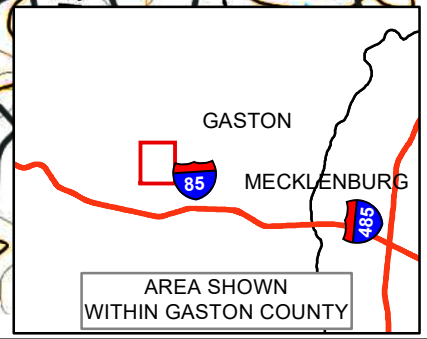
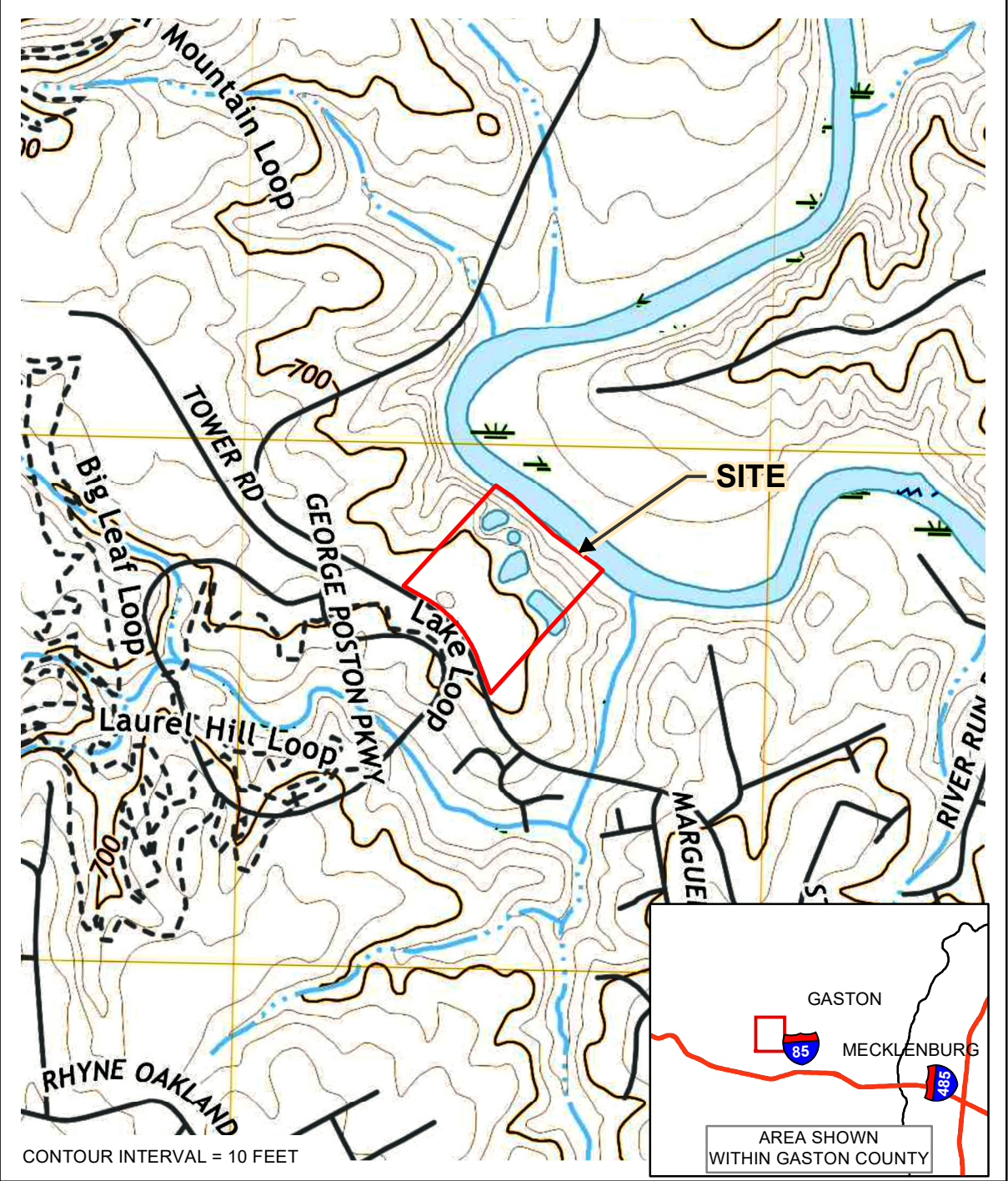


**APPENDIX A**

**Building Summary Spreadsheet & Select  
Site Figures**

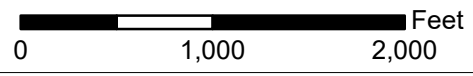
**Building Summary - Former Yorshire Americas Facility**  
**1602 N. Main Street, Lowell, NC**

<b>Building No.</b>	<b>Finished Square Footage</b>	<b>Demo (Y/N)</b>	<b>Year Built</b>	<b>Notes</b>
1	3,600	Y	1962	Building square footage taken from King Guinn Report, July 11, 2018
2	5,144	Y	1961	Includes Building 15 (144 square feet)
3	15,000	Y	1961	Partial demolition
4	4,000	N	1962	
5	11,000	Y	1961	
6	2,250	Y	1961	
7	2,250	Y	1962	
8, 9, 12	10,300	Y	1962	Building 12 = 3,000; Building 9 = 4,800; Building 8 = 2,500
10	2,500	Y	1962	
11	2,600	Y	1963	
13	7,000	Y	1962	
17	625	Y	UNK	
18	6,750	Y	1975	
21	900	Y	1987	
22	375	Y	UNK	
24	875	Y	UNK	
26	900	Y	1994	
28	672	Y	UNK	
29	360	Y	UNK	
30	280	Y	UNK	
31	400	Y	UNK	
34	1,260	Y	UNK	
	<u>79,041</u>	<u>Total Square Footage</u>		



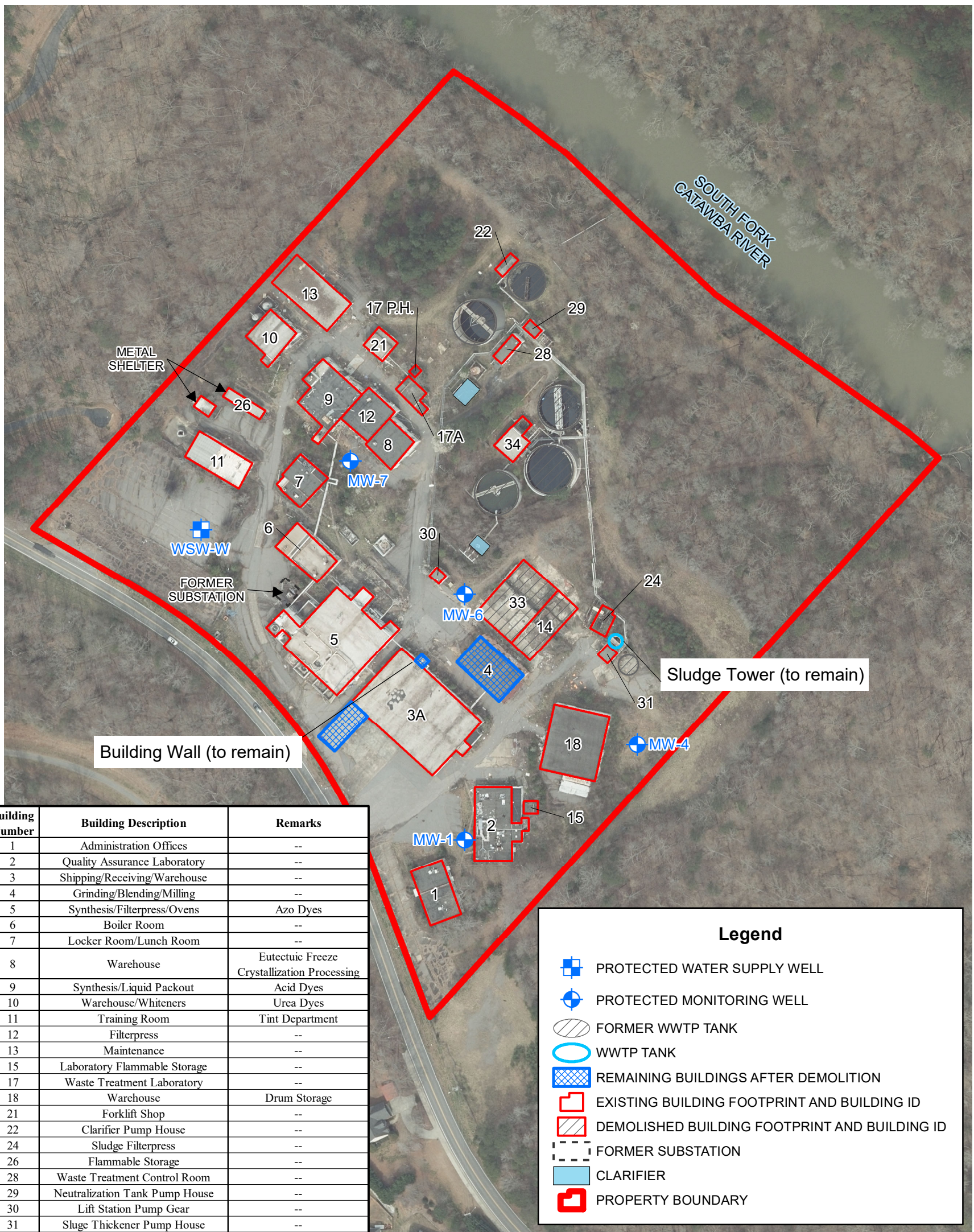
- REFERENCES:
1. MOUNT HOLLY, NC DIGITAL RASTER GRAPHICS, USGS. SCANNED FROM 1:24,000-SCALE TOPOGRAPHIC MAPS, PUBLISHED 2019, USGS.
  2. NCDOT

SCALE: 1:12,000



TOPOGRAPHIC SITE MAP  
 YORKSHIRE AMERICAS III  
 1602 N. MAIN STREET  
 LOWELL, NORTH CAROLINA

DRAWN BY:	KRC	DATE:	JULY 2022
DRAFT CHECK:	SS	JOB NO:	022H1336.00
ENG. CHECK:		GIS NO:	3G-H1336.00-1
APPROVAL:	GDI	DWG NO:	1



Building Number	Building Description	Remarks
1	Administration Offices	--
2	Quality Assurance Laboratory	--
3	Shipping/Receiving/Warehouse	--
4	Grinding/Blending/Milling	--
5	Synthesis/Filterpress/Ovens	Azo Dyes
6	Boiler Room	--
7	Locker Room/Lunch Room	--
8	Warehouse	Eutectic Freeze Crystallization Processing
9	Synthesis/Liquid Packout	Acid Dyes
10	Warehouse/Whiteners	Urea Dyes
11	Training Room	Tint Department
12	Filterpress	--
13	Maintenance	--
15	Laboratory Flammable Storage	--
17	Waste Treatment Laboratory	--
18	Warehouse	Drum Storage
21	Forklift Shop	--
22	Clarifier Pump House	--
24	Sludge Filterpress	--
26	Flammable Storage	--
28	Waste Treatment Control Room	--
29	Neutralization Tank Pump House	--
30	Lift Station Pump Gear	--
31	Sluge Thickener Pump House	--
34	Waste Treatment Equipment Room	--

**Legend**

- PROTECTED WATER SUPPLY WELL
- PROTECTED MONITORING WELL
- FORMER WWTP TANK
- WWTP TANK
- REMAINING BUILDINGS AFTER DEMOLITION
- EXISTING BUILDING FOOTPRINT AND BUILDING ID
- DEMOLISHED BUILDING FOOTPRINT AND BUILDING ID
- FORMER SUBSTATION
- CLARIFIER
- PROPERTY BOUNDARY

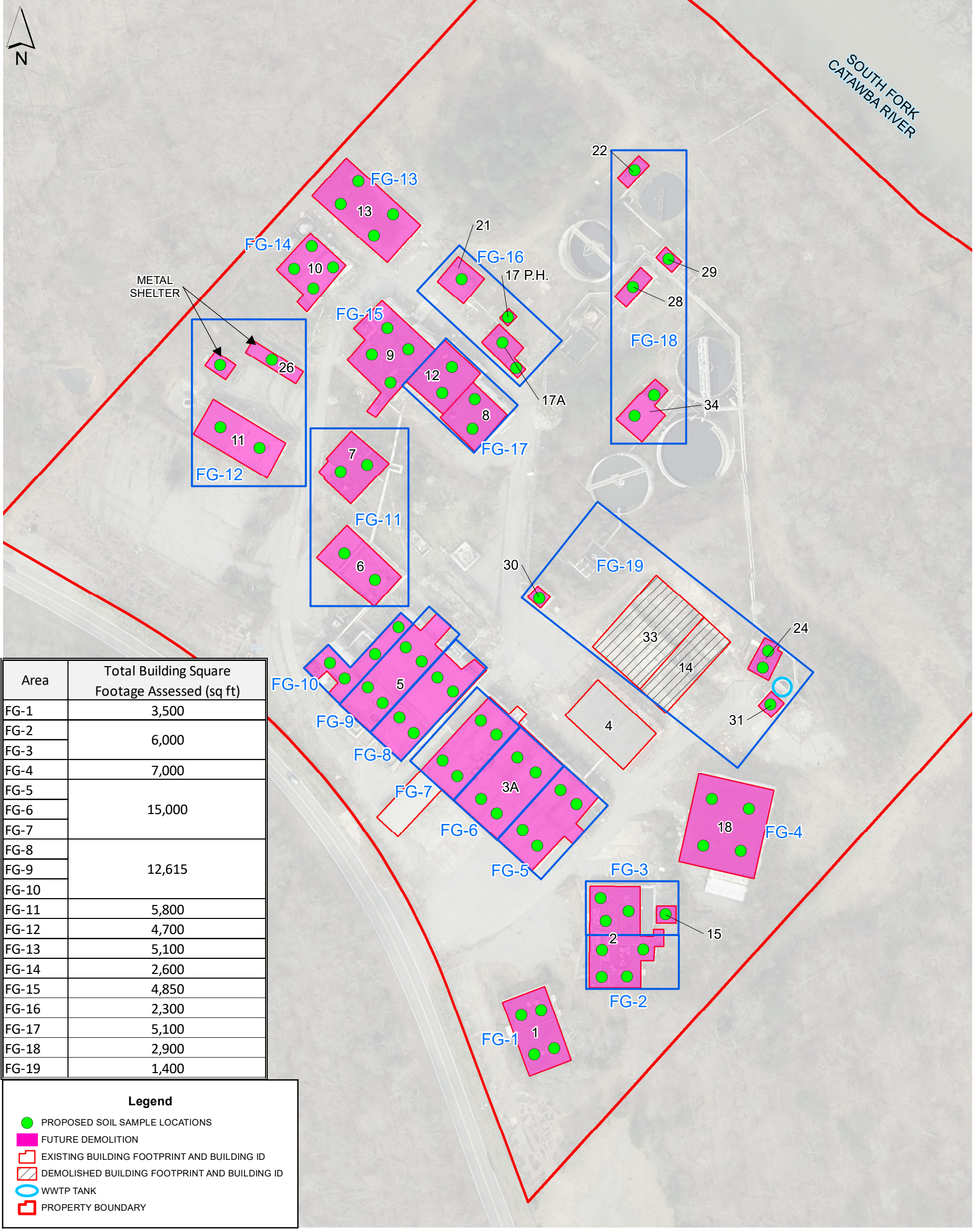
**REFERENCES:**

1. 2019 AERIAL IMAGERY FROM NC ONEMAP.
2. GASTON COUNTY GIS.
3. MID-ATLANTIC FIELD NOTES.
4. BUILDING DENOTATIONS FROM "SITE FEATURES" MAP PREPARED BY GEOSYNTEC, APRIL 2018



**SITE MAP**  
**CROMPTON & KNOWLES SITE**  
 1602 N. MAIN STREET  
 LOWELL, NORTH CAROLINA

DRAWN BY: JLS/KRC	DATE: AUGUST 2022
DRAFT CHECK: SS	JOB NO: 000H1336.00
ENG. CHECK:	GIS NO: 03G-H1336.00-01
APPROVAL: GDI	DWG NO.: 1

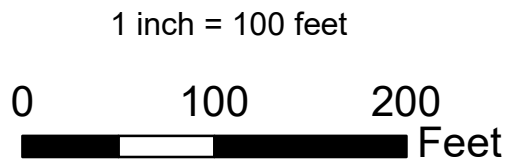


Area	Total Building Square Footage Assessed (sq ft)
FG-1	3,500
FG-2	6,000
FG-3	
FG-4	7,000
FG-5	15,000
FG-6	
FG-7	
FG-8	12,615
FG-9	
FG-10	5,800
FG-11	
FG-12	4,700
FG-13	5,100
FG-14	2,600
FG-15	4,850
FG-16	2,300
FG-17	5,100
FG-18	2,900
FG-19	1,400

**Legend**

- PROPOSED SOIL SAMPLE LOCATIONS
- FUTURE DEMOLITION
- EXISTING BUILDING FOOTPRINT AND BUILDING ID
- DEMOLISHED BUILDING FOOTPRINT AND BUILDING ID
- WWTP TANK
- PROPERTY BOUNDARY

REFERENCES:  
 1. 2019 AERIAL IMAGERY FROM NC ONEMAP.  
 2. GASTON COUNTY GIS.  
 3. MID-ATLANTIC FIELD NOTES.  
 4. BUILDING DENOTATIONS FROM "SITE FEATURES" MAP PREPARED BY GEOSYNTEC, APRIL 2018



PROPOSED SAMPLE LOCATION MAP  
 YORKSHIRE AMERICAS III  
 1602 N. MAIN STREET  
 LOWELL, NORTH CAROLINA

DRAWN BY:	KRC	DATE:	JULY 2022
DRAFT CHECK:	SS	JOB NO:	000H1336.00
ENG. CHECK:		GIS NO:	03G-H1336.00-Samp
APPROVAL:	GDI	DWG NO.:	3



**Lowell**  
North Carolina

LIVE · LOVE · LOWELL

RIVERFRONT MASTER  
PLAN

&

PUBLIC WORKS  
CONCEPTUAL DESIGN

07.20.2022



CREECH & ASSOCIATES + STEWART

THE FIRST STEP IN ANY LOGICAL DESIGN PROCESS IS TO UNDERSTAND THE CONTEXT OF YOUR CANVAS. THE INTENT OF THIS PORTION OF THE STUDY WAS TO COMPLETE A THOROUGH ANALYSIS OF THE EXISTING SITE TO PROVIDE VALUABLE INFORMATION TO GUIDE DECISION-MAKING. MUCH OF THE SAME INFORMATION WILL BE REQUIRED TO PROCEED WITH DESIGN DOCUMENTS, SO THIS INFORMATION ALSO PROVIDES DUE-DILIGENCE AND BASE MAPPING.

THE FORMER YORKSHIRE AMERICAS SITE WAS SELECTED AS THE LOCATION FOR THE PROJECT AND CONSISTS OF APPROXIMATELY 17 ACRES THAT WAS PREVIOUSLY USED AS A TEXTILE DYE MANUFACTURING PLANT FROM 1958 TO 2004. THE SITE IS LOCATED AT 1602 N. MAIN ST. IN LOWELL, NC AND IS PART OF AN ONGOING BROWNFIELD ASSESSMENT/REDEVELOPMENT PROCESS AND HAS BEEN UNDER INVESTIGATION BY DENR SINCE 1991 FOR SOIL AND GROUND-WATER CONTAMINATION. THE VARIOUS STUDIES CONDUCTED OVER SEVERAL YEARS HAVE CONCLUDED THAT THERE IS POTENTIAL SOIL CONTAMINATION UNDER SEVERAL OF THE EXISTING BUILDINGS, WHICH HAS CONTRIBUTED TO THE GROUND WATER IMPACTS NOTED THROUGHOUT THE STUDIES. ADDITIONAL OBSERVATION OF THIS AREA AND GROUND-WATER SAMPLING SHOULD CONTINUE AND BE DEFINED IN THE BROWNFIELD AGREEMENT.

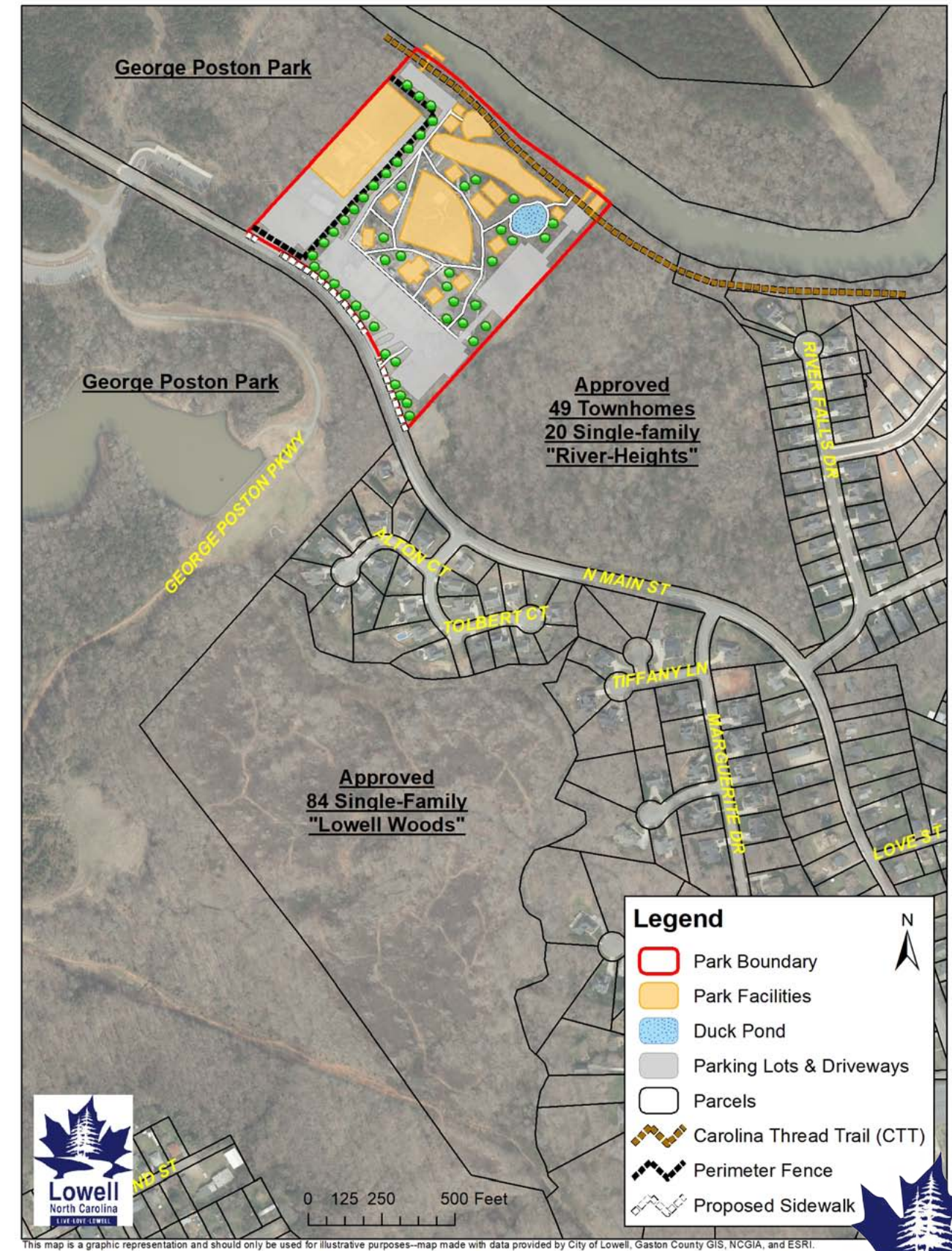
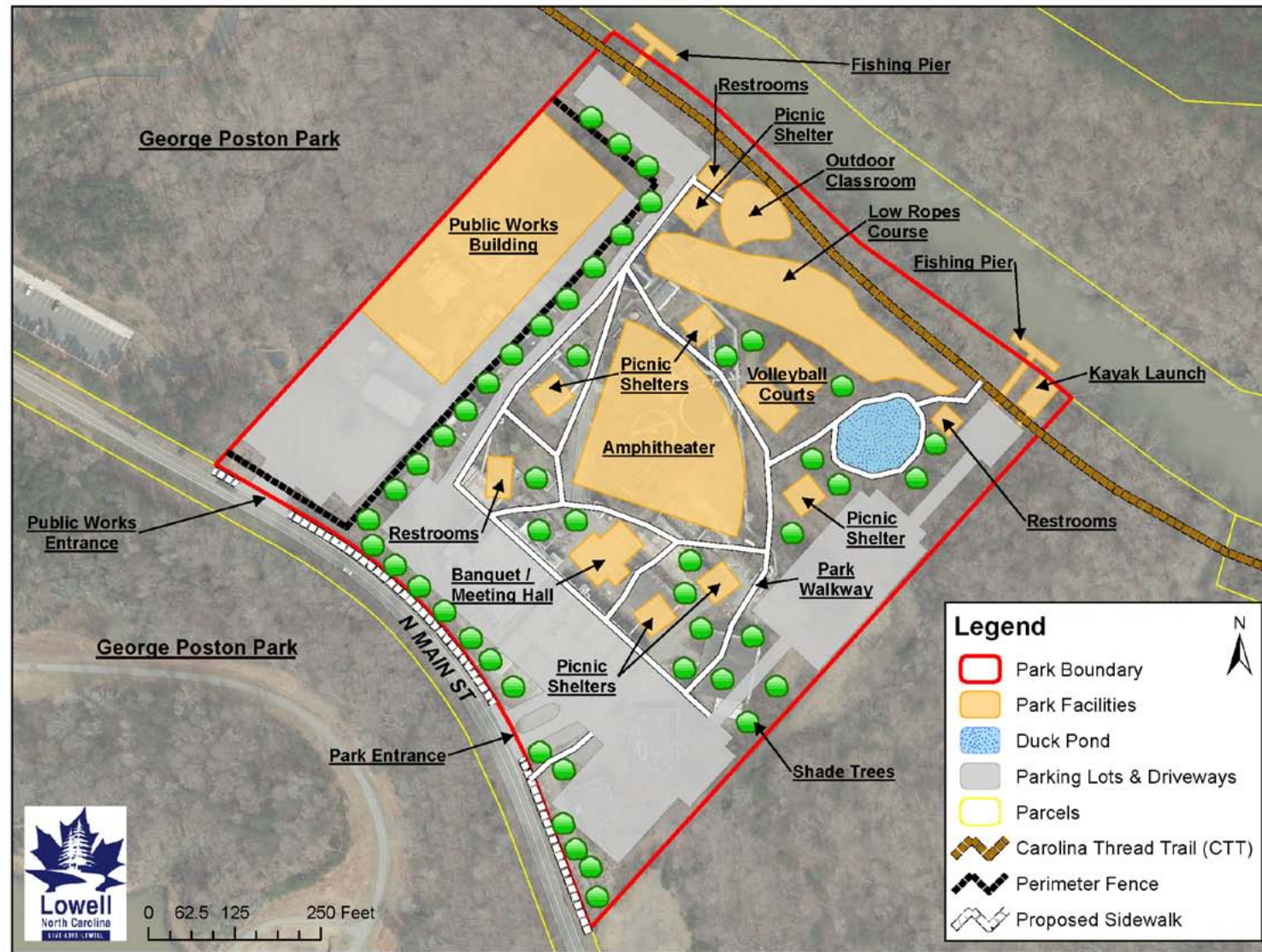
AS THE DESIGN TEAM EXAMINED THE AVAILABLE BUILDING INVENTORY RELATIVE TO DOCUMENTATION OF KNOWN CONTAMINANTS, A HANDFUL OF POTENTIAL REUSE BUILDINGS WERE IDENTIFIED. THESE BUILDINGS WERE ALSO SELECTED FOR THEIR AESTHETIC, HISTORICAL, AND LOCATIONAL ATTRIBUTES RELATED TO THE CONCEPTUAL PARK MASTER PLAN.

