BRIDGE PARK
DUBLIN, OH

Change in Roof Plane or Type
No greater than every 80 ft.
^Requirement NOT Met - Waiver Requested

Vertical Facade Increments
No greater than 40 ft.
*Requirement NOT Met - Waiver Requested

Blank Wall Limitation
Requirement Met

Street Facade Transparency
Requirement Met

Street Facade Floor 5
Story area: 3,666 sf
Transparency
Required: 20% - 733.2 sf
Provided 23% - 858.0 sf

Street Facade Floor 4
Story area: 2,540 sf
Transparency
Required: 20% - 508.0 sf
Provided 31% - 783.0 sf

Street Facade Floor 3
Story area: 2,540 sf
Transparency
Required: 20% - 508.0 sf
Provided 31% - 793.0 sf

Street Facade Floor 2
Story area: 2,540 sf
Transparency
Required: 20% - 508.0 sf
Provided 31% - 783.0 sf

Street Facade Floor 1
Story area: 2,779 sf
Transparency
Required: 20% - 555.8 sf
Provided 28% - 783.0 sf

Balcony Facade Coverage
Total Facade area: 13,763 sf
Total Balcony area: 3,475 sf
Required: 40% maximum
Provided: 25%
Requirement Met

Horizontal Facade Divisions
(required within 3' of top of ground story on buildings 3 stories and taller)
Requirement Met

Condominium East Elevation Calculations

1" = 20'-0"

Total Facade Area* = 9,730 SF				Waiver Requested	
*Windows/Doors not included in Facade Area					
Material	**Primary / Secondary**	**Area (SF)**	**Percentage**	**Required**	**Met?**
Brick Base	Primary	2,058	21.15%		
Thin Brick	Primary	3,663	37.65%		
		5,721	**58.80%**	**80%**	**N**
Metal Siding (including vents)	Secondary	**4,009**	**41.20%**	**<20%**	**N**

Non-Street Facade Transparency
Requirement Met

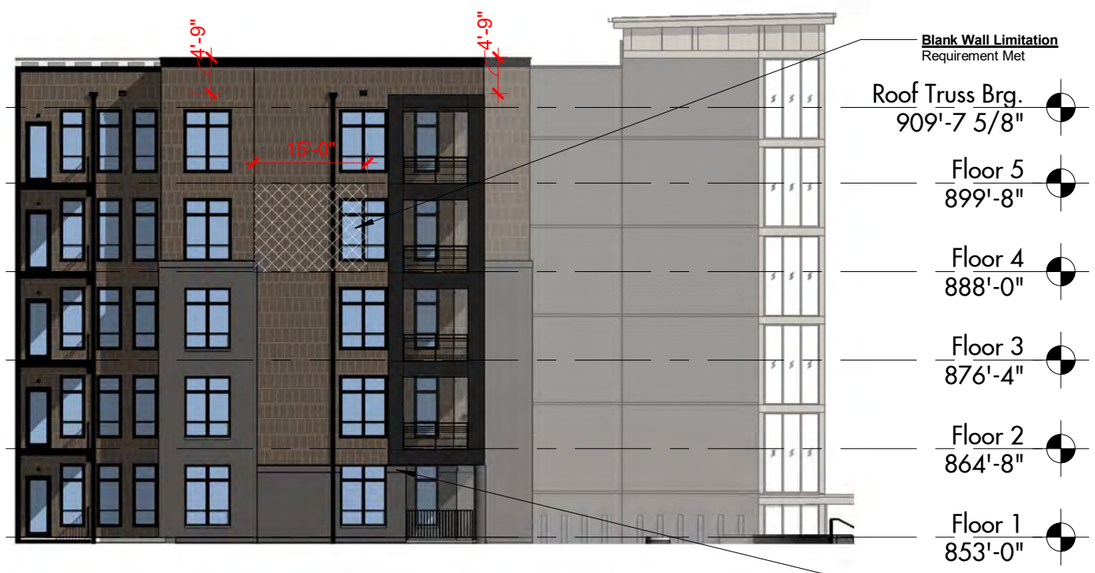
Non-Street Facade Floor 5
Story Area: 1,043 sf
Transparency
Required: 15% - 156.5 sf
Provided: 21% - 216.0 sf

Non-Street Facade Floor 3
Story Area: 787 sf
Transparency
Required: 15% - 118.0 sf
Provided: 27% - 216.0 sf

Non-Street Facade Floor 3
Story Area: 787 sf
Transparency
Required: 15% - 118.0 sf
Provided: 27% - 216.0 sf

Non-Street Facade Floor 2
Story Area: 787 sf
Transparency
Required: 15% - 118.0 sf
Provided: 27% - 216.0 sf

Non-Street Facade Floor 2
Story Area: 832 sf
Transparency
Required: 15% - 124.8 sf
Provided: 26% - 216.0 sf



Blank Wall Limitation
Requirement Met

Horizontal Facade Divisions
(required within 3' of top of ground story on buildings 3 stories and taller)
Requirement Met

Total Facade Area* = 3,154 SF				Waiver Requested	
*Windows/Doors not included in Facade Area					
Material	**Primary / Secondary**	**Area (SF)**	**Percentage**	**Required**	**Met?**
Brick Base	Primary	814	25.81%		
Thin Brick	Primary	0	0.00%		
		814	**25.81%**	**80%**	**N**
Metal Siding (including vents)	Secondary	**2,340**	**74.19%**	**<20%**	**N**

Courtyard North Elevation Calculations

1" = 20'-0"

BLOCK J - Condominium Building

06-02-2025

BSD Building Type: Apartment Building

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z11
Facade Materials, Transparency & Calculations

BRIDGE PARK
DUBLIN, OH

BLOCK J - Condominium Building

06-02-2025

BSD Building Type: Apartment Building

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z12
Main Entry
Perspective

BRIDGE PARK
DUBLIN, OH

BLOCK J - Condominium Building

06-02-2025

BSD Building Type: Apartment Building

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z13
North Facade
Perspective

