



CAMPUS VOLTAGE UPGRADE PROJECT

Facilities Management – Energy Services

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Director of Energy Services

5/18/2018

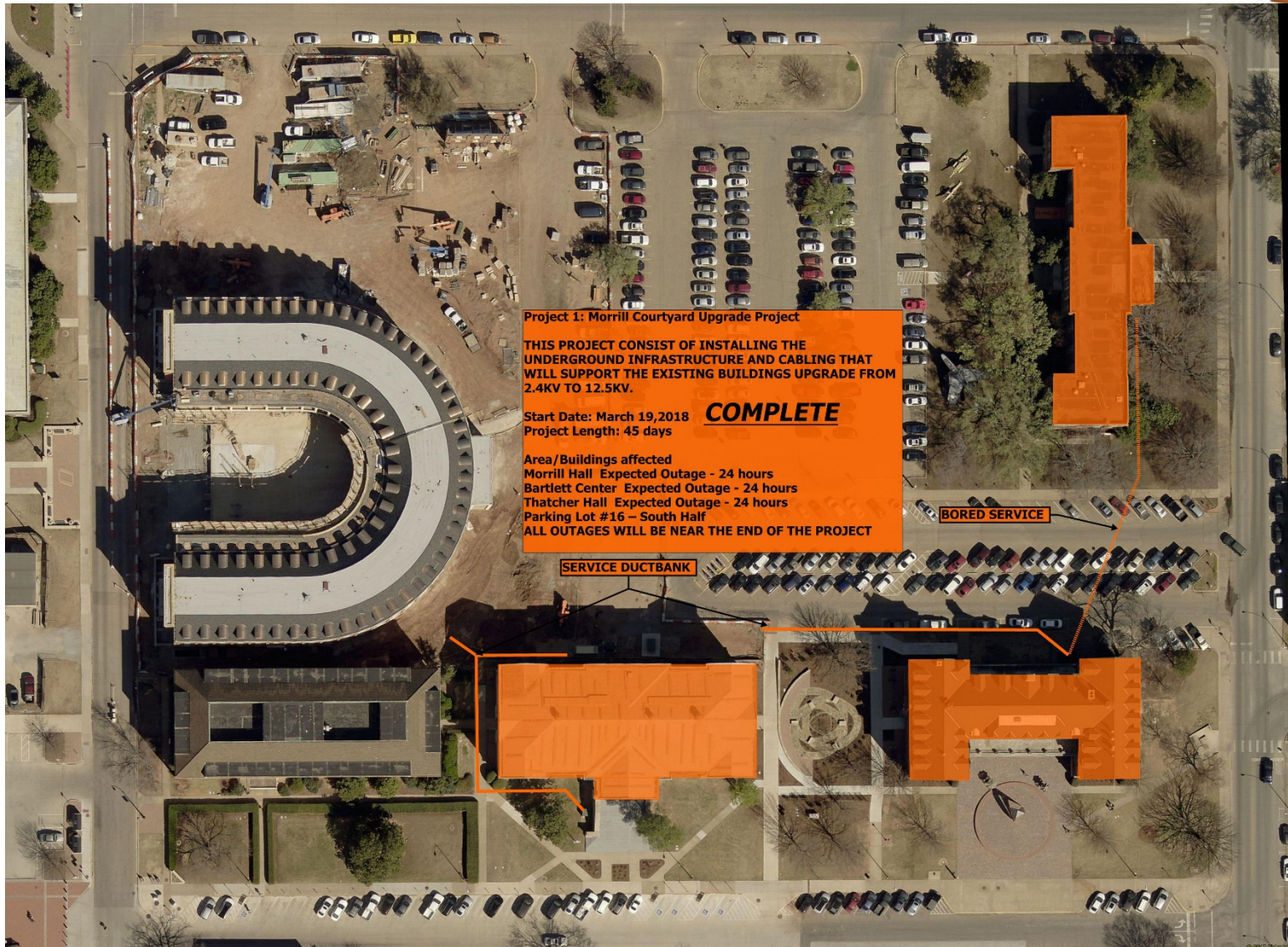


Voltage Upgrade Background

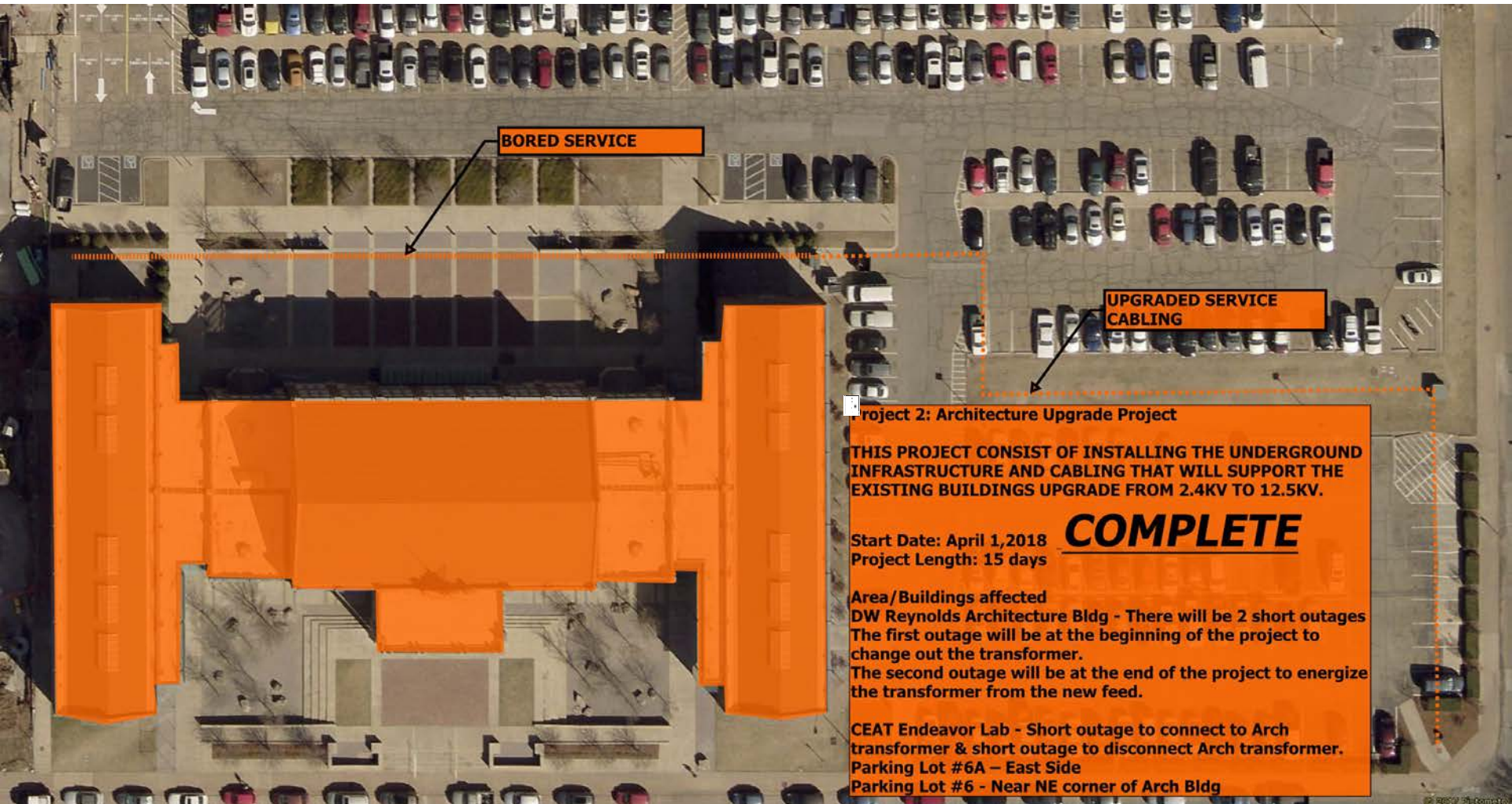


- **Required to retire and demolish the Power Plant and Poultry Substation.**
- **Much of existing underground infrastructure has exceeded lifespan by 30-40 years.**
- **Replaces old failing underground cable pathways (Ductbanks)**
- **Replaces aged transformers, switchgear and cable.**
- **Provides redundancy and reliability in the campus distribution system.**
- **More efficient distribution with the higher voltage of 12,470V versus 2,400V.**

PROJECT-1 Morrill Courtyard Upgrade



PROJECT-2 Architecture Upgrade



Project 2: Architecture Upgrade Project

THIS PROJECT CONSIST OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE EXISTING BUILDINGS UPGRADE FROM 2.4KV TO 12.5KV.

