South County
Police Station and Animal Shelter
Steering Committee Meeting
February 26, 2019

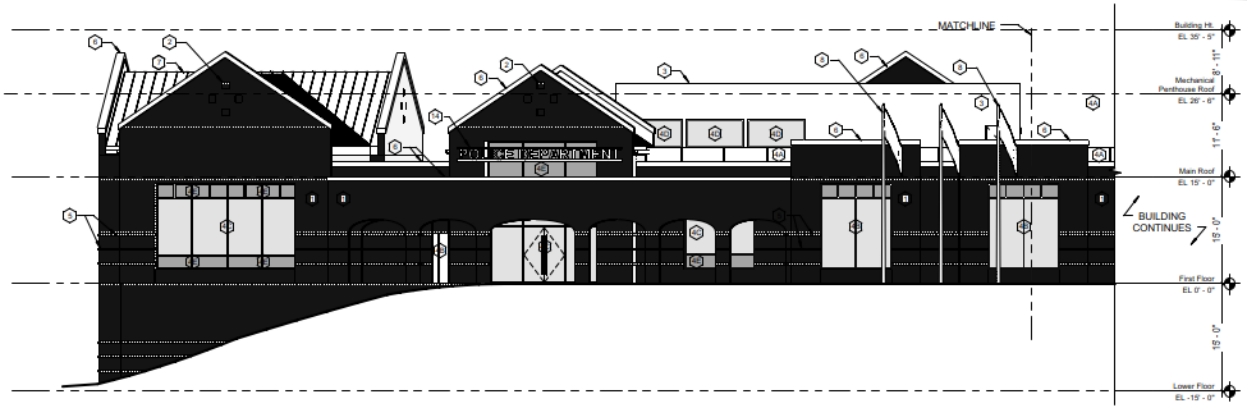
Building Design and Construction Division

Agenda

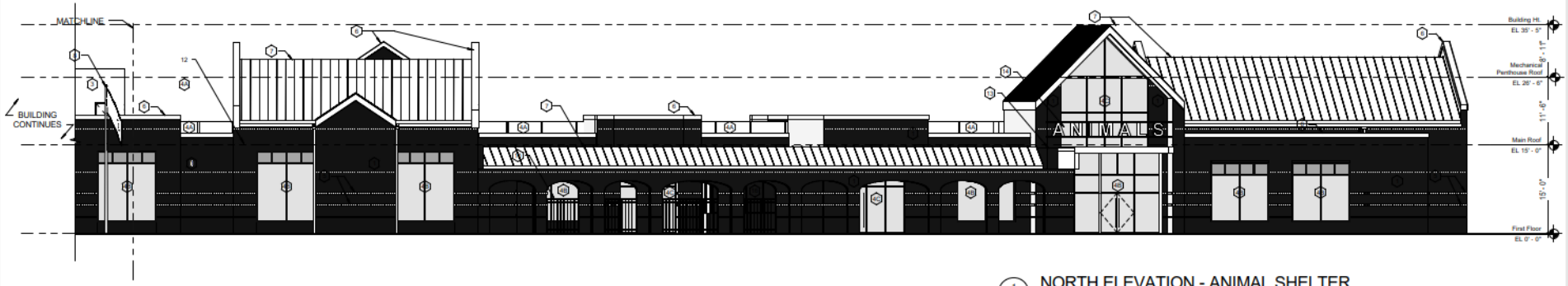
- Conceptual Design Review
- Architectural Review Board Approval
- Schematic Design Update
  - Plan Development
  - HVAC LCCA
  - Stormwater
- LEED and Sustainability Features
- Natural Landscaping
- Preliminary Landscaping Plan
- Schedule
- Next Steps