BRIDGE PARK
DUBLIN, OH

BLOCK J - Condominium Building

06-02-2025

BSD Building Type: Apartment Building

CRAWFORD HOYING
development

SULLIVAN BRUCK
ARCHITECTS

Z14
East Facade
Perspective

BRIDGE PARK
DUBLIN, OH

BLOCK J - Condominium Building

06-02-2025

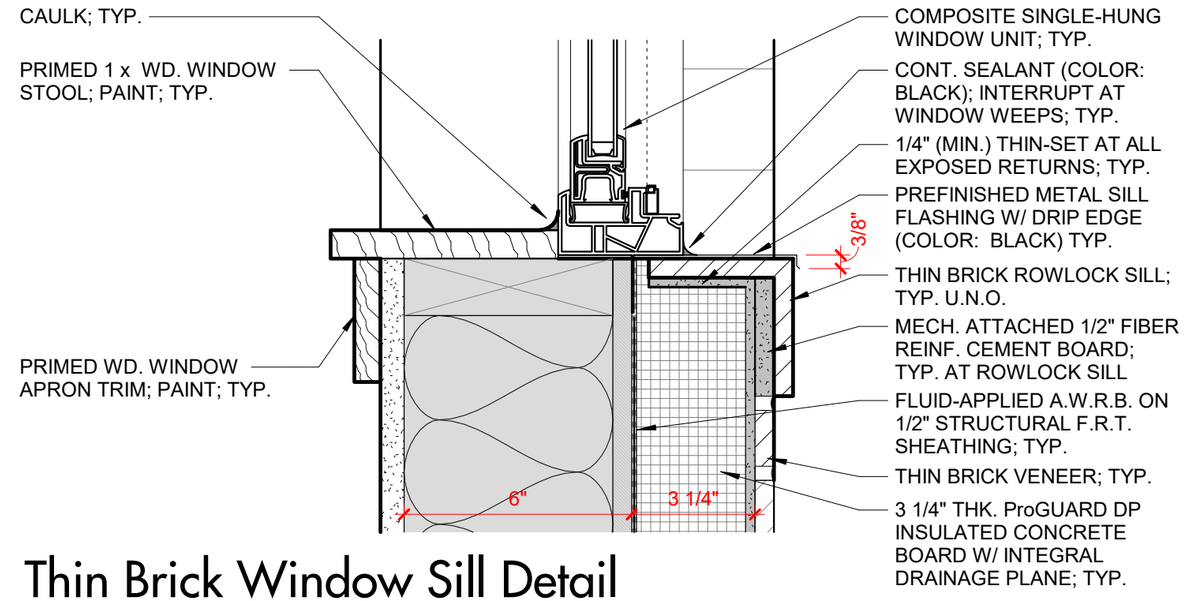
BSD Building Type: Apartment Building

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

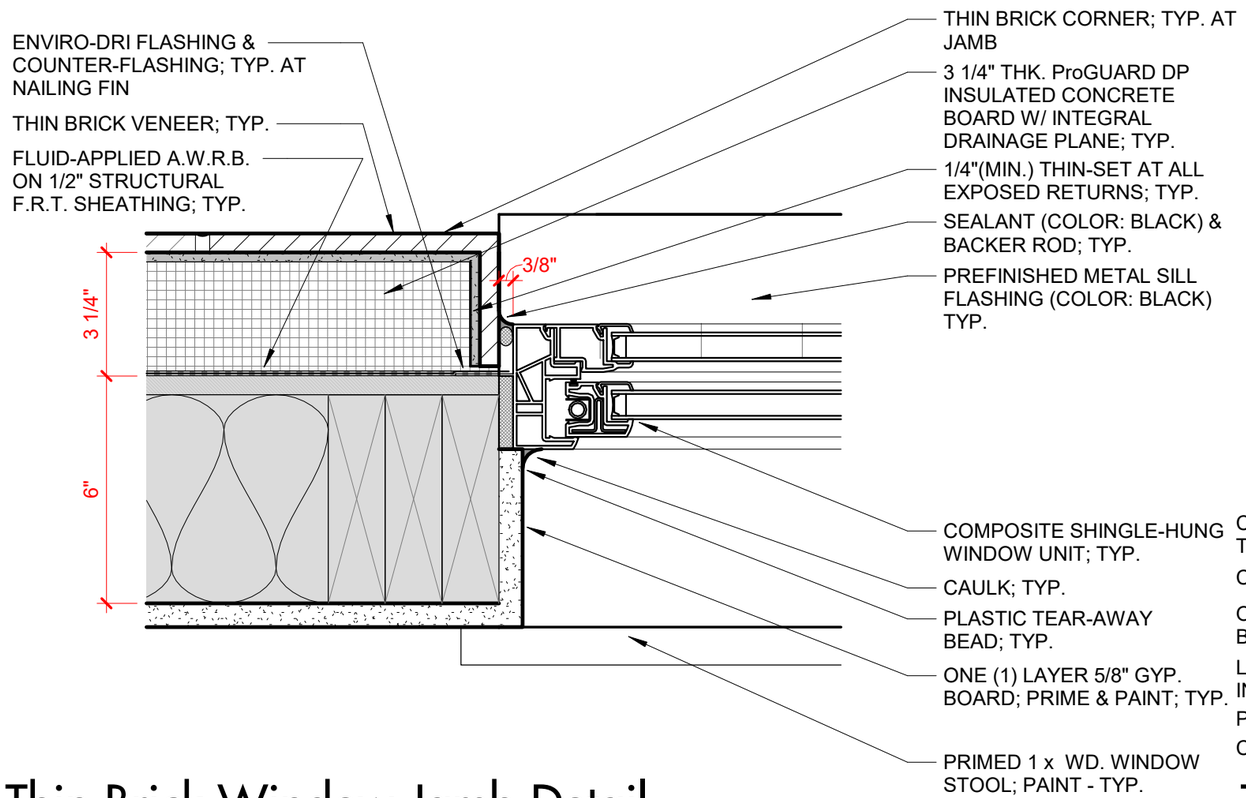
Z15
Courtyard
Perspective

BRIDGE PARK
DUBLIN, OH



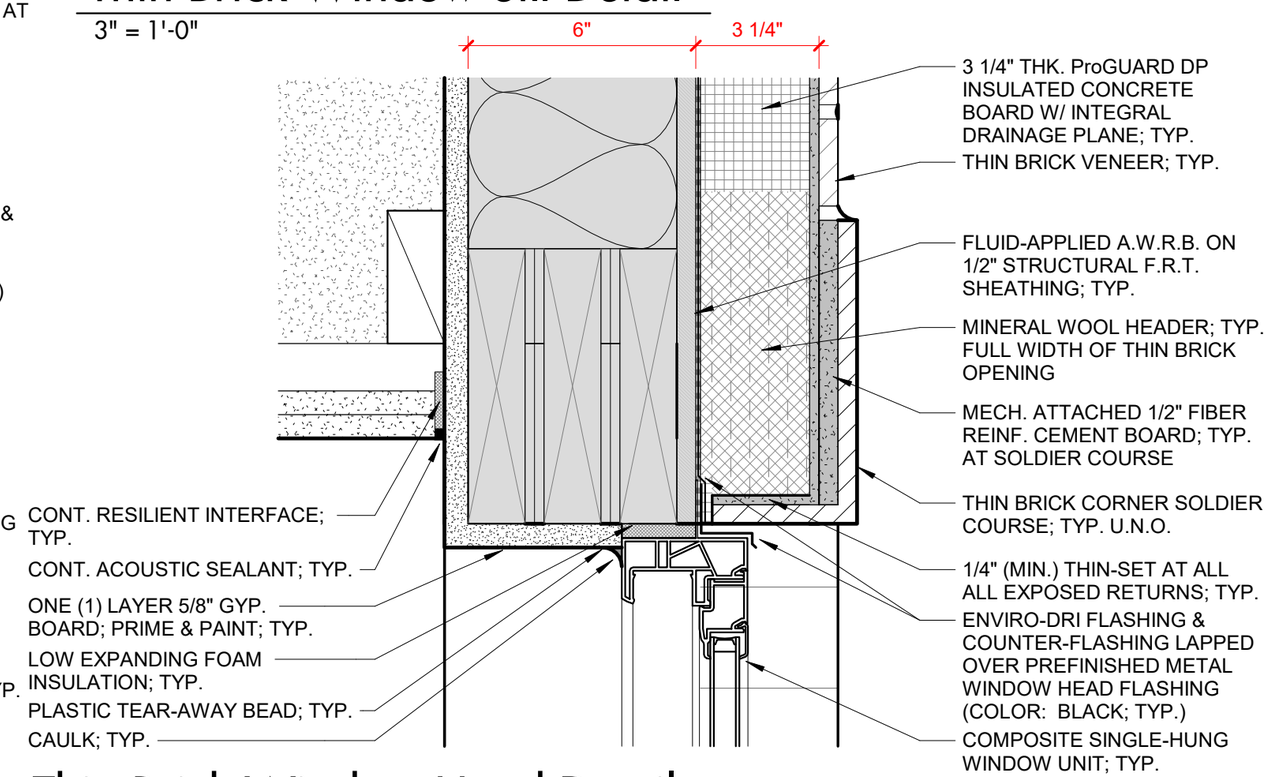
Thin Brick Window Sill Detail

3" = 1'-0"



Thin Brick Window Jamb Detail

3" = 1'-0"



Thin Brick Window Head Detail

3" = 1'-0"

BLOCK J - Condominium Building

BSD Building Type: Apartment Building

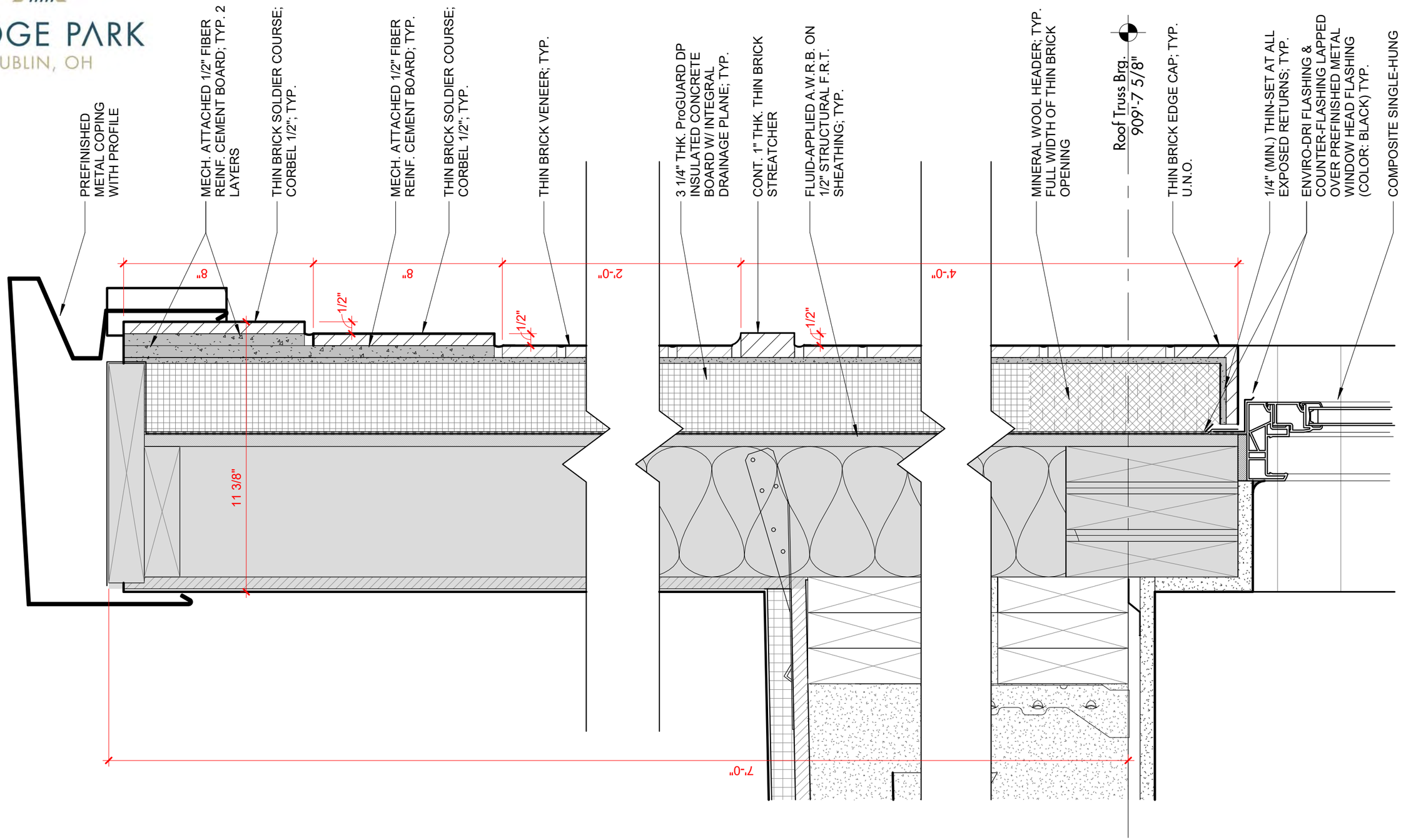
06-02-2025

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z16
Details

BRIDGE PARK
DUBLIN, OH



Wall Section Parapet Detail

3" = 1'-0"