ADDITIONALLY, THE DESIGN TEAM EVALUATED THE TOPOGRAPHY TO FIND AREAS OF OPPORTUNITY THAT ALIGNED WITH THE PROGRAMMATIC ELEMENTS DESIRED BY THE CLIENT. A FOCUS ON MINIMAL GROUND DISTURBANCE ALSO GUIDED THE LOCATION OF ACTIVITIES AROUND THE SITE, HOPING TO AVOID POTENTIALLY CONTAMINATED SOIL AND ASSOCIATED VAPOR TRANSMISSION.

LASTLY, EXTERNAL CONNECTIONS WERE DEFINED AND ANALYZED IN HOPES TO HELP ORGANIZE INTERNAL CIRCULATION AND ACCESS TO THE VARIOUS SITE COMPONENTS.



# CONCEPT ORIGINS





# EXISTING CONDITIONS

Building Number	Building Description	Remarks
1	Administration Offices	-
2	Quality Assurance Laboratory	-
3	Shipping/Receiving/Warehouse	-
4	Grinding/Blending/Milling	-
5	Synthesis/Filterpress/Ovens	Azo Dyes
6	Boiler Room	-
7	Locker Room/Lunch Room	-
8	Warehouse	Eutectic Freeze Crystallization Processing
9	Synthesis/Liquid Packout	Acid Dyes
10	Warehouse/Whiteners	Urea Dyes
11	Training Room	Tint Department
12	Filterpress	-
13	Maintenance	-
15	Laboratory Flammable Storage	-
17	Waste Treatment Laboratory	-
18	Warehouse	Drum Storage
21	Forklift Shop	-
22	Clarifier Pump House	-
24	Sludge Filterpress	-
26	Flammable Storage	-
28	Waste Treatment Control Room	-
29	Neutralization Tank Pump House	-
30	Lift Station Switch Gear	-
31	Sludge Thickener Pump House	-
34	Waste Treatment Equipment Room	-



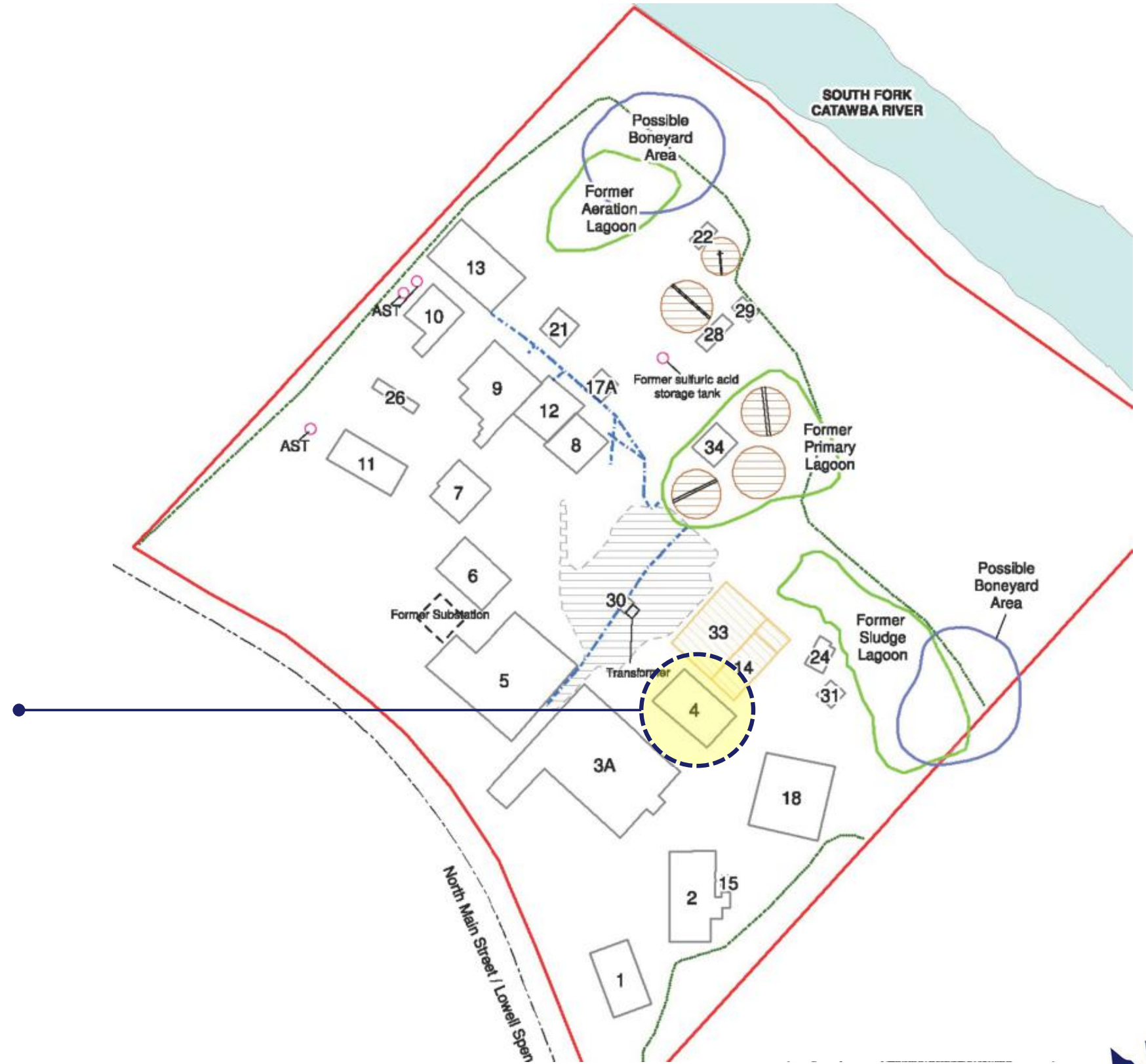
# E.C. - MILLING HOUSE



FRAMED VIEW OF SPENCER MOUNTAIN



END FACADES WITH LARGE OPENING



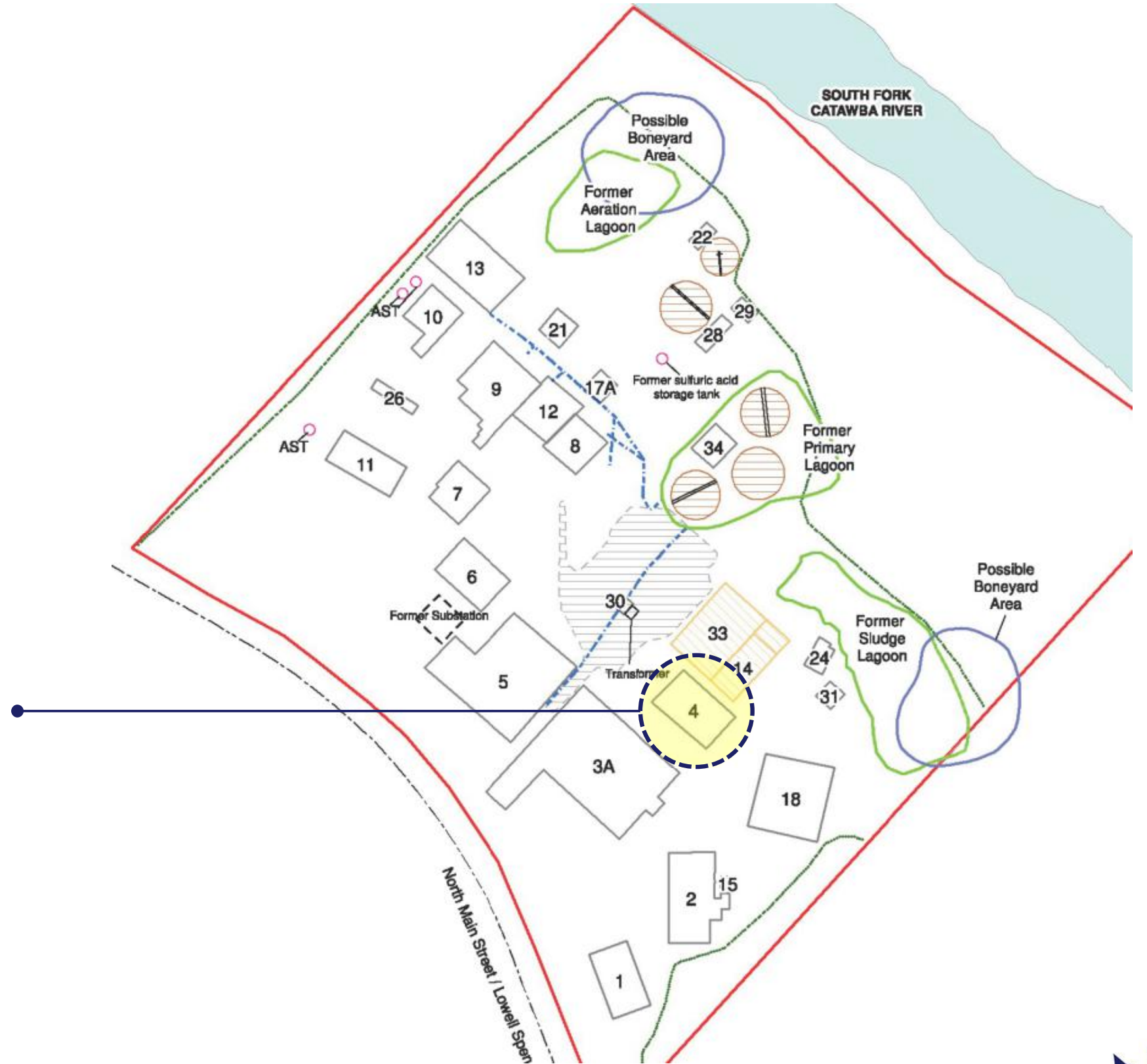
# E.C. - MILLING HOUSE



MILLING EQUIPMENT AS ART



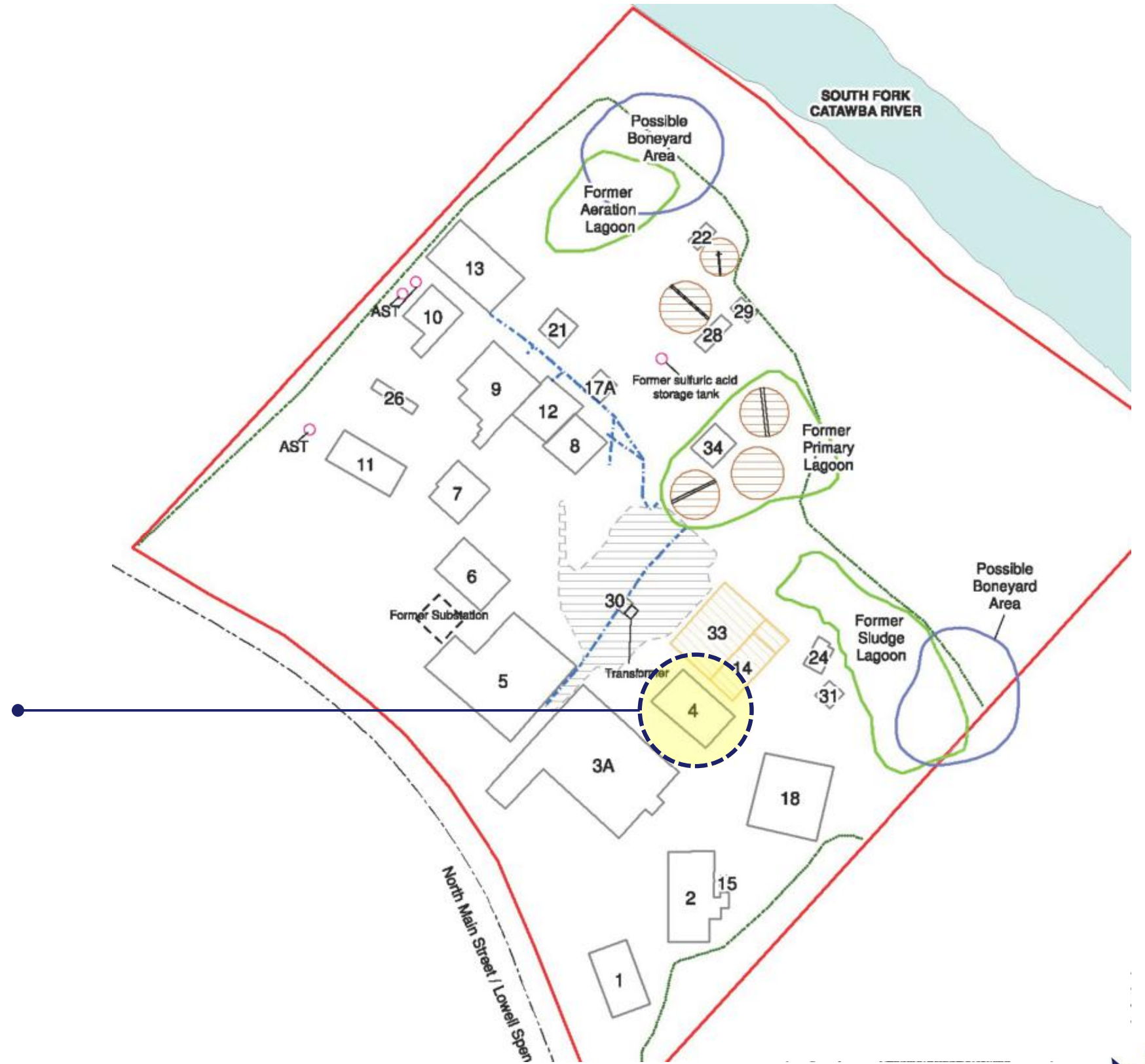
RETAINING WALL AND PLATFORM



# E.C. - MILLING HOUSE



ENVELOPE CAN BE OPENED FOR DAYLIGHT AND VIEWS



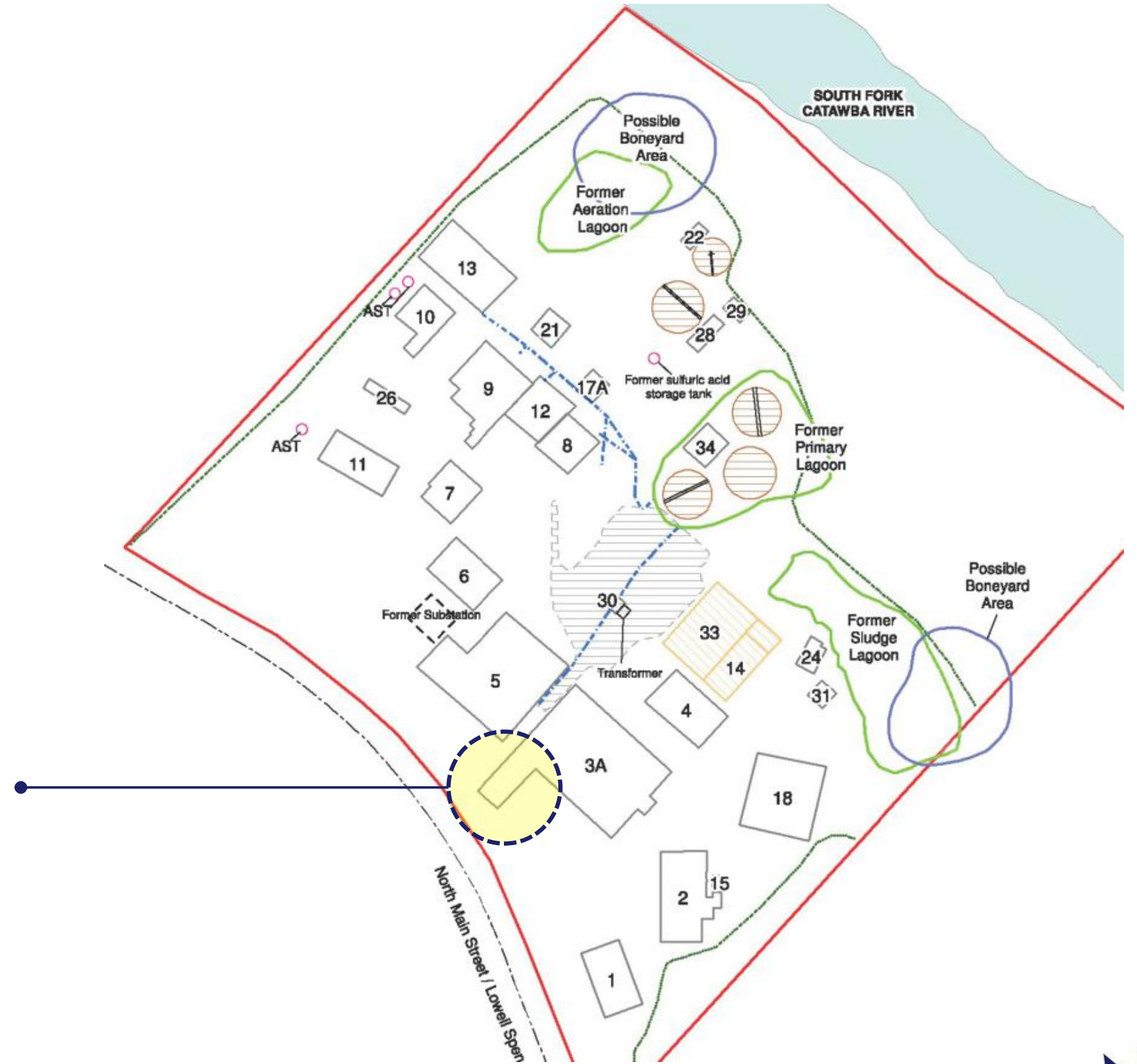
# E.C. - DOCK/STAGE



ELEVATED PLATFORM



OPEN TO LEVEL AREA



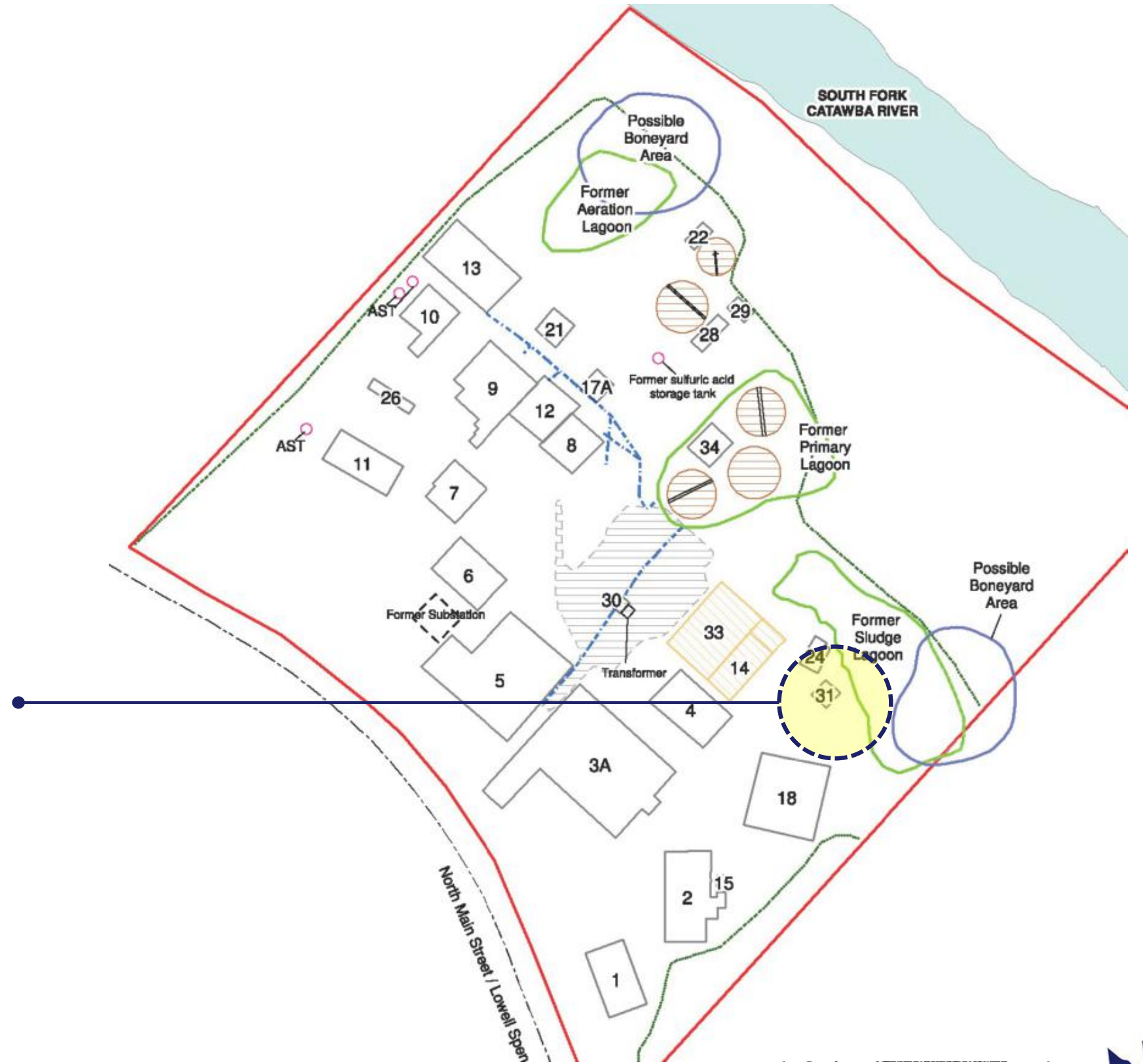
# E.C. - TOWER



ELEVATED VIEW OF MILLING HOUSE



ELEVATED VIEW OF TREE CANOPY



# BASE MAPS



THE PARK MASTER PLAN IS A BOLD VISION FOR EXPANDED RECREATION FOR THE TOWN OF LOWELL. THE REDEVELOPMENT OF AN ABANDONED MILL FACILITY PROVIDES A UNIQUE OPPORTUNITY TO REPURPOSE AND PRESERVE A PART OF THE REGIONAL HERITAGE. KEY PARTS OF THE SPRAWLING MILL COMPLEX WILL BE RETAINED, AND THEIR FUNCTIONS REIMAGINED AS THE NEW PARK IS SHAPED WITHIN THEIR FRAMEWORK. THE PARK PROGRAM WAS DEVELOPED BY TOWN STAFF THROUGH INTERNAL VISIONING, STAKEHOLDER DISCUSSIONS, AND COMMUNITY INPUT. WHILE MOST OF THE PARK IS PASSIVE THE ENTERTAINMENT ASPECTS PROVIDE OPPORTUNITIES FOR HIGHLY PROGRAMMED EVENTS.

