



ROOFING WORKSHOP

February 11, 2020

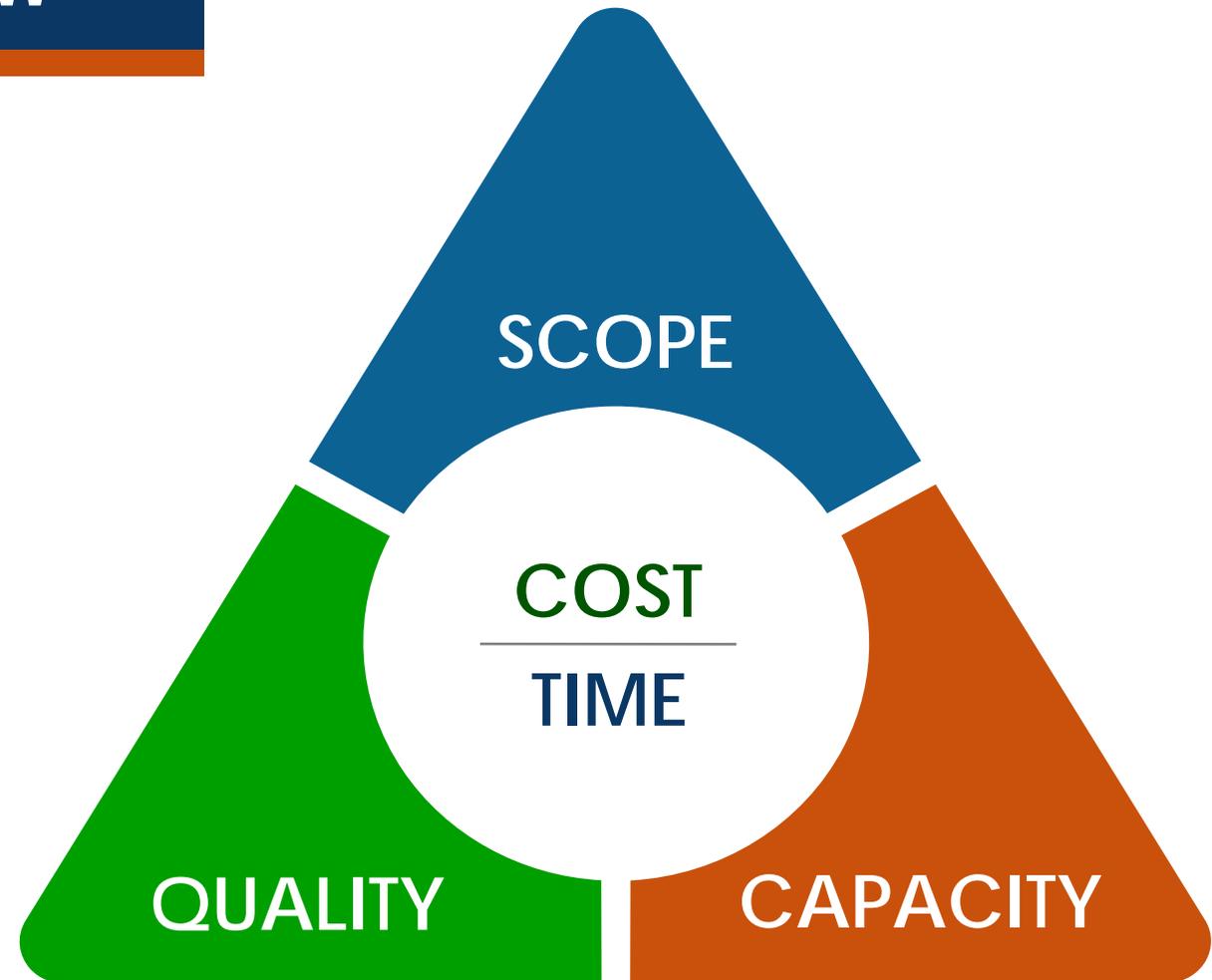
ROOFING PROGRAM OVERVIEW

TOTAL TIME AND COST LINKED DIRECTLY TO:

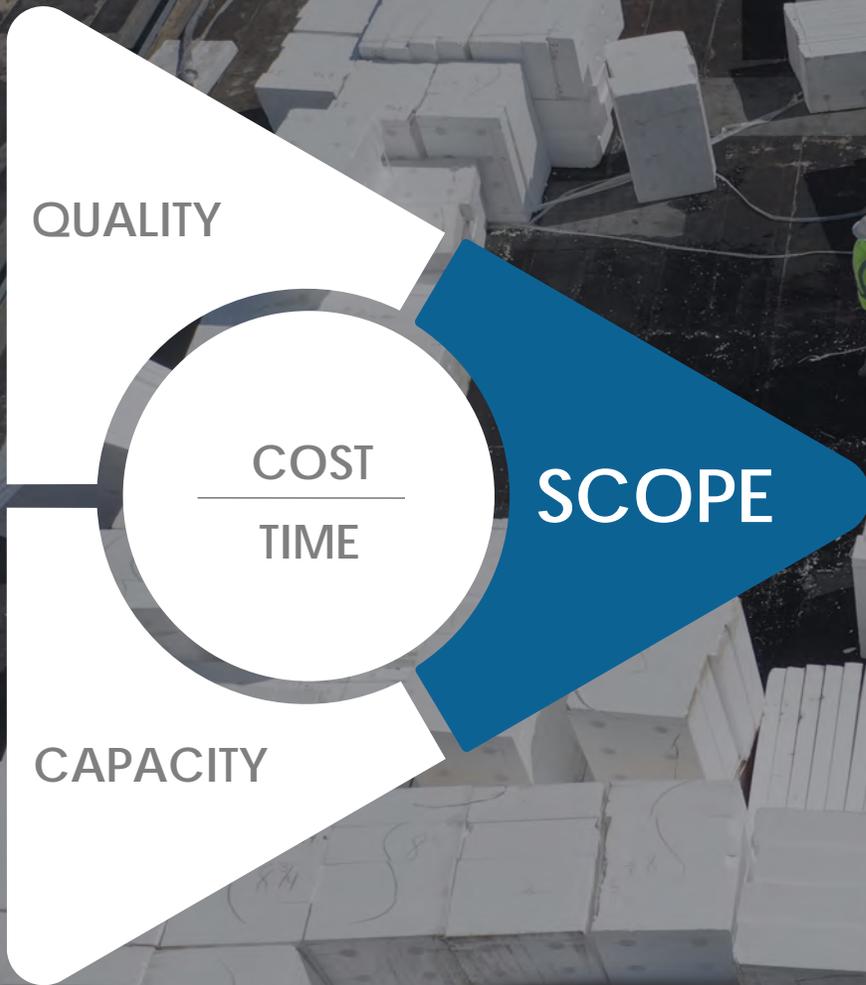
SCOPE OF WORK

STANDARDS OF QUALITY

CAPACITY OF THE MARKET



SCOPE – KEY CONSIDERATIONS



MAGNITUDE OF ROOFING PROGRAM

POOR INTERPRETATION OF ROOFING ASSESSMENT

COMPLEXITY OF WORK

SITE LOGISTICS

QUALITY

COST
TIME

SCOPE

CAPACITY

EXTENT OF COVERAGE



**SMART INVESTMENTS
LEAD TO SMART STUDENTS.**

ROOFING PROGRAM



203 CAMPUSES



1353 BUILDINGS



17M+ SQ FT OF ROOFING



~5 PROVEN ROOFERS
WITH EXPERIENCE
IN BCPS PROCESS

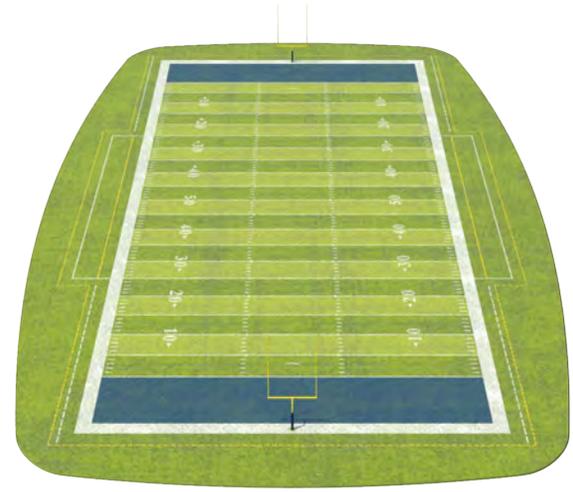
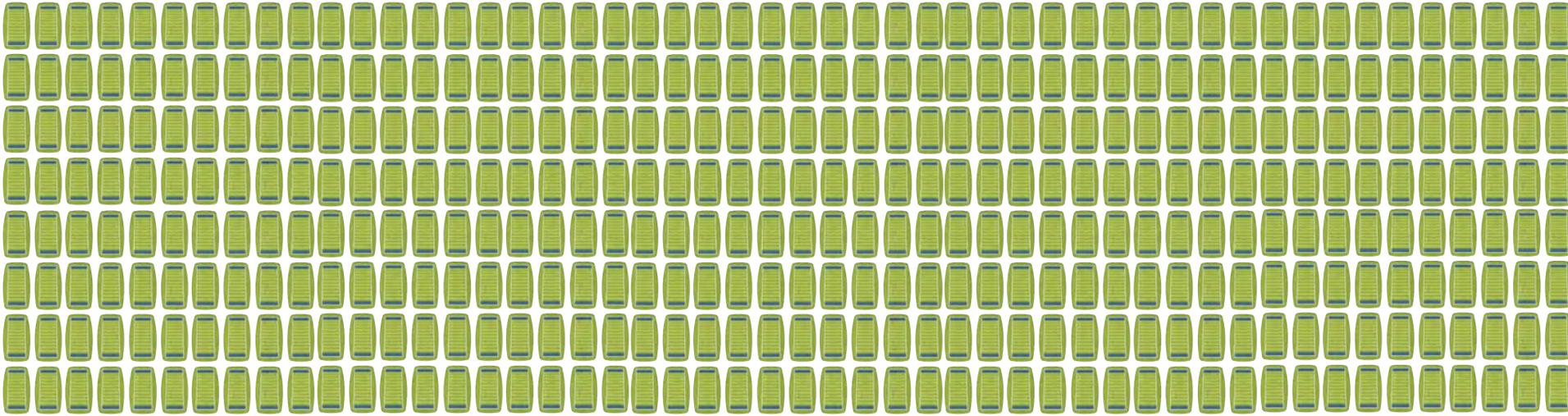
QUALITY