BLOCK J - Condominium Building

BSD Building Type: Apartment Building

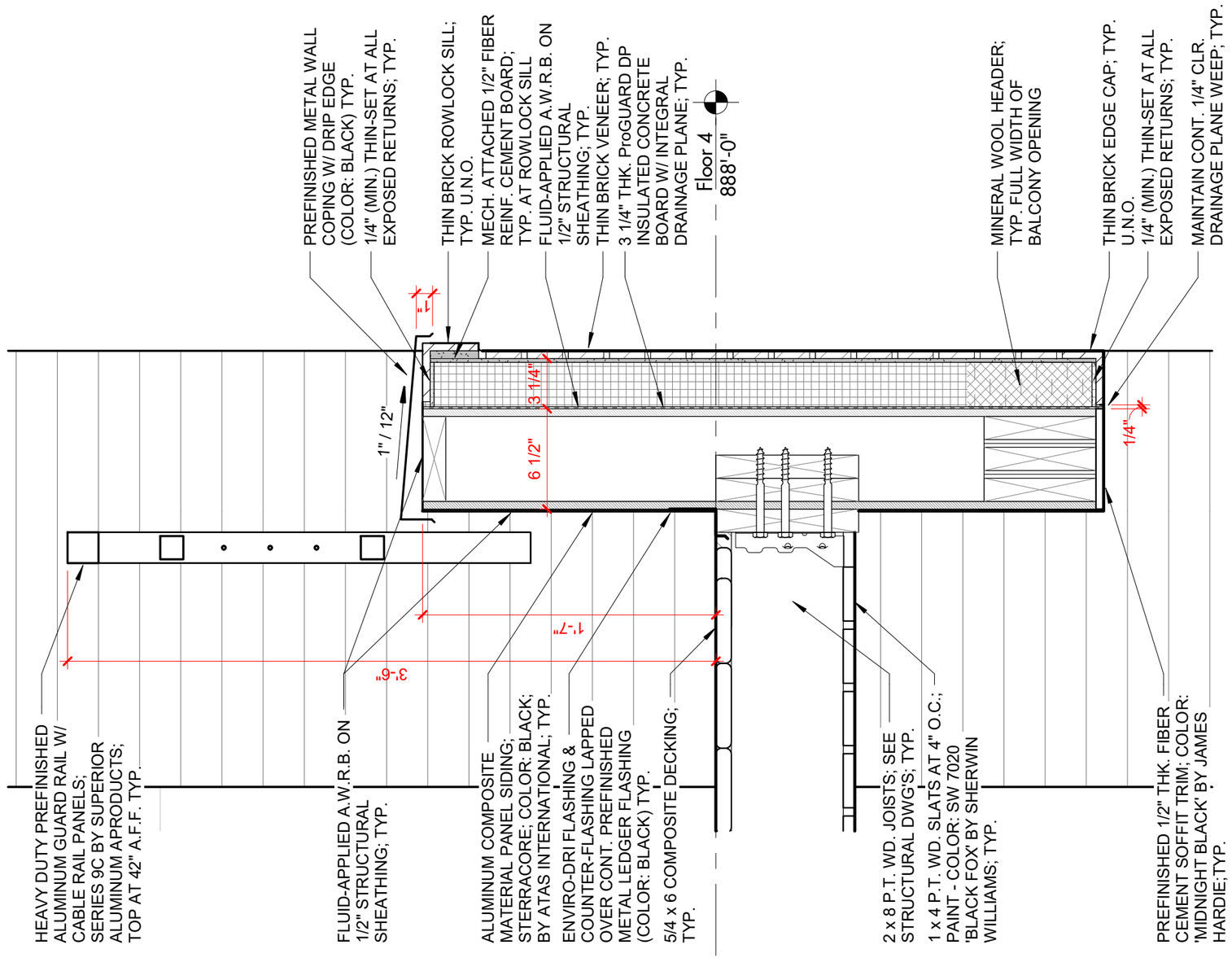
06-02-2025

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z17
Details

BRIDGE PARK
DUBLIN, OH



Floor 4 Balcony Section Detail

1 1/2" = 1'-0"

BLOCK J - Condominium Building

BSD Building Type: Apartment Building

06-02-2025

CRAWFORD HOYING development

SULLIVAN BRUCK ARCHITECTS

Z18
Details

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
OVERALL SITE PLAN

061-L1

JUNE 02, 2025

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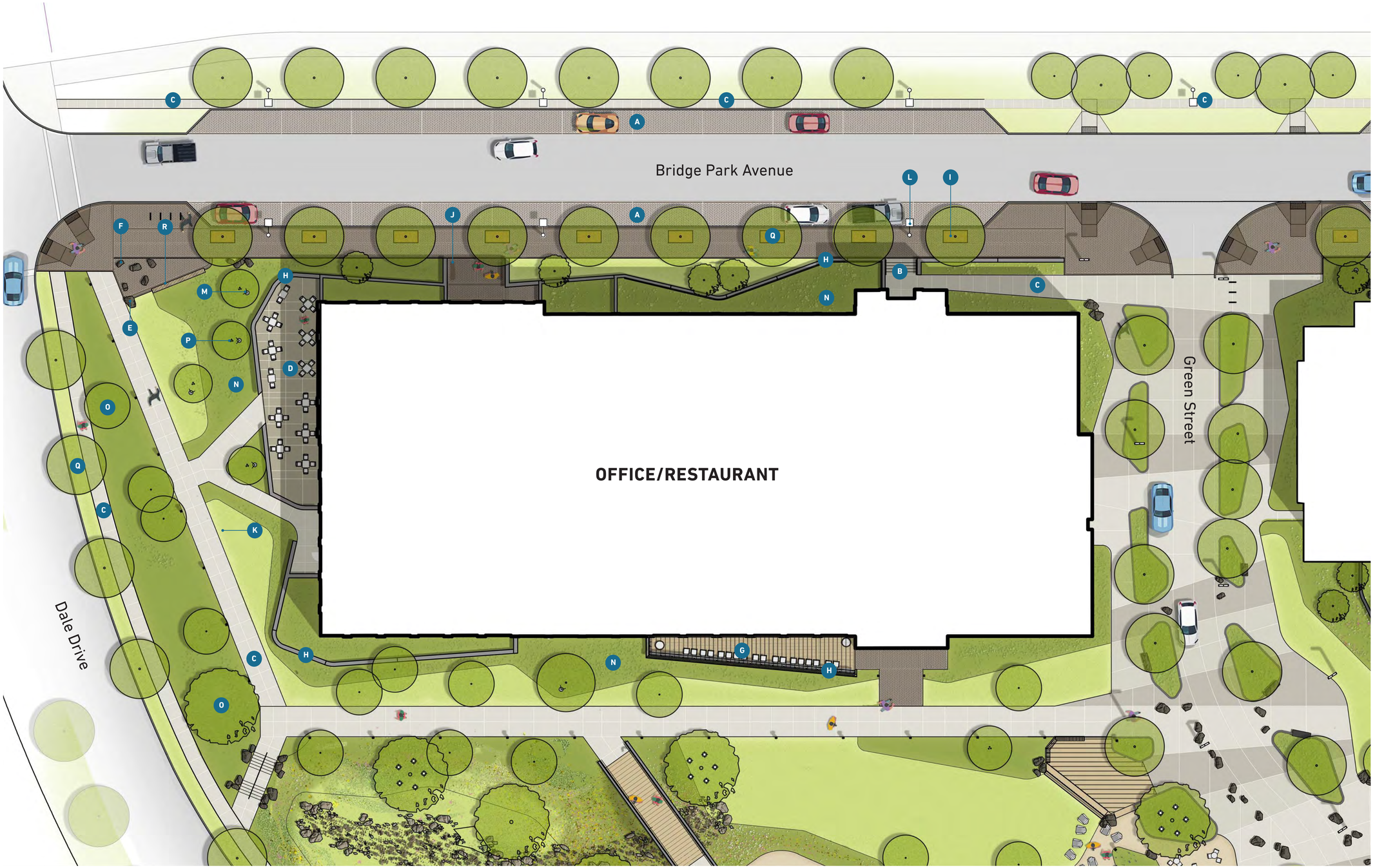


LEGEND

A Brick Pavement
Manufacturer: Endicott Clay Products
Size: 4X12
Pattern: Varies, Per Plan
Color: Manganese Ironspot, Medium Irontspot 46, Medium Ironspot 77.

B Concrete Stair
-Standard concrete mix with decorative "Buff Wash" finish.

C Standard Concrete Paving
-Standard concrete mix with broom finish.

D Decorative Concrete Paving
-Standard concrete mix with architectural finish.

E Specimen Field Boulder
-48" diameter, granite

F Field Boulder
-Varying sizes 6"- 36" diameter, granite

G Ipe Wood Patio With Railing
-Furniture by tenant

H Brick Veneer Retaining Walls
-Finish: Endicott Clay Products
-Size: 4"x 8"
-Color: Manganese Ironspot & dark grout

I Standard Tree Grate

J Limestone Benches

K Bollards
-Manufacturer: Ligman Lighting - 'Light Linear PT 1 Bollard'
-Black Powder Coat Finish, 39" Height

L Standard Street Lighting
-Manufacturer: Cree- 'ARE-EDG' Luminaire
-Manufacturer: Valmont- 'Edge Area Round' Pole
-Black Powder Coat Finish, 16' Height

M Landscape Uplighting
-Manufacturer: Vision 3 Lighting- 'Model FL3'