Schematic Design Rendering

Schematic Design Elevations

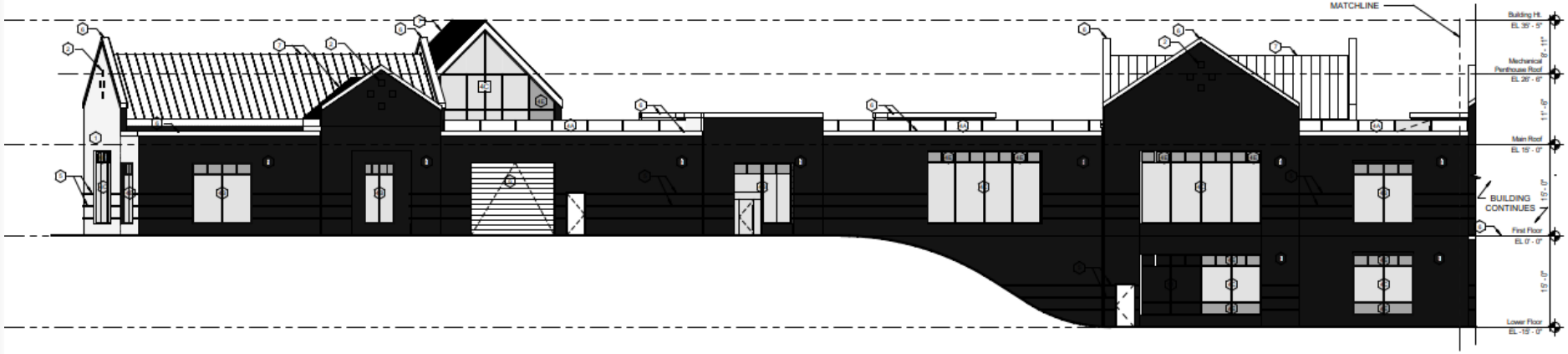


2 A-201 NORTH ELEVATION - POLICE STATION
1/8" = 1'-0"

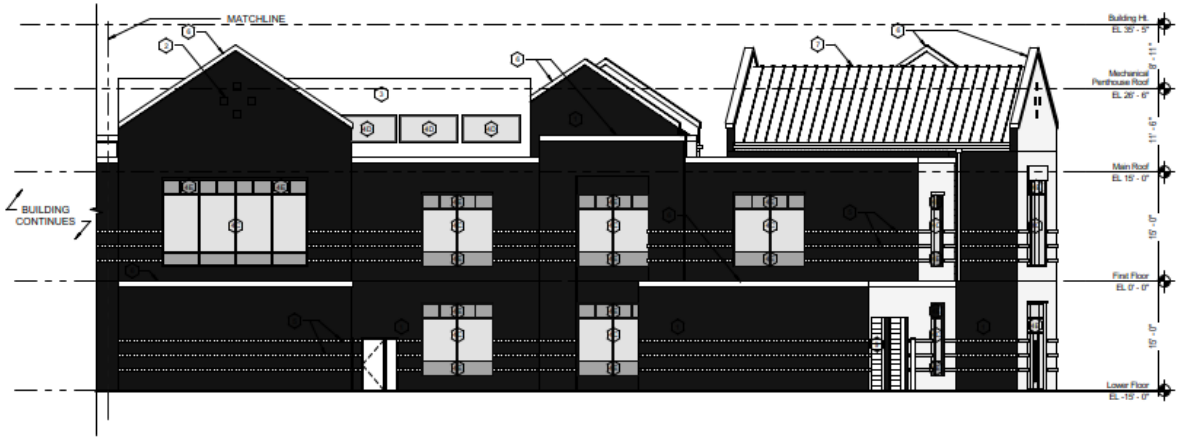


1 A-201 NORTH ELEVATION - ANIMAL SHELTER
1/8" = 1'-0"

Schematic Design Elevations



2 A-202 SOUTH ELEVATION - ANIMAL SHELTER & POLICE STATION



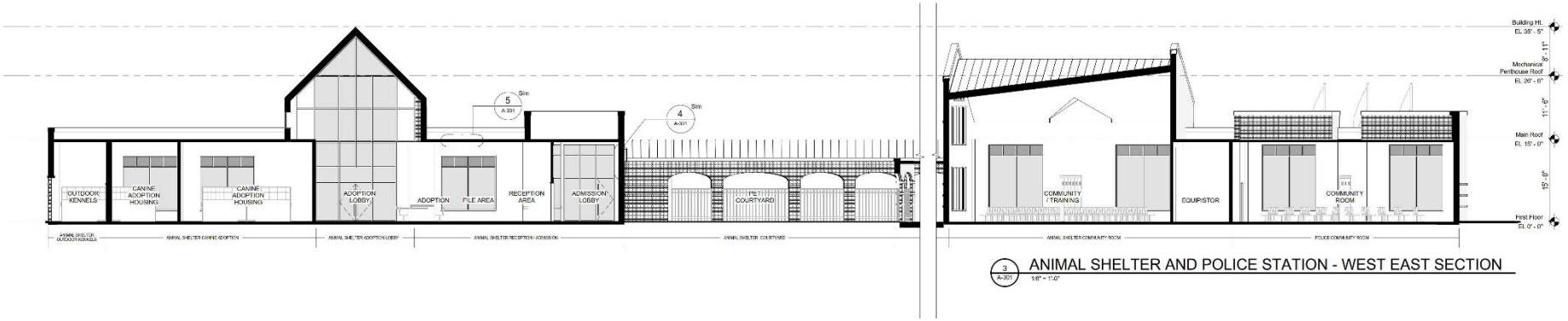
1 A-202 A-201 SOUTH ELEVATION - POLICE STATION