THE SITE IS ADJACENT TO THE SOUTH FORK RIVER. THE LAND HAS BEEN SHAPED INTO THREE DEVELOPMENT TERRACES AS THE MILL EXPANDED OVER TIME. THE PARK PLAN TAKES ADVANTAGE OF THE EXISTING TOPOGRAPHY WHICH ALLOWS DEVELOPMENT TO WORK WITHIN TIGHT GRADING CRITERIA NECESSITATED BY THE CONDITIONS OF THE BROWNFIELD REDEVELOPMENT AGREEMENT. AS A RESULT, THE PARK MAKES A STRONG PRESENTATION TO NORTH MAIN STREET WITH PLAYGROUNDS, THE RENOVATED “ DOCK STAGE”, AND ACCESSIBLE PARKING. THE MIDDLE TERRACE FEATURES THE REPURPOSED MILLING BUILDING THAT ANCHORS A NEW ACTIVITIES LAWN AND VISTAS ACROSS THE TREE CANOPY AND TO SPENCER MOUNTAIN. THE LOWER TERRACE PROVIDES AN IDEAL LOCATION FOR THE LARGE PERFORMANCE STAGE PROJECTING NORTHEAST TO THE RIVER BELOW.

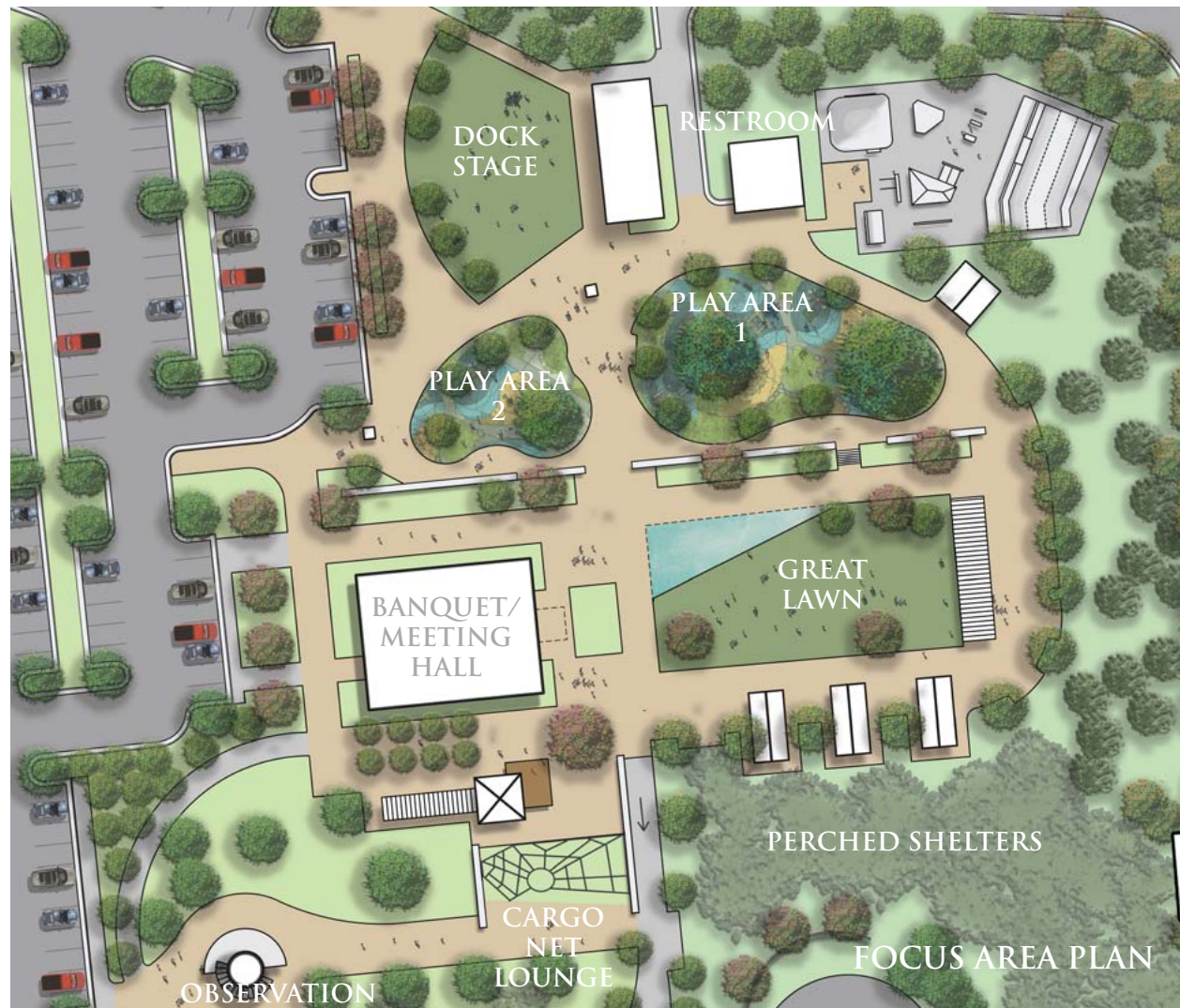
THE FRONTAGE ALONG THE SOUTH FORK RIVER IS THE NORTHERN EDGE OF THE SITE; IT IS SEPARATED FROM THE DEVELOPED AREAS OF THE PARK BY MATURE HARDWOOD FORESTS AND STEEP TERRAIN. THE LOW ELEVATION BOARDWALK PROVIDES AN ACCESSIBLE PATH TO THE FISHING PIER WHILE PRESERVING THE TREE CANOPY AND MINIMIZING GRADING ALONG THE SLOPES. A STEEPER GRAVEL TRAIL ALLOWS PORTAGE OF CANOE AND KAYAK TO THE NEW LAUNCH AND ALLOWS FOR MAINTENANCE ACCESS. A RIVERSIDE MULTIUSE TRAIL WILL RUN THE EXTENT OF THE PARCEL AND WILL BE A PART OF THE CAROLINA THREAD TRAIL LINKING LOCAL PARKS, NEIGHBORHOODS, AND TOWNS ALONG THE RIVER.

The background of the page is an aerial photograph of a park site, overlaid with semi-transparent architectural drawings. These drawings include building footprints, parking lots with cars, walkways, and landscaped areas with trees. The text 'MASTER PLAN CONCEPTS' is centered over the middle of the site plan. The word 'MASTER PLAN' is in a larger, bold, serif font, and 'CONCEPTS' is in a slightly smaller, bold, serif font below it. A vertical line is positioned to the left of the text.

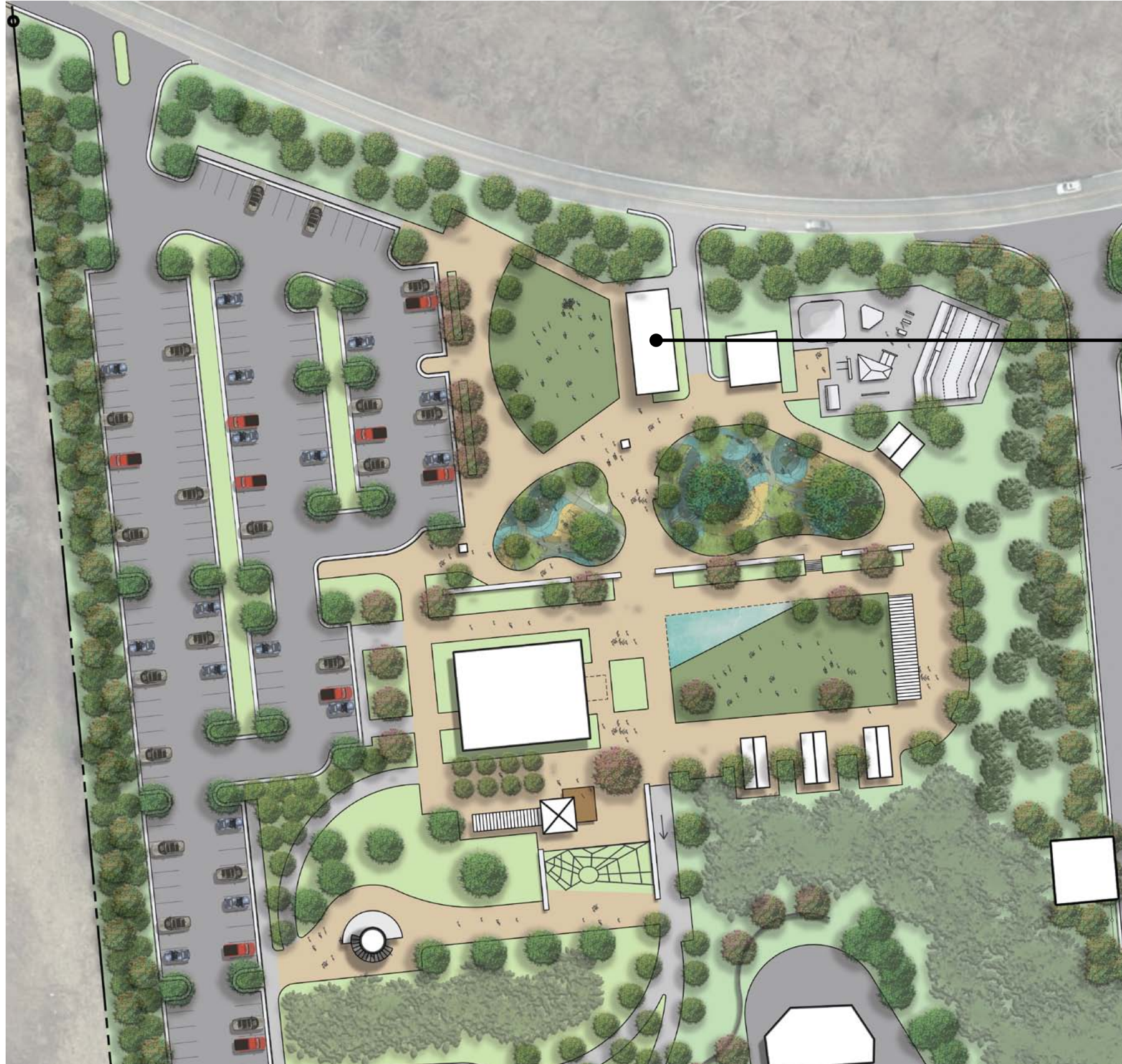
# MASTER PLAN CONCEPTS



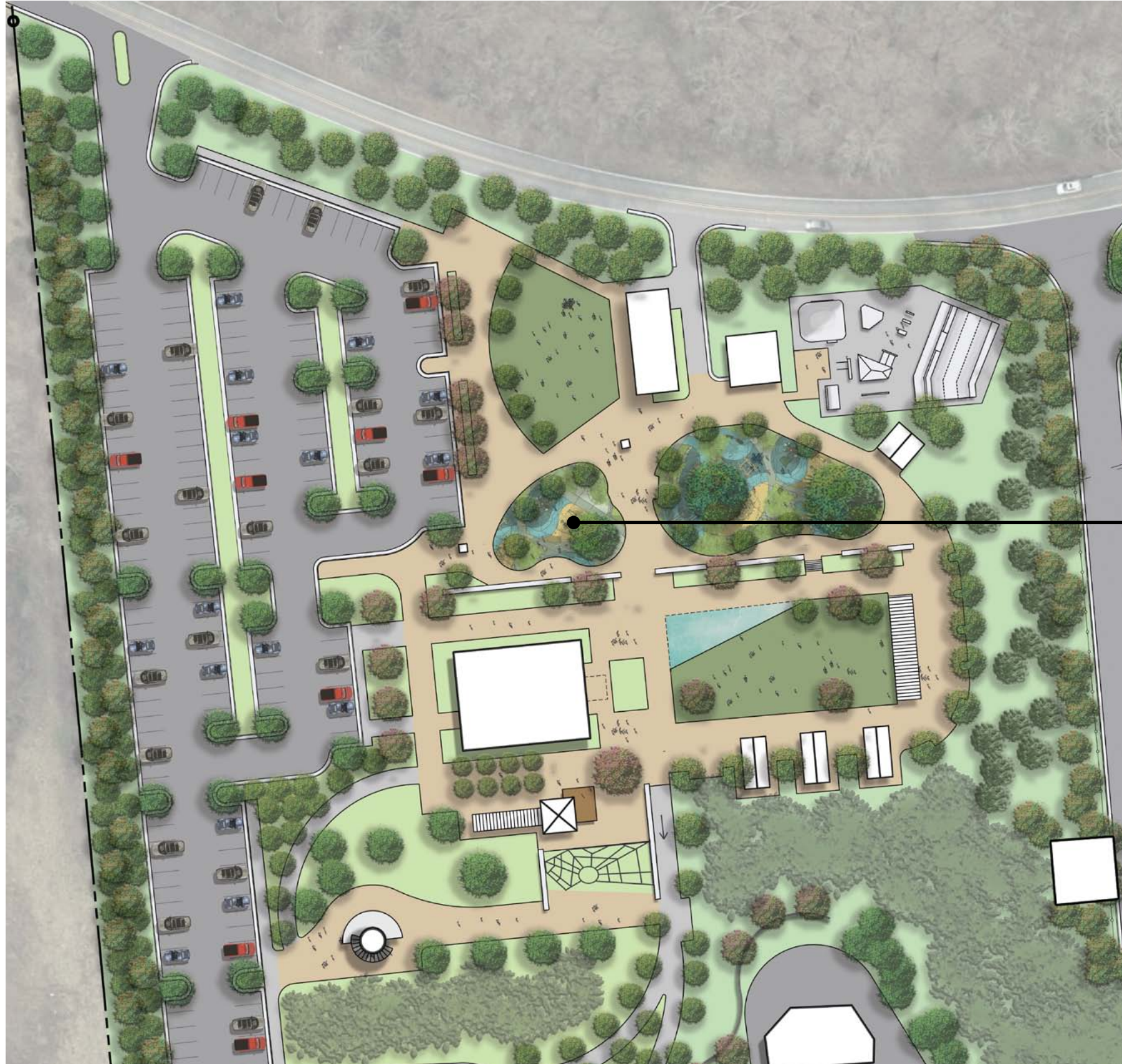
# MASTER PLAN - CONCEPT C (FINAL)