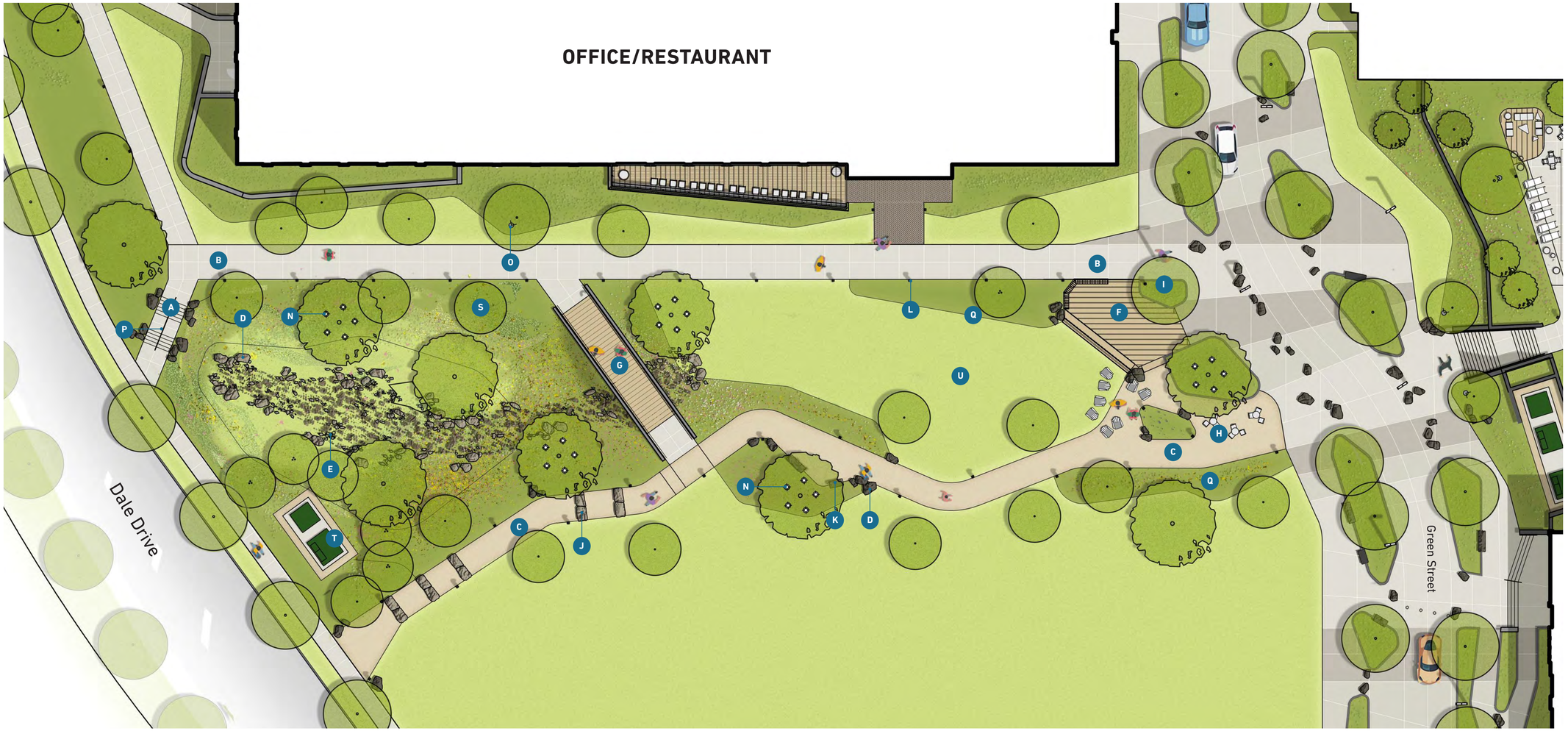
N Ornamental Plantings
Masses of understory plants for seasonal interest and spatial enclosure
Height: +/- 12 - 48" above pavement elevation

O Deciduous Shade Trees

P Deciduous Ornamental Trees

Q Street Trees

R CIP Concrete Seat Wall with Ipe



LEGEND

- **A** Concrete Stair
  -Standard concrete mix with decorative "Buff Wash" finish.
- **B** Standard Concrete Paving
  -Standard concrete mix with broom finish.
- **C** Crushed Aggregate Paving
  -Stabilized aggregate
  -Color: Light Gray
- **D** Specimen Field Boulder
  -48" diameter, granite
- **E** Field Boulder
  -Varying sizes 6"- 36" diameter, granite
- **F** Ipe Wood Platform Deck & Bench
  Custom deck and bench with Ipe decking
- **G** Footbridge
  -Ipe wood finish with color changing lighted rail
- **H** Tables and Chairs
  -Forms+Surfaces - Avivo Pedestal Table and Chairs
  -Color: TBD
- **I** Pre-Cast Planters
  - Tapered profile
- **J** Limestone Slab Steps
- **K** Limestone Benches
- **L** Bollards
  -Manufacturer: Ligman Lighting - 'Light Linear PT 1 Bollard'
  -Black Powder Coat Finish, 36" Height
- **M** Pole Lighting
  -Manufacturer: Ligman Lighting - 'Light Linear PT 5'
  -Black Powder Coat Finish, 12'-0" Height
- **N** Moon Lights
  -Manufacturer: Vision 3 Lighting- 'Model FL3'
- **O** Landscape Uplighting
  -Manufacturer: Vision 3 Lighting- 'Model FL3'
- **P** Illuminated Handrail
  - Manufacturer: Cole Lighting
- **Q** Ornamental Plantings
  Masses of understory plants for seasonal interest and spatial enclosure
  Height: +/- 12 - 48" above pavement elevation
- **R** Deciduous Shade Trees
- **S** Deciduous Ornamental Trees
- **T** Evergreen Tree Screening
- **U** Open Lawn Panel

Bio-retention meadow

Footbridge

Nature trail

Native planting

Wood Platform Deck and Bench

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
SITE PLAN - CENTRAL OPEN SPACE

063-L3

0' 16' 32'

JUNE 02, 2025

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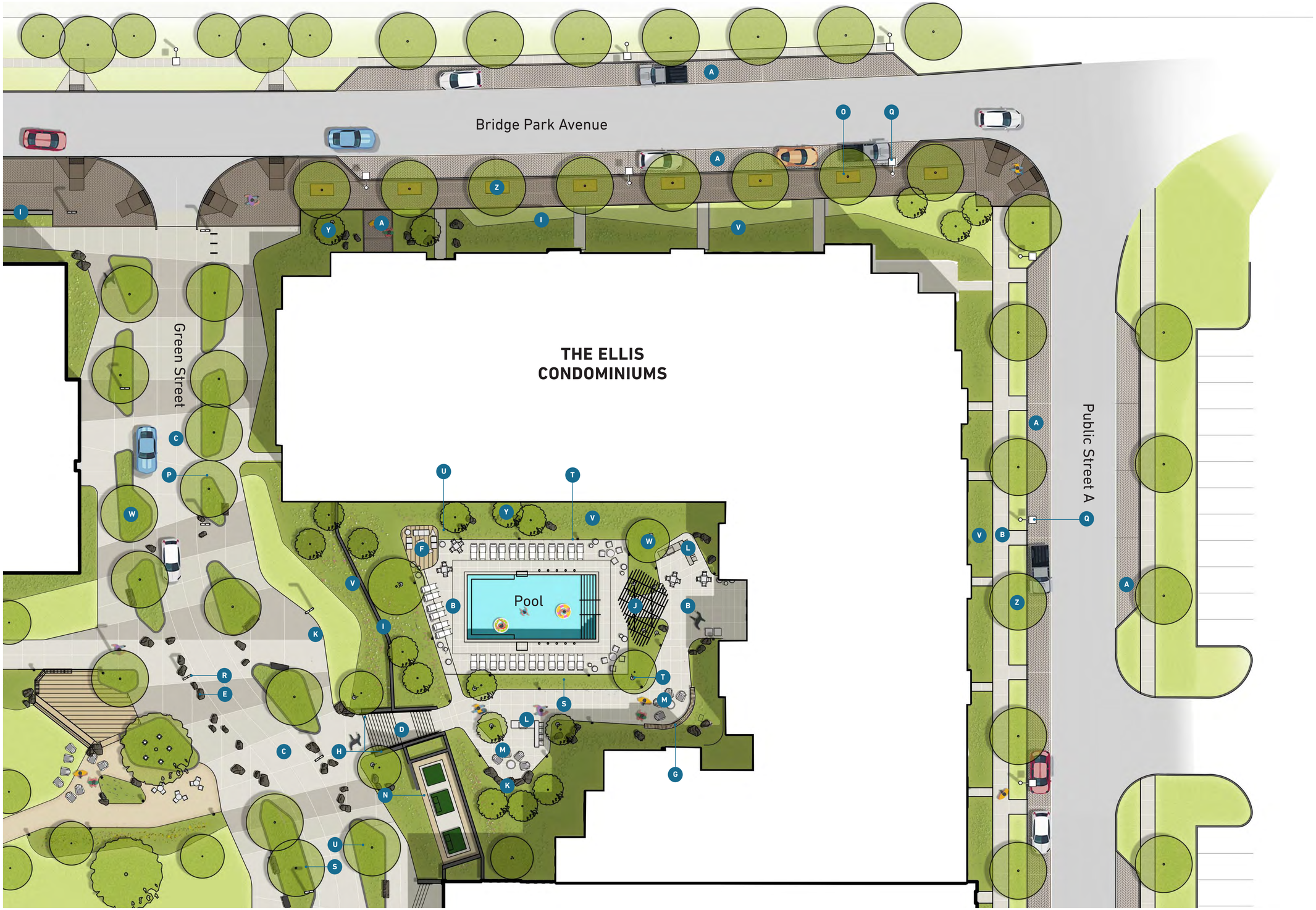

LEGEND

A Brick Pavement
Manufacturer: Endicott Clay Products
Size: 4X12
Pattern: Varies, Per Plan
Color: Manganese Ironspot, Medium Irontspot 46, Medium Ironspot 77.

B Standard Concrete Paving
-Standard concrete mix with broom finish.

C Decorative Concrete Paving
-Vehicular and pedestrian grade architectural concrete, finish varies

D Concrete Stair
-Standard concrete mix with decorative "Buff Wash" finish.

E Specimen Field Boulder
- ~48" diameter, granite.

F Trex Composite Platform Deck
-Color: Coastline

G Concrete Bench with Ipe Wood Topper

H Illuminated Handrail
-Black powder coat, stainless steel tube lighting

I Brick Veneer Retaining Walls
-Finish: Endicott Clay Products
-Size: 4"x 8"
-Color: Manganese Ironspot & dark grout

J Pergola
-Powder coated steel frame, black. Wood slats.

K Limestone Benches

L Grill Station
-Grill station with concrete countertop & cast stone masonry veneer. GFCI outlets and recessed wall lights.