Start Date: April 1, 2018
Project Length: 15 days

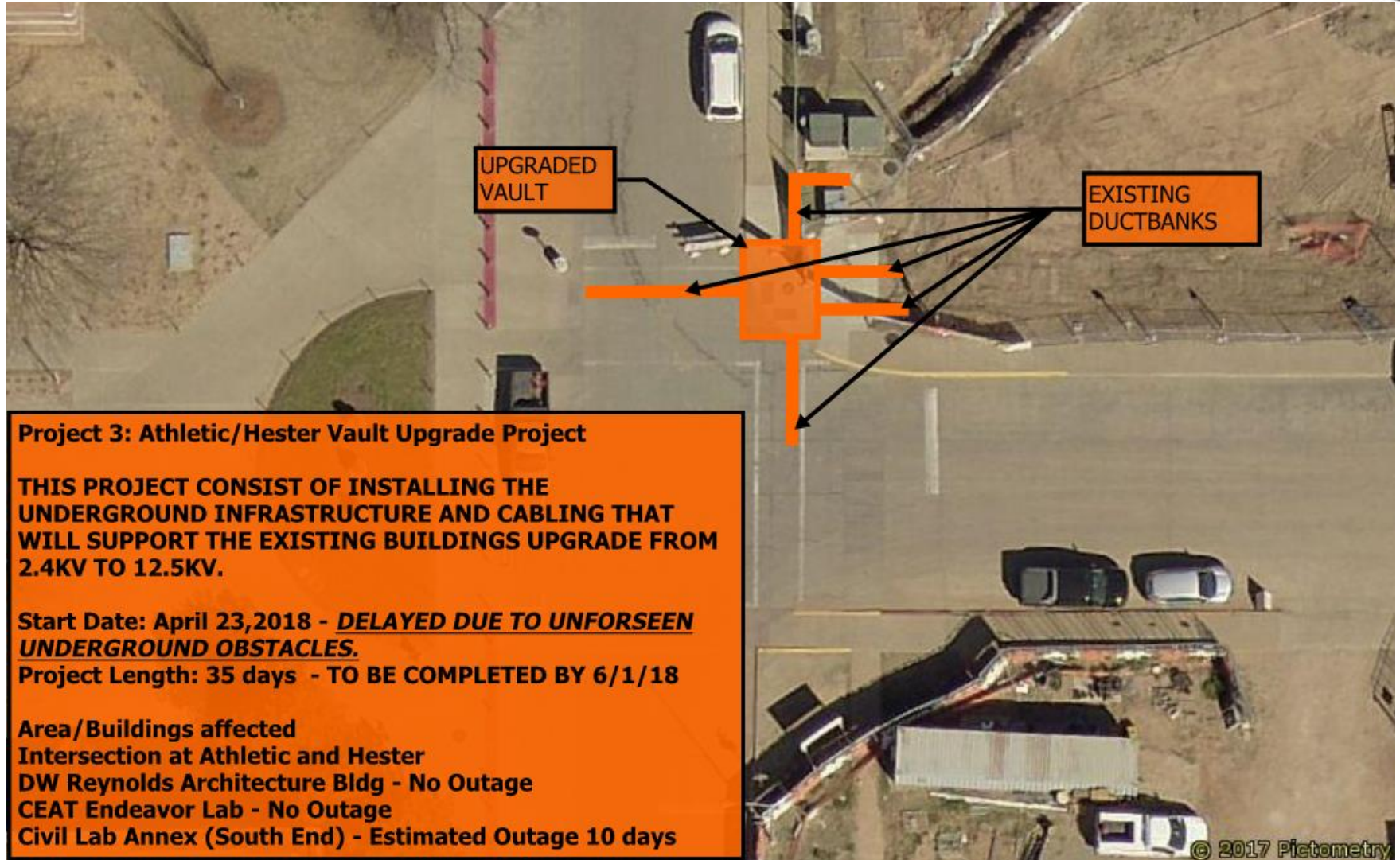
COMPLETE

Area/Buildings affected

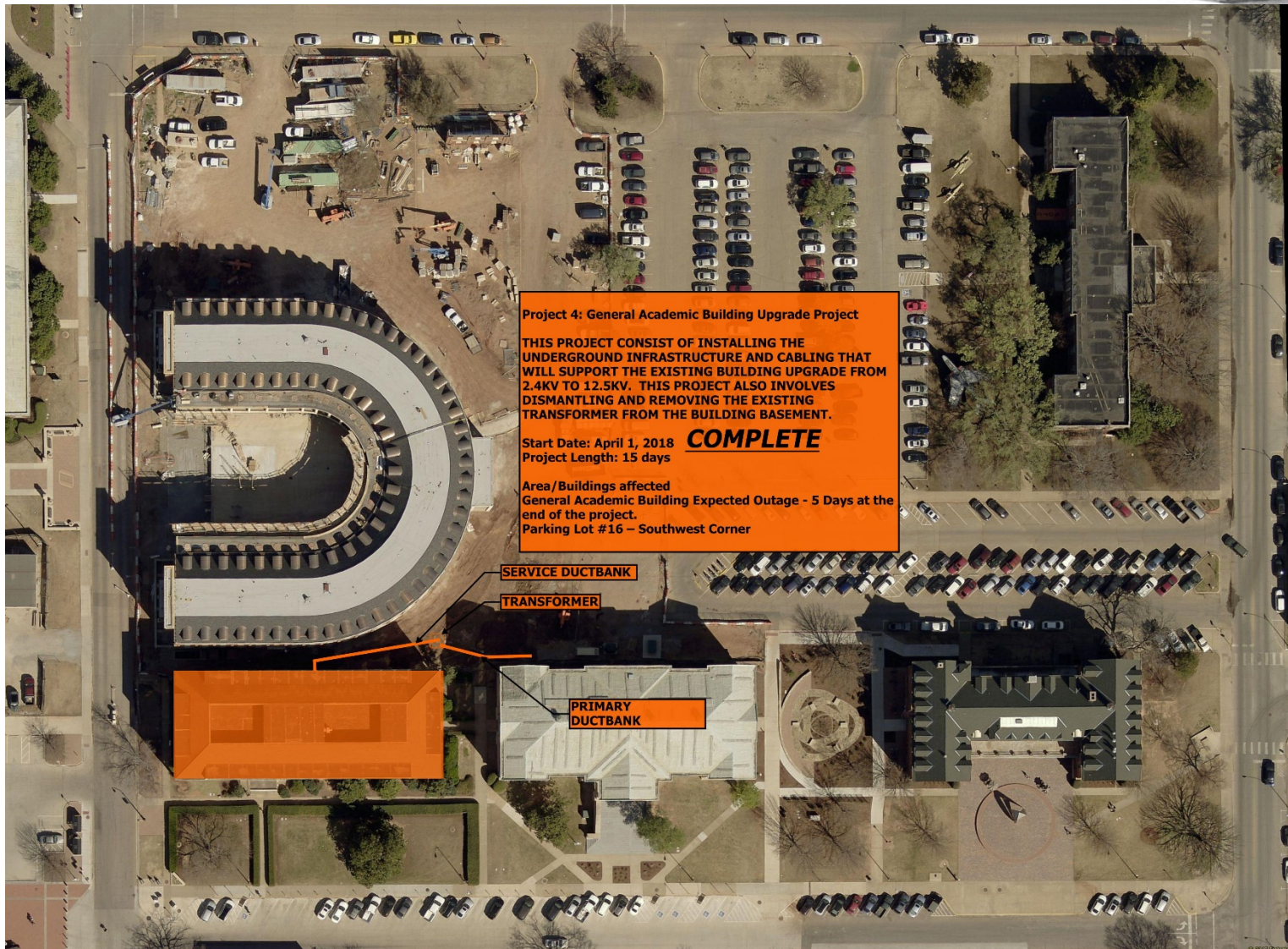
DW Reynolds Architecture Bldg - There will be 2 short outages
The first outage will be at the beginning of the project to change out the transformer.
The second outage will be at the end of the project to energize the transformer from the new feed.

CEAT Endeavor Lab - Short outage to connect to Arch transformer & short outage to disconnect Arch transformer.
Parking Lot #6A - East Side
Parking Lot #6 - Near NE corner of Arch Bldg

