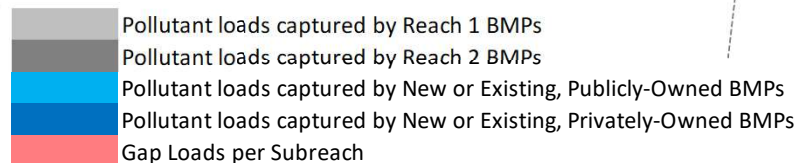
Legend for
Outer-Most Ring
(TYP. for all figures)



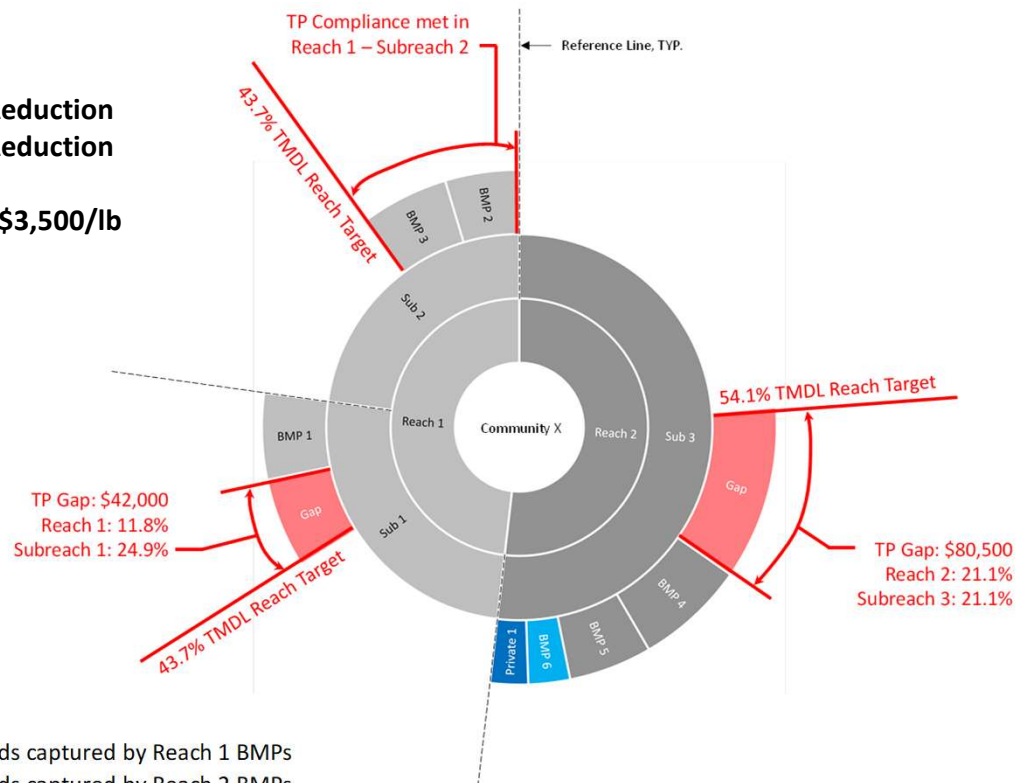
As – Modeled



Legend for
Outer-Most Ring
(TYP. for all figures)



P4 – Measured





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*Revolutionizing
the way we address
civil infrastructure*