M Fire Pits and Moveable Furniture

N Electrical Transformer Gate
-Manufacturer: Ametco- 'Shadow 80' infill
-Black Powder Coat Finish, steel structure

O Standard Tree Grate

P Concrete Planter Curb
-Tapered profile

Q Street Lighting
-Manufacturer: Cree- 'ARE-EDG' Luminaire
-Manufacturer: Valmont- 'Edge Area Round' Pole
-Black Powder Coat Finish, 16' Height

R Pole Lighting
-Manufacturer: Ligman Lighting - 'Light Linear PT 5'
-Black Powder Coat Finish, 12' Height

S Landscape Uplighting
-Manufacturer: Vision 3 Lighting- 'Model FL3'

T GFC Pedestal
-Black powder coat

U Ornamental Plantings
Masses of understory plants for seasonal interest and spatial enclosure

V Height: +/- 12 - 48" above pavement elevation

W Deciduous Shade Trees

Y Deciduous Ornamental Trees

Z Deciduous Street Trees

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
SITE PLAN - THE ELLIS CONDOMINIUMS & STREETSCAPES

064-L4

0' 16' 32'

JUNE 02, 2025

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LEGEND

- **A** Brick Pavement
  Manufacturer: Endicott Clay Products
  Size: 4X12
  Pattern: Varies, Per Plan
  Color: Manganese Ironspot, Medium Irontspot 46, Medium Ironspot 77.
- **B** Concrete Stair & Handrail
  -Standard concrete mix with architectural finish
- **C** Standard Concrete Paving
  -Standard concrete mix with broom finish.
- **D** Decorative Concrete Paving
  -Vehicular and pedestrian grade architectural concrete, finish varies
- **E** Concrete Planter Curb
  - Tapered profile
- **F** Specimen Field Boulder
  - ~48" diameter, granite
- **G** Standard Tree Grate
- **H** Limestone Benches
- **I** Removable Bollards
- **J** Pole Lighting
  -Manufacturer: Bullard Bollards- 'La Columna'
  -Black Powder Coat Finish, 12' Height
- **K** Street Lighting
  -Manufacturer: Cree- 'ARE-EDG' Luminaire
  -Manufacturer: Valmont- 'Edge Area Round' Pole
  -Black Powder Coat Finish, 16' Height
- **L** Ornamental Plantings
  Masses of understory plants for seasonal interest and spatial enclosure
  Height: +/- 12 - 48" above pavement elevation
- **M** Deciduous Shade Trees
- **N** Deciduous Street Trees

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
OFFICE/RESTAURANT & OPEN SPACE VIEWING SOUTHEAST

066-L6

JUNE 02, 2025

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CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
CENTRAL OPEN SPACE BIRDS-EYE VIEW

067-L7

JUNE 02, 2025

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CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
CENTRAL OPEN SPACE VIEWING EAST

068-L8

JUNE 02, 2025

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CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PUBLIC STREET A & THE ELLIS CONDO BIRDS-EYE VIEW

069-L9

JUNE 02, 2025

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CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PUBLIC STREET A VIEWING NORTH

070-L10

JUNE 02, 2025

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Luminaire Schedule - Part numbers are provided by the manufacturer and are only intended to be used as a reference to output and optics used.										
Symbol	Qty	Tag	Arrangement	Luminaire Lumens	Arr. Lum. Lumens	Luminaire Watts	Arr. Watts	LLF	Manufacturer	Description
	4	A1	Single	4873	4873	54	54	0.900	LIGMAN	LI-21171-T3-W30
	12	A2	Back-Back	4983	9966	53.8	107.6	0.900	LIGMAN	LI-21181-T4-W30 (2x53W)
	49	B	Single	2232	2232	29.2	29.2	0.900	LIGMAN	LI-10021-T4-W30
	4	C1	Single	1588	1588	31.18	31.18	0.600	COLE LIGHTING	LR5P-LED-XX/1.5-XX (per 4FT)
	12	C2	Single	1588	1588	31.18	31.18	0.450	COLE LIGHTING	LR5P-LED-XX/1.5-XX--ASYM/30° (per 4FT)
	108	D	Single	256	256	3	3	0.900	GVA LIGHTING INC.	COVE-OD-CM-SW_HL-G4-300-WW-3W-R300-RGBW3083-16C4-120-INF (WHITE 30K)
	48	F	Single	294	294	3.12	3.12	0.900	Nova Flex LED LLC	DES-LED-SWH-24-3_0-IP20-30

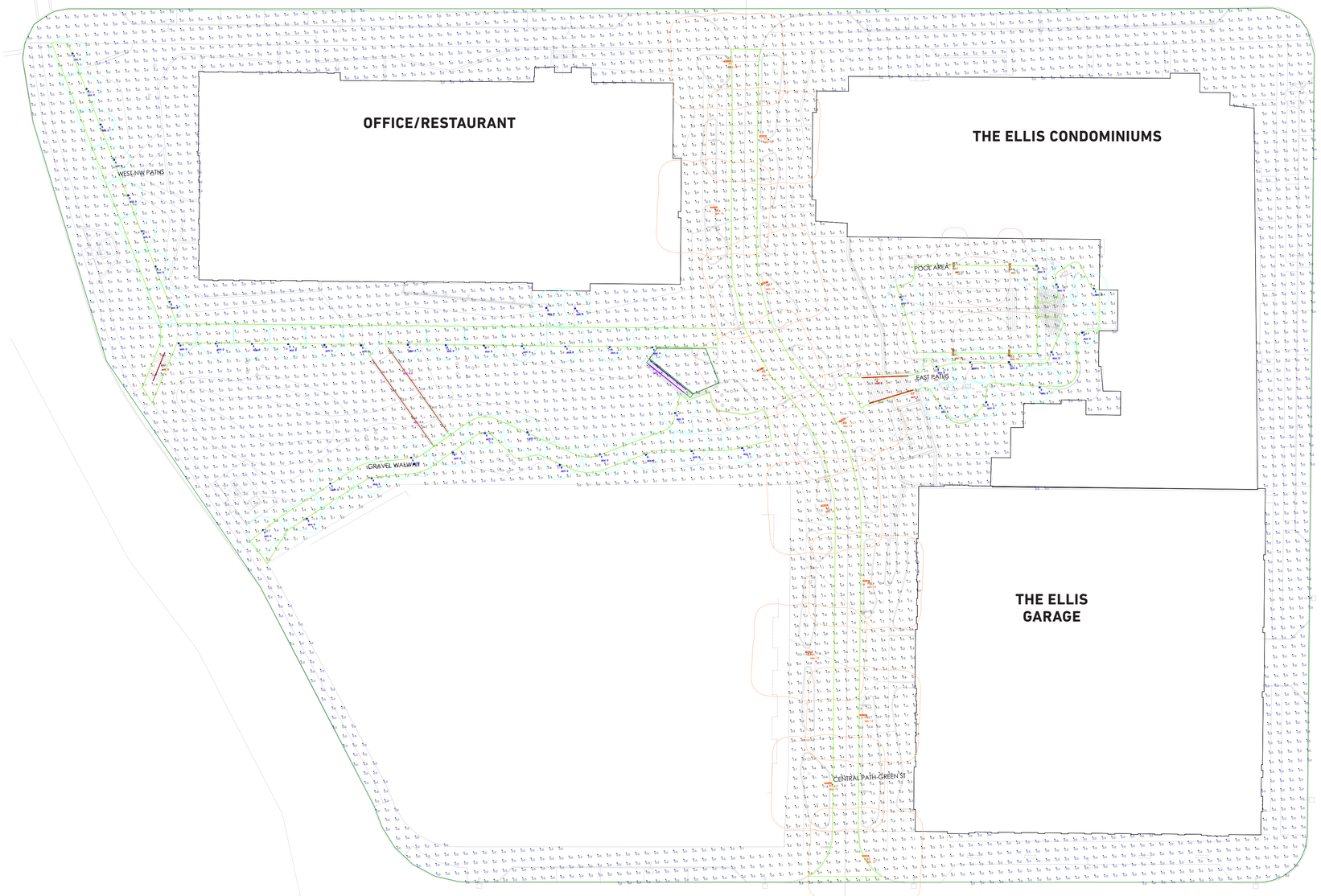
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Max/Min	Avg/Min
SITE_Planar	Illuminance	Fc	1.89	166.3	0.0	N.A.	N.A.
CENTRAL PATH-GREEN ST	Illuminance	Fc	4.48	11.7	0.9	13.00	4.98
EAST PATHS	Illuminance	Fc	8.54	68.7	0.1	687.00	85.40
GRAVEL WALWAY	Illuminance	Fc	7.67	62.7	0.1	627.00	76.70
POOL AREA	Illuminance	Fc	5.02	56.0	0.9	62.22	5.58
WEST-NW PATHS	Illuminance	Fc	9.05	166.3	0.1	1663	90.50

NOTES:

CALCULATION GRID VALUES 5'-0" O.C.

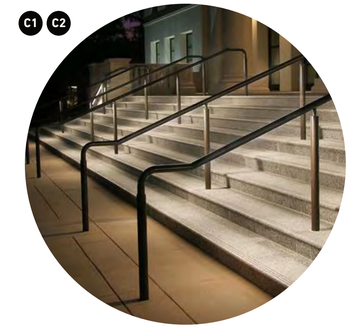
CALCULATIONS TAKEN AT GRADE, 0FT.

MOUNTING HEIGHTS AS NOTED ON DRAWING.



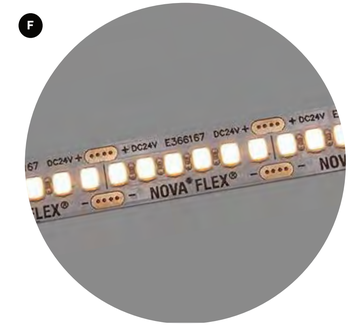
A B

C1 C2



D

F



Cree- 'ARE-EDG' Street Lamp
(Bridge Park Standard)