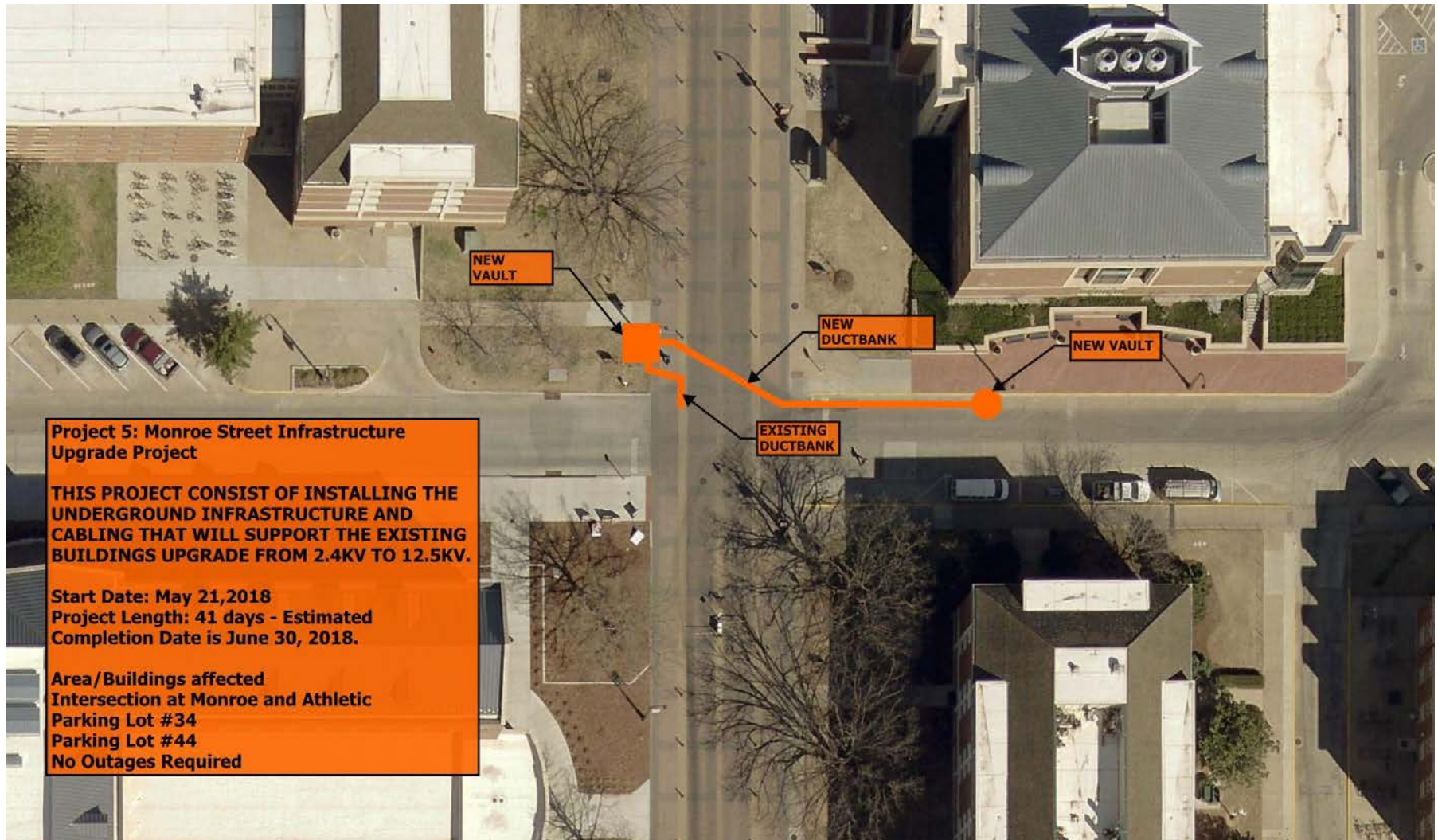
PROJECT-3 Athletic/Hester Vault Upgrade



PROJECT-4 General Academic Bldg Upgrade



PROJECT-5 Monroe Street Crossing



PROJECT-6 Infrastructure Upgrade-1

PROJECT 6: INFRASTRUCTURE UPGRADE-1

THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV

Start Date: May 21, 2018
Project Length: 90 days

Area/Buildings affected
Athletic Avenue from Monroe to Hester
Physical Sciences
Parking Lot #46 – Near Kerr Hall
Parking Lot #45 – Near Agriculture Hall
Parking Lot #34 – Near Physical Sciences
Parking Lot #53 – University Health Center