Schematic Design Elevations

3 A-202 WEST ELEVATION - ANIMAL SHELTER
1/8" = 1'-0"

3 A-201 EAST ELEVATION - POLICE STATION STAFF ENTRANCE
1/8" = 1'-0"

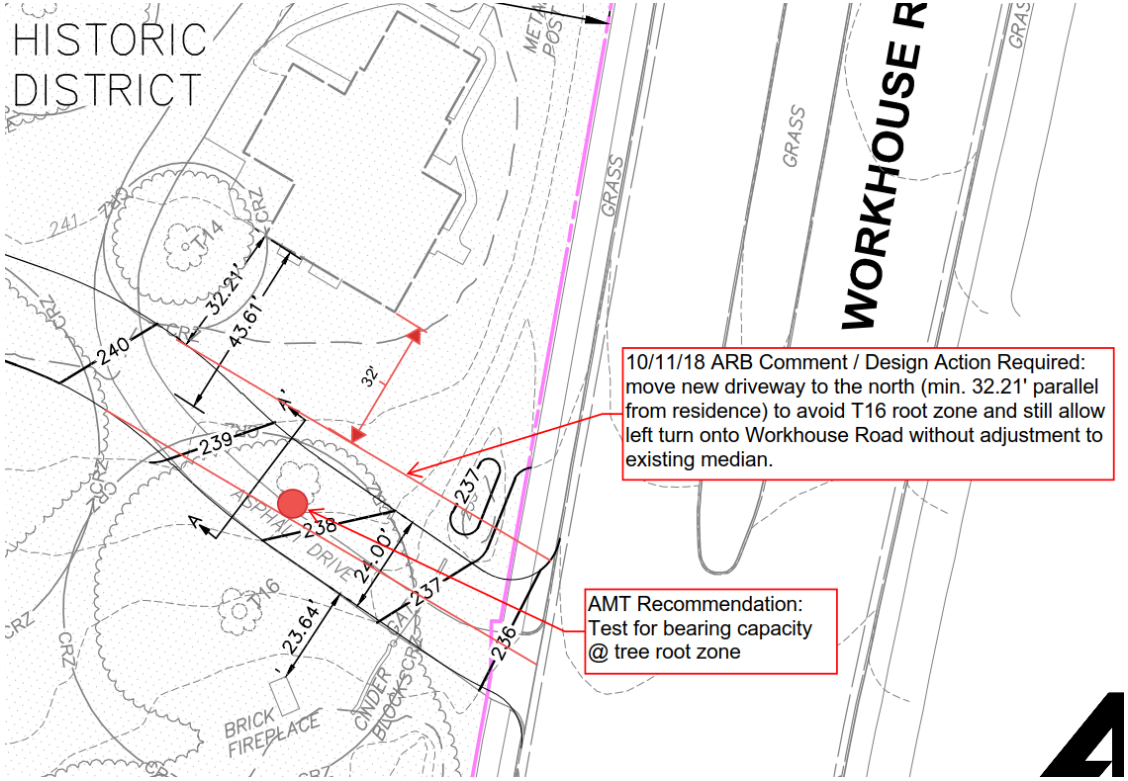
Schematic Design Building Section



Architectural Review Board Approval

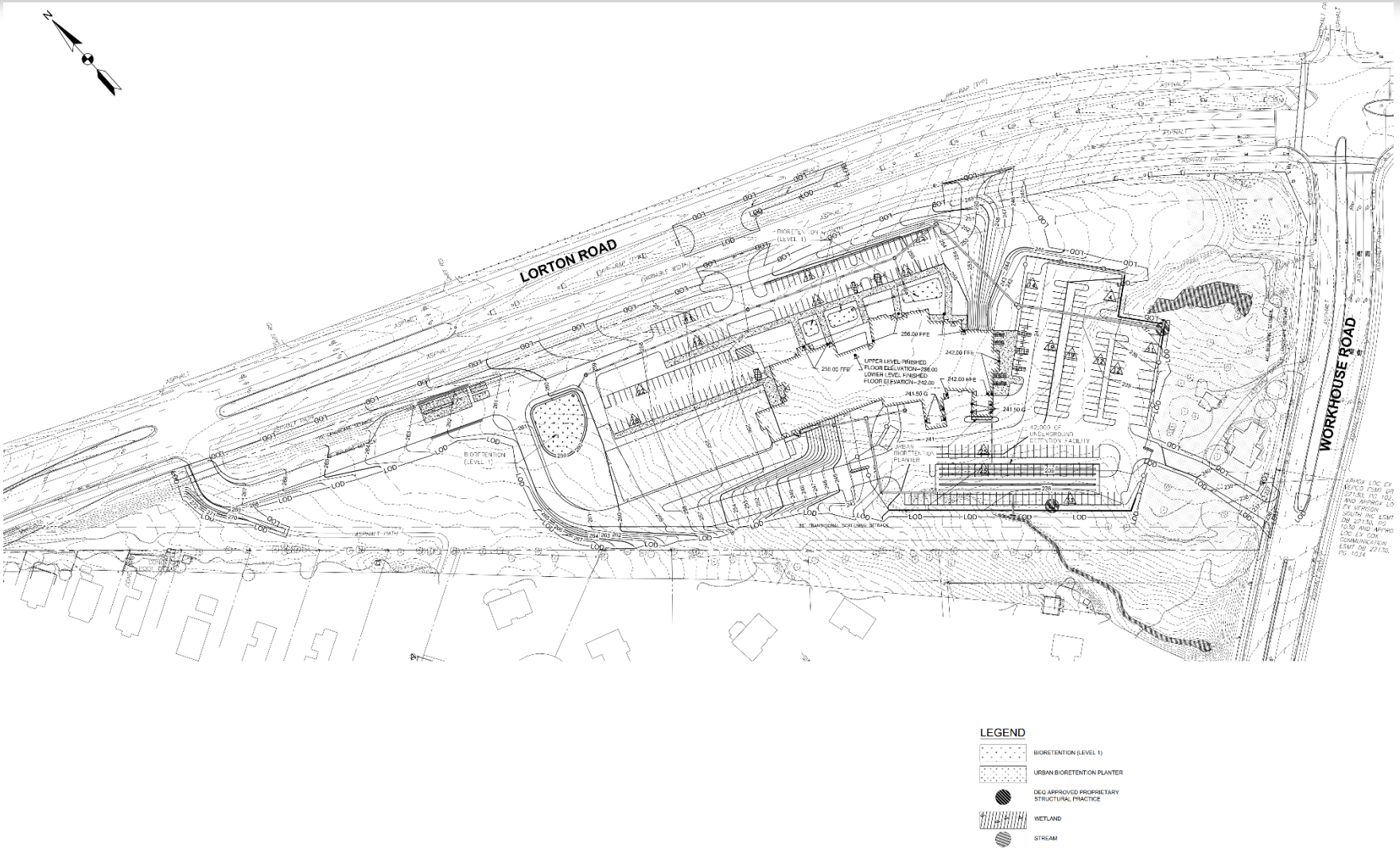
Architectural Review Board Approval

- **ARB Approval**
  - Passed at the October 11, 2018 meeting
  - 2 conditions
    - Shift the dog legged design of the proposed access road to better preserve the existing tree (t-16)
    - Keep the redesigned access road no closer than 32.21 feet to the house at any point