COST
TIME

SCOPE

CAPACITY

THE MAGNITUDE



 SMART INVESTMENTS
LEAD TO SMART STUDENTS.

ROOFING
PROGRAM



17M+ SQ FT OF ROOFING

OR

308 FOOTBALL FIELDS

OR

400 ACRES

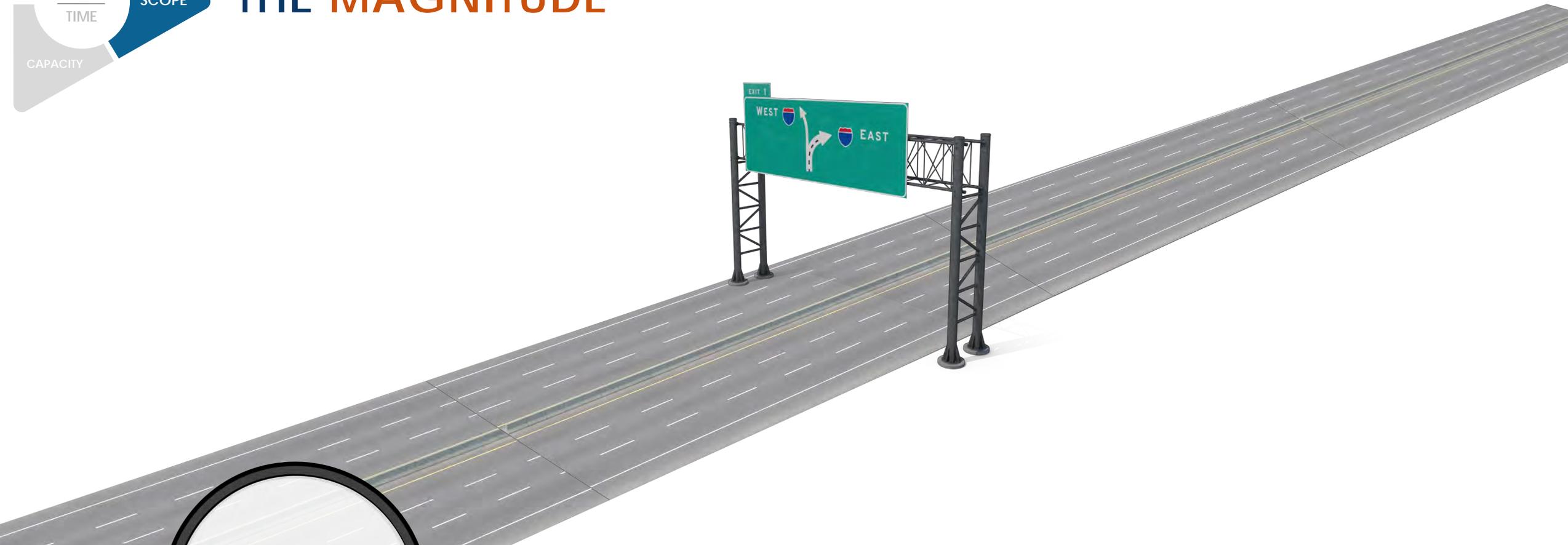
QUALITY

COST
TIME

SCOPE

CAPACITY

THE MAGNITUDE



 SMART INVESTMENTS
LEAD TO SMART STUDENTS.