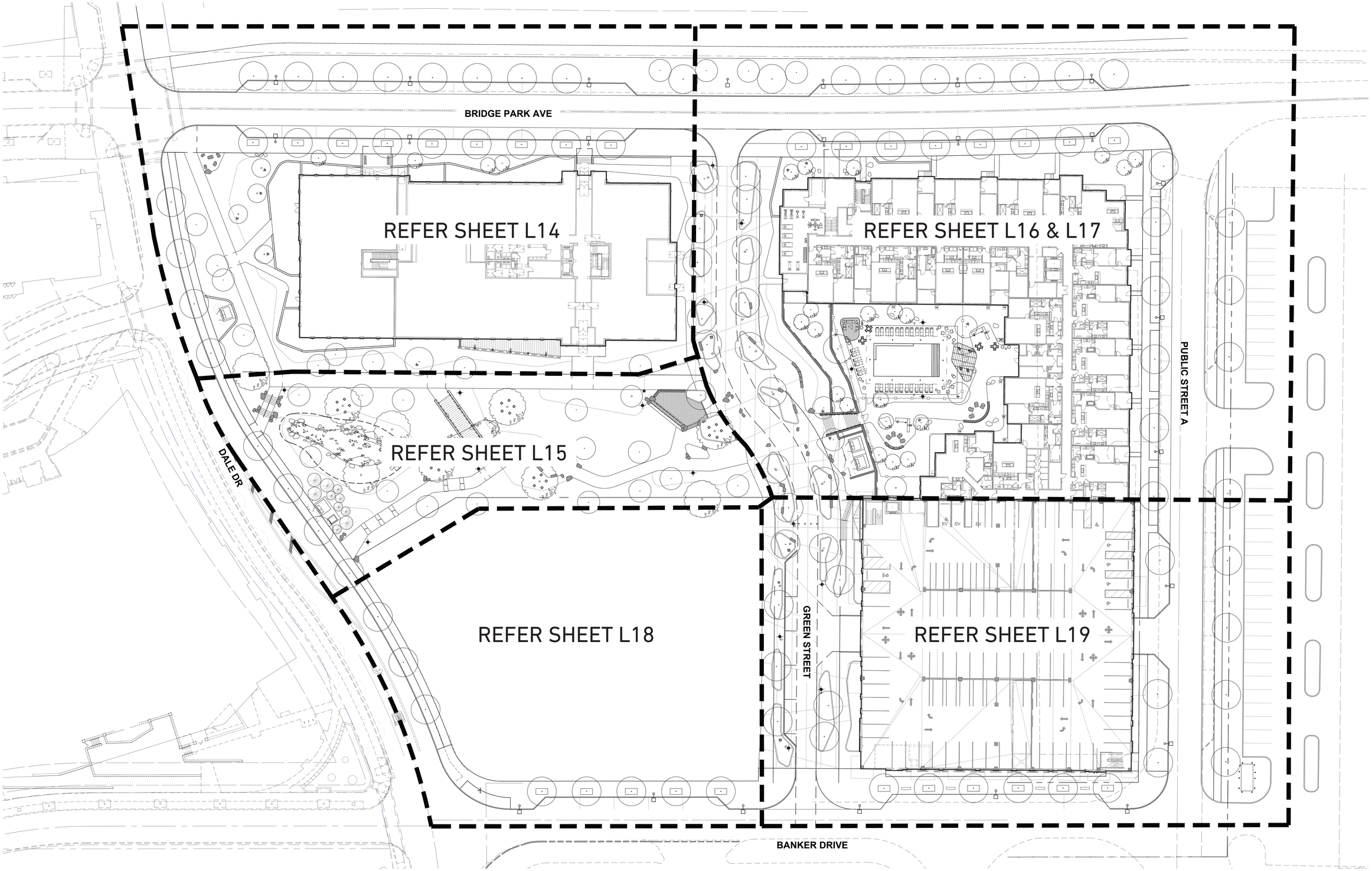
KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	CONDITION	NOTES
DECIDUOUS TREES						
AC BU	*ACER BUERGERIANUM*	TRIDENT MAPLE	3" CAL.	PER PLAN	B&B	NOTES
AC BR	*ACER RUBRUM 'BRANDYWINE'*	BRANDYWINE RED MAPLE	3" CAL.	PER PLAN	B&B	
BE NI	*BETULA NIGRA 'HERITAGE'*	HERITAGE RIVER BIRCH	3" CAL.	PER PLAN	B&B	MULTI-STEM HABIT
BE PO	*BETULA POPULIFOLIA 'WHITESPIRE'*	WHITESPIRE BIRCH	3" CAL.	PER PLAN	B&B	
CA BE	*CARPINUS BETULUS COLUMNARIS*	COLUMNAR EUROPEAN HORNBEAM	3" CAL.	PER PLAN	B&B	
CE CA	*CERCIS CANADENSIS*	REDBUD	3" CAL.	PER PLAN	B&B	
CL KE	*CLADRASTIS KENTUCKEA*	YELLOW WOOD TREE	3" CAL.	PER PLAN	B&B	
CO KO	*CORNUS KOUSA 'HEART THROB'*	HEART THROB CHINESE DOGWOOD	3" CAL.	PER PLAN	B&B	
MA MA	*MAGNOLIA MACROPHYLLA*	BIG LEAF MAGNOLIA	3" CAL.	PER PLAN	B&B	
MA VI	*MAGNOLIA VIRGINIANA*	SWEETBAY MAGNOLIA	3" CAL.	PER PLAN	B&B	
NY SY	*NYSSA SYLVATICA*	BLACK GUM	3" CAL.	PER PLAN	B&B	
PL TR	*PLANTANUS TRANSPLANTS*	TRANSPLANTED LONDON PLANE TREE	VARIES	PER PLAN	B&B	SIZE VERIFICATION PENDING TREE SURVEY, SIZES RANGE FROM 3"-18" CAL
PR SU	*PRUNUS SUBHIRTELLA AUTUMNALIS*	AUTUMN FLOWERING CHERRY	3" CAL.	PER PLAN	B&B	
SY RE	*SYRINGA RETICULATA 'IVORY SILK'*	IVORY SILK JAPANESE LILAC TREE	3" CAL.	PER PLAN	B&B	
UL PA	*ULMUS PARVIFOLIA*	CHINESE ELM	3" CAL.	PER PLAN	B&B	
EVERGREEN TREES						
JU VI	*JUNIPERUS VIRGINIANA*	EASTERN RED CEDAR	5' HEIGHT	PER PLAN	B&B	NOTES
TH PL	*THUJA PLICATA 'FASTIGIATA'*	FASTIGIATE WESTERN ARBORVITAE	6' HEIGHT	PER PLAN	B&B	NOTES
DECIDUOUS SHRUBS						
CL AL	*CLETHRA ALNIFOLIA 'HUMMINGBIRD'*	HUMMINGBIRD SUMMERSWEET	#1	PER PLAN	CONT.	NOTES
CO ST	*CORNUS STOLONIFERA 'ARCTIC FIRE'*	ARCTIC FIRE RED TWIG DOGWOOD	#1	PER PLAN	CONT.	NOTES
KE JA	*KERRIA JAPONICA 'GOLDEN GUINEA'*	GOLDEN GUINEA JAPANESE KERRIA	#1	PER PLAN	CONT.	NOTES
PH OP	*PHYSOCARPUS OPULIFOLIUS 'OBSIDIAN'*	OBSIDIAN NINEBARK	#1	PER PLAN	CONT.	NOTES
RH AR	*RHUS AROMATICA*	FRAGRANT SUMAC	#1	PER PLAN	CONT.	NOTES
VI CA	*VIBURNUM CARLESII*	KOREAN SPICE VIBURNUM	#1	PER PLAN	CONT.	NOTES
EVERGREEN SHRUBS						
BU GV	*BUXUS X 'GREEN VELVET'*	GREEN VELVET BOXWOOD	#1	PER PLAN	CONT.	NOTES
JU GO	*JUNIPERUS SABINA 'GREY OWL'*	GREY OWL JUNIPER	#1	PER PLAN	CONT.	NOTES
JU SA	*JUNIPERUS SABINA 'BUFFALO'*	BUFFALO JUNIPER	#1	PER PLAN	CONT.	NOTES
JU SQ	*JUNIPERUS SQUAMATA*	HOLGER JUNIPER	#1	PER PLAN	CONT.	NOTES
TA CU	*TAXUS CUSPIDATA 'NANA'*	DWARF JAPANESE YEW	#1	PER PLAN	CONT.	NOTES
TA ME	*TAXUS MEDIA 'DENSIFORMIS'*	DENSE YEW	#1	PER PLAN	CONT.	NOTES
TH OC	*THUJA OCCIDENTALIS 'LINESVILLE'*	LINESVILLE ARBORVITAE	#1	PER PLAN	CONT.	NOTES

KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	CONDITION	NOTES
PERENNIALS, GRASSES AND GROUND COVERS						
AM HU	*AMSONIA HUBRICHTII*	BLUE STAR	#1	PER PLAN	CONT.	NOTES
AN VI	*ANDROPOGON VIRGINICUS*	BROOMSEDGE	#1	18" O.C.	CONT.	NOTES
BO GR	*BOUTELOUA GRACILIS 'BLONDE AMBITION'*	BLONDE AMBITION BLUE GRAMA GRASS	#1	30" O.C.	CONT.	NOTES
CA PE	*CAREX PENNSYLVANICA*	PENNSYLVANIA SEDGE	#1	12" O.C.	CONT.	NOTES
GE RO	*GERANIUM X. 'ROZANNE'*	ROZANNE GERANIUM	#1	18" O.C.	CONT.	NOTES
HE HA	*HEMEROCALLIS 'HAPPY RETURNS'*	HAPPY RETURNS DAYLILY	#1	18" O.C.	CONT.	NOTES
HE JS	*HEMEROCALLIS 'JOAN SENIOR'*	JOAN SENIOR DAYLILY	#1	18" O.C.	CONT.	NOTES
HE PO	*HEMEROCALLIS 'PURPLE DE ORO'*	PURPLE DE ORO DAYLILY	#1	18" O.C.	CONT.	NOTES
HO HA	*HOSTA 'HALCYON'*	HALCYON HOSTA	#1	PER PLAN	CONT.	NOTES
LI SP	*LIRIOPE SPICATA*	LILYTURF	#1	12" O.C.	CONT.	NOTES
NA IC	*NARCISSUS 'ICE FOLLIES'*	ICE FOLLIES DAFFODIL	BULB	CLUMP OF 3 (PER SYMBOL)		NOTES
NA KA	*NARCISSUS 'KING ALFRED'*	KING ALFRED DAFFODIL	BULB	CLUMP OF 3 (PER SYMBOL)		NOTES
NE CA	*NEPETA RACEMOSA*	CATMINT	#1	24" O.C.	CONT.	NOTES
PA AU	*PACKERA AUREA*	GOLDEN GROUNSEL	#1	12" O.C.	CONT.	NOTES
PH VI	*PHYSOSTEGIA VIRGINIANA*	OBEDIENT PLANT	#1	24" O.C.	CONT.	NOTES
PE AT	*PEROVSKIA ATRIPLICIFOLIA*	RUSSIAN SAGE	#1	36" O.C.	CONT.	NOTES
SE AU	*SESLERIA AUTUMNALIS*	AUTUMN MOOR GRASS	#1	18" O.C.	CONT.	NOTES
TH SE	*THYMUS SERPYLLUM 'ELFIN'*	ELFIN THYME	#1	12" O.C.	CONT.	NOTES