South County Police Station and Animal Shelter

Schematic Design Site Plan

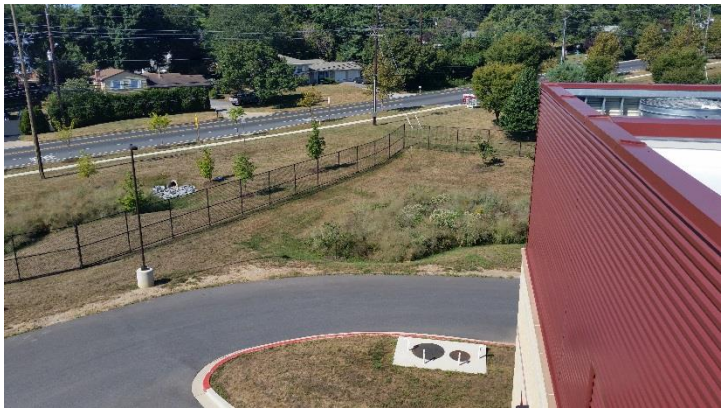


Stormwater Management Plan

Site Sustainability Options:

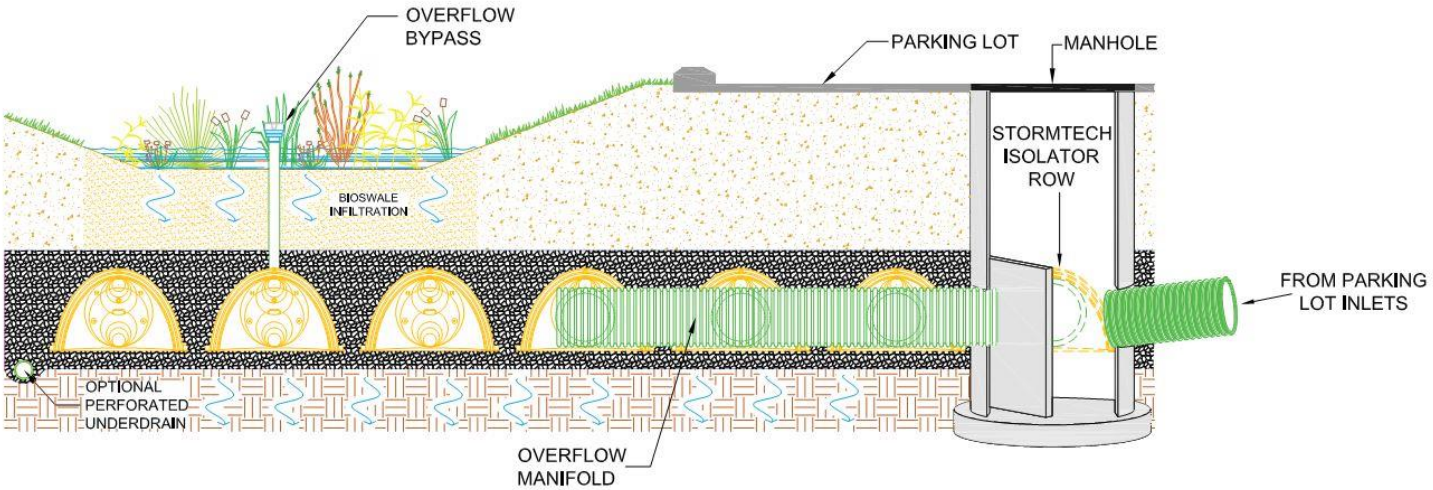
- Stormwater Planning Coordination
  - Bioretention (Level 1)
  - Urban Bioretention Planter
  - DEQ Proprietary Approved Structural Practice
  - Underground Detention Facility

Bioretention / Urban Bioretention



Stormwater Management Plan

Pipe Arch Stormwater Storage



LEED

What is **LEED**?

- **L**eadership in **E**nergy and **E**nvironmental **D**esign
  - LEED Buildings:
    - ✓ Save Energy, Water, and Resources
    - ✓ Generate less waste
    - ✓ Support human health
    - ✓ Cost less to operate
    - ✓ Boost employee productivity and retention
  - Most widely used green building rating system in the world
    - ✓ LEED certified 40-49 points
    - ✓ Silver Level 50-59 points
    - ✓ Gold Level 60-79 points
    - ✓ Platinum Level 80+ points (110 possible)

LEED

LEED Categories:

- Location and Transportation
  - ✓ Bicycle storage, low emitting & fuel efficient vehicle parking
- Sustainable Sites:
  - ✓ Maximize open space, stormwater design, heat island effect
- Water Efficiency:
  - ✓ Low flow fixtures, native landscaping, water metering
- Energy and Atmosphere
  - ✓ Min energy performance, enhanced commissioning, energy metering
- Materials and Resources
  - ✓ Recycling, construction waste management, using environmental friendly material
- Indoor Environmental Quality
  - ✓ Air quality, thermal comfort
- Innovation
  - ✓ Birds collision deterrence design, green house keeping, green building education

LEED Scorecard

SOUTH COUNTY POLICE STATION AND ANIMAL SERVICES - Lorton, VA — **1/9/2019**
LEED 2009 PROJECT SCORECARD

43 18 18 31 Total Project Score (pre-certification estimates) — Possible Points **110**

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 or more points

Project Information — Possible Points 0

Y	M+	M-	N				
Y				Form 1	D	Minimum Program Requirements	0
Y				Form 2	D	Project summary Details	0
Y				Form 3	D	Occupant and Usage Data	0
Y				Form 4	D	Schedule and Overview Documents	0

Sustainable Sites — Possible Points 26

Y	M+	M-	N				
Y				Prereq 1	C	Construction Activity Pollution Prevention	0
1				Credit 1	D	Site Selection	1
			5	Credit 2	D	Development Density & Community Connectivity	5
			1	Credit 3	D	Brownfield Redevelopment	1
			6	Credit 4.1	D	Alternative Transportation: Public Transportation Access	6
1				Credit 4.2	D	Alternative Transportation: Bicycle Storage & Changing Rooms	1
3				Credit 4.3	D	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	3
			2	Credit 4.4	D	Alternative Transportation: Parking Capacity	2
		1		Credit 5.1	C	Site Development: Protect or Restore Habitat	1
1				Credit 5.2	D	Site Development: Maximize Open Space	1
	1			Credit 6.1	D	Stormwater Design: Quantity Control	1
	1			Credit 6.2	D	Stormwater Design: Quality Control	1
		1		Credit 7.1	C	Heat Island Effect: Non-Roof	1
1				Credit 7.2	D	Heat Island Effect: Roof	1
1				Credit 8	D	Light Pollution Reduction	1

Water Efficiency — Possible Points 10

Y	M+	M-	N				
Y				Prereq 1	D	Water Use Reduction	0
4				Credit 1	D	Water Efficient Landscaping: (50% Reduction or No Potable Use/No Irrigation)	4
		2		Credit 2	D	Innovative Wastewater Technologies	2
3	1			Credit 3	D	Water Use Reduction: 30% 35% 40% Reduction	4

Energy & Atmosphere — Possible Points 35

Y	M+	M-	N				
Y				Prereq 1	C	Fundamental Building Systems Commissioning	0
Y				Prereq 2	D	Minimum Energy Performance (10%)	0
Y				Prereq 3	D	Fundamental Refrigerant Management	0
4	6	3	6	Credit 1	D	Optimize Energy Performance (New: 12%, 14%, 16%, etc.)	19
	2	3	2	Credit 2	D	On-Site Renewable Energy (1%, 3%, 5%, 7%, 9%, 11%, 13%)	7
2				Credit 3	C	Enhanced Commissioning	2
	2			Credit 4	D	Enhanced Refrigerant Management	2
1		2		Credit 5	C	Measurement & Verification	3
		2		Credit 6	C	Green Power (Purchase 35% Electricity from Green Sources)	2

Materials & Resources — Possible Points 14

Y	M+	M-	N				
Y				Prereq 1	D	Storage & Collection of Recyclables	0
			3	Credit 1.1	C	Building Reuse: Maintain Existing Walls, Floors, & Roof (55%, 75%, 95%)	3
			1	Credit 1.2	C	Building Reuse: Maintain Existing Interior Nonstructural Elements (50%)	1
2				Credit 2	C	Construction Waste Management: Divert 50% 75% from disposal	2
			2	Credit 3	C	Materials Reuse: 5% 10%	2

Materials & Resources, Continued

Y	M+	M-	N				
2				Credit 4	C	Recycled Content: 10% 20% (post-consumer + 1/2 pre-consumer)	2
2				Credit 5	C	Regional Materials: 10% 20% Extracted, Processed, Manufactured Regionally	2
			1	Credit 6	C	Rapidly Renewable Materials: 2.5%	1
1				Credit 7	C	Certified Wood (50% FSC certified wood-based materials)	1