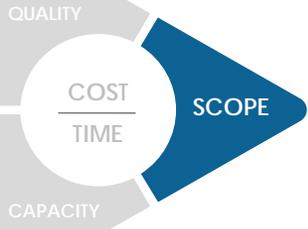
ROOFING
PROGRAM



17M+ SQ FT OF ROOFING

OR

**11 MILES OF A
300' WIDE EXPRESSWAY**



LEVELS OF COMPLEXITY



ROOF
REPLACEMENT



ROOF
RECOVERY

ROOFING LIFECYCLE

NEW
INSTALLATION

QUALITY

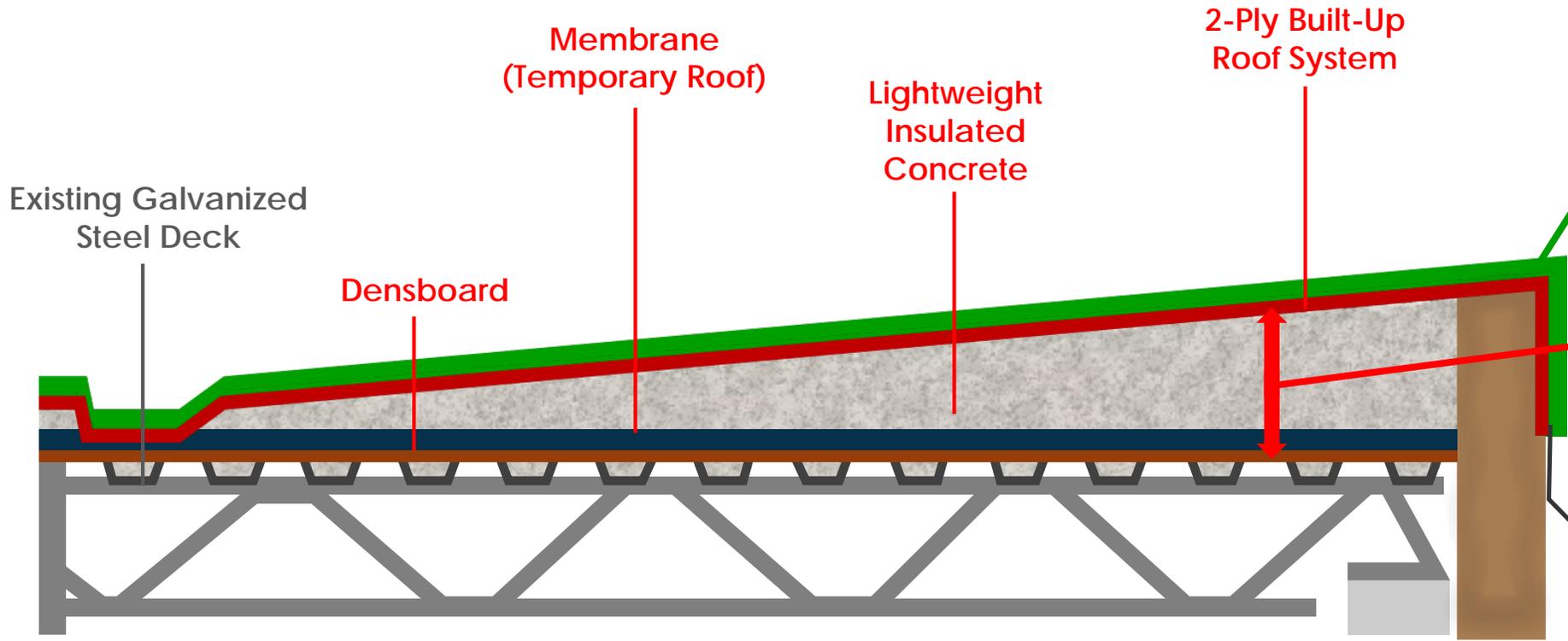
COST
TIME

SCOPE

CAPACITY

UNDER THE SURFACE (ROOFING 101)