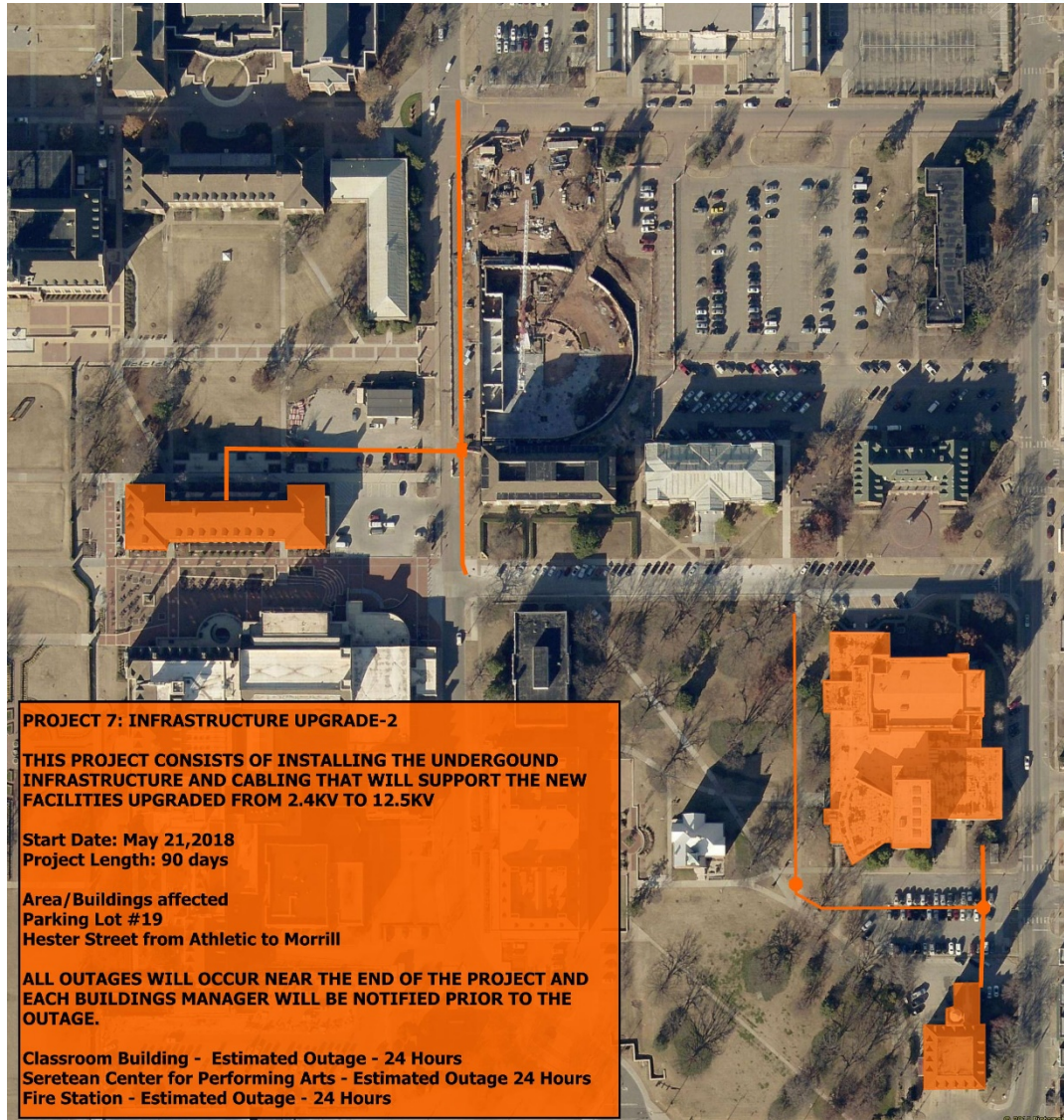
ALL OUTAGES WILL OCCUR NEAR THE END OF THE PROJECT AND EACH BUILDINGS MANAGER WILL BE NOTIFIED PRIOR TO THE OUTAGE.

Edmon Low Library
- Estimated Outage - 48 Hours
Engineering North
- Estimated Outage - 24 Hours
Engineering South
- Estimated Outage - 48 Hours
Civil Lab Annex (North End)
- Estimated Outage - Tied to Engineering South