Indoor Environmental Quality — Possible Points 15

Y	M+	M-	N				
Y				Prereq 1	D	Minimum IAQ Performance	0
Y				Prereq 2	D	Environmental Tobacco Smoke (ETS) Control	0
1				Credit 1	D	Outdoor Air Delivery Monitoring	1
			1	Credit 2	D	Increased Ventilation	1
1				Credit 3.1	C	Construction IAQ Management Plan: During Construction	1
	1			Credit 3.2	C	Construction IAQ Management Plan: Before Occupancy	1
1				Credit 4.1	C	Low-Emitting Materials: Adhesives & Sealants	1
1				Credit 4.2	C	Low-Emitting Materials: Paints & Coatings	1
1				Credit 4.3	C	Low-Emitting Materials: Flooring Systems	1
1				Credit 4.4	C	Low-Emitting Materials: Composite Wood & Agrifiber Products	1
	1			Credit 5	D	Indoor Chemical & Pollutant Source Control	1
1				Credit 6.1	D	Controllability of Systems: Lighting	1
			1	Credit 6.2	D	Controllability of Systems: Thermal Comfort	1
1				Credit 7.1	D	Thermal Comfort: Design	1
1				Credit 7.2	D	Thermal Comfort: Verification - Owner commitment	1
		1		Credit 8.1	D	Daylight & Views: Daylight 75% of Spaces	1
		1		Credit 8.2	D	Daylight & Views: Views for 90% of Spaces	1

Innovation — Possible Points 6

Y	M+	M-	N				
	1			Credit 1.1	C	Innovation in Design: EP MRc4, or TBD	1
1				Credit 1.2	C	Innovation in Design: EP MRc5 or MRc7	1
1				Credit 1.3	C	Innovation in Design: Low Mercury Lighting	1
1				Credit 1.4	C	Innovation in Design: Low-Emitting Ceilings & Walls or TBD	1
	1			Credit 1.5	D	Innovation in Design: Green Cleaning or TBD	1
1				Credit 2	C	LEED™ Accredited Professional	1

Regional Priority — Possible Points 4

Y	M+	M-	N				
1				Credit 1.1	C	Regional Priority: MRc2 (50%)	1
		1		Credit 1.2	D	Regional Priority: SSc6.1	1
		1		Credit 1.3	D	Regional Priority: EAc2 (1%) or MRc1.1(55%)	1
	1			Credit 1.4	D	Regional Priority: WEc3 (40%) or WEc2	1

Legend:

Regional Priority Credits

- Y Achievable
- M+ Achievable with relative Low Cost / Effort and/or Uncertain
- M- Achievable with relative High Cost / Effort and/or Uncertain
- N Not Achievable