SEED MIXES			
MIX #1	*NO MOW SEED MIX*	PRAIRIE NURSERY	
MIX #2	*LOW GROWING MEADOW MIX*	PRAIRIE NURSERY	
MIX #3	*ACORUS CALAMUS*	SWEET FLAG	CUSTOM SEED MIX. EQUAL PARTS.
	CAREX LURIDA	BOTTLEBRUSH SEDGE	
	CAREX VULPINOIDEA	BROWN FOX SEDGE	
	ELYMUS CANADENSIS	CANADA WILD RYE	
	IRIS VIRGINICA SHREVEI	BLUE FLAG IRIS	
	SCIRPUS CYPERINUS	WOOL GRASS	

PLANTING NOTES

1. SECURE PLANT MATERIAL AS SPECIFIED ON PLANS. SUBSTITUTIONS FOR PLANT MATERIALS WILL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
2. PROVIDE PLANT SAMPLES OR PHOTOGRAPHS OF EACH PLANT SPECIFIED TO THE LANDSCAPE ARCHITECT FOR COMPLIANCE REVIEW PRIOR TO INSTALLATION.
3. PROTECT PLANT MATERIAL DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALLS, TRUNKS, BRANCHES AND THE DESICCATION OF LEAVES. PROTECT PLANT MATERIAL DURING SHIPPING WITH SHADE CLOTH OR SHIP WITH ENCLOSED TRANSPORT. MAINTAIN PROTECTIONS AND HEALTH OF PLANT MATERIAL STORED ON SITE. HANDLE TREES WITH NYLON STRAPS. NO CHAINS OR CABLES WILL BE ALLOWED. REMOVE UNACCEPTABLE PLANT MATERIAL IMMEDIATELY FROM THE SITE.
4. PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT BEFORE, DURING AND AFTER INSTALLATION.
5. VERIFY PLANTING PRODUCTS, PLANT MATERIAL, AND PLANT QUANTITIES DELIVERED TO THE SITE MATCH WHAT IS INDICATED ON THE PLANS AND SPECIFICATIONS.
6. STAKE BED LINES AND TREE LOCATIONS FOR THE LANDSCAPE ARCHITECT'S REVIEW PRIOR TO INSTALLATION. PLANTING PROCEDURES ARE SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT AND THE CONTRACTOR SHALL CORRECT ANY DEFICIENCIES FOUND AT NO ADDITIONAL COST TO THE OWNER.
7. REFER TO THE PLANTING DETAILS FOR MINIMUM SIZE AND WIDTH OF PLANTING PITS AND BEDS, GUYING AND STAKING, MULCHING, AND OTHER PLANTING REQUIREMENTS.
8. ROOT BALLS SHALL CONFORM TO THE SIZE STANDARDS SET FORTH IN
9. PLANT MATERIAL DELIVERED TO THE SITE IS SUBJECT TO THE REVIEW OF THE LANDSCAPE ARCHITECT BEFORE, DURING AND AFTER INSTALLATION.
10. TEST FILL EACH TREE AND PLANTING PIT WITH WATER, PRIOR TO PLANTING TO ASSURE PROPER SOIL PERCOLATION. PITS WHICH DO NOT ADEQUATELY DRAIN SHALL BE FURTHER SCARIFIED ALONG OUTER EDGES AND SIDES OF PIT. DO NOT DISTURB AREA SUPPORTING TREE BALL. REPEAT TEST. ALLOWANCES WILL NOT BE MADE FOR PLANT MATERIAL LOSS DUE TO IMPROPER DRAINAGE.
11. PLANT MATERIALS, INCLUDING RELOCATED PLANT MATERIAL, SHALL BE PLANTED IN A PROFESSIONAL MANNER TYPICAL TO THE INDUSTRY STANDARDS OF THE AREA TO ASSURE COMPLETE SURVIVABILITY OF PLANT MATERIALS AS WELL AS TO PROVIDE AN AESTHETICALLY APPROVED PROJECT.
12. REMOVE PLANTING AND LANDSCAPE DEBRIS FROM THE PROJECT SITE AND SWEEP AND WASH CLEAN PAVED AND FINISHED SURFACES AFFECTED BY THE LANDSCAPE INSTALLATION.
13. PLANTING AREAS SHALL BE WEED FREE PRIOR TO PLANTING INSTALLATION AND MAINTAINED WEED FREE THROUGH FINAL ACCEPTANCE.



CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN- OVERALL KEY PLAN

073-L13

JUNE 02, 2025

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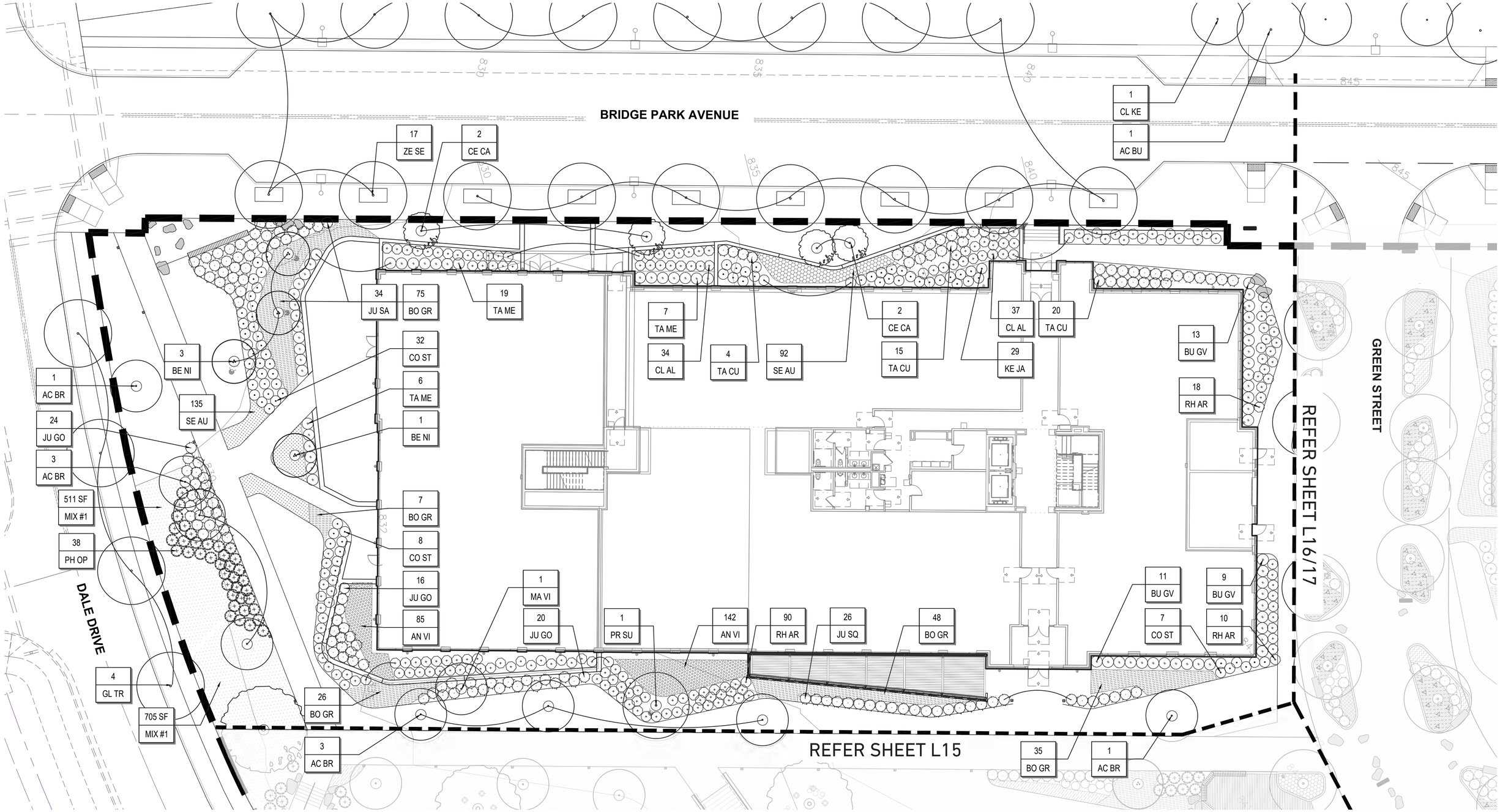

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

074-L14

0' 16' 32'