TYPES OF ROOFING WORK



RECOVERY

NEW 2-PLY MEMBRANE OVER EXISTING SYSTEM

REPLACEMENT

DEMO DOWN TO EXISTING LIGHTWEIGHT OR THE DECK AND REPLACE WITH NEW ROOF ASSEMBLY

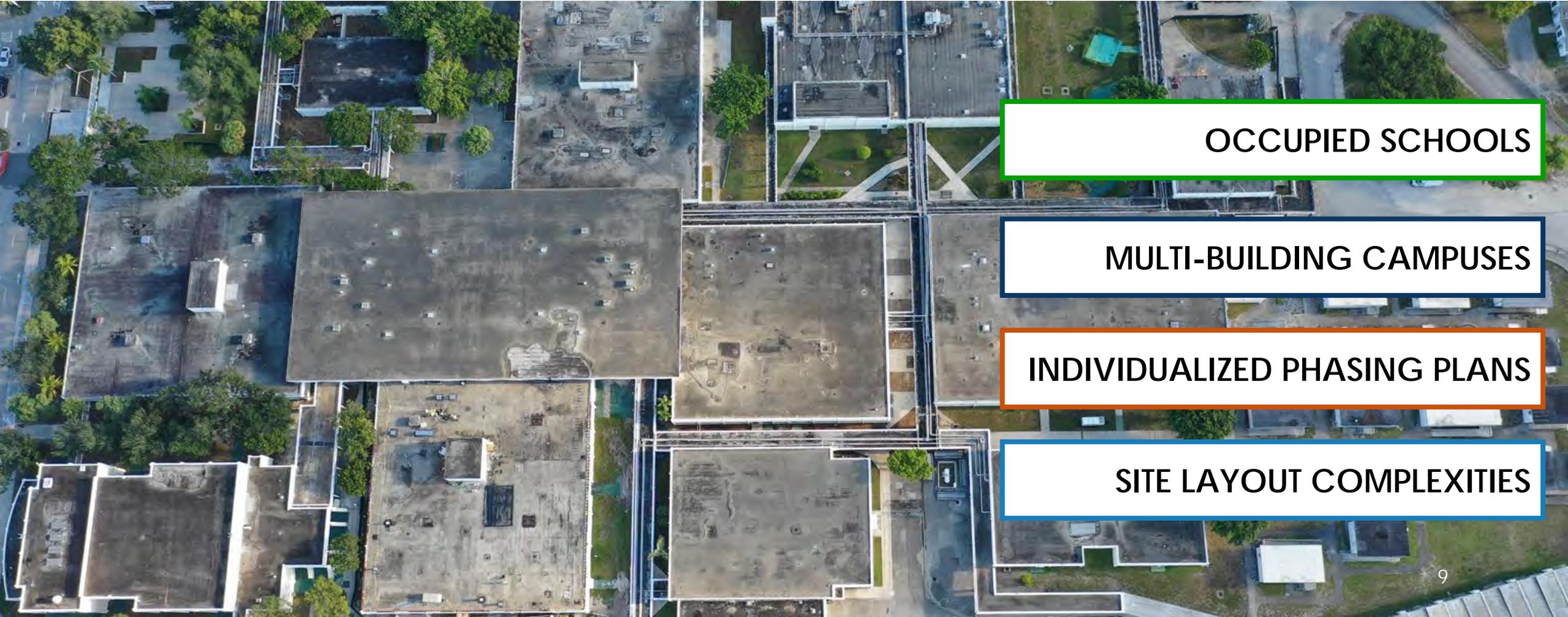
QUALITY

COST
TIME

SCOPE

CAPACITY

SITE LOGISTICS



OCCUPIED SCHOOLS

MULTI-BUILDING CAMPUSES

INDIVIDUALIZED PHASING PLANS

SITE LAYOUT COMPLEXITIES

QUALITY – KEY CONSIDERATIONS



ENSURING BEST ROOFING PRODUCT

CODE COMPLIANCE

TIME VS. QUALITY

CAPACITY

COST
TIME

QUALITY

QUALITY STANDARDS

QA/QC



THOROUGH INSPECTIONS



FULL CODE COMPLIANCE



LONG LIFECYCLE APPROACH



CAPACITY

COST
TIME

QUALITY

SCOPE

GETTING IT DONE RIGHT

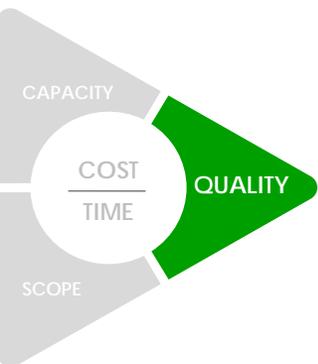
WORK IN PROGRESS



**IN PROGRESS
DOES NOT MEET QUALITY STANDARDS**



MEETS QUALITY STANDARDS



GETTING IT DONE RIGHT

WORK IN PROGRESS



**IN PROGRESS
DOES NOT MEET QUALITY STANDARDS**

MEETS QUALITY STANDARDS

CAPACITY

COST
TIME

QUALITY

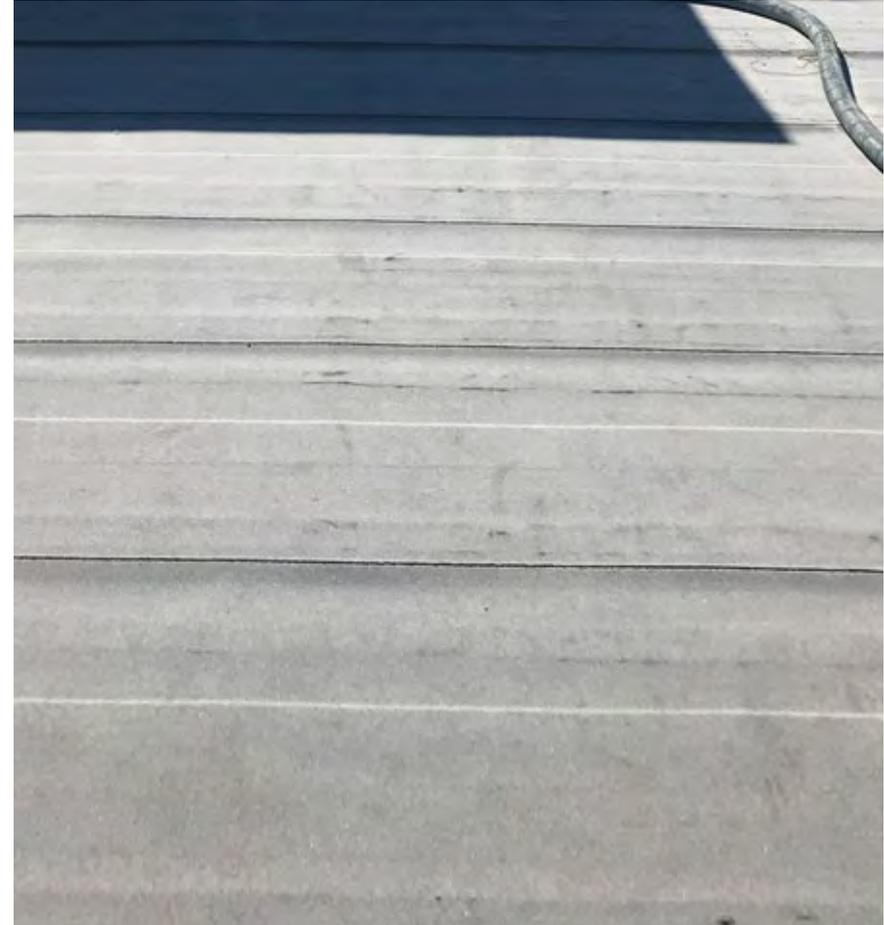
SCOPE

GETTING IT DONE RIGHT

WORK IN PROGRESS



**IN PROGRESS
DOES NOT MEET QUALITY STANDARDS**