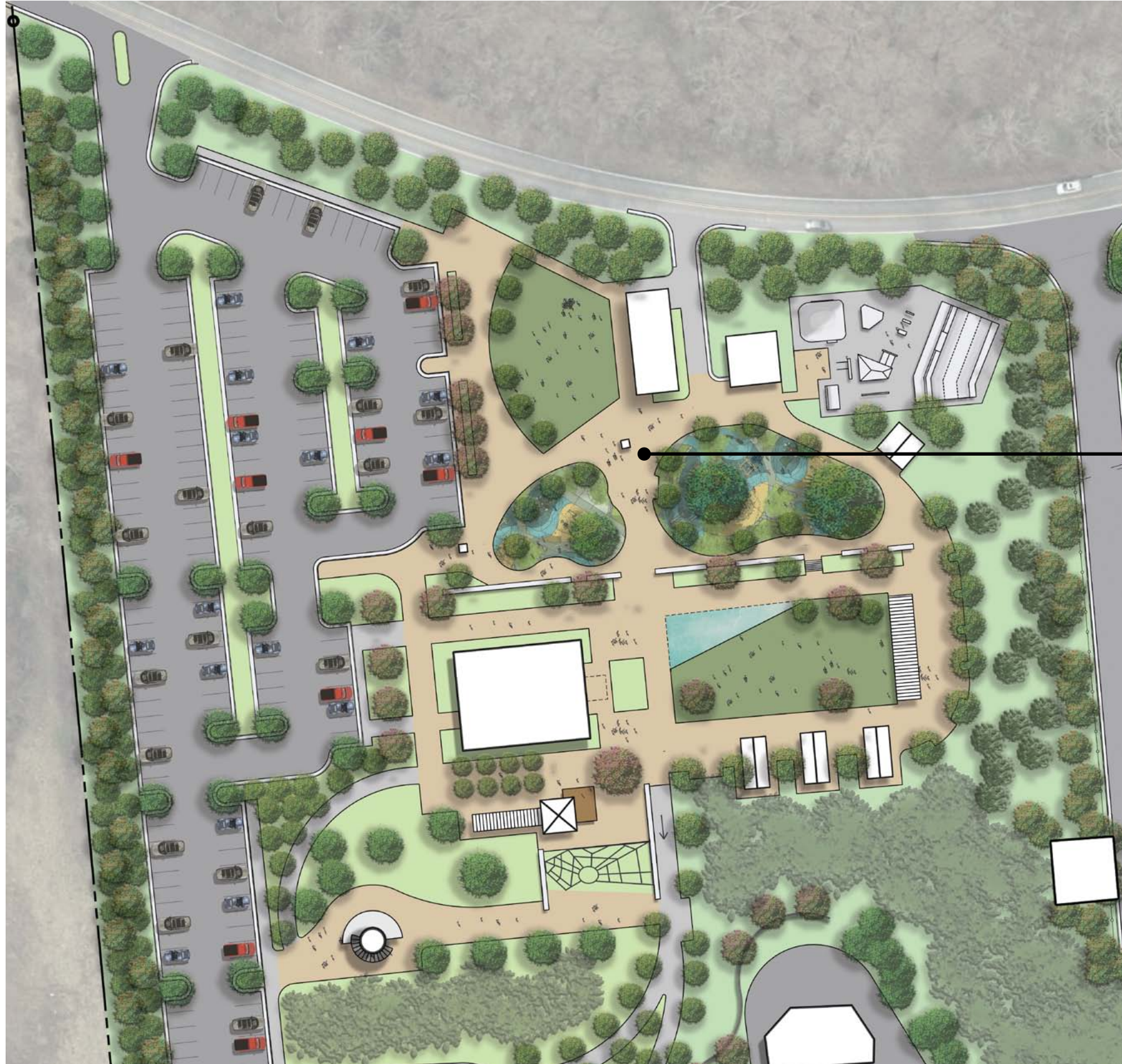
# CONCEPT C - DOCK STAGE



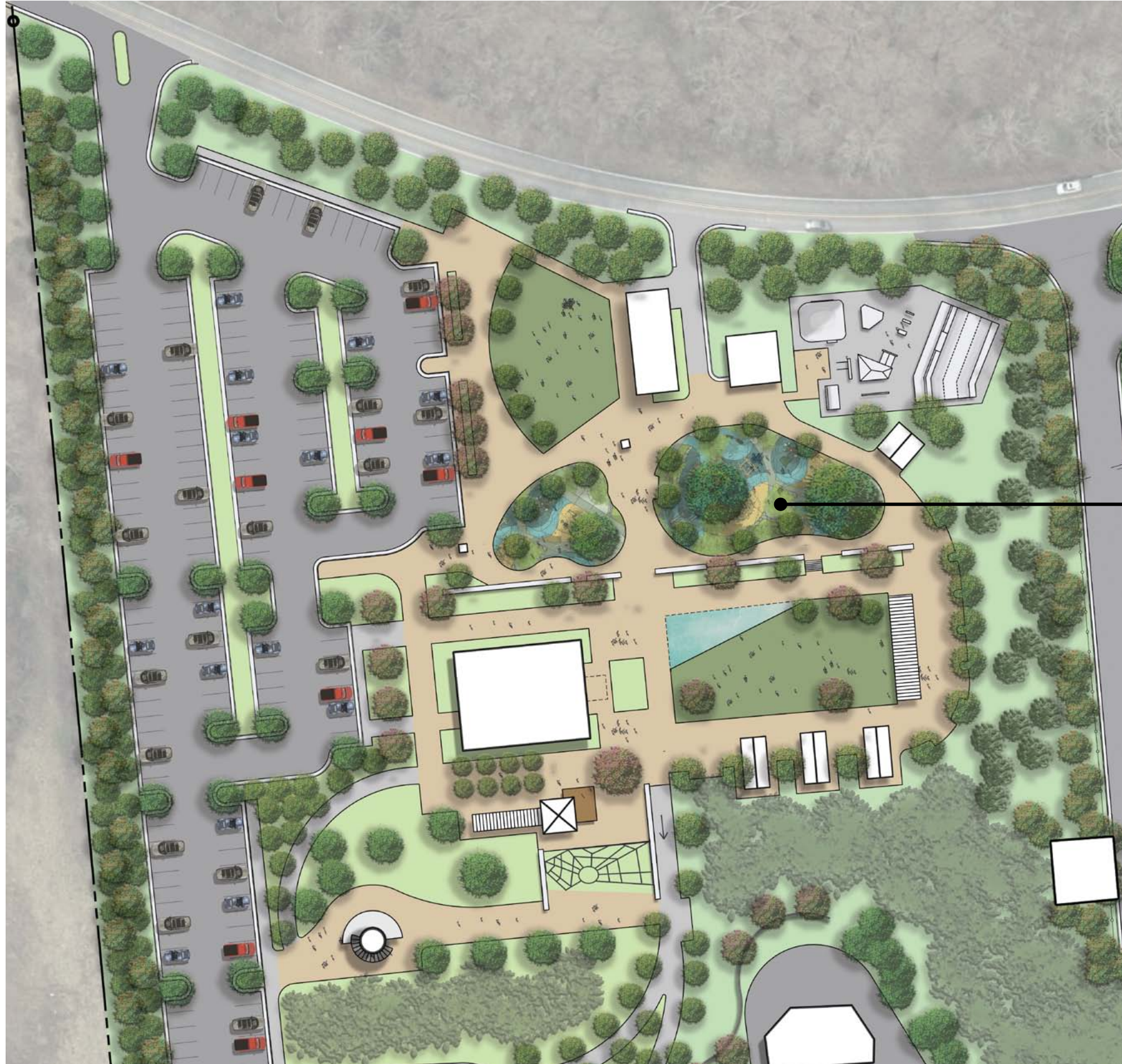
# CONCEPT C - TEEN ORIENTED PLAYGROUND



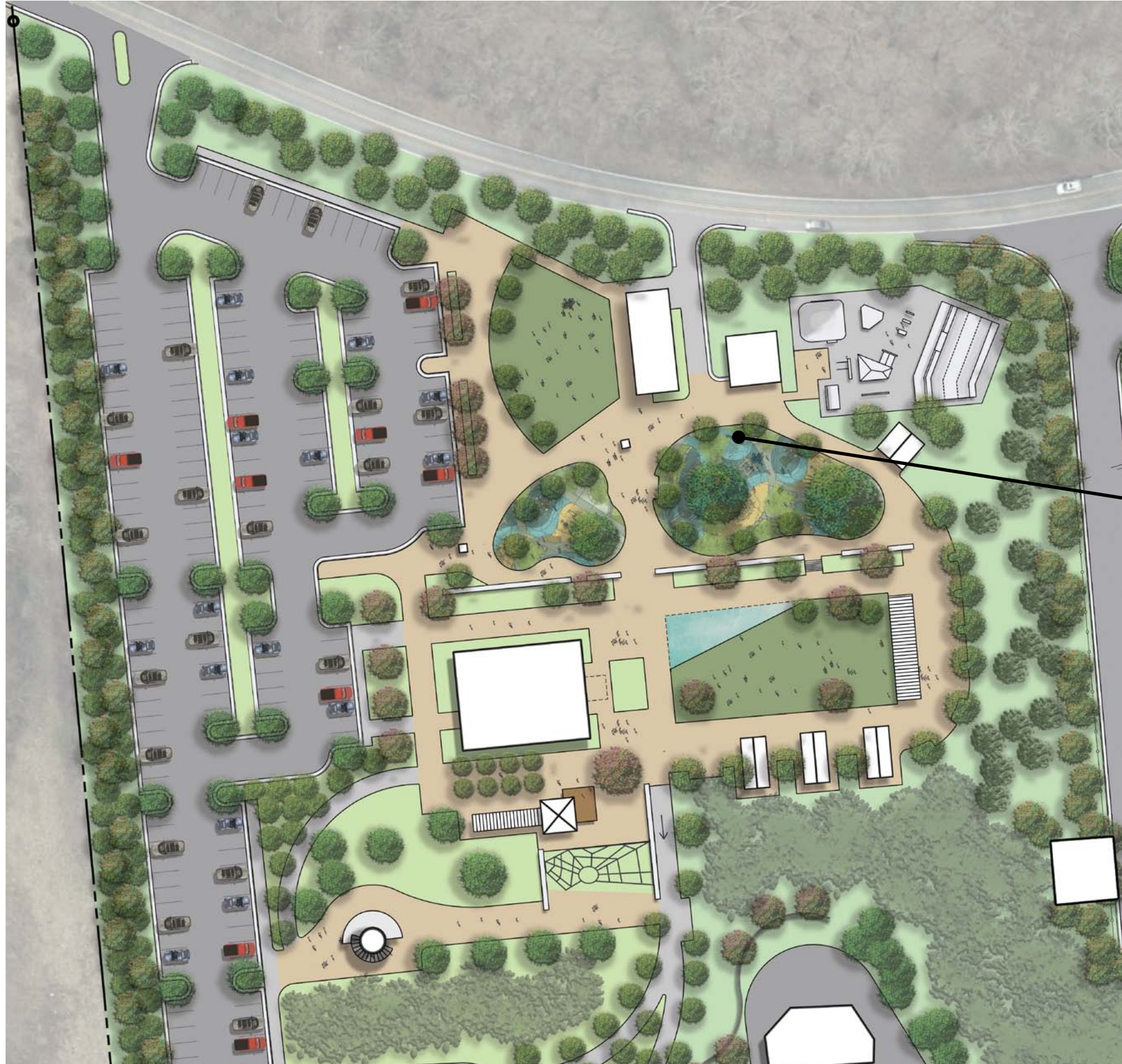
# CONCEPT C - PLAZA SEATING



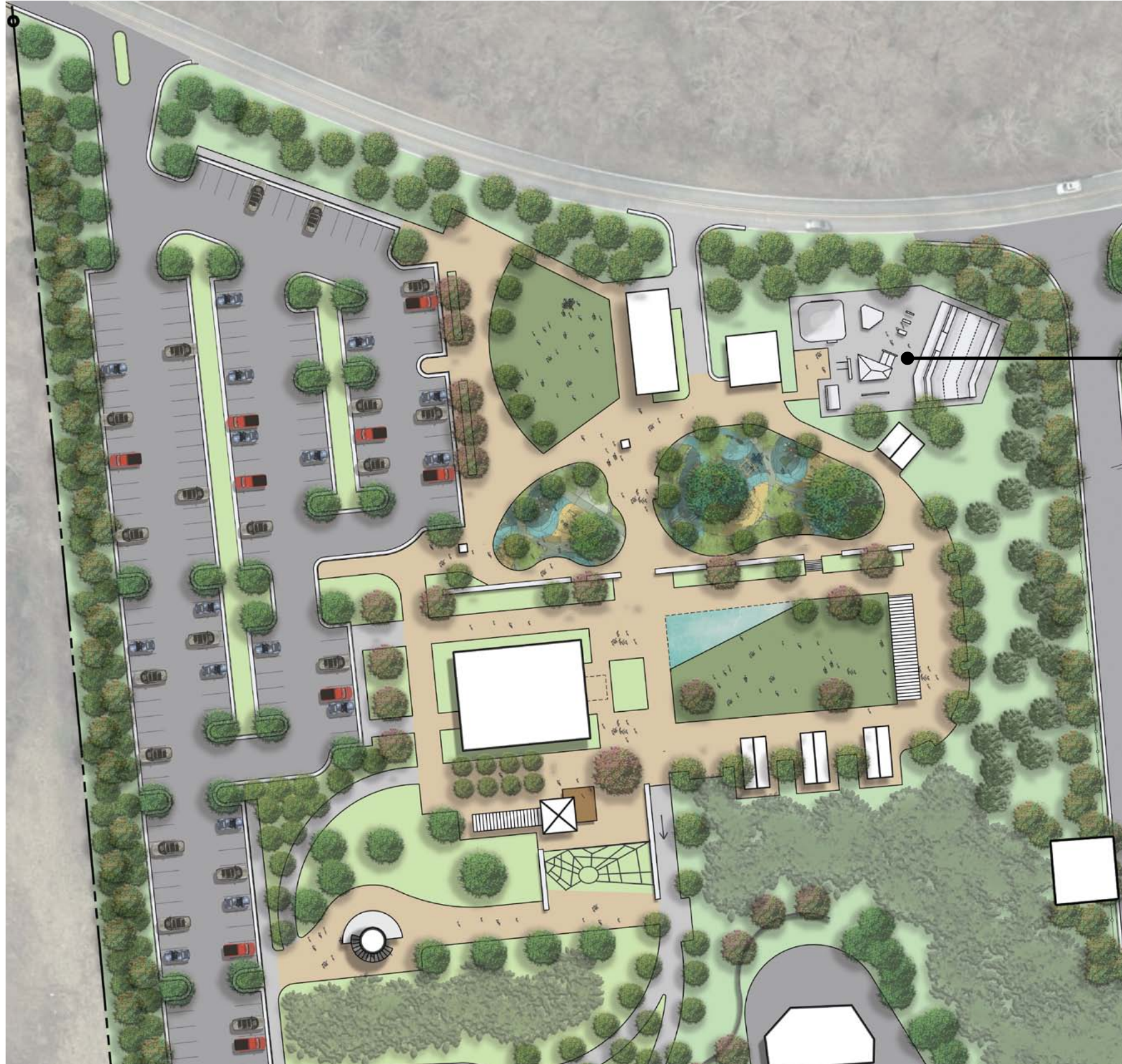
# CONCEPT C - NATURAL MATERIALS PLAYGROUND