NEW CABLE PULL
THROUGH EXISTING
DUCTBANKS

NEW CABLE PULL
THROUGH NEW
DUCTBANK

PROJECT-7 Infrastructure Upgrade-2



PROJECT-8 Gundersen Upgrade

PROJECT 8: GUNDERSON SWITCH UPGRADE

THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV

Start Date: June 30 ,2018

Project Length: 5 days

Area/Buildings affected

Old Central - Expected Outage - 4 Days

Gunderson Hall - Expected Outage - 4 Days

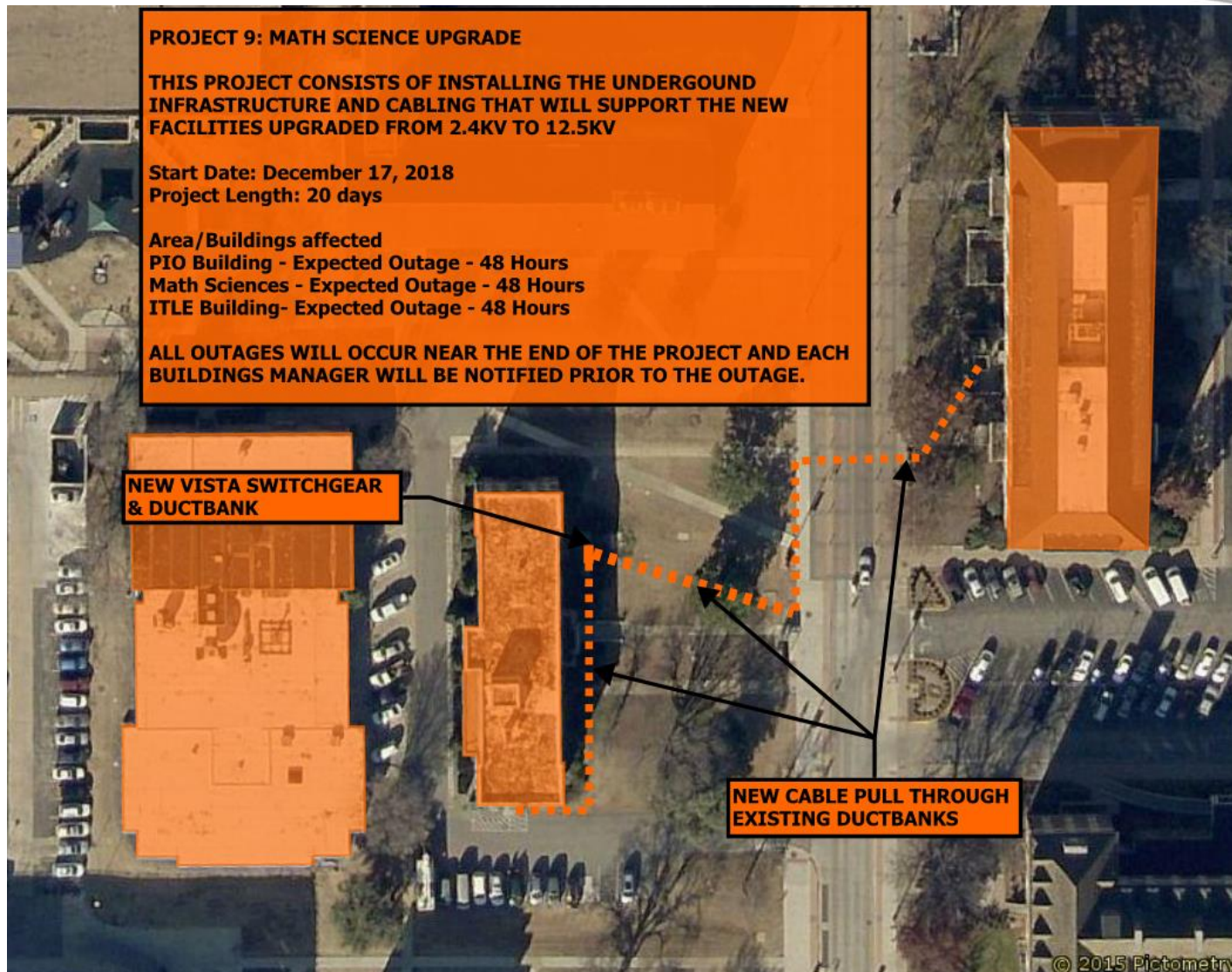
Alumni Center - Expected Outage - 4 Days

ALL OUTAGES WILL OCCUR NEAR THE END OF THE PROJECT AND EACH BUILDINGS MANAGER WILL BE NOTIFIED PRIOR TO THE OUTAGE.