MEETS QUALITY STANDARDS

CAPACITY

COST
TIME

QUALITY

SCOPE

GETTING IT DONE RIGHT

WORK IN PROGRESS



BEFORE



AFTER

CAPACITY

COST
TIME

QUALITY

SCOPE

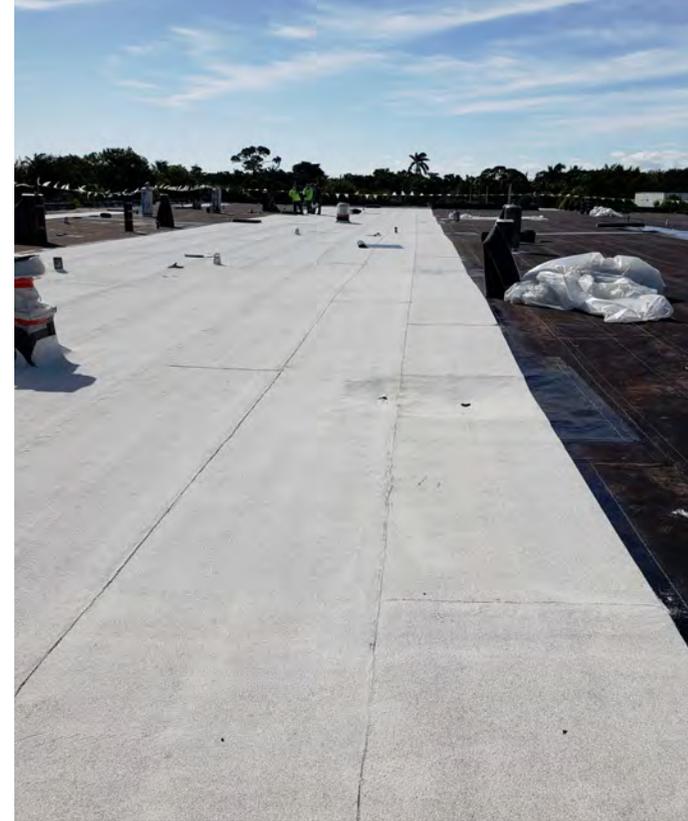
GETTING IT DONE RIGHT



BEFORE



DURING



AFTER

CAPACITY

COST
TIME

QUALITY

SCOPE

GETTING IT DONE RIGHT



BEFORE



AFTER

CAPACITY

COST
TIME

QUALITY

SCOPE

GETTING IT DONE RIGHT



BEFORE



AFTER

CAPACITY – KEY CONSIDERATIONS

SCOPE

COST
—
TIME

CAPACITY

QUALITY

~5 PROVEN ROOFERS CURRENTLY IN USE

MARKET CONDITIONS

CONTRACTOR ABILITY & WILLINGNESS

IMPROVEMENT EFFORTS THROUGH TRAINING

SCOPE

COST
TIME

CAPACITY

HIRING CHALLENGES

QUALITY



BADGING REQUIREMENTS



DIFFICULTY OF EFFORT

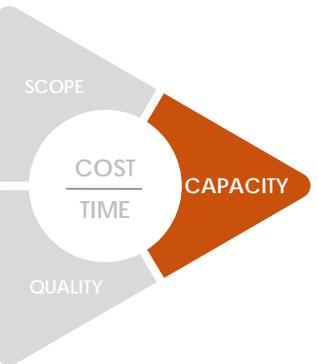


HARSH WORK CONDITIONS

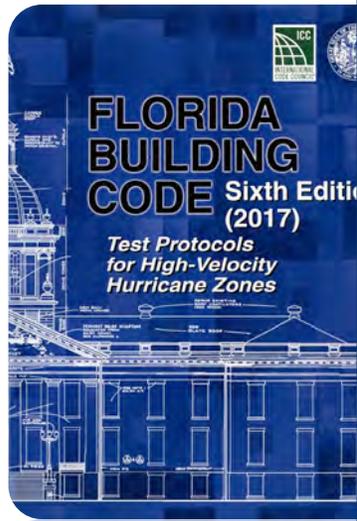


PROCESS COMPLEXITIES

RELUCTANCE TO WORK ON
BCPS SMART ROOFING PROJECTS



PERMIT ISSUES & DELAYS



NEW BCPS ROOFERS PERMIT REVIEW

← UP TO **6-9 MONTHS** FOR APPROVAL →



EXPERIENCED BCPS ROOFERS PERMIT REVIEW

← AS LITTLE AS
1-3 MONTHS
FOR APPROVAL →