1 of 1

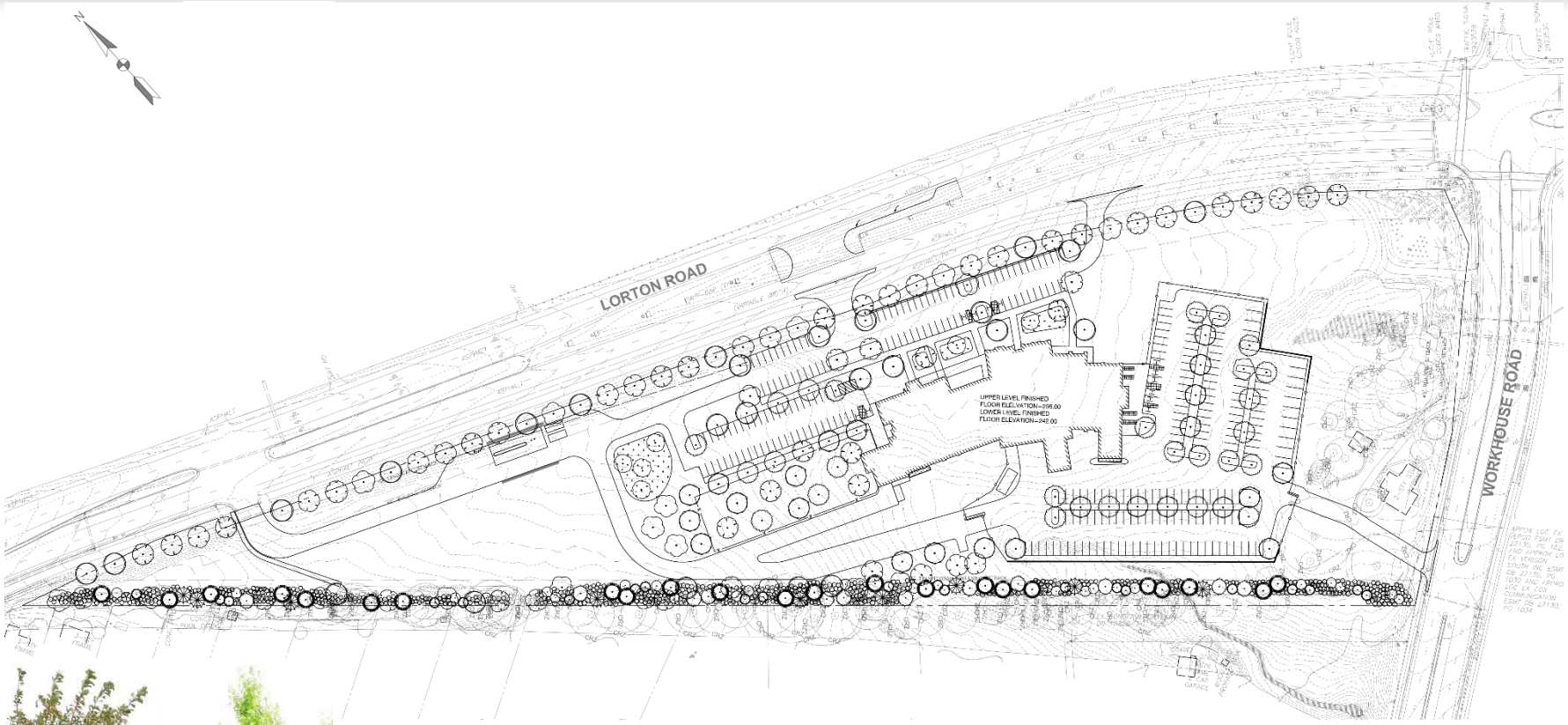
AECOM: Washington DC 202.772.0675

Natural Landscaping

What is **Natural Landscaping**?

- **Natural Landscaping**
  - Fairfax County Policy adopted in September 2007 to be incorporated into all proposed Capital Improvement projects.
  - Natural Landscaping is defined as landscaping that improves the aesthetic and environmental function of formal and restored areas by recreating land features and plant communities found in nature.
  - Sustainable landscapes should seed to maximize the use of:
    - ✓ Native plants
    - ✓ Remove invasive plant species
    - ✓ Reduce turf grass and chemical inputs
    - ✓ Improve soils
    - ✓ Retain rain water on-site

SD Landscaping Plan (Preliminary)

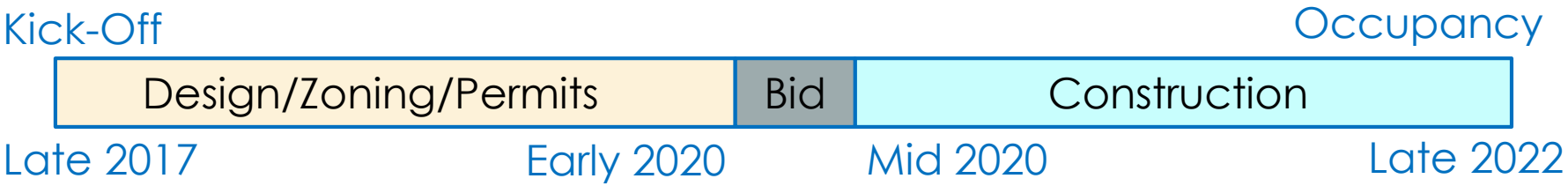








Schedule


Kick-Off
Occupancy
Design/Zoning/Permits
Bid
Construction
Late 2017
Early 2020
Mid 2020
Late 2022

Next Steps

- 2232 Process
- Continue Design – Design Development (DD)
- Value Engineering
- Construction Document (CD) Phase
- Next Steering Committee Meeting?