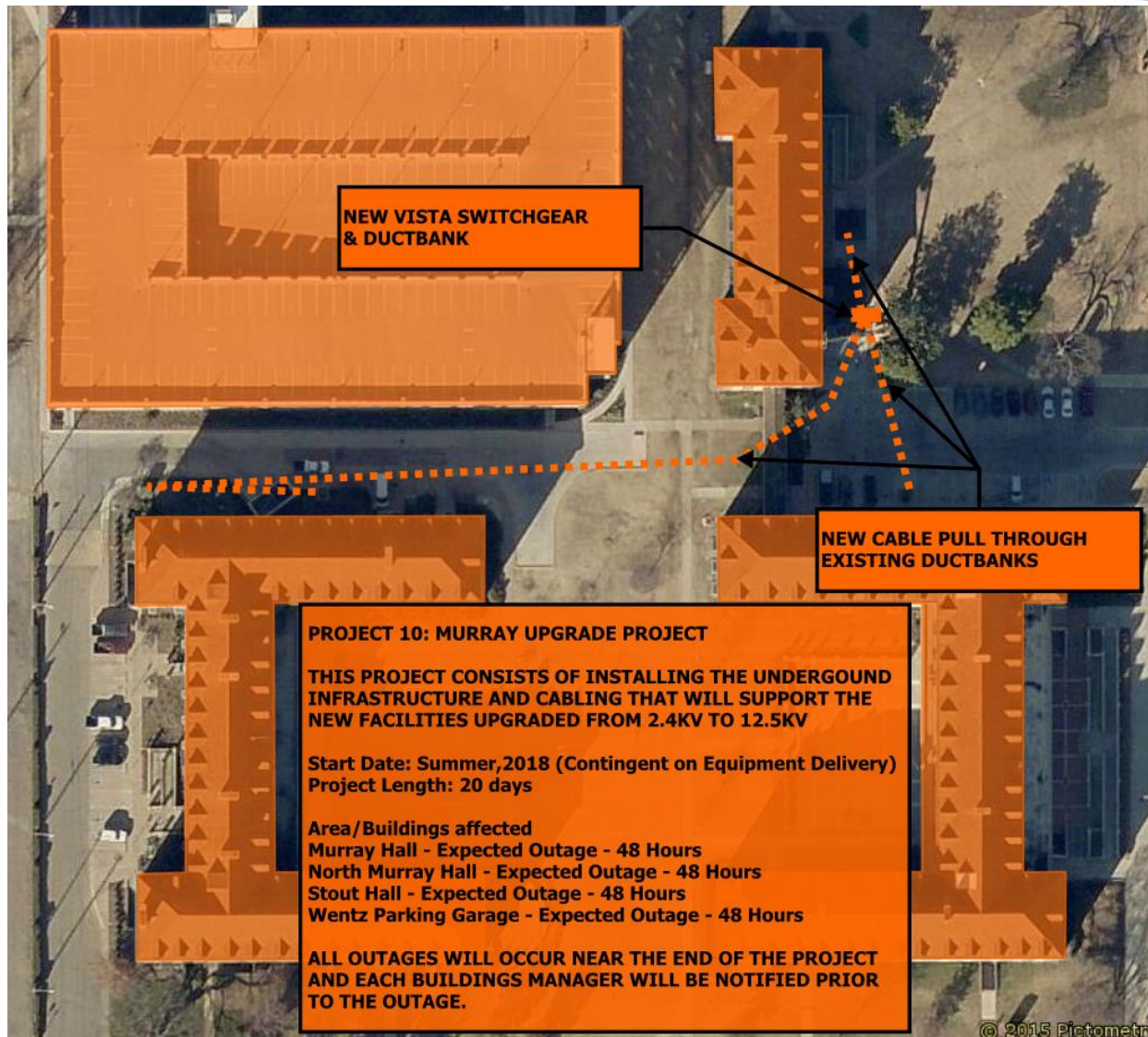
NEW VISTA SWITCHGEAR
& DUCTBANK

NEW CABLE PULL IN
EXISTING DUCTBANKS

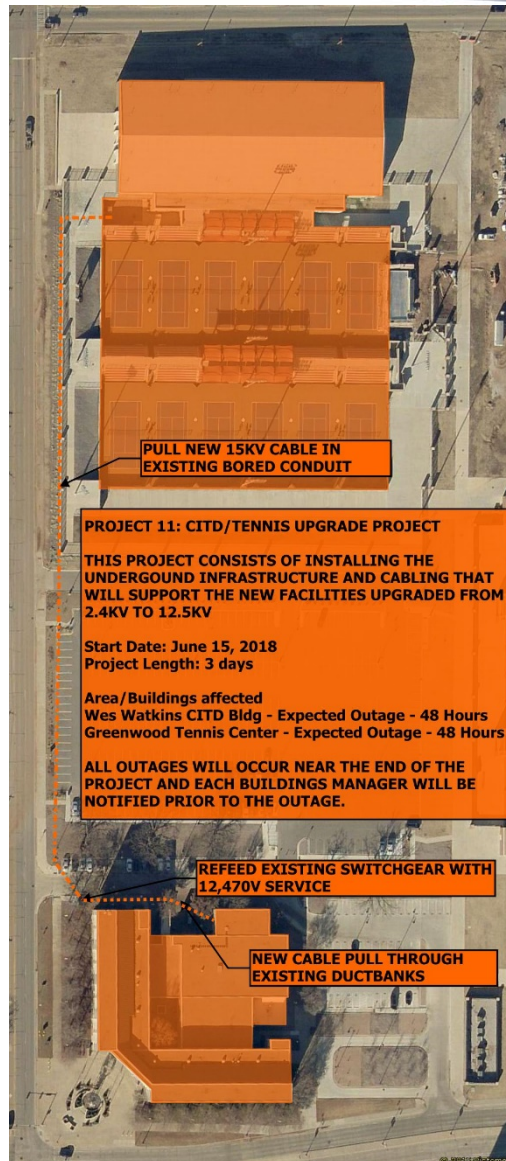
PROJECT-9 Math Science Upgrade



PROJECT-10 Murray Upgrade



PROJECT-11 CITD/Tennis Upgrade



PROJECT-12 Agriculture Upgrade

An aerial photograph of the Agriculture Building, a large complex with multiple wings. Orange overlays and arrows indicate the project's scope. A dashed orange line runs along the top edge of the building, labeled 'NEW CABLE INSTALLED IN EXISTING CONDUIT'. A solid orange line runs from the bottom left towards the building, labeled 'NEW CONDUIT & CABLE FROM SWITCH TO TRANSFORMER'.

NEW CABLE INSTALLED IN EXISTING CONDUIT

PROJECT 12: AGRICULTURE UPGRADE PROJECT

THIS PROJECT CONSISTS OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE NEW FACILITIES UPGRADED FROM 2.4KV TO 12.5KV

Start Date:
Infrastructure in East bldg - Summer 2018
South transformer upgrade - Summer 2018
(Contingent on transformer arrival)
East & North transformer upgrade - Fall Break or Thanksgiving
Project Length: Varies by area

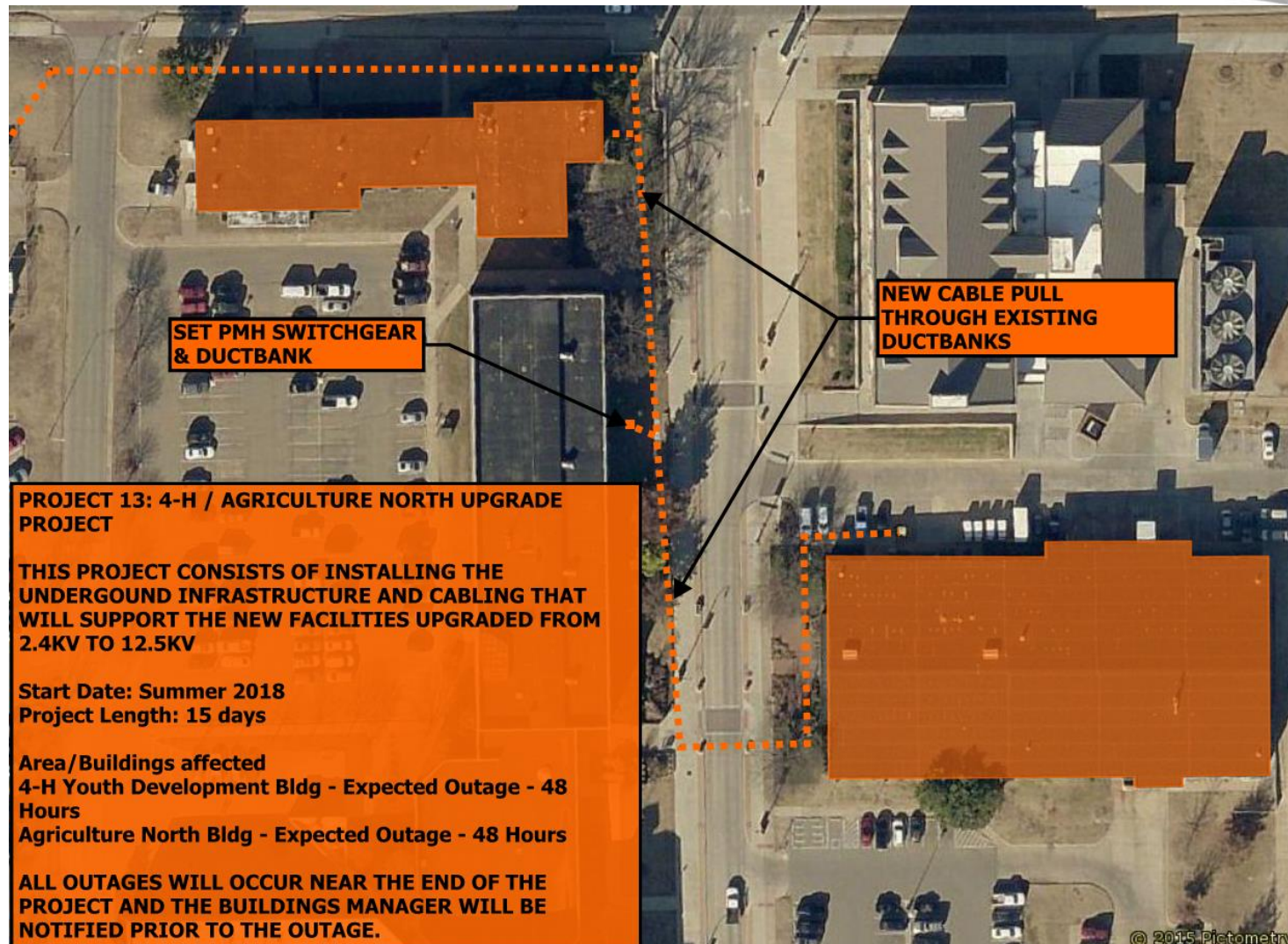
ALL OUTAGES WILL OCCUR NEAR THE END OF THE PROJECT AND THE BUILDINGS MANAGER WILL BE NOTIFIED PRIOR TO THE OUTAGE.