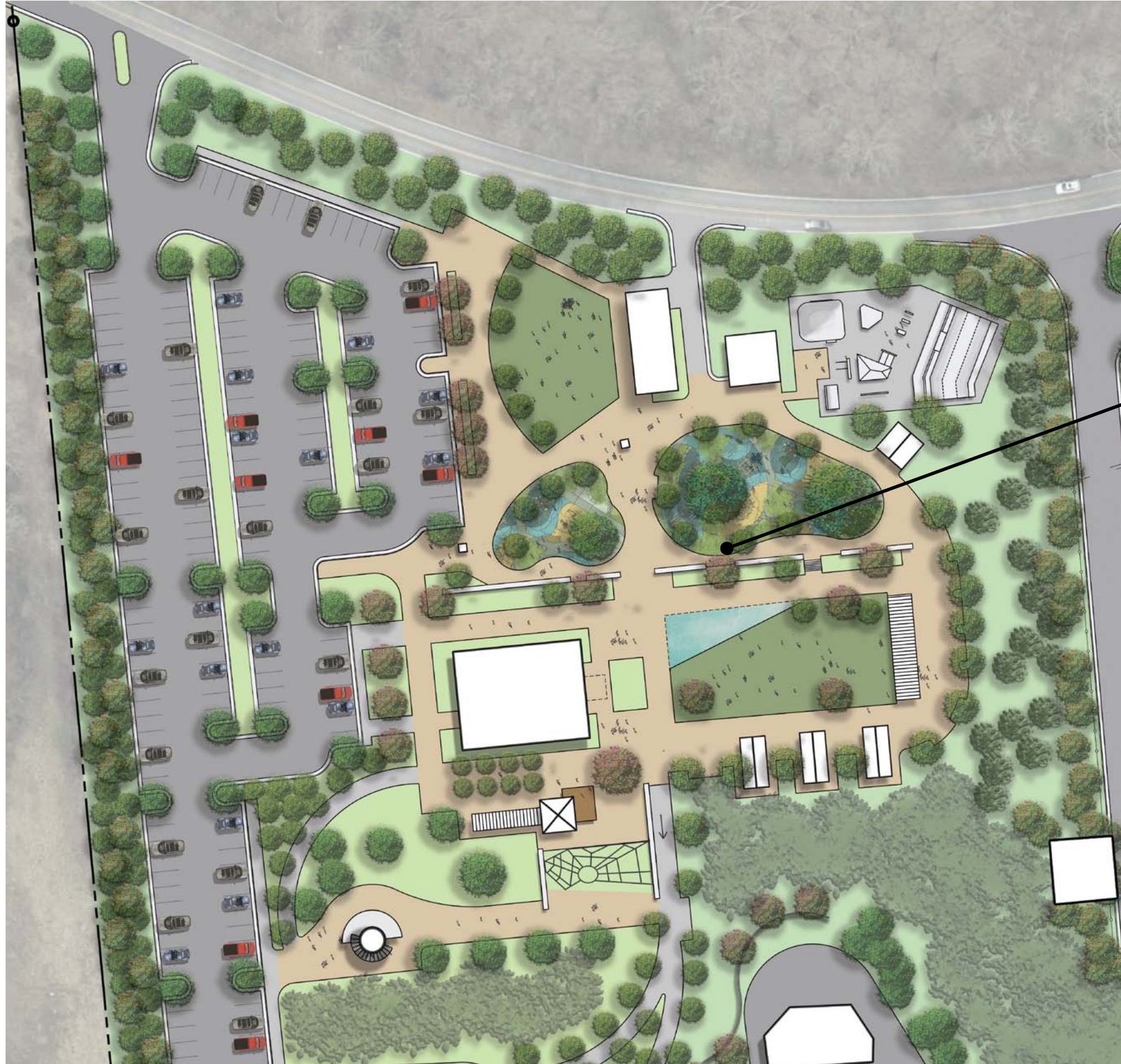
# CONCEPT C - TODDLER PLAYGROUND



# CONCEPT C - SKATE PARK

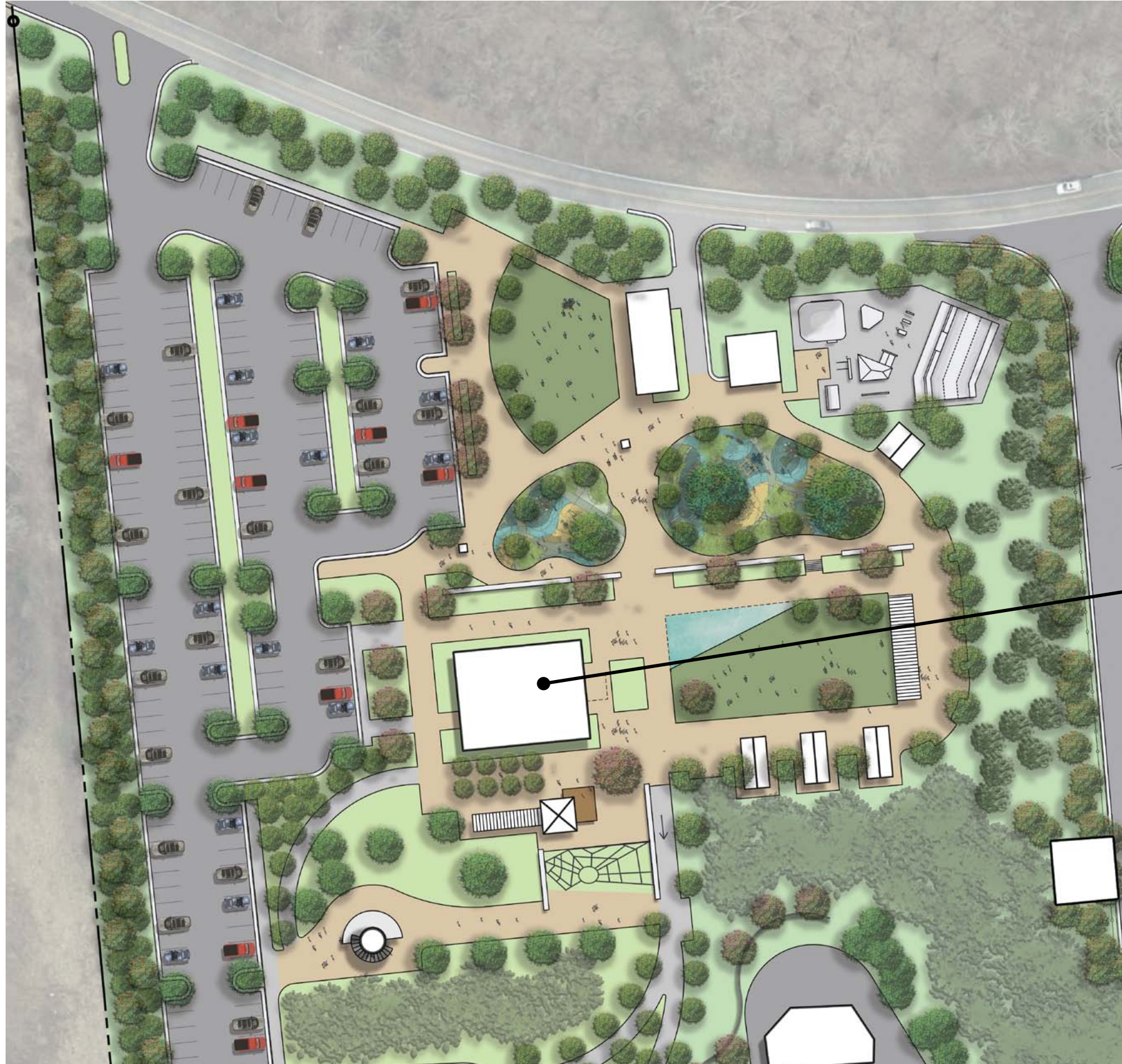


# CONCEPT C - SENSORY PLAY

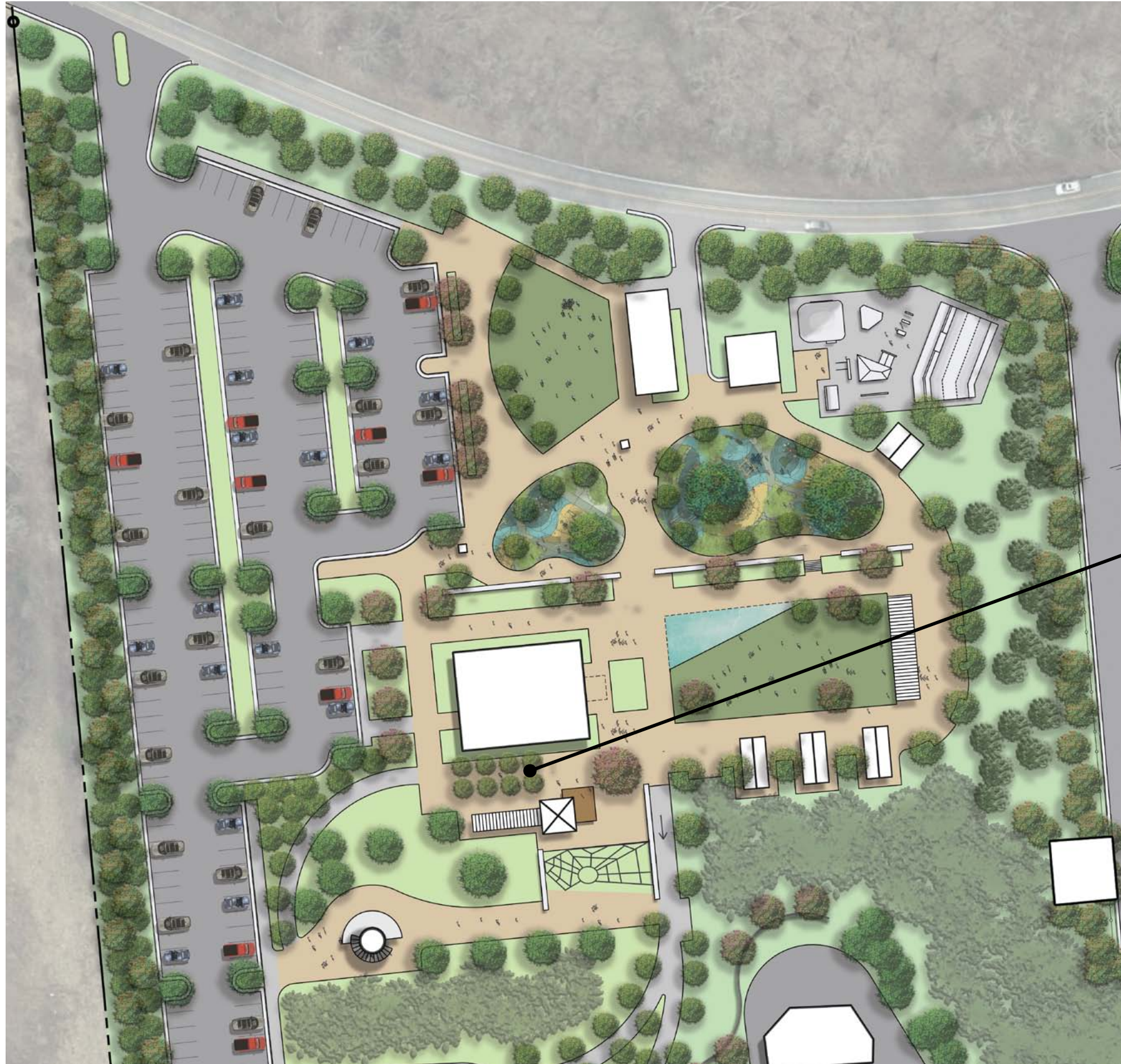




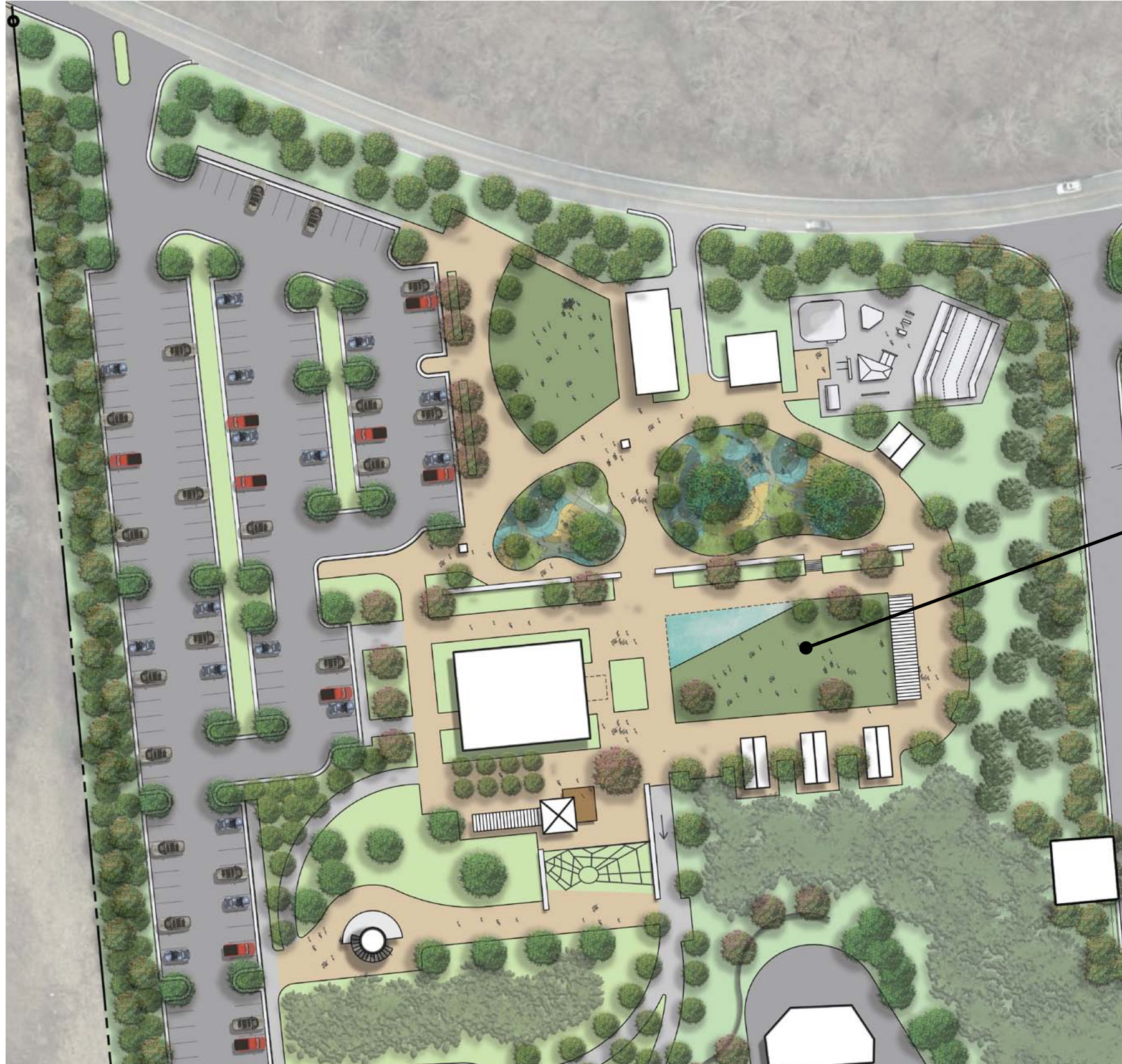
# CONCEPT C - REPURPOSED STRUCTURE



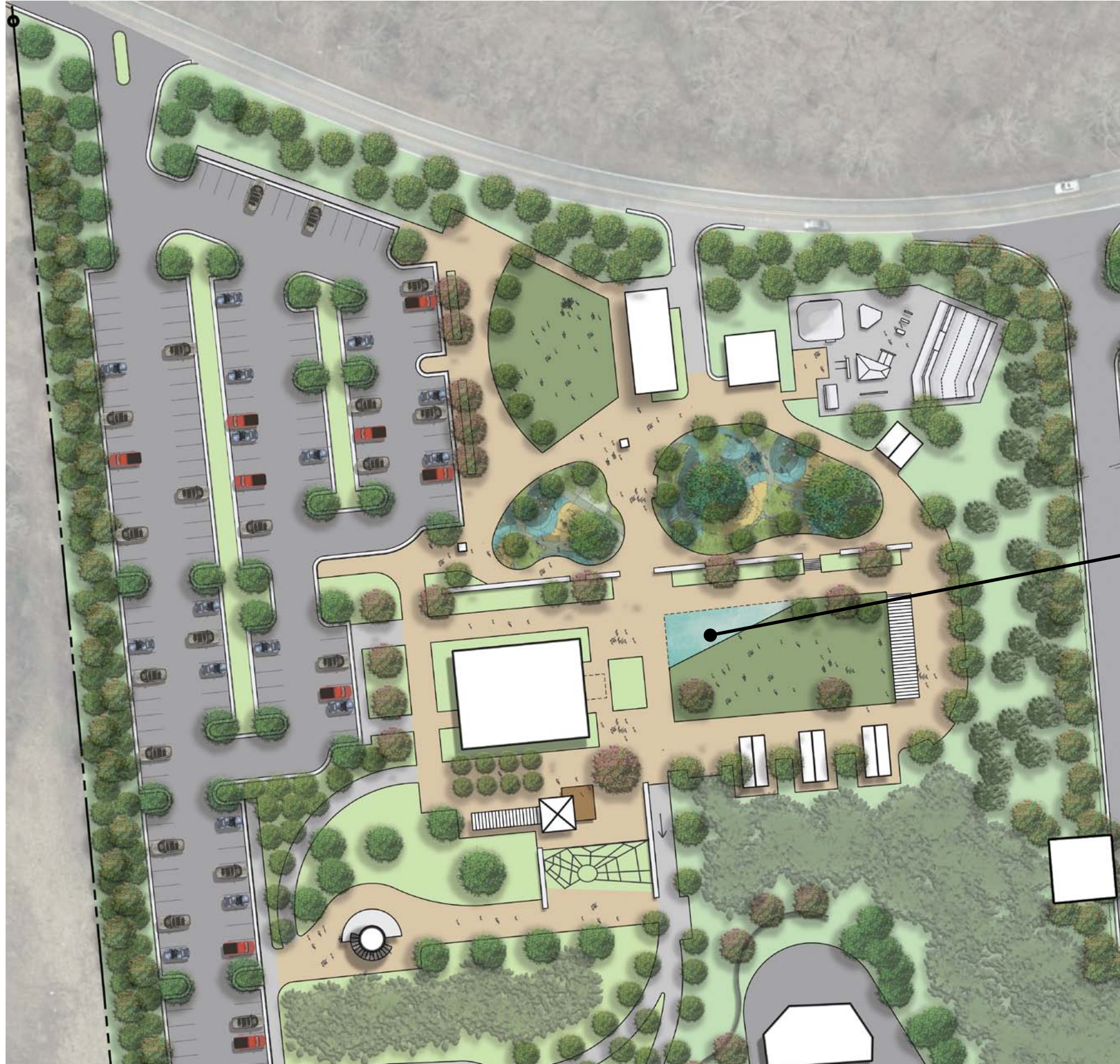
# CONCEPT C - INFORMAL DINING



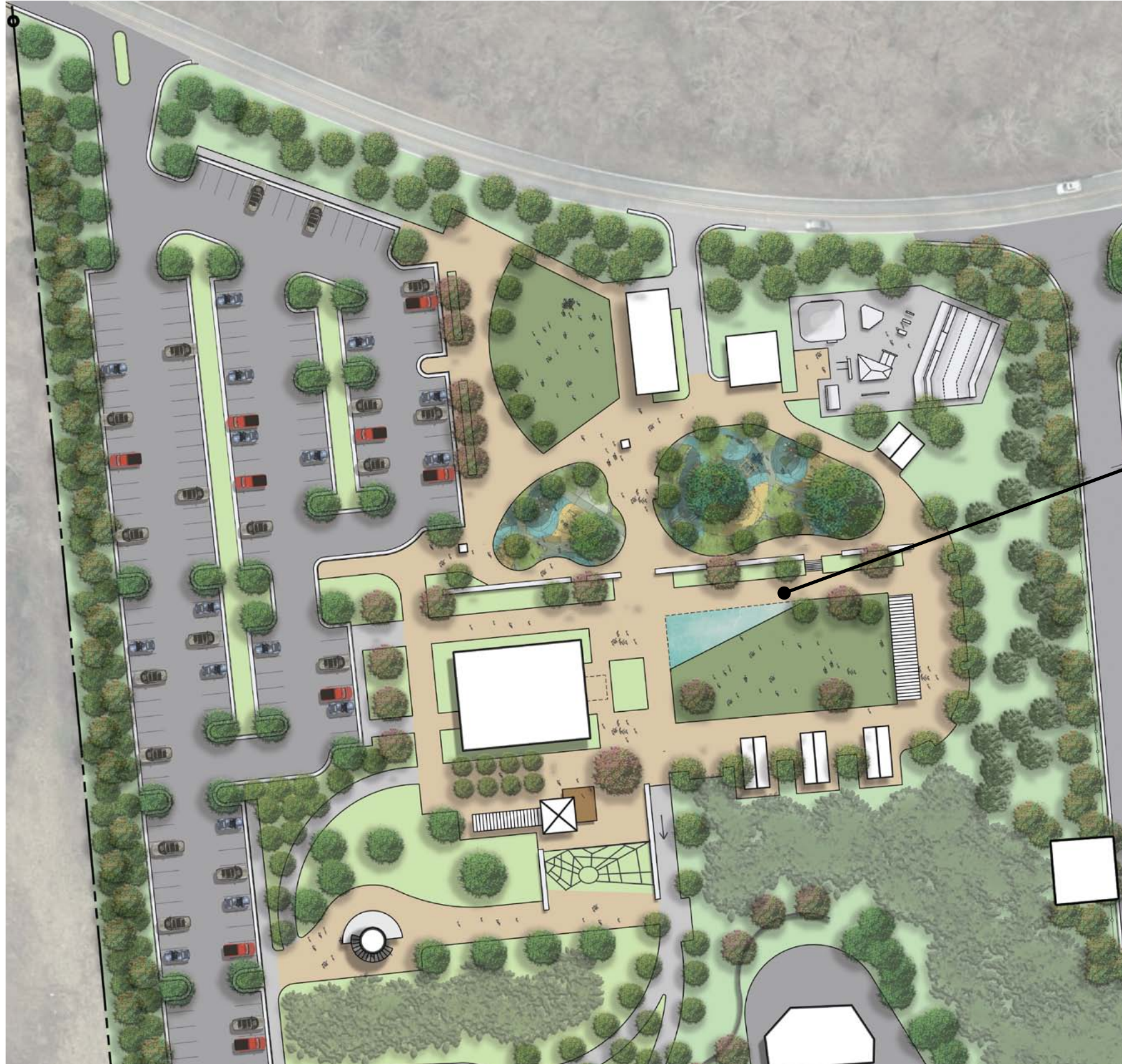
# CONCEPT C - GREAT LAWN



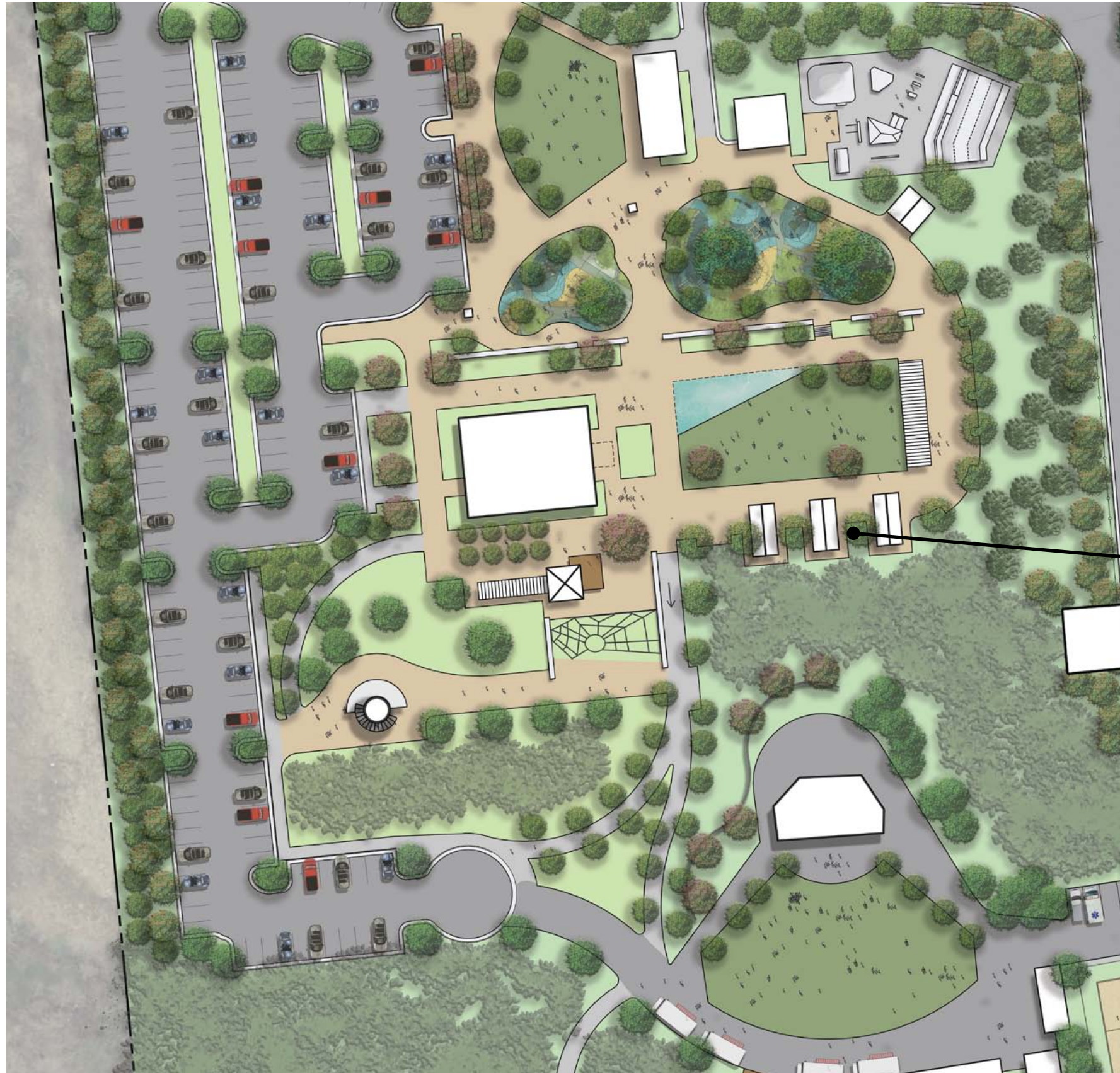
# CONCEPT C - SPLASHPAD



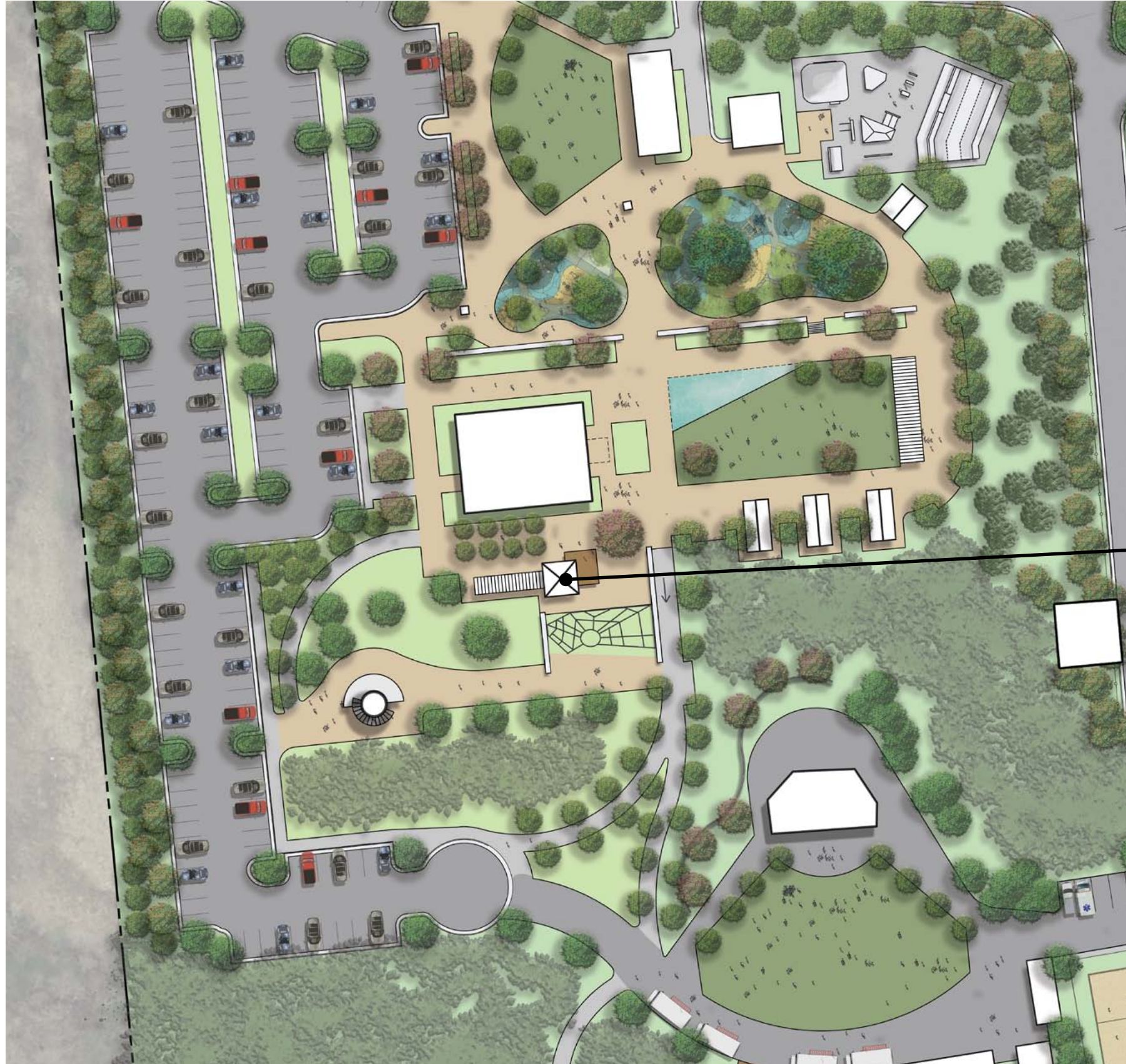
# CONCEPT C - SMALL PERFORMANCE VENUE



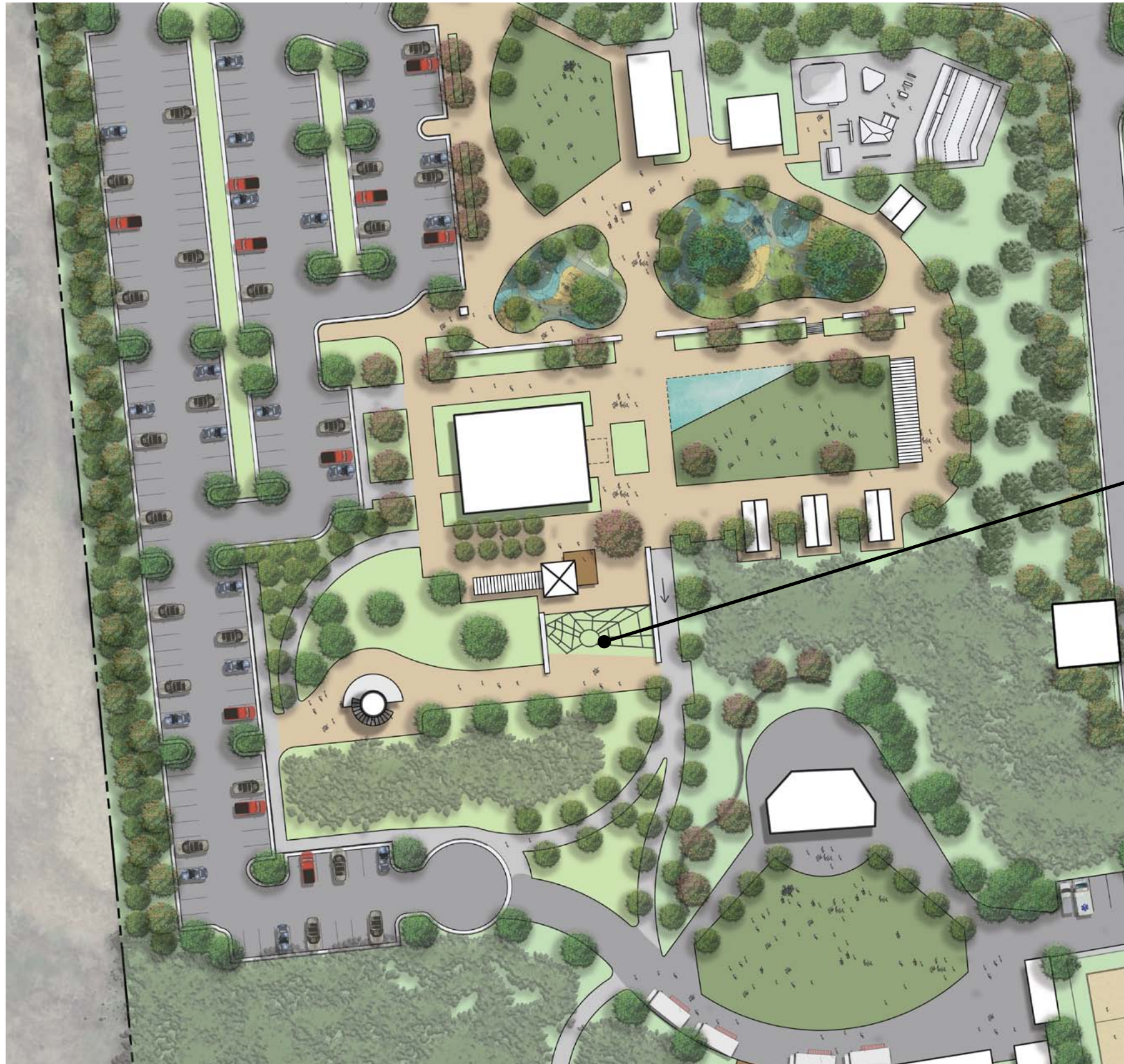
# CONCEPT C - PAVILION SHELTERS



# CONCEPT C - OVERLOOK SHELTERS

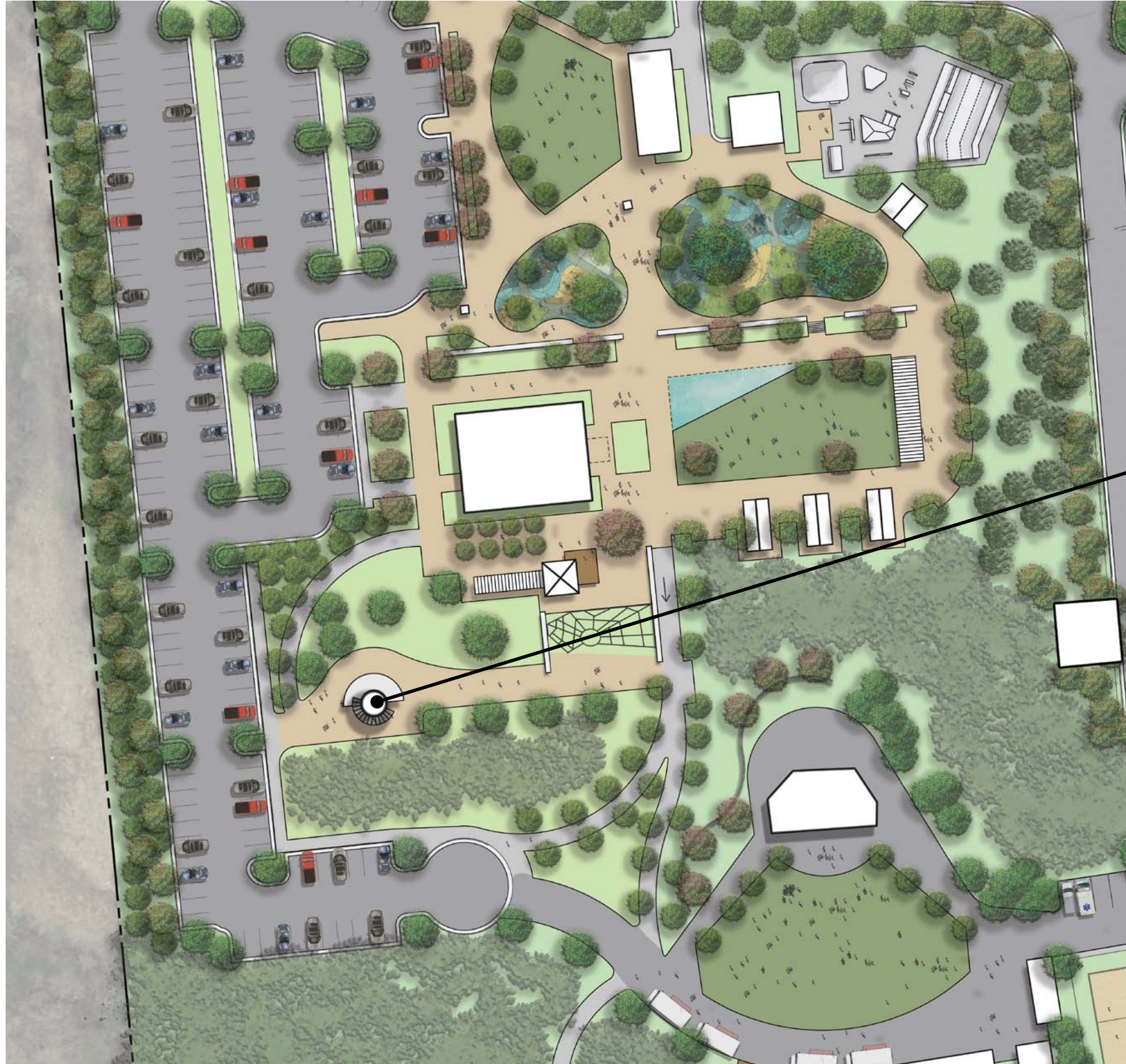


# CONCEPT C - CARGO NET LOUNGE





# CONCEPT C - OBSERVATION TOWER



# CONCEPT C - AMPHITHEATER STAGE



# CONCEPT C - BEACH VOLLEYBALL





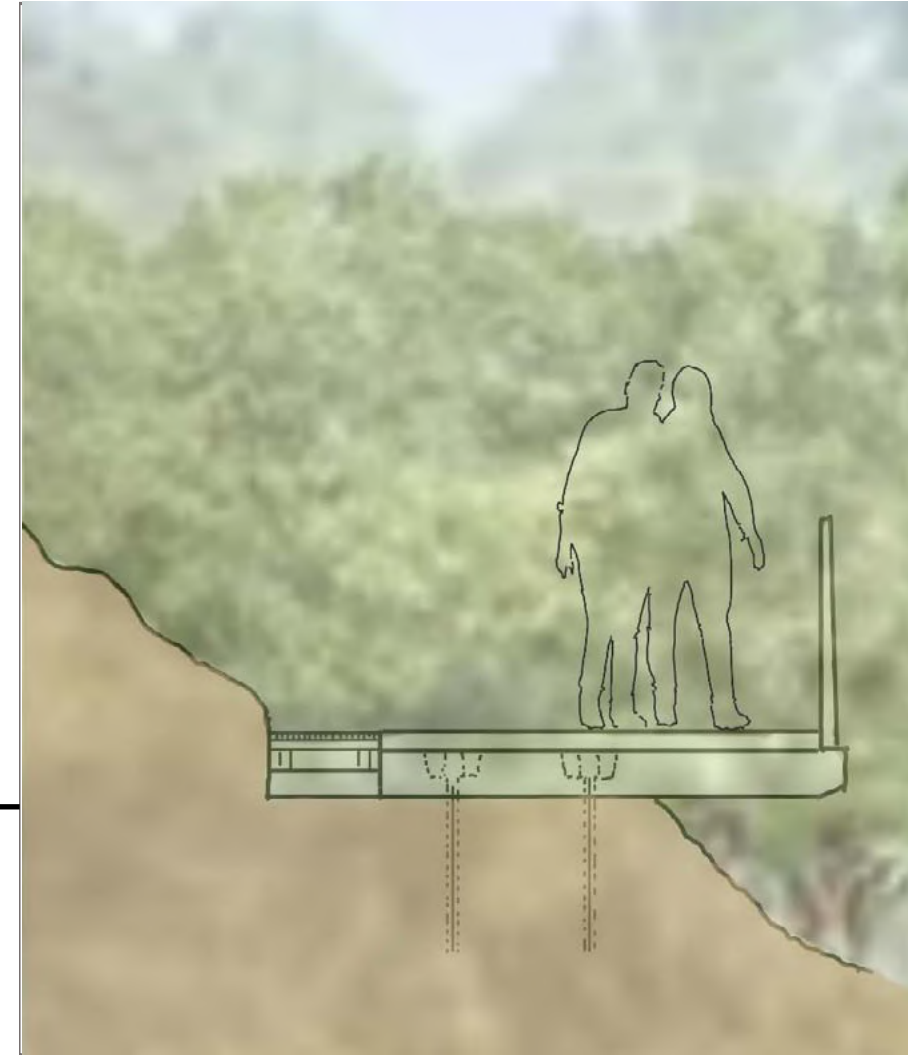
# CONCEPT C - ROPES COURSE



# CONCEPT C - TEEN ROPE LOUNGE



# CONCEPT C - ACCESSIBLE WALKWAY



# CONCEPT C - FISHING PIER





# CONCEPT C - CANOE/KAYAK LAUNCH



# CONCEPT C - PROGRAMMING



THERE ARE SEVERAL EXISTING CONDITIONS THAT INFLUENCE THE VISION OF THE PARK DEVELOPMENT THROUGH THEIR LOCATION, MATERIALITY, AND RELATIONSHIP TO GRADE. THE UPPER LEVEL OF THE SITE AT MAIN STREET AND THE LOWER LEVEL BEHIND THE LARGE WAREHOUSES CREATE 2 DISTINCT ZONES THAT MITIGATE THE SIZE OF THE LARGE PARCEL AND ADD AN ELEMENT OF HUMAN SCALE. THE KEY COMPONENT OF THE UPPER LEVEL IS THE STAGE CREATED BY AN ADAPTIVE REUSE OF THE EXISTING LOADING DOCK STRUCTURE. THIS ELEMENT CREATES A SMALL FLEXIBLE VENUE ADJACENT TO A VARIETY OF RECREATION AREAS. THE SECONDARY ELEMENT ON THE UPPER LEVEL IS THE PUBLIC WORKS FACILITY THAT IS PLACED ADJACENT TO POSTEN PARK AND EFFECTIVELY TUCKED AWAY IN THAT SITE QUADRANT. THIS FACILITY AND THE STORAGE AREA WILL BE SCREENED FROM VIEW WHILE IN THE PARK.