COST & TIME – KEY CONSIDERATIONS

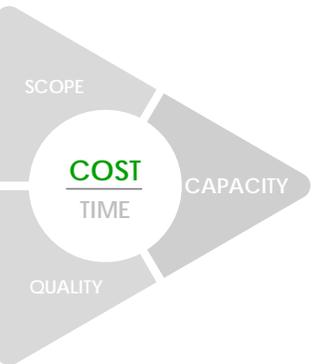


NEIGHBORING COUNTIES

BCPS \neq MDCPS

PROGRAM DYNAMICS

MOVING FORWARD



BCPS ≠ MDCPS



PRIOR ROOFING IMPROVEMENTS PROGRAM	NO	YES
ROOFING WORK MAJORITY	REPLACEMENT	RECOVERY
DELIVERY METHOD	VARIES (CMAR, HARD BID)	2014 FIXED TERM**
COST/SF ROOFER PRICING ONLY	\$20-23*	\$16-20*



VARIES (CMAR, HARD BID)	VARIES (CMAR, HARD BID)	VARIES (CMAR, HARD BID)
\$21-23	\$20-\$25	\$22-25

* Today's cost including inflation.

** Expired Q1 2020, out to bid for renewal.

PROGRAM DYNAMICS



SCOPE

1353

BUILDINGS



QUALITY

10 / 10

RATING



CAPACITY

~5

PROVEN ROOFING COMPANIES

\$



FLUCTUATING CAPACITY DETERMINES TIME & COST

SCOPE & QUALITY UNCHANGEABLE

MOVING FORWARD

CONTINUE ROOF REALITY CHECKS

MENTOR & TRAIN CONTRACTORS

MONITOR MARKET CHANGES

IDENTIFY OPPORTUNITIES FOR CUSTOM DELIVERY METHODS

PREVENTATIVE MAINTENANCE & ASSET MANAGEMENT

SEEK MEANS OF COMPLETING ROOFING ON A SEPARATE TIMELINE



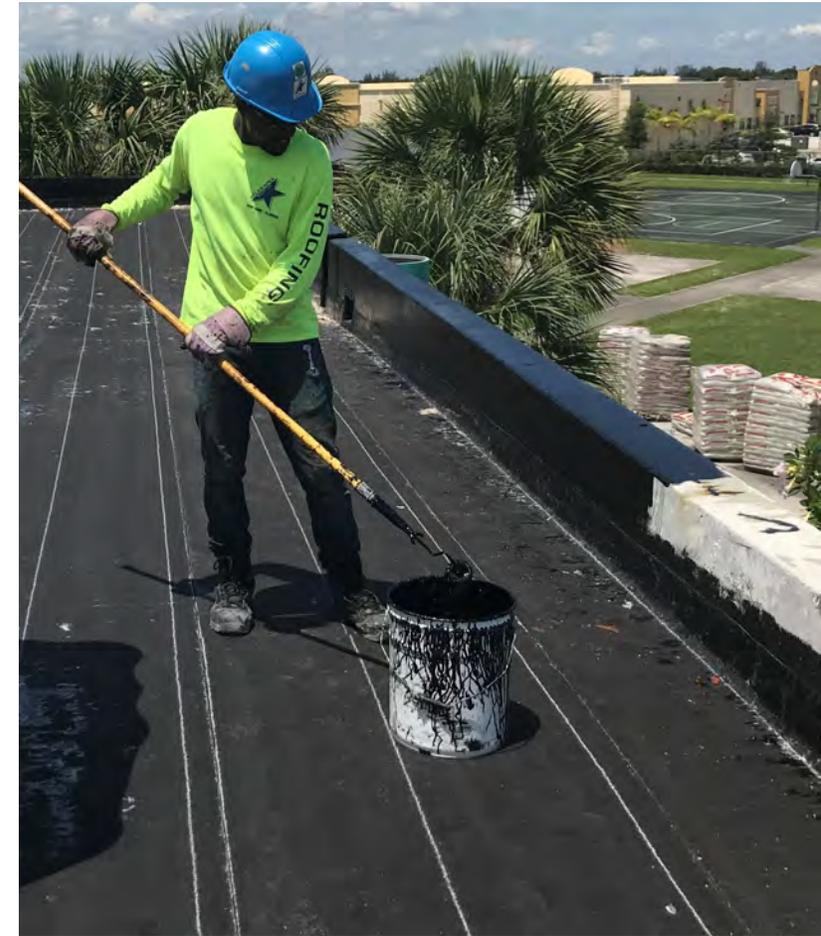
PREVENTATIVE MAINTENANCE & ASSET MANAGEMENT