Area/Buildings affected
Agriculture Building - Expected Outages -
South End - 48 Hours
Northwest - 24 Hours
Northeast - 3 Days

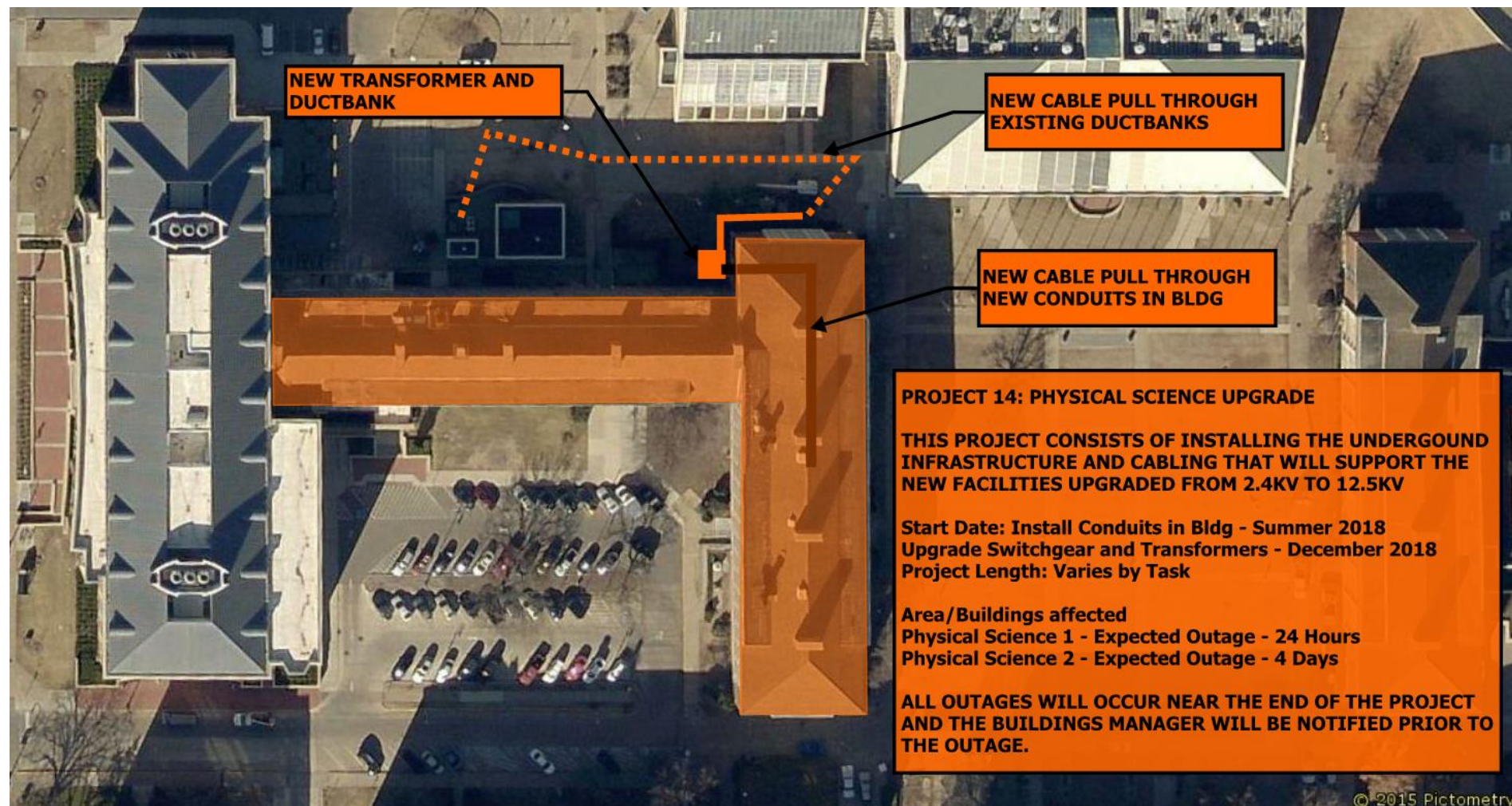
NEW CONDUIT & CABLE FROM SWITCH TO TRANSFORMER

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PROJECT-13 4-H/Agriculture North Upgrade

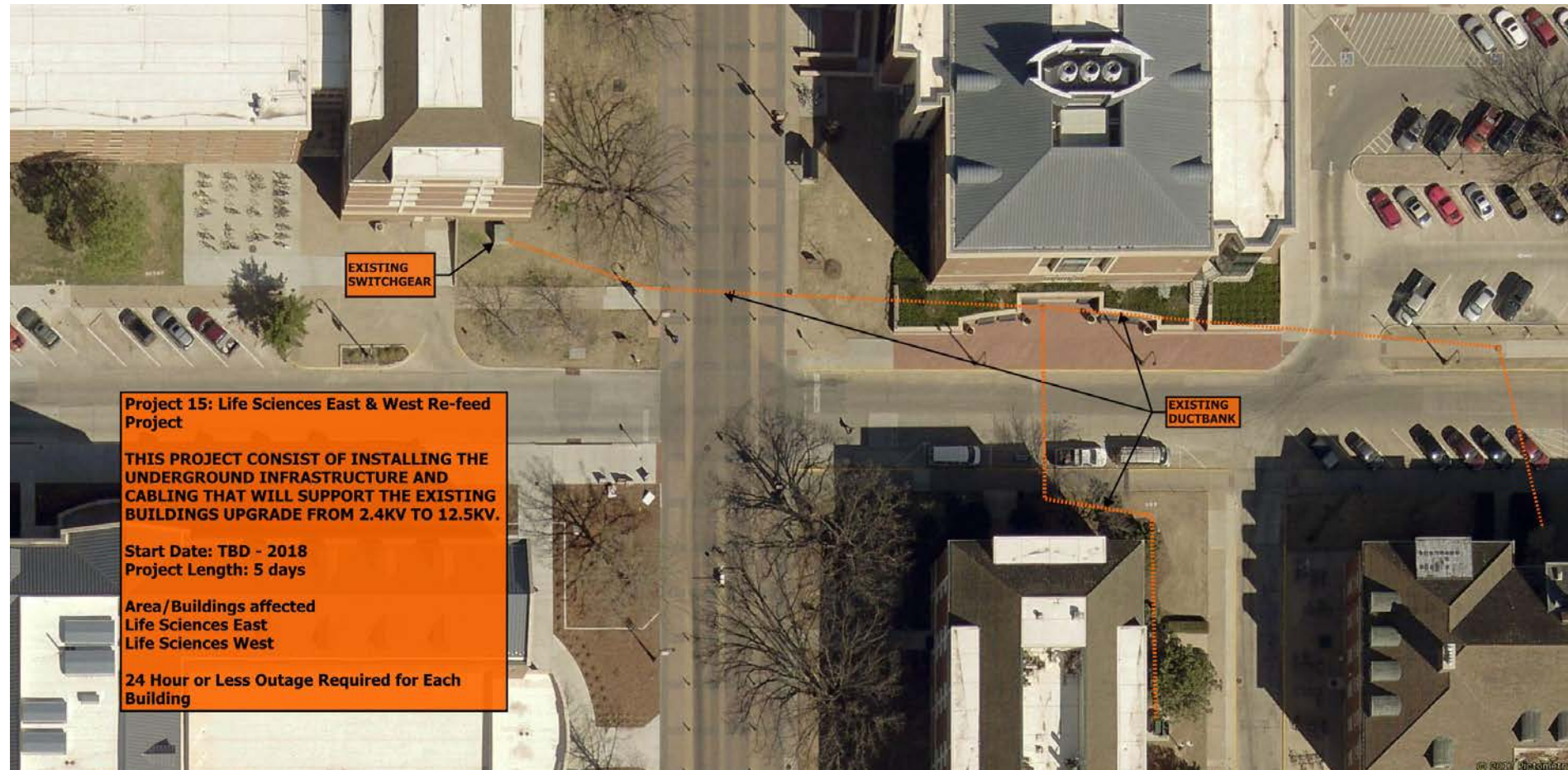


PROJECT-14 Physical Sciences Upgrade



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PROJECT-15 Life Science East & West