THE TRANSITION FROM THE UPPER TO LOWER LEVELS IS DEFINED BY A COMPRESSION THAT HAPPENS BETWEEN THE REAR OF THE LARGE WAREHOUSES AND THE MILLING HOUSE. THIS EXPERIENCE REDUCES THE SCALE OF ENTRY AND THEN EXPANDS THE VIEW ACROSS THE GREEN SPACE AND TOWARDS THE RIVERFRONT. THE MILLING HOUSE WILL BE REPURPOSED AS THE BANQUET HALL, AND A PORTION OF THE REAR WAREHOUSE WALLS WILL BE RETAINED AND PAINTED TO SERVE AS AN ARTIFACT WALL FOR AN ARTFUL DISPLAY OF THE TRADE TOOLS FOUND ON SITE. THIS FEATURE WILL BE INTEGRATED WITH HISTORICAL IMAGES AND DESCRIPTIONS OF THE ITEMS SERVING TO EDUCATE USERS ON THE PREVIOUS FUNCTIONS. THE OPEN LAWN IS DEFINED ON THE WEST END BY A TRELIS WITH SEATING AREAS, AND ON THE NORTH END BY SHELTERS THAT ARE PERCHED ON THE HILLSIDE AND TAKE ADVANTAGE OF THE ELEVATED VIEWSHED. THE MATERIAL PALETTE FOR THE NEW PARK STRUCTURES IS RESTRAINED TO STEEL, CONCRETE, AND WOOD AS THEY RELATE TO MATERIALS ON SITE WHILE ADDING SOME DESIGN FLAIR.

ANOTHER EXISTING STRUCTURE USED IN THE PARK DESIGN IS THE TOWER DRUM PREVIOUSLY USED AS A HOLDING TANK. THE SPIRAL STAIRCASE WINDS AROUND THE DRUM TO AN ELEVATED VIEWSHED THAT GIVES THE USER AN ORIENTATION OF THE CENTER PARK AREA, WITH VIEWS INTO THE MATURE TREE CANOPY AND PERHAPS TO THE RIVERFRONT. THIS SIGNATURE ELEMENT COULD ALSO BECOME A STARTING POINT FOR A ZIPLINE USING THE SLOPE TOWARDS THE RIVER IN A FUTURE PHASE. THE LARGE U-SHAPED RETAINING WALLS WILL BE EMPLOYED TO HOST A CARGO NET PLAY AREA AS ANOTHER PROGRAM ELEMENT THAT TAKES ADVANTAGE OF STRUCTURES ON SITE. THE ENTIRE COMPOSITION USES EXISTING AND NEW STRUCTURES IN A COHESIVE MANNER TO DEFINE THESE DISTINCT ZONES FOR BOTH PASSIVE AND ACTIVE RECREATION COMBINED WITH VENUES FOR ENTERTAINMENT.

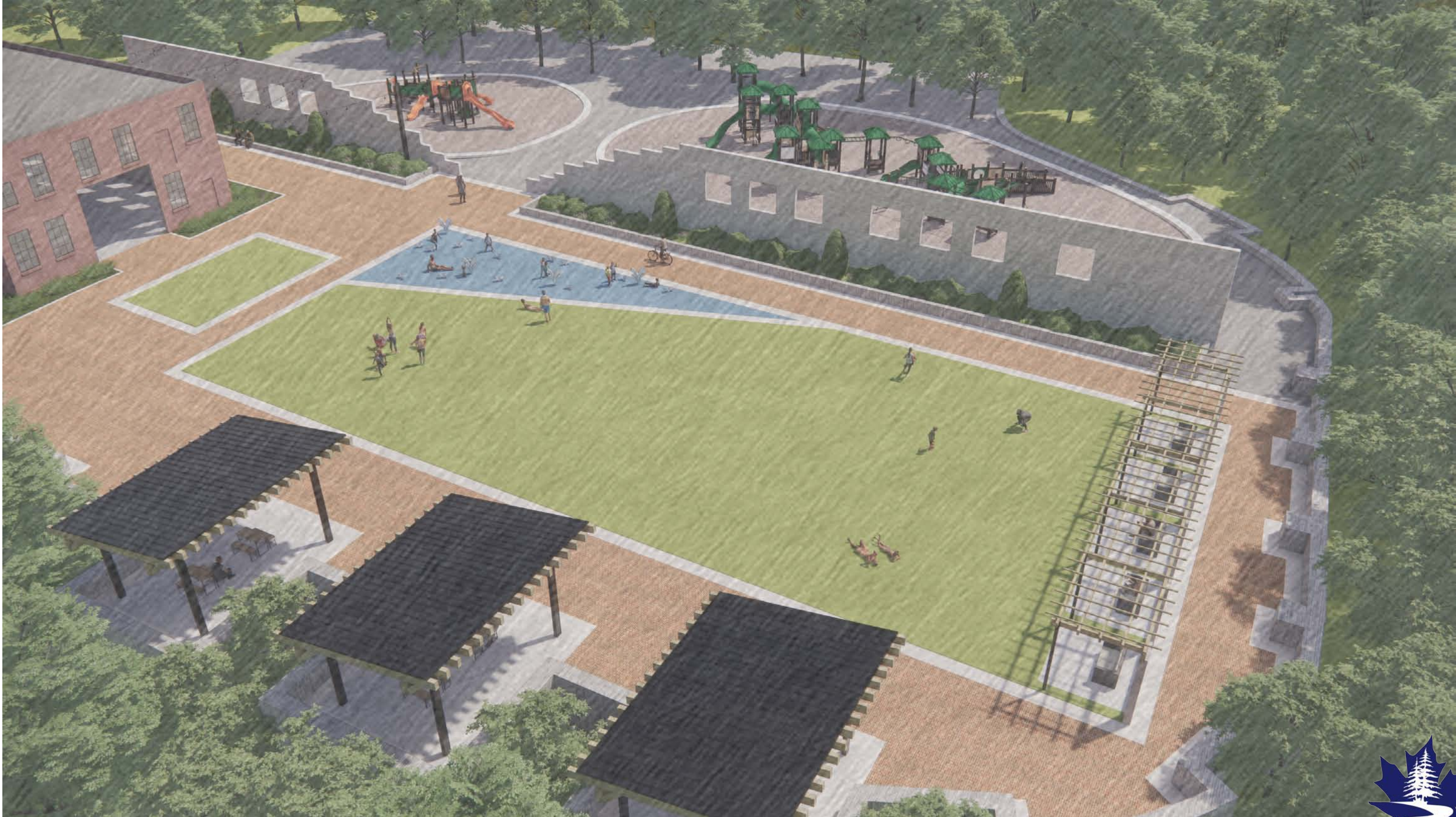


# MASTER PLAN VISIONING

VISIONING - VIEW 1



VISIONING - VIEW 2



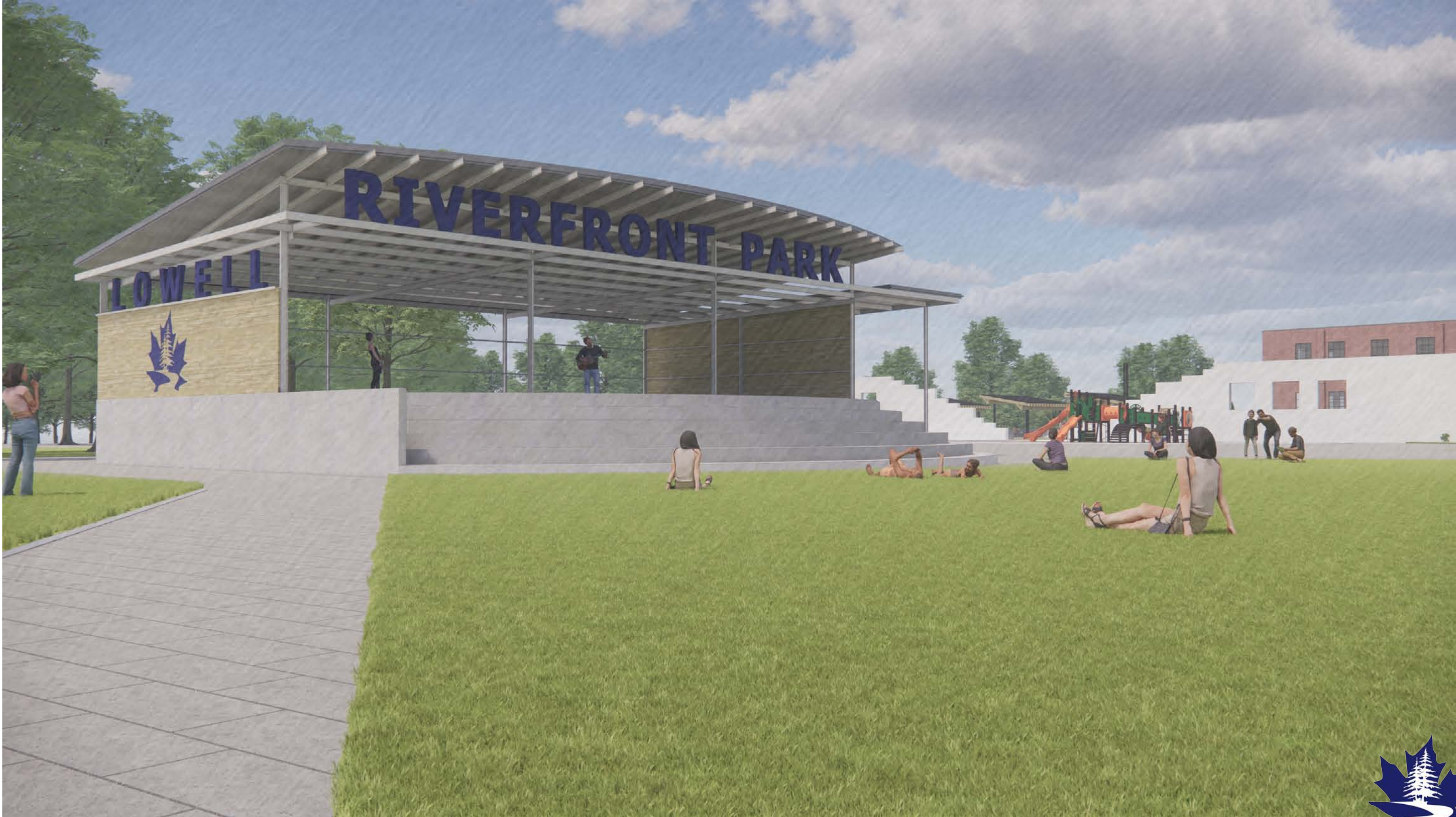
VISIONING - VIEW 3



VISIONING - VIEW 4



VISIONING - VIEW 5





VISIONING - VIEW 6



**APPENDIX B**  
**KingGuinn's *Building Observation***  
***Report***

**Report Date:** July 11, 2018

**Project Name:** Former Crompton and Knowles Site

**Observation Date:** 7/3 & 7/10, 2018

**Observation Report Number:** FINAL

**Observed by:** Rob Phillips, PE & Steve Phillips, PE

**BP/KGA Project Number:** 18757

---

**Distribution:** Russell Harrings – Terracon  
Cody Cannon – Geosyntec

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**Present at Site:** Rob Phillips, PE – King Guinn  
Steve Phillips, PE – King Guinn

**Scope of Service:** King Guinn was asked to provide a field observation of the Former Crompton and Knowles Site (referred to herein as the site). The purpose of the observation is to establish the physical conditions of the buildings on site. King Guinn is tasked with an assessment of the structural condition and stability of the structures and to evaluate whether they pose potential hazards to site testing workers with Terracon, Geosyntec or future occupants. Consideration is given to drilling, floor slab removal, soil excavation and similar activities that site workers may perform on site to test for asbestos or other hazardous materials. King Guinn will also comment on the feasibility of renovating a building on site based on its current structural state. To be consistent for each building a key has been made for Structural Condition, Stability of Structure and Renovation Grade. This assessment is for the super structure only and should not be considered inclusive of architectural cladding. There are many buildings on site where the cladding and glazing are in poor condition where the superstructure itself is in good condition. A site map is located at the end of the document.

**Key:**

**Structural Condition – Used to grade the general condition of the structure.**

A – Structure appears to be in good condition. There are no visible signs of distress.

B – Structure is in fair condition. There are no visible signs of distress. However, there are signs of neglect and structure will continue to digress if not treated and enclosed.

C – Structure is poor condition. There are visible signs of neglect. Structure needs to be enclosed and remediation needs to occur.

D – Structure is in critical condition. There are visible signs of distress. The structure should be removed from the property and no one should enter the structure on future visits.

The information supplied above is based on the consultant's customary observation of existing conditions and the consultant makes no representations that all deficient work has been reported on or that the observed conditions noted and reported on are meant to be a complete listing of all site conditions, issues, etc. No warranties are implied.



Date: July 11, 2018

Project: Former Crompton and Knowles Site

Continued . . .

**Stability of Structure – Used to grade the stability of the structure in terms of testing operations.**

A – Structure appears to be in good condition. Testing operations can proceed without concerns for structural stability.

B – Structure appears to be in good condition. Testing operations can proceed. Care should be taken if working on top of the roof. The structural engineer does not know the condition of the roof and it should be worked on with care.

C – Structure appears in fair condition. Care should be taken from workers entering the building. The roof or elevated floors should be avoided.

D – Structure is in critical condition. King Guinn does not recommend entering the building. If this is an interior or exterior platform, it should not be climbed or worked on.

**Renovation Grade – Used to grade the re-use capacity of the existing building. What magnitude of renovation would have to occur to re-occupy the building.**

A – Structure appears to be in good condition. There are no visible signs of distress. The building envelope should be evaluated and repaired but the super structure can remain as-is.

B – Structure is in fair condition. There are no visible signs of distress. However, there are signs of neglect and the structure should be touched up prior to finalizing the building envelope.

C – Structure is poor condition. There are visible signs of neglect. Structure needs to be enclosed and intense remediation needs to occur. This structure should be considered as not economical to save and replacement is a better option.

D – Structure is in critical condition. There are visible signs of distress. The structure should be removed from the property and no one should enter the structure on future visits. The structure should not be considered for future occupancy or remediation.

**Field Observation:**

**Bldg 1 – Administration Offices (L-80 / W-45 / H-13 / A-3,600)**

Structural Condition – GRADE A

Stability of Structure – GRADE A

Renovation Grade – GRADE A

**Bldg 2 – Quality Assurance Laboratories (L-100 / W-50 / H-13 / A-5,000)**

**General Notes: There is a small wood building that is behind building 2 in collapsing condition and should not be entered. Building 2 otherwise is graded below.**

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Date: July 11, 2018

Project: Former Crompton and Knowles Site

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Continued . . .

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 3 – Shipping/Receiving/Warehouse (L-150 / W-100 / H-17 / A-15,000)**

Structural Condition – GRADE A

Stability of Structure – GRADE A

Renovation Grade – GRADE A

**Bldg 4 – Grinding/Blending/Milling (L-80 / W-50/ H-27/ A-4,000)**

**General Notes:** There is a small one-story structure within the building that should not be climbed on. It appears a forklift or other vehicle ran into the wall and it is in critical condition. The first staircase up to the 2<sup>nd</sup> level landing is also in a non-typical condition. It appears the connection angle connecting the staircase to the 2<sup>nd</sup> level landing has corroded away. However, other welds may be holding this up. The structural engineer went up the staircase cautiously and if felt sound. However, care should be taken. On the other side of the building the elevated structure is missing beam transfers around the opening. We do not recommend climbing onto this platform even though there is not stair leading up to it. Building 4 superstructure otherwise graded below.

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 5 – Synthesis/Filterpress/Ovens (L-110 / W-100 / H-25 / A-11,000)**

**General Notes:** There is a lot of corrosion of structural elements in this building. There is a chemical that is eating away at CMU, steel and wood framing. The second level platform should not be walked on. The high structure for the roof appeared in good condition. However, it is difficult to say about the load bearing walls surrounding the building. There appears to be advanced corrosion in one corner room where the lintel has almost failed. This corner of the building should be avoided. See photo. OK to walk into the remainder of the building but the second level should be avoided and care taken on testing. Building 5 otherwise graded below.

Structural Condition – GRADE C

Stability of Structure – GRADE C

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Date: July 11, 2018

Project: Former Crompton and Knowles Site

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Continued . . .

Renovation Grade – GRADE D

**Bldg 6 -Boiler Room (L-50 / W-45 / H-17 / A-2,250)**

Structural Condition – GRADE B

Stability of Structure – GRADE A

Renovation Grade – GRADE B

**Bldg 7 - Locker Room/Lunch Room (L-50 / W-45 / H-11 / A-2,250)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 8 – Warehouse (L-50 / W-50 / H-22 / A-2,500)**

**General Notes: There are columns on the back wall with a lot of rusting out. These columns appear to be holding beams which hold up the roof. Care should be taken in this building. No drill rig should be used due to the vibration. Building 8 otherwise graded below.**

Structural Condition – GRADE C

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Bldg 9 -Synthesis/Liquid Packout (L-80 / W-60 / H-25 / A-4,800)**

**General Notes: Do not climb on the second level steel platform near the steel tanks. The platform has rusted out and is ready to fail. Building 9 otherwise graded below.**

Structural Condition – GRADE C

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Bldg 10 – Warehouse/Whiteners (L-50 / W-50 / H-23 / A-2,500)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

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Date: July 11, 2018

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Continued . . .

Renovation Grade – GRADE B

**Bldg 11 – Training Room (L-65 / W-40 / H-13 / A-2,600)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 12 – Filterpress (L-50 / W-60 / H-23 / A-3,000)**

Structural Condition – GRADE C

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Bldg 13 – Maintenance (L-100 / W-70 / H-12 / A-7,000)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 15 – Laboratory Flammable Storage (L-12 / W-12 / H-12 / A-144)**

Structural Condition – GRADE C

Stability of Structure – GRADE B

Renovation Grade – GRADE C

**Bldg 17 – Waste Treatment Laboratory (L-25 / W-25 / H-15 / A-625)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 18 – Warehouse (L-90 / W-75 / H-19 / A-6,750)**

Structural Condition – GRADE C

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Date: July 11, 2018

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Continued . . .

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Bldg 21 – Forklift Shop (L-30 / W-30 / H- 16 / A-900)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 22 – Clarifier Pump House (L-25 / W-15 / H-12 / A-375)**

Structural Condition – GRADE C

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Bldg 24 – Sludge Filterpress Condo (L-35 / W-25 / H-19 / A-875)**

**General Notes: This is a rusted-out platform with visible failure. It should not be climbed on or walked under.**

Structural Condition – GRADE D

Stability of Structure – GRADE D

Renovation Grade – GRADE D

**Tanks Behind Bldg 24**

**General Notes: The stairs on the tank appeared structurally sound. The structural engineer walked up and did a bounce test on some of the treads and they appeared to be sound. For all stairs on site proceed with caution.**

**Bldg 26 – Flammable Storage (L-60 / W-15 / H-12 / A-900)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

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Date: July 11, 2018

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Continued . . .

**Bldg 28 – Waste Treatment Control Room (L-42 / W-16 / H-15 / A-672)**

**General Notes: There is visible failure on side lean-to wood structure and it should be avoided. Building 28 otherwise graded below.**

Structural Condition – GRADE C

Stability of Structure – GRADE C

Renovation Grade – GRADE C

**Tank Behind Bldg 28**

**General Notes: The stairs on the tank appeared structurally sound. The structural engineer walked up and did a bounce test on some of the treads and they appeared to be sound. For all stairs on site proceed with caution.**

**Bldg 29 – Neutralization Tank Pump House (L-24 / W-15 / H-15 / A-360)**

Structural Condition – GRADE B

Stability of Structure – GRADE B

Renovation Grade – GRADE B

**Bldg 30 – Lift Station Switch Gear (L-20 / W-14 / H-15 / A-280)**

Structural Condition – GRADE A

Stability of Structure – GRADE A

Renovation Grade – GRADE A

**Bldg 31 – Sludge Thickener Pump House (L-20 / W-20 / H-15 / A-400)**

Structural Condition – GRADE A

Stability of Structure – GRADE A

Renovation Grade – GRADE A

**Bldg 34 – Waste Treatment Equipment Room (L-36 / W-35 / H-14 / A-1,260)**

Structural Condition – GRADE A

Stability of Structure – GRADE B

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Date: July 11, 2018

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Continued . . .

Renovation Grade – GRADE A

Submitted by:



**KingGuinn Associates**

A handwritten signature in blue ink, appearing to read "Rob Phillips".

Rob Phillips, PE

**Notable Photos:**



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Date: July 11, 2018

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Continued . . .

Bldg 4 – This one-story structure within building 4 should not be climbed on.



Bldg 5 – Visible chemical attack on wood framing. Do not walk on second level.

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Continued . . .



Bldg 5 – Lintel almost at failure. Avoid this back corner the building. Chemical attack on all building materials – steel, masonry and concrete.

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Continued . . .



Bldg 5 – Appears as though forklift ran into corner of building. This would need to be repaired if the building is to be renovated. Do not climb on roof on this small addition.

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Continued . . .



General – Proceed with caution anytime roof access is needed. There are open spots and weak deck spots that should be avoided.

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Continued . . .



General – On any building that will be reoccupied load bearing CMU walls should be repaired.

The information supplied above is based on the consultant's customary observation of the work and the consultant makes no representations that all deficient work has been reported on or that the observed conditions noted and reported on are meant to be a complete listing of all site conditions, issues, etc. No warranties are implied.

Continued . . .



Bldg 10 – Hanging CMU pieces at entrance of building. Avoid this area in case they come loose and fall.  
This is a non-load bearing wall.

The information supplied above is based on the consultant's customary observation of the work and the consultant makes no representations that all deficient work has been reported on or that the observed conditions noted and reported on are meant to be a complete listing of all site conditions, issues, etc. No warranties are implied.