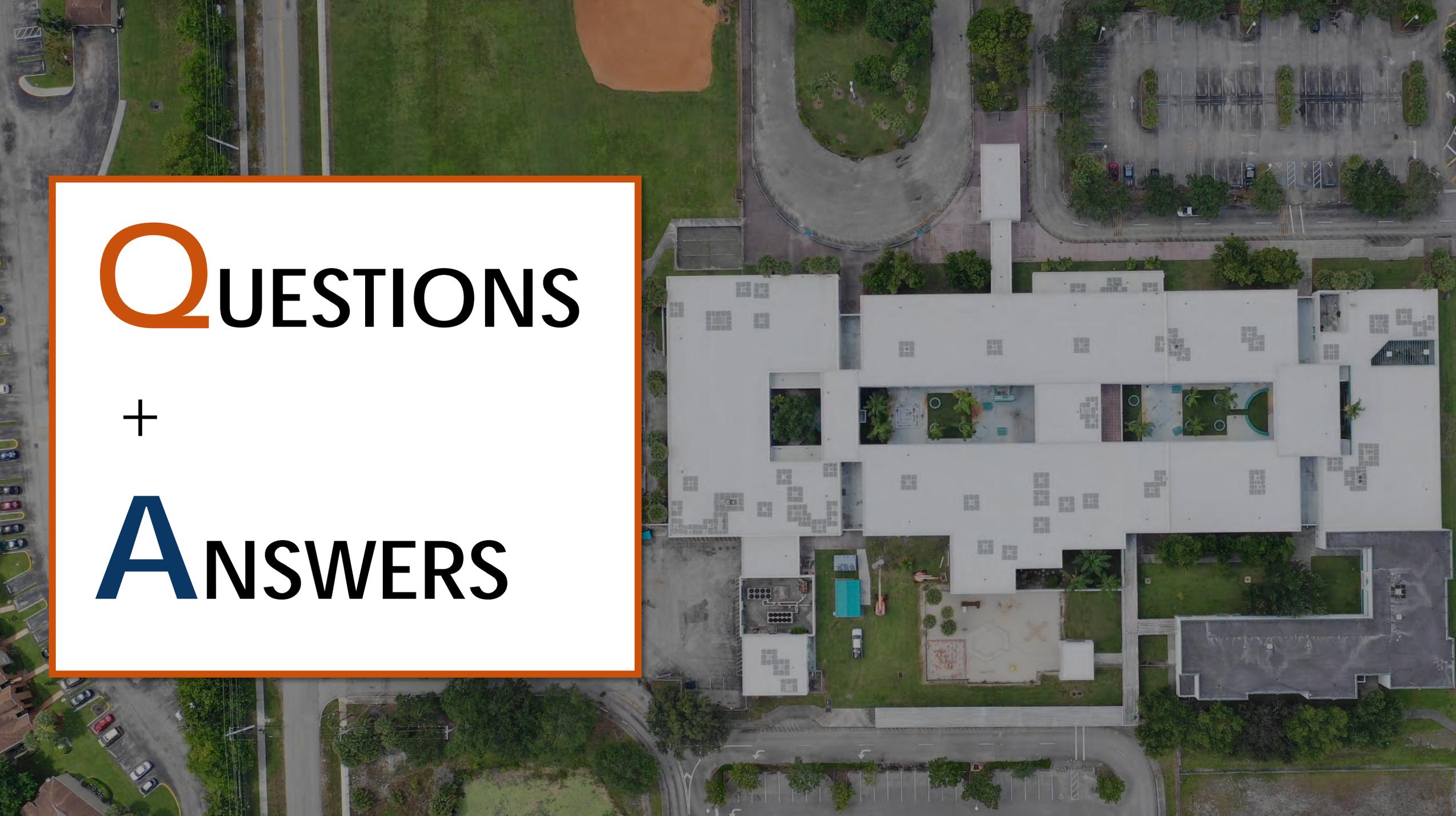


ROOFING MAINTENANCE PROGRAM



- The roofs that we replaced in 2007-2010 and were maintained have held up and are in good shape
- Facilities and PPO are working together to develop a maintenance plan for the new roofs being installed by the SMART Program
- Facilities and PPO are actively receiving presentations from maintenance companies to obtain recommendations to move forward





QUESTIONS

+

ANSWERS

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Dr. Rosalind Osgood, Vice Chair

Lori Alhadeff
Robin Bartleman
Heather P. Brinkworth
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