Project 15: Life Sciences East & West Re-feed Project

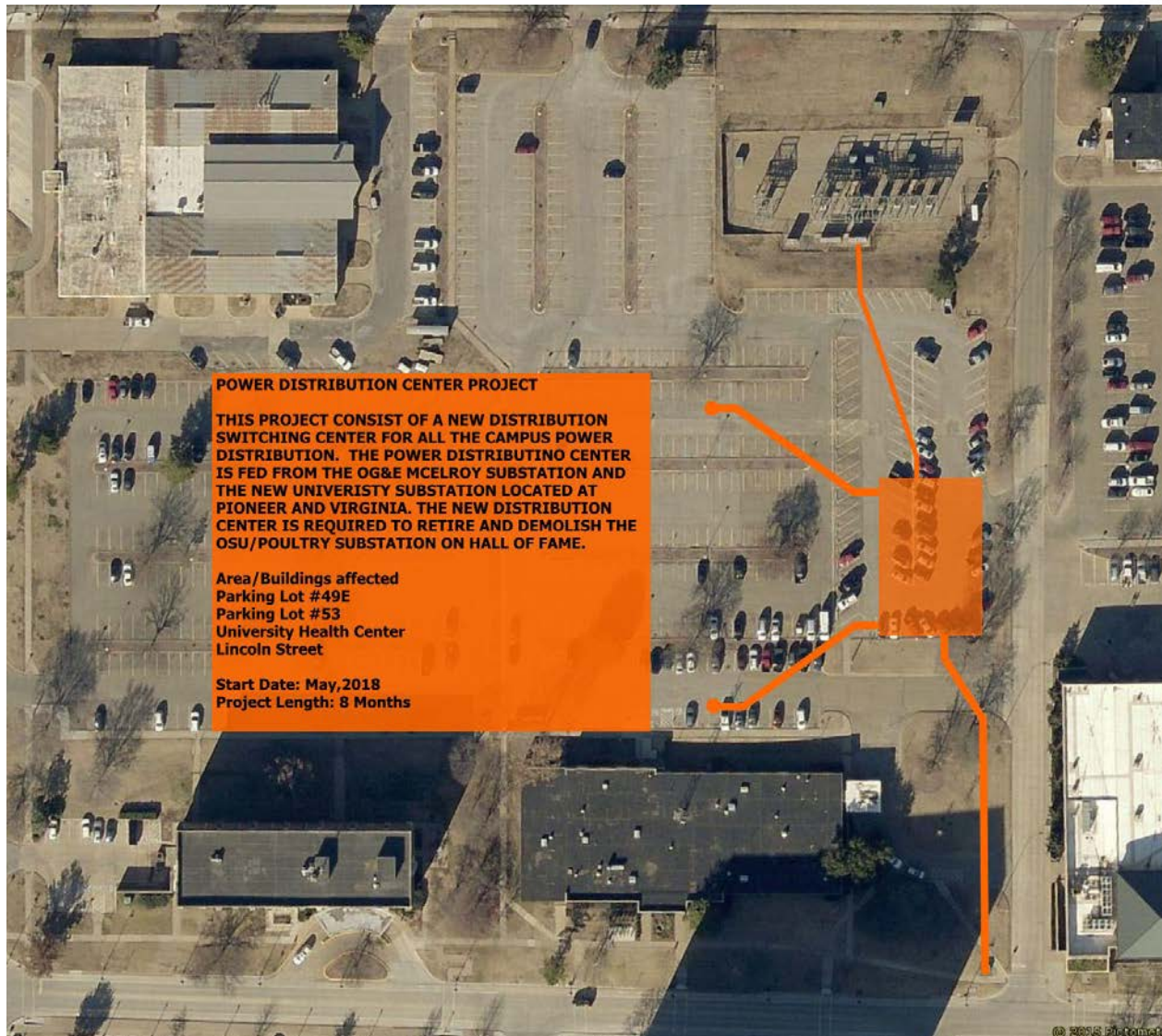
THIS PROJECT CONSIST OF INSTALLING THE UNDERGROUND INFRASTRUCTURE AND CABLING THAT WILL SUPPORT THE EXISTING BUILDINGS UPGRADE FROM 2.4KV TO 12.5KV.

Start Date: TBD - 2018
Project Length: 5 days

Area/Buildings affected
Life Sciences East
Life Sciences West

24 Hour or Less Outage Required for Each Building

Power Distribution Center



Phase II Overview



PHASE II OUTLINE:

- PRIOR TO PHASE II, POWER DISTRIBUTION CENTER IS REQUIRED TO BE CONSTRUCTED.
- EXISTING 2400V LINES FROM POULTRY SUB WILL BE REPLACED WITH NEW FEEDS FROM POWER DISTRIBUTION CENTER.
- UPON COMPLETION, POULTRY SUBSTATION CAN BE DEMOLISHED.
- WILL RE-USE EXISTING UNDERGROUND INFRASTRUCTURE WHERE PRACTICAL AND IDENTIFIED DURING DESIGN.

Voltage Upgrade Phase 1 Schedule

VOLTAGE UPGRADE PHASE 1 SCHEDULE

3/16/2018	Construction		1st Qtr.			2nd Qtr.			3rd Qtr.			4th Qtr.			1st Qtr.		
Project Name	Start	Complete	S	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Voltage Upgrade Phase I	19-Mar-2018	15-Jan-2019															
Project #1 - Morrill	19-Mar-2018	30-Apr-2018															
Project #2 - Architecture	1-Apr-2018	1-May-2018															
Project #3 - Hester/Athletic	20-Apr-2018	16-May-2018															
Project #4 - GAB	1-Apr-2018	1-May-2018															
Project #5 - Monroe Street	21-May-2018	30-Jun-2018															
Project #6 - Infrastructure-1	21-May-2018	10-Aug-2018															
Project #7 - Infrastructure-2	21-May-2018	10-Aug-2018															
Project #8 - Gundersen	1-Jul-2018	1-Aug-2018															
Project #9 - Math Science	15-Dec-2018	15-Jan-2019															
Project #10 - Murray	1-May-2018	1-Sep-2018															
Project #11 - CITD/Tennis	1-Jul-2018	1-Aug-2018															
Project #12 - Agriculture	1-Jul-2018	15-Aug-2018															
Project #13 - 4H/Ag North	20-Nov-2018	1-Dec-2018															
Project #14 - Phys Science	15-Dec-2018	15-Jan-2019															

These schedules will float



Questions