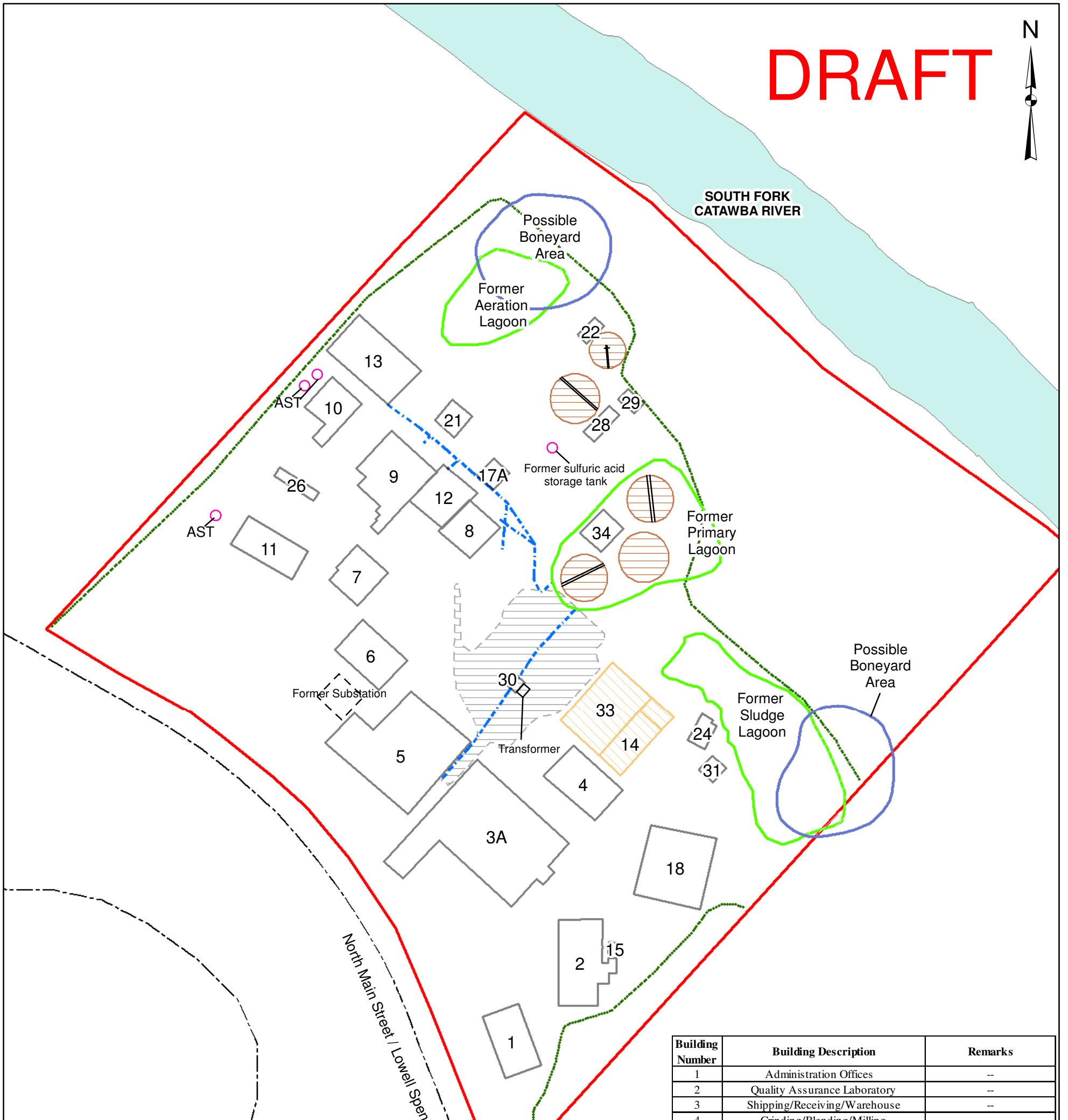
Continued . . .



Bldg 21 – Wood framed lean-to on back of building should be avoided.

The information supplied above is based on the consultant's customary observation of the work and the consultant makes no representations that all deficient work has been reported on or that the observed conditions noted and reported on are meant to be a complete listing of all site conditions, issues, etc. No warranties are implied.

# DRAFT



### Legend

- 1 Existing Building Footprint and Building ID
- 14 Demolished Building Footprint and Building ID
- Possible Existing AST
- Possible Boneyard Area
- Former Lagoon
- WWTP Tanks
- Tree line
- Plant Sewer Line (Approximate)
- Previous Soil Excavation Area (Approximate)
- Property Boundary

### Notes

1. Site Features are approximated from Annual Groundwater and Surface Water Monitoring Report Figure 4 (AWARE Environmental, Inc., January 2008).
2. Property boundary and building footprint locations were provided by Gaston County GIS.
3. World Imagery Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.
4. Abbreviations:  
 AST = above-ground storage tank  
 WWTP = wastewater treatment plant

Building Number	Building Description	Remarks
1	Administration Offices	--
2	Quality Assurance Laboratory	--
3	Shipping/Receiving/Warehouse	--
4	Grinding/Blending/Milling	--
5	Synthesis/Filterpress/Ovens	Azo Dyes
6	Boiler Room	--
7	Locker Room/Lunch Room	--
8	Warehouse	Eutectic Freeze Crystallization Processing
9	Synthesis/Liquid Packout	Acid Dyes
10	Warehouse/Whiteners	Urea Dyes
11	Training Room	Tint Department
12	Filterpress	--
13	Maintenance	--
15	Laboratory Flammable Storage	--
17	Waste Treatment Laboratory	--
18	Warehouse	Drum Storage
21	Forklift Shop	--
22	Clarifier Pump House	--
24	Sludge Filterpress	--
26	Flammable Storage	--
28	Waste Treatment Control Room	--
29	Neutralization Tank Pump House	--
30	Lift Station Switch Gear	--
31	Sludge Thickener Pump House	--
34	Waste Treatment Equipment Room	--

125 62.5 0 125 Feet



### SITE FEATURES

Crompton & Knowles Site  
 1602 N. Main St., Lowell  
 Gaston County, North Carolina

**Geosyntec**  
 Consultants of NC, PC  
 NC License No.: C-3500

Figure  
 2

Charlotte, North Carolina

April 2018

**APPENDIX C**  
**Terracon's *Hazardous Materials Survey***  
***Report***

# Hazardous Materials Survey Report

Former Crompton and Knowles Site  
1602 N. Main Street, Lowell, North Carolina

May 15, 2019

Terracon Project No. 71187168



**Prepared for:**

Geosyntec Consultants of NC, PC  
Charlotte, North Carolina

**Prepared by:**

Terracon Consultants, Inc.  
Charlotte, North Carolina

[terracon.com](http://terracon.com)

**Terracon**

Environmental



Facilities



Geotechnical



Materials



May 15, 2019

Geosyntec Consultants of NC, PC  
1300 S. Mint Street, Suite 300  
Charlotte, North Carolina 28203

Attn: Mr. Jeffrey Ahrens  
P: (704) 227-0850

Re: Hazardous Materials Survey Report  
Former Crompton and Knowles Site  
1602 North Main Street  
Lowell, North Carolina  
Project No. 71187168

Dear Mr. Ahrens:

Terracon Consultants, Inc. (Terracon) is pleased to submit the attached report for the above referenced site to Geosyntec Consultants of NC, PC. The purpose of this report is to present the results of a hazardous materials survey performed between July 23, 2018 and September 7, 2018. This survey was conducted in general accordance with our proposal number P71187168 dated March 14, 2018. We understand that this survey was requested due to remediation of the site and potential demolition of structures. Please refer to the attached report for details.

- **Asbestos was identified** in samples of friable and non-friable materials at the project site.
- **Lead was identified** above detectable limits in paint samples collected from the site.
- **Mercury containing light bulbs were identified** at the project site. Mercury containing thermostats were not identified at the project site.
- Assumed **polychlorinated biphenyls (PCB) containing light ballasts were identified** at the project site.
- **Tritium containing exit signs were identified** at the project site.

Terracon appreciates the opportunity to provide this service to Geosyntec Consultants of NC, PC. If you have any questions regarding this report please contact the undersigned at 704-509-1777.

Sincerely,

**Terracon Consultants, Inc.**

Campbell Payne  
Field Industrial Hygienist

Russell Harrings  
Authorized Project Reviewer

Terracon Consultants, Inc. 2701 Westport Road Charlotte, NC 28208  
P 704-509-1777 F 704-509-1888 terracon.com

Environmental

Facilities

Geotechnical

Materials

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**APPENDIX E LEAD ANALYTICAL LABORATORY DATA**

**APPENDIX F DRAWINGS OF IDENTIFIED ASBESTOS-CONTAINING MATERIALS**

**HAZARDOUS MATERIALS SURVEY REPORT**  
**Former Crompton and Knowles Site**  
**1602 N. Main Street, Lowell, North Carolina**  
**Terracon Project No. 71187168**  
**May 15, 2019**

## **1.0 INTRODUCTION**

Terracon Consultants, Inc. (Terracon) conducted a hazardous materials survey of the former Crompton and Knowles site located at 1602 N. Main Street in Lowell, North Carolina. The survey was conducted between July 23, 2018 and September 7, 2018 by North Carolina accredited asbestos inspectors in general accordance with Terracon Proposal No. P71187168 dated March 14, 2018. Interior and exterior building components were surveyed and homogeneous areas of suspect asbestos-containing materials (ACM) and lead paint (LP) were visually identified and documented. Light fixtures, thermostats and exit signs were also surveyed and documented. Although reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas.

Suspect ACM samples were collected in general accordance with the sampling protocols outlined in United States Environmental Protection Agency (USEPA) 40 Code of Federal Regulations (CFR) Part 763 Subpart E 763, known as the Asbestos Hazard Emergency Response Act (AHERA). Samples were delivered to an accredited laboratory for analysis by Polarized Light Microscopy (PLM). Suspect LP samples were collected from respective locations of suspect LP. Samples were delivered to an accredited laboratory for analysis by Flame Atomic Absorption (FAA).

We understand this survey was requested prior to remediation of the site and potential demolition of structures at the site. The following regulations are applicable to our survey:

- n EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP and North Carolina Health Hazards Control Unit (NC HHCU) require that potentially regulated asbestos-containing building materials be identified, classified and quantified prior to planned disturbances or renovation activities.
- n During renovation activities, workers must be protected from exposure to lead. OSHA regulates occupational exposure to lead in the Lead in Construction Standard, 29 CFR 1926.62. The EPA and North Carolina Lead Based Paint Hazard Management Program regulate renovation or demolition activities that may impact lead paint.
- n EPA regulation 40 CFR 273, Universal Waste Rule (UWR), regulates the testing and disposal practices associated with mercury-containing light bulbs. Prior to the disposal of

## Hazardous Materials Survey Report

Former Crompton and Knowles ■ Lowell, North Carolina

May 15, 2019 ■ Terracon Project No. 71187168

mercury-containing bulbs toxic characteristic leaching process (TCLP) testing must be performed.

- n EPA regulations 40 CFR 761.65, 40 CFR 207, and 40 CFR 180 outline the disposal procedures for polychlorinated biphenyl (PCB) containing light ballasts.
- n US Nuclear Radiation Commission (NRC) regulation 10 CFR 31.5 regulates the disposal of tritium-containing exit signs.

### 1.1 Reliance

This report is for the exclusive use of Geosyntec Consultant of NC, PC for the project being discussed. Reliance by any other party on this report is prohibited without written authorization of Terracon and Geosyntec Consultants of NC, PC. Reliance on this report by Geosyntec Consultants of NC, PC and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal, this report and Terracon's Agreement for Services. The limitations of liability defined in Terracon's Agreement for Services is the aggregate limit of Terracon's liability to Geosyntec Consultants of NC, PC and other relying parties.

## 2.0 SITE DESCRIPTION

The subject site is a former textile dye manufacturing facility located at 1602 North Main Street in Lowell, North Carolina. The site encompasses approximately 17 acres, approximately 25 buildings, several small outbuildings, five wastewater treatment tanks and associated piping. According to tax records, most of the current structures at the site were constructed between 1961 and 1963. The site is currently owned by Lowell Investments, LLC. Geosyntec Consultants of NC, PC (Geosyntec) is under contract with the North Carolina Department of Environmental Quality (NCDEQ) to perform an environmental assessment and remediation of the site. Below is a brief explanation of the existing structures surveyed at the site.

### Building 1: Administration Offices

Building 1 is located at the south end of the site near the entrance. The building appears to have been previously used for office spaces. The building is single story, concrete construction and encompasses approximately 3,600 square feet. The floors are concrete with finishes of floor tile, sheet flooring and carpet. The walls are gypsum board and wood panel. The ceilings are suspended ceilings with ceiling tile. The roof is a flat, built-up membrane roof on concrete. Forced air heating, ventilation and air conditioning (HVAC) units are located on the roof.



## Hazardous Materials Survey Report

Former Crompton and Knowles ■ Lowell, North Carolina

May 15, 2019 ■ Terracon Project No. 71187168

### Building 2: Quality Assurance Laboratories

Building 2 is located at the south end of the site near the entrance. The building appears to have been previously used for laboratory and office spaces. The building is single story, concrete construction and encompasses approximately 5,000 square feet. The floors are concrete with finishes of floor tile, ceramic tile and carpet. The walls are gypsum board and concrete masonry unit (CMU) block. The ceilings are suspended ceilings with ceiling tile. The roof is a flat, built-up membrane roof on concrete. Forced air HVAC units are located on the roof.

There appears to be an addition to the east side of the building. Another small wood addition is located to the south end of east addition.

### Building 3: Shipping / Receiving / Warehouse

Building 3 is located at the south end of the site near the entrance. The building appears to have been primarily warehouse space with some small offices and a loading dock. The building is single story, concrete construction and encompasses approximately 15,000 square feet. The floors are concrete. The warehouse floors are bare. The office floors have finishes of floor tile. The walls are CMU block. The ceilings are bare in the warehouse and suspended ceilings with ceiling tile in the offices. The roof is a flat, ethylene propylene diene terpolymer membrane (EPDM) roof on concrete. The building is ventilated by fans and heated by ceiling-mounted heaters in the warehouse.

### Building 4: Grinding / Blending / Milling

Building 4 is located at the south end of the site behind Building 3. The building appears to have been used for manufacturing or processing. The building is single story, concrete construction and encompasses approximately 4,000 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up membrane roof on concrete. The building is naturally ventilated.

### Building 5: Synthesis / Filterpress / Ovens

Building 5 is located at the southwest end of the site near the entrance. The building appears to have been used for chemical manufacturing or processing with a small office area. The building is primarily single story with a partial second story. The structure is concrete construction and encompasses approximately 11,000 square feet. A few ovens and several large fiberglass tanks are located inside the building. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The small office area is located on the second floor and finished with floor tile and suspended ceiling tile. The roof is a flat, built-up membrane roof on concrete. The building is naturally ventilated.

## Hazardous Materials Survey Report

Former Crompton and Knowles ■ Lowell, North Carolina

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### Building 6: Boiler Room

Building 6 is located at the west end of the site. The building appears to have been a boiler plant for the site. The building is single story, concrete construction and encompasses approximately 2,250 square feet. The building houses three boilers. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof has two sections; one is a flat, built-up membrane roof on concrete and the other is a metal roof. The building is naturally ventilated.

The northwest side of the building appears to be an addition to the original building. This section has metal walls and a metal roof.

### Building 7: Locker Room / Lunch Room

Building 7 is located at the west end of the site. The building appears to have been used as a locker room, showers and break room. The building is single story, concrete construction and encompasses approximately 2,250 square feet. The floors are concrete with coverings of ceramic tile. The walls are CMU block with some ceramic tile. The ceilings are primarily bare with some suspended ceilings with ceiling tile. The roof has three sections; a flat built-up membrane roof on concrete, a sloped asphalt shingle roof on wood, and a flat modified bitumen roof on wood. The building is naturally ventilated.

### Building 8: Warehouse

Building 8 is located near the middle of the site attached to the southeast side of Building 12. The building appears to have been primarily warehouse space. The building is single story, concrete construction and encompasses approximately 2,500 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on concrete. The building is naturally ventilated.

### Building 9: Synthesis / Liquid Packout

Building 9 is located near the middle of the site attached to the northwest side of Building 12. The building appears to have been used for manufacturing or processing, although most of the equipment has been removed. The building is two stories. The building is concrete construction and encompasses approximately 4,800 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on concrete. The building is naturally ventilated.

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### Building 10: Warehouse / Whiteners

Building 10 is located at the northwest side of the site. The building appears to have been primarily warehouse space with a small mechanical room. The building is single story, concrete construction and encompasses approximately 2,500 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on concrete. The building is naturally ventilated.

### Building 11: Training Room

Building 11 is located at the west end of the site. The building appears to have been primarily warehouse space with some office space. The building is single story, metal frame construction and encompasses approximately 2,600 square feet. The floors are primarily bare concrete with floor tile in the office area. The walls are CMU block, metal and gypsum board. The ceilings are either bare or suspended ceiling with ceiling tile. The roof is a flat metal roof. The building is naturally ventilated.

### Building 12: Filterpress

Building 12 is located near the middle of the site attached to Building 8 on the southeast side and Building 9 on the northwest side. It appears that equipment was previously located inside the building but has been since removed. The building is single story, concrete construction and encompasses approximately 3,000 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on concrete. The building is naturally ventilated.

### Building 13: Maintenance

Building 13 is located on the northwest side of the site. The building appears to have been a maintenance shop with some office spaces. The building is single story, metal frame construction and encompasses approximately 7,000 square feet. The floors are primarily bare concrete with floor tile and carpet in the office areas. The walls are CMU block, wood panel and gypsum board. The ceilings are either bare, suspended ceiling with ceiling tile or gypsum board. The roof is a flat, polyvinyl chloride (PVC) roof on concrete. The building is heated with ceiling-mounted heaters.

### Building 14: Demolished

Building 14 was previously located at the east side of the site behind Building 4. The building was previously demolished. However, a staircase and some concrete walls remain. No roof, finish materials or ventilation system remain.

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### Building 15: Laboratory Flammable Storage

Building 15 is located at the southeast end of the site behind Building 2. The building was empty during our survey. The building is single story, CMU block construction and encompasses approximately 150 square feet. The floors are bare concrete. The walls are CMU block. The ceiling is wood. The roof is a sloped asphalt shingle roof on wood. The building is naturally ventilated.

### Building 17: Waste Treatment Laboratory

Building 17 is located near the middle of the site. The building appears to have been a combination of warehouse, laboratory and office space. The building is single story, concrete construction and encompasses approximately 625 square feet. The floors are concrete. The floors are covered with floor tile in office and laboratory areas and bare in the remainder of the building. The walls are CMU block. The ceilings are suspended ceiling with ceiling tile in the office and laboratory areas and bare in the remainder of the building. The roof is a combination of sloped asphalt shingle roof on wood and built-up roof on wood. The building is naturally ventilated.

A small unnamed and unnumbered building is located to the north of Building 17. The building appears to have been a pump house or pipe shut-off system. The building is single story, concrete construction. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The building is naturally ventilated.

### Building 18: Warehouse

Building 18 is located at the southeast side of the site. The building appears to have been a warehouse. The building is single story, CMU and brick construction and encompasses approximately 6,750 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on metal. The building is ventilated by fans and heated by ceiling-mounted heaters.

### Building 21: Forklift Shop

Building 21 is located near the middle of the site. The building appears to have been a repair shop. The building is single story, CMU construction and encompasses approximately 900 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, EPDM roof on concrete. The building is naturally ventilated.

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### Building 22: Clarifier Pump House

Building 22 is located at the north end of the site. The building houses various pump equipment. The building is single story, wood frame construction and encompasses approximately 375 square feet. The building is unfinished with fiberglass insulation on the ceiling. The roof is a sloped asphalt shingle roof on wood. The building is not conditioned or ventilated.

### Building 24: Sludge Filterpress (Condo)

Building 24 is located at the southeast side of the site. The building is an open-air metal frame structure and encompasses approximately 875 square feet. No finish materials, walls or roof are present.

### Building 26: Flammable Storage

Building 26 is located at the west side of the site. The building is an open-air metal canopy and encompasses approximately 900 square feet. No walls or finish materials are present.

### Building 28: Waste Treatment Control Room

Building 28 is located at the north end of the site. The building appears to have been primarily laboratory space. The building is single story, concrete construction and encompasses approximately 675 square feet. The floors are concrete with coverings of floor tile. The walls are CMU block. The ceilings are bare. The roof is a combination of a flat, built-up roof on concrete with a smaller sloped asphalt shingle roof on wood. The building is not conditioned or ventilated.

### Building 29: Neutralization Tank Pump House

Building 29 is located at the north end of the site. The building houses various pump equipment. The building is single story, metal frame and CMU block construction and encompasses approximately 360 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on metal. The building is not conditioned or ventilated.

### Building 30: Lift Station Switch Gear

Building 30 is located near the middle of the site. The building houses various electrical equipment. The building is single story, CMU block construction and encompasses approximately 280 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on metal. The building is not conditioned or ventilated.

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### Building 31: Sludge Thickener Pump House

Building 31 is located at the east end of the site. The building houses various pump and electrical equipment. The building is single story, CMU block construction and encompasses approximately 400 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on metal. The building is not conditioned or ventilated.

### Building 34: Waste Treatment Equipment Room

Building 34 is located at the east side of the site in the tank farm. The building houses various pump equipment. The building is single story, CMU block construction and encompasses approximately 1,260 square feet. The floors are bare concrete. The walls are CMU block. The ceilings are bare. The roof is a flat, built-up roof on metal. The building is not conditioned or ventilated.

### Tanks

Several tanks are located throughout the site. The tanks are open-top and range in height, diameter and construction. Below is a summary of the tanks.

TANK NO.	NAME	DIAMETER	HEIGHT	LOCATION
T103A	Equalization Tank	80 feet	47 feet	Near Building 28
T103B	Overflow Tank	80 feet	20 feet	West of Building 34
T105	Clarifier Tank	80 feet	15 feet	East of Building 34
T108	Clarifier Tank	50 feet	In-Ground	Near Building 22
T111	Aeration Tank	70 feet	26 feet	South of Building 34

### Exterior Pipe System

Several pipe systems run throughout the site above ground. Terracon's scope of work did not include locating or identifying underground pipes.

A system of steam pipes run between several buildings and Building 6: Boiler Room. The pipes are metal. The insulation is a combination of white, block-like insulation and fiberglass. Some elbows have a mastic coating. Most of the insulation is covered with corrugated metal jackets.

A system of chemical or waste lines run throughout the site between several buildings and the tanks. The pipes are primarily un-insulated black plastic / fiberglass pipes with a black sealant at the joints. Some of the pipes are metal with fiberglass insulation and corrugated metal jackets.

### **3.0 FIELD ACTIVITIES - ASBESTOS**

The survey was conducted by North Carolina accredited asbestos inspectors Russell Harrings (Accreditation No. 12222), Courtney M. Connelly (Accreditation No. 12863) and Gareth Hoffmann (Accreditation No. 13054). The survey was conducted in general accordance with the sample collection protocols established in USEPA 40 CFR Part 763 Subpart E 763.86, AHERA. A summary of survey activities is provided below.

#### **3.1 Visual Assessment**

Survey activities were initiated with visual observation of interior and exterior areas of the structures to identify homogeneous areas (HAs) of suspect ACM. An HA consists of building materials that appear similar throughout in terms of color and texture with consideration given to the date of application. Assessment was conducted in visually accessible areas of the structures. The exterior survey included an assessment of the exterior of the structures, where accessible.

Building materials identified as concrete, glass, wood, masonry, metal or rubber were not considered suspect ACM.

#### **3.2 Physical Assessment**

A physical assessment of each HA of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the USEPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

#### **3.3 Sample Collection**

Based on results of the visual observation, bulk samples of suspect ACM were collected in general accordance with USEPA AHERA sampling protocols. Samples of suspect materials were collected from randomly selected locations in each homogeneous area. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

The selection of sample locations and frequency of sampling were based on Terracon's observations and the assumption that like materials in the same area are homogeneous in content. Terracon collected 1,036 bulk samples of suspect ACM. A summary of suspect ACM samples collected during the survey is included in Appendix D.

### **3.4 Sample Analysis**

Bulk samples were submitted under chain of custody to Scientific Analytical Institute, Inc. (SAI) of Greensboro, North Carolina for analysis by Polarized Light Microscopy (PLM) with dispersion staining techniques per USEPA methodology EPA/600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopic visual estimation. SAI is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) Accreditation 200664-0.

Samples of vermiculite block fill insulation were analyzed first by PLM. If the PLM analysis did not reveal the presence of asbestos, then one sample of each vermiculite HA was analyzed according to Method EPA/600/R-04/004 for Vermiculite Attic Insulation.

## **4.0 REGULATORY OVERVIEW - ASBESTOS**

The asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. The asbestos NESHAP regulation also requires the identification and classification of existing ACM according to friability prior to demolition or renovation activity. Friable ACM is a material containing more than 1% asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. All friable ACM is considered regulated asbestos containing material (RACM).

The asbestos NESHAP regulation classifies ACM as either RACM, Category I non-friable ACM or Category II non-friable ACM. RACM includes all friable ACM, along with Category I and Category II non-friable ACM that has become friable, will be or has been subjected to sanding, grinding, cutting or abrading, or ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder in the course of renovation or demolition activity. Category I non-friable ACM are exclusively asbestos-containing packings, gaskets, resilient floor coverings, resilient floor covering mastics and asphalt roofing products that contain more than 1% asbestos. Category II non-friable ACM are all other non-friable materials other than Category I non-friable ACM that contain more than 1% asbestos. Category II non-friable ACM generally includes but is not limited to cementitious material such as: cement pipes, cement siding, cement panels, glazing, mortar and grouts.

The OSHA Asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc). The OSHA standard classifies construction and maintenance activities which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. States which administer their own federally-approved state OSHA programs may require additional precautions.



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In the state of North Carolina, the Health Hazards Control Unit (HHCU) regulates asbestos activities. The NC HHCU requires that any asbestos-related activity conducted in a public building be performed by personnel licensed by NC HHCU. RACM must be removed prior to renovation or demolition activities which will disturb the materials. The owner or operator must provide the NC HHCU with written notification of planned removal activities at least 10 working days prior to the commencement of asbestos abatement activities. Removal of RACM must be conducted by a State of North Carolina licensed asbestos abatement contractor. In addition, third party air monitoring must be performed following the abatement.

## 5.0 FINDINGS - ASBESTOS

**Asbestos was identified** in samples of materials collected from the following buildings:

- n Building 1: Administration Offices
- n Building 2: Quality Assurance Laboratories
- n Building 3: Shipping / Receiving / Warehouse
- n Building 4: Grinding / Blending / Milling
- n Building 5: Synthesis / Filterpress / Ovens
- n Building 6: Boiler Room
- n Building 7: Locker Room / Lunch Room
- n Building 8: Warehouse
- n Building 9: Synthesis / Liquid Packout
- n Building 10: Warehouse / Whiteners
- n Building 11: Training Room
- n Building 12: Filterpress
- n Building 13: Maintenance
- n Building 15: Laboratory Flammable Storage
- n Building 17: Waste Treatment Laboratory
- n Building 18: Warehouse
- n Exterior Pipe System

A summary of the classification, condition and approximate quantity of identified ACM are presented in Appendix A. Laboratory analytical reports are included in Appendix C.

White, block-like insulation associated with steam lines was found to contain asbestos in multiple areas of the site. Similar insulation, if found, should be assumed to contain asbestos.

If the site remediation activities require demolition of the structures at the site, the identified ACM must be removed prior to disturbance by a qualified asbestos abatement contractor. In addition, depending on the size of the project, an asbestos abatement design and air monitoring may be

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required to meet state asbestos regulations. Qualified asbestos abatement contractors should be contacted to obtain competitive bids for abatement.

EPA regulations require additional analysis of materials identified to contain <10% by a more quantitative point-counting method. If the additional analysis is not performed, the materials must be assumed and treated as if they contain >1% asbestos. Materials identified as <1% asbestos at this site should be assumed and treated as if they are asbestos-containing materials (>1% asbestos).

## 6.0 FIELD ACTIVITIES – LEAD PAINT

### 6.1 Visual Observation

Our survey activities began with visual observation of areas to identify apparent unique combinations of suspect LP. A unique combination of paint is based on paint color, building component and substrate. Assessment was conducted throughout visually accessible areas.

The scope of the assessment did not include graffiti specifically but did include surfaces with graffiti present.

### 6.2 Visual Assessment

A visual assessment of each unique combination of suspect LP was conducted to assess the condition of the paint. The condition of the paint was documented to be intact, top layer failure, multiple layer failure and substrate failure.

### 6.3 Testing and Sample Collection

Terracon performed an initial testing of suspect LP utilizing a Radiation Monitoring Devices, Inc. (RMD) LPA-1 XRF instrument to determine if a surface coating contained lead. The LPA-1 XRF is a handheld, field portable, energy dispersive spectrometer that is self-contained and battery powered. The LPA-1 implements the X-ray fluorescent technique using a sealed radioactive source (Cobalt-57) inside the instrument to excite atoms in the sample to produce fluorescent X-rays. When gamma-rays spontaneously emitted by the Cobalt-57 source strike the painted surface, lead atoms in the paint are “excited” and respond by emitting their own characteristic X-rays of unique energies. This response is known as fluorescence. X-ray measurements are made directly on the painted surface of component (unpainted components may also be tested for lead content). The instrument, which has been pre-calibrated by the manufacturer, is held against the surface to be analyzed. The X-ray detector unit, along with its associated microcomputer, is activated. After an instrument-selected analysis time, the concentration of lead

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on the surface and in the paint film is read directly from the instrument's display in units of mg/cm<sup>2</sup>. The LPA-1 XRF (Serial Number 1601) instrument was operated in the Quick mode for this project.

Surfaces found to contain 1.0 mg/cm<sup>2</sup> of lead or greater were determined to contain lead. At or above this level, it is unlikely that the paint would be found to not contain lead by laboratory analysis.

Terracon tested 132 painted surfaces by XRF during the initial inspection.

Based on results of the initial testing, paint chip samples of suspect LP were collected from paint that was found to be below 1.0 mg/cm<sup>2</sup> of lead or not tested by XRF. One random sample was collected from each unique paint combination. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

Terracon collected 320 paint chip samples. A summary of suspect LP testing locations and samples collected during the survey is included in Appendix E.

### 6.4 Sample Analysis

Samples were submitted under chain of custody to SAI located in Greensboro, North Carolina for analysis. Suspect LP samples were analyzed by Flame Atomic Absorption (FAA) according to Environmental Protection Agency (EPA) Method SW 846 3050B/700B. SAI is accredited under the Environmental Lead Laboratory Accreditation Program (ELLAP) (Accreditation No. 173190).

## 7.0 REGULATORY OVERVIEW – LEAD PAINT

For the purpose of the OSHA lead standard, lead includes metallic lead, inorganic lead compounds and organic lead soaps. The OSHA *Lead Standard for Construction* (29 CFR 1926.62) applies to construction work where an employee may be occupationally exposed to lead. Work related to construction, alteration or repair (including painting and decorating) is included. The lead-in-construction standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon on the method of removal and other workplace conditions.

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## 8.0 FINDINGS AND RECOMMENDATIONS – LEAD PAINT

XRF or laboratory analysis confirmed the presence of lead above detectable limits in samples of paint collected from the following buildings:

- n Building 1: Administration Offices
- n Building 2: Quality Assurance Laboratories
- n Building 3: Shipping / Receiving / Warehouse
- n Building 4: Grinding / Blending / Milling
- n Building 5: Synthesis / Filterpress / Ovens
- n Building 6: Boiler Room
- n Building 7: Locker Room / Lunch Room
- n Building 8: Warehouse
- n Building 9: Synthesis / Liquid Packout
- n Building 10: Warehouse / Whiteners
- n Building 11: Training Room
- n Building 12: Filterpress
- n Building 13: Maintenance
- n Building 14: Demolished (remnants of building)
- n Building 15: Laboratory Flammable Storage
- n Building 17: Waste Treatment Laboratory
- n Building 18: Warehouse
- n Building 21: Forklift Shop
- n Building 22: Clarifier Pump House
- n Building 24: Sludge Filterpress (condo)
- n Building 29: Neutralization Tank Pump House
- n Building 30: Lift Station Switch Gear
- n Building 31: Sludge Thickener Pump House
- n Building 34: Waste Treatment Equipment Room

A summary of the color and location of confirmed lead paint are presented in Appendix C. XRF and laboratory analytical reports are included in Appendix E.

Several paints tested contained detectable amounts of lead. For the purposes of this project, similar painted surfaces within the same building should be considered to be lead-containing. OSHA does not consider any method that relies solely on the analysis of bulk materials or surface content of lead (or other toxic material) to be acceptable for safely predicting employee exposure to airborne contaminants. Without air monitoring results or without the benefit of historical or objective data (including air sampling which clearly demonstrates that the employee cannot be exposed above the action level during any process, operation, or activity) the analysis of bulk or surface samples

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cannot be used to determine employee airborne exposure. The OSHA lead-in-construction standard was intended to apply to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon on the method of removal and other workplace conditions. A full copy of the OSHA lead standard for construction industry may be found at OSHA’s website ([www.osha.gov](http://www.osha.gov)) and should be referenced for specific information.

**9.0 MERCURY**

Terracon performed visual observations for the presence of mercury containing fixtures. Our visual observations included thermostats and fluorescent light bulbs. Terracon attempted to observe approximately 10% of the thermostats inside each building and each accessible light fixture.

Terracon did not observe mercury-containing thermostats in the buildings observed at the former Crompton and Knowles site.

Terracon visually observed the accessible fluorescent light fixtures and associated bulbs. Each fixture contained between one and four light bulbs, on average. The bulbs were observed to have either green tips or silver tips. Green-tipped fluorescent light bulbs are manufactured to contain less mercury than typical non-green-tipped fluorescent light bulbs. Terracon observed several different types of light fixtures throughout the site. Terracon observed that between 10% and 20% of the light bulbs were green-tipped (lower mercury content) and the rest were non-green-tipped.

Terracon observed mercury-containing fluorescent light bulbs in the following locations. Quantities are approximate:

BUILDING NO.	BUILDING NAME	NUMBER OF FLUORESCENT BULBS
1	Administration Offices	45
2	Quality Assurance Laboratories	70
3	Shipping / Receiving / Warehouse	40
4	Grinding / Blending / Milling	4
5	Synthesis / Filterpress / Ovens	10
6	Boiler Room	30
7	Locker Room / Lunch Room	40
8	Warehouse	20
9	Synthesis / Liquid Packout	40
10	Warehouse / Whiteners	30
11	Training Room	30

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BUILDING NO.	BUILDING NAME	NUMBER OF FLUORESCENT BULBS
12	Filterpress	40
13	Maintenance	70
14	Demolished, slab remains	0
15	Laboratory Flammable Storage	0
17	Waste Treatment Laboratory	30
18	Warehouse	65
21	Forklift Shop	20
22	Clarifier Pump House	4
24	Sludge Filter Press (condo)	0
26	Flammable Storage	0
28	Waste Treatment Control Room	30
29	Neutralization Tank Pump House	4
30	Lift Station Switch Gear	15
31	Sludge Thickener Pump House	2
34	Waste Treatment Equipment Room	0

Prior to demolition or renovation of the buildings at the site, these light bulbs should be removed intact, packaged to prevent breakage and transferred to an approved recycling facility that recovers mercury.

**10.0 POLYCHLORINATED BIPHENYLS**

The EPA regulates the use, distribution and disposal of PCBs under the Toxic Substances Control Act (TSCA). Terracon performed visual observations for the presence of fixtures containing polychlorinated biphenyls (PCBs). Our visual observations included fluorescent light fixture ballasts. Terracon attempted to observe approximately 10% of the ballasts throughout the site (or at least one per type per building). Terracon observed labels on the fixtures for labels indicating that the devices did not contain PCBs or were PCB free. A device that did not contain a label indicating no PCBs or PCB free would be assumed to contain PCBs.

Terracon observed the presence of assumed PCB-containing ballasts in the following building:

- n Building 2: Quality Assurance Laboratories

Note, our scope of work included observation of only approximately 10% of the fixtures. Individual fixtures should be checked for the presence of a label indicating no PCBs or PCB free, prior to demolition or renovation of the buildings at the site. This includes replacement ballasts in shop or

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maintenance areas of the site. If a device does not contain such a label, it should be assumed to contain PCBs. The light ballasts should be sorted by PCB/non-PCB content and handled accordingly.

**11.0 TRITIUM**

Terracon performed visual observations for the presence of exit lights containing tritium. Our visual observations included accessible exit lights. Tritium is a radioactive gas that is regulated by the US Nuclear Regulatory Commission (NRC). Tritium has been used in the manufacture of some exit lights to make them glow in the dark without the need for electricity or batteries.

Exit lights that contain tritium are identified by the presence of a permanent label on the device, as required by the NRC. The label should contain the following information: mentions tritium, 3H or H-3; has the radiation warning symbol; and has the warning “Caution – Radioactive Materials”.

Terracon observed the presence of exit lights containing tritium in the following locations. Quantities are approximate:

BUILDING NO.	BUILDING NAME	NUMBER OF TRITIUM LIGHT FIXTURES
1	Administration Offices	1
2	Quality Assurance Laboratories	2
3	Shipping / Receiving / Warehouse	2
4	Grinding / Blending / Milling	1
5	Synthesis / Filterpress / Ovens	1
6	Boiler Room	1
7	Locker Room / Lunch Room	1
8	Warehouse	0
9	Synthesis / Liquid Packout	1
10	Warehouse / Whiteners	0
11	Training Room	1
12	Filterpress	1
13	Maintenance	2
14	Demolished, slab remains	1
15	Laboratory Flammable Storage	0
17	Waste Treatment Laboratory	2
18	Warehouse	1
21	Forklift Shop	2

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BUILDING NO.	BUILDING NAME	NUMBER OF TRITIUM LIGHT FIXTURES
22	Clarifier Pump House	0
24	Sludge Filter Press (condo)	0
26	Flammable Storage	0
28	Waste Treatment Control Room	1
29	Neutralization Tank Pump House	0
30	Lift Station Switch Gear	0
31	Sludge Thickener Pump House	1
34	Waste Treatment Equipment Room	0

Note, Terracon observed that the housings for several tritium exit lights were empty. Terracon could not determine whether the light fixtures had been removed intentionally or by vandals. Additional tritium light fixtures could be located on the site in random locations.

## 12.0 LIMITATIONS / GENERAL COMMENTS

Terracon performed sampling which required limited demolition or destructive activities such as knocking holes in walls, dismantling of equipment or removal of protective coverings, where feasible. Note, Terracon cannot guarantee that additional, unsampled or un-identified materials are not located in concealed locations. The following are known limitations in Terracon's survey:

- Building 6: Terracon could not access all interior areas / materials of the boilers.
- Pipe Systems: Terracon performed observation and assessment of pipe insulation at several locations throughout the site. Unnoticed changes in pipe insulation may remain.
- Pipe Systems: Terracon did not perform destructive sampling of pipes. Inaccessible suspect asbestos-containing gaskets may be located throughout the site.
- Terracon's scope of work did not include locating, sampling or identifying underground tunnels, pipes or other structures.

This hazardous materials survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the site. The information contained in this report is relevant to the dates on which this survey was performed and should not be relied upon to represent conditions at a later date.

This report has been prepared on behalf of and exclusively for use by Geosyntec for specific application to their project as discussed. Terracon does not warrant the work of regulatory



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agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied, is made.

This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary.

**APPENDIX A**  
**Crompton and Knowles Site**  
**1602 N. Main Street, Lowell, North Carolina**

**IDENTIFIED ASBESTOS-CONTAINING MATERIALS**

**Building 1**

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
2	Yellow glue and black mastic (floor)	Front entrance area	4% Chrysotile	Good / Category I Non-Friable	1,600 ft <sup>2</sup>
3	9"x9" terrazzo patterned floor tile and black mastic	In and near kitchen	FT: 3% Chrysotile, M: 8% Chrysotile	Good / Category I Non-Friable	1,900 ft <sup>2</sup>
4	Window Glazing	Exterior windows	2% Chrysotile	Damaged / Friable	19 Frames
6	Door frame caulk	Exterior doors	5% Chrysotile	Damaged / Category II Non-Friable	4 Frames
11	1'x1' pinhole ceiling tile	Throughout several areas	7% Amosite	Damaged / Friable	1,200 ft <sup>2</sup>
12	Wallboard and joint compound	Throughout several areas	WB: None Detected, JC: 3% Chrysotile, Co: <0.1% Chrysotile	Damaged / Friable	2,750 ft <sup>2</sup>
19	Tan glue behind plastic backsplash	Back bathroom counter	2% Chrysotile	Good / Category II Non-Friable	10 ft <sup>2</sup>
23	Roof Flashing	Roof walls	3% Chrysotile	Good / Category I Non-Friable	350 ft
25	Silver Paint	HVAC and parapet wall	2% Chrysotile	Good / Friable	400 ft <sup>2</sup>
26	Grey Roof Caulk	Roof walls	8% Chrysotile	Good / Category I Non-Friable	400 ft

FT: floor tile

M: mastic

WB: wallboard

JC: joint compound

Co: composite

## Building 2

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
1	White caulk (windows)	Exterior windows	<1% Anthophyllite †	Damaged / Friable	28 Frames
4	9"x9" maroon floor tile and mastic	Throughout lab and office areas	FT: 3% Chrysotile, M: 8% Chrysotile	Significantly Damaged / Friable	2,200 ft <sup>2</sup>
5	9"x9" maroon floor tile and mastic	Throughout lab and office areas	FT: 3% Chrysotile, M: 8% Chrysotile	Significantly Damaged / Friable	Included in HA 2-4
6	CMU coating	Throughout building (interior)	<1% Chrysotile †	Damaged / Friable	13,000 ft <sup>2</sup>
17	1'x1' pinhole ceiling tile	Throughout south end of building	7% Amosite	Damaged / Friable	450 ft <sup>2</sup>
18	Mastic associated with blue carpet	Throughout several office areas	2% Chrysotile	Good / Category I Non-Friable	500 ft <sup>2</sup>
19	Black mastic (on wood walls)	Southwest office	5% Chrysotile	Damaged / Category II Non-Friable	20 ft <sup>2</sup>
21	Mastic associated with ceramic tile	Floors throughout several areas	Gr: None Detected; M: 6% Chrysotile	Good / Category I Non-Friable	2,500 ft
25	Grey window glazing	Exterior windows	2% Chrysotile	Damaged / Friable	28 Frames
26	CMU coating	Throughout building (exterior)	<1% Chrysotile †	Damaged / Friable	3,000 ft <sup>2</sup>
27	9"x9" grey floor tile and mastic	Northwest side	FT: 3% Chrysotile; M: 8% Chrysotile	Significantly Damaged / Friable	Included in HA 2-4
28	White caulk (door frames)	Exterior door frames	2% Chrysotile	Damaged / Friable	6 Frames
34	Roof Flashing	Roof Walls	3% Chrysotile	Good / Category I Non-Friable	500 ft
35	Black Roof Tar	HVAC stand	3% Chrysotile	Good / Category I Non-Friable	300 ft <sup>2</sup>
36	Silver Roof Paint	Throughout roof	6% Chrysotile	Good / Category I Non-Friable	600 ft <sup>2</sup>

FT: floor tile                      M: mastic                      Gr: grout

† Materials containing <1% asbestos by PLM analysis should be assumed and treated as if they contain >1% asbestos or analyzed by point count analysis.

### Building 3

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
1	CMU coating	Throughout building (exterior)	<1% Chrysotile †	Good / Friable	8,500 ft <sup>2</sup>
2	Mastic associated with 9"x9" brown floor tile	South end office	FT: None Detected; M: 8% Chrysotile	Damaged / Category I Non-Friable	200 ft <sup>2</sup>
6	6" steam pipe insulation	Along ceiling	20% Amosite, 5% Chrysotile	Damaged / Friable	500 ft <sup>2</sup>
7	6" steam pipe elbow insulation	Along ceiling	10% Amosite, 20% Chrysotile	Damaged / Friable	10 ft <sup>2</sup>
8	Window glazing	Exterior windows	5% Chrysotile	Good / Friable	25 windows
9	Window caulk	Exterior windows	5% Chrysotile	Good / Category II Non-Friable	25 windows
12	12"x12" black floor tile	Interior office	FT: 2% Chrysotile; M: None Detected	Damaged / Category I Non - Friable	50 ft <sup>2</sup>
13	CMU expansion joint caulk	Exterior walls	5% Chrysotile	Good / Category II Non-Friable	160 ft

FT: floor tile                      M: mastic

† Materials containing <1% asbestos by PLM analysis should be assumed and treated as if they contain >1% asbestos or analyzed by point count analysis.

### Building 4

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
4	Hopper gasket	Hopper against wall closest to buildings 33/14	50% Chrysotile	Good / Category I Non - Friable	1 gasket

### Building 5

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
1	6" pipe insulation	Throughout building at ceiling	20% Amosite 5% Chrysotile	Significantly Damaged / Friable	300 ft
2	4" pipe insulation	Throughout building at ceiling	15% Amosite 5% Chrysotile	Significantly Damaged / Friable	300 ft
5	Corrugated ceiling panels	Ceiling of north ovens	15% Chrysotile	Good / Category II Non-friable	700 ft <sup>2</sup>
16	Tar on exterior CMU wall	Exterior wall	CC: None Detected; T: 8% Chrysotile	Good / Friable	< 1 ft <sup>2</sup>
17	Window glazing	Exterior windows	2% Chrysotile	Significantly Damaged / Friable	3 Total
28	Roof Flashing	Throughout Roof	2% Chrysotile	Good / Category I Non-Friable	500 ft

CC: CMU coating

T: tar

### Building 6

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
10	12" header insulation	Throughout building at ceiling	10% Amosite 2% Chrysotile	Significantly Damaged / Friable	15 ft
11	6" pipe insulation	Near Superior Boiler and header	15% Amosite 5% Chrysotile	Significantly Damaged / Friable	30 ft
12	6" pipe elbow insulation	Near Superior Boiler and header	20% Chrysotile 2% Amosite	Significantly Damaged / Category II Friable	15 Elbows
15	Boiler insulation	Continental Auto Boiler	30% Chrysotile	Good / Friable	300 ft <sup>2</sup>
18	6" pipe elbow insulation	Between Continental and York Boilers	30% Chrysotile	Significantly Damaged / Friable	15 Elbows
19	6" pipe insulation	Between Continental and York Boilers	15% Amosite 5% Chrysotile	Significantly Damaged / Friable	>150 ft
26	Roof Flashing	Throughout vent and roof wall	2% Chrysotile	Good / Category I Non-Friable	250 ft
27	Silver Paint	Throughout vents	3% Chrysotile	Good / Category II Non-Friable	30 ft <sup>2</sup>

### Building 7

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
2	CMU coating	Throughout building (interior)	<1% Chrysotile †	Significantly Damaged / Friable	4,600 ft <sup>2</sup>
3	3" pipe valve insulation	Mechanical room	Wr: 5% Chrysotile; In: None Detected	Damaged / Friable	1 valve
4	Grey window glazing	Interior windows	2% Chrysotile	Significantly Damaged / Friable	1 Window
6	6" pipe insulation	Exterior of building	Wr: 10% Chrysotile; Fl: 30% Chrysotile; In: 15% Amosite 5% Chrysotile	Good / Friable	5 ft
7	3" pipe insulation	Pipe penetrating from interior to exterior of building	10% Chrysotile 10% Amosite	Good / Friable	5 ft

Wr: wrap                      In: insulation                      Fl: felt

† Materials containing <1% asbestos by PLM analysis should be assumed and treated as if they contain >1% asbestos or analyzed by point count analysis.

### Building 8

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
4	CMU Coating	Throughout walls	2% Chrysotile	Damaged / Category II Non-Friable	7,100 ft <sup>2</sup>
11	Roof Flashing	Throughout walls and vents	5% Chrysotile	Good / Category II Non-Friable	250 ft
12	Silver Paint	Roof vents and corners	10% Chrysotile	Good / Category II Non-Friable	250 ft <sup>2</sup>

### Building 9

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
4	CMU Coating	Throughout walls	2% Chrysotile	Significantly Damaged / Category II Non-Friable	2,000 ft <sup>2</sup>
5	Window Glazing	Throughout windows	3% Chrysotile	Significantly Damaged / Friable	18 ft
14	6" Pipe Insulation with Metal Jacket	Exterior of mechanical room	25% Amosite	Significantly Damaged / Friable	10 ft <sup>2</sup>
21	Roof Flashing	Throughout roof	5% Chrysotile	Good / Category I Non-Friable	400 ft
22	Black Roof Tar	Throughout roof	10% Chrysotile	Good / Category I Non-Friable	400 ft <sup>2</sup>
24	Grey Pipe Caulk	Throughout building	<1% Chrysotile	Good / Category II Non-Friable	

### Building 10

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
3	Grey Caulk	Bottom of tank	5% Chrysotile	Damaged / Category II Non-Friable	75 ft
4	Tank Insulation Wrap	Around tank	5% Chrysotile	Damaged / Category II Non-Friable	1,275 ft <sup>2</sup>

### Building 11

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
2	9"x9" Dark Brown Floor Tile and Mastic	Front office floor	FT: None Detected M: 3% Chrysotile	Damaged / Category I Non-Friable	200 ft <sup>2</sup>

FT: floor tile

M: mastic

### Building 12

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
2	White Mastic on Pipe wrap	Small tank on west side of building	M: 5% Chrysotile Wr: none detected	Damaged / Category II Non-Friable	5 ft
6	6" Pipe Insulation with Metal Jacket	Exhaust fan behind building 12	15% Amosite 3% Chrysotile	Damaged / Friable	50 ft
8	Roof Flashing	Throughout the roof	5% Chrysotile	Good/ Category I Non-Friable	250 ft
9	Black Roof Tar	Throughout roof	10% Chrysotile	Good / Category I Non-Friable	250 ft <sup>2</sup>

M: mastic      Wr: wrap

### Building 13

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
3	12"x12" Black Floor Tile and Mastic	Office area	FT: 3% Chrysotile M: 5% Chrysotile	Damaged / Category I Non-Friable	325 ft <sup>2</sup>

FT: floor tile      M: mastic

### Building 14

HA No.	HOMOGENEOUS MATERIAL DESCRIPTION	GENERAL LOCATION	TYPE OF ASBESTOS *	CONDITION / CLASSIFICATION	ESTIMATED QUANTITY **
No identified asbestos-containing materials					