JUNE 02, 2025

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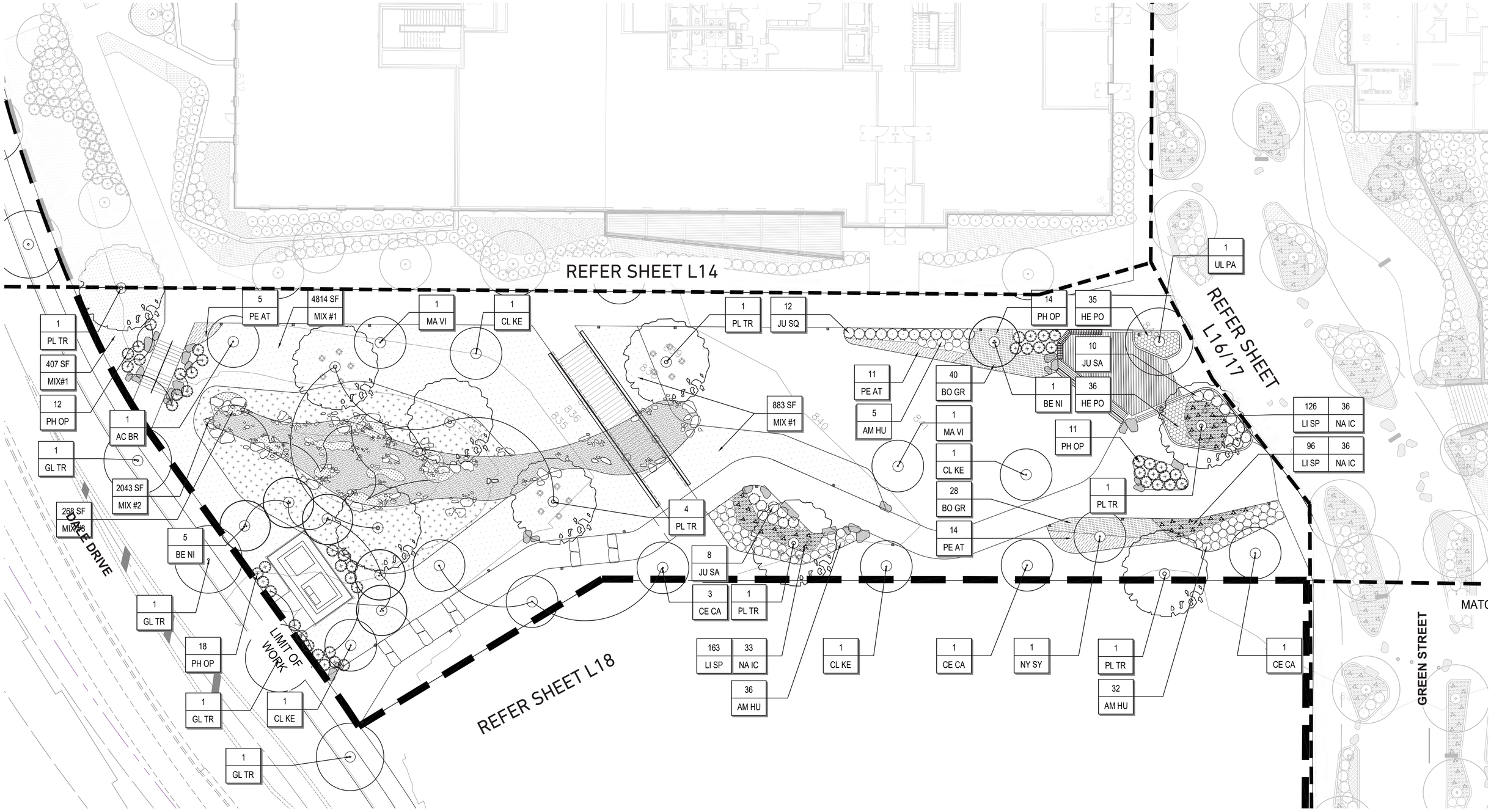

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

075-L15

0' 16' 32'

JUNE 02, 2025

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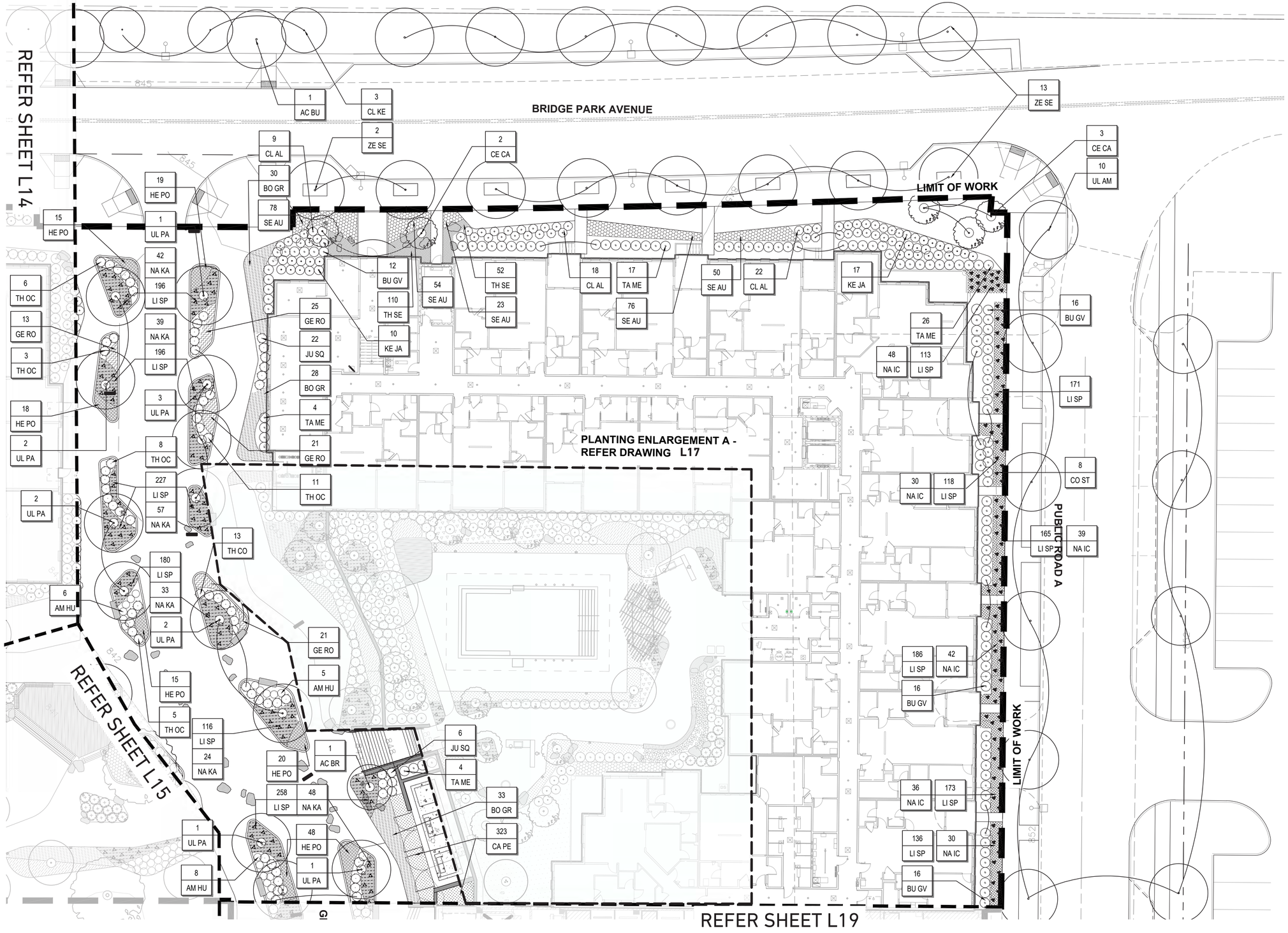

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

076-L16

0' 16' 32'

JUNE 02, 2025

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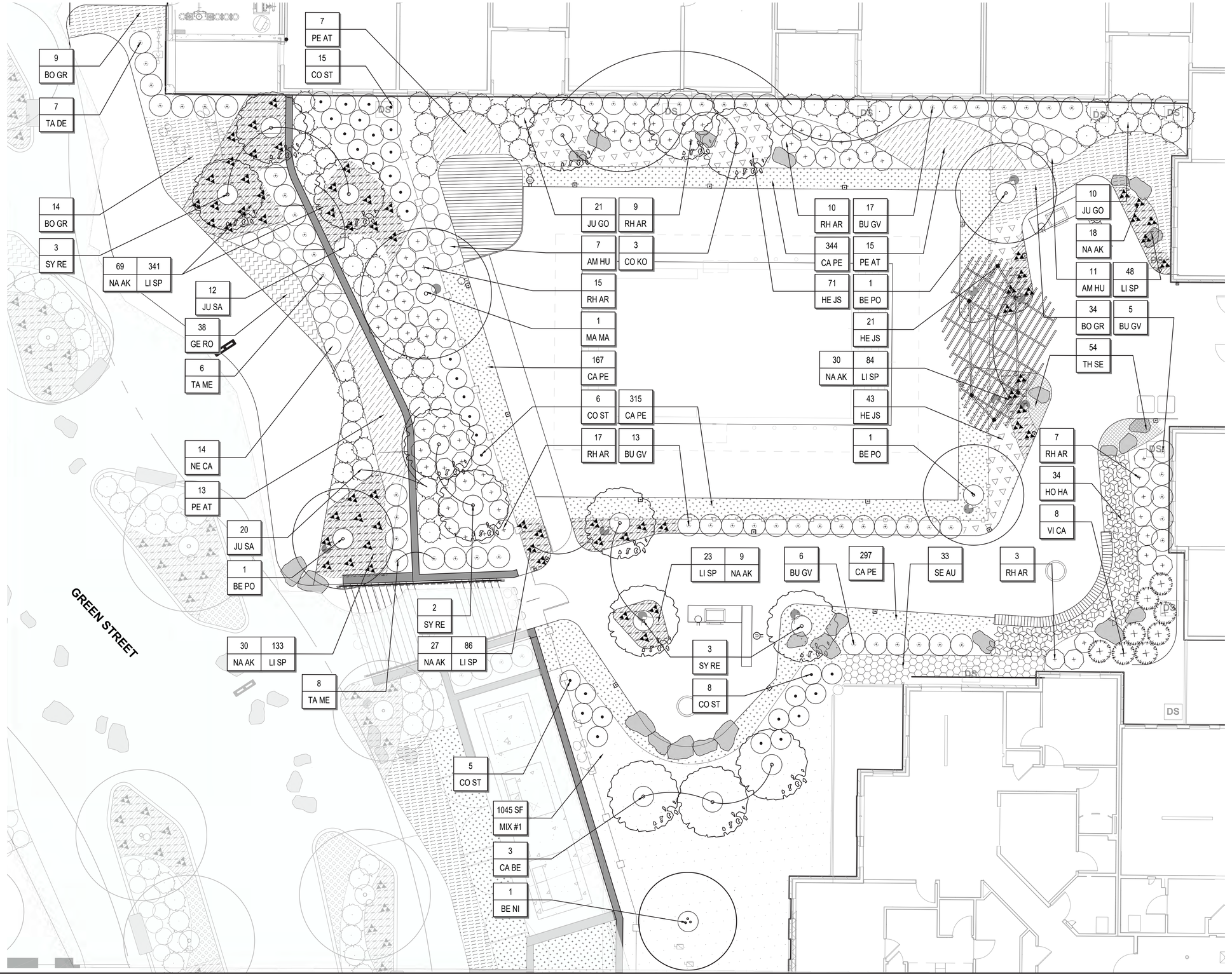

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

077-L17

0' 8' 16'

JUNE 02, 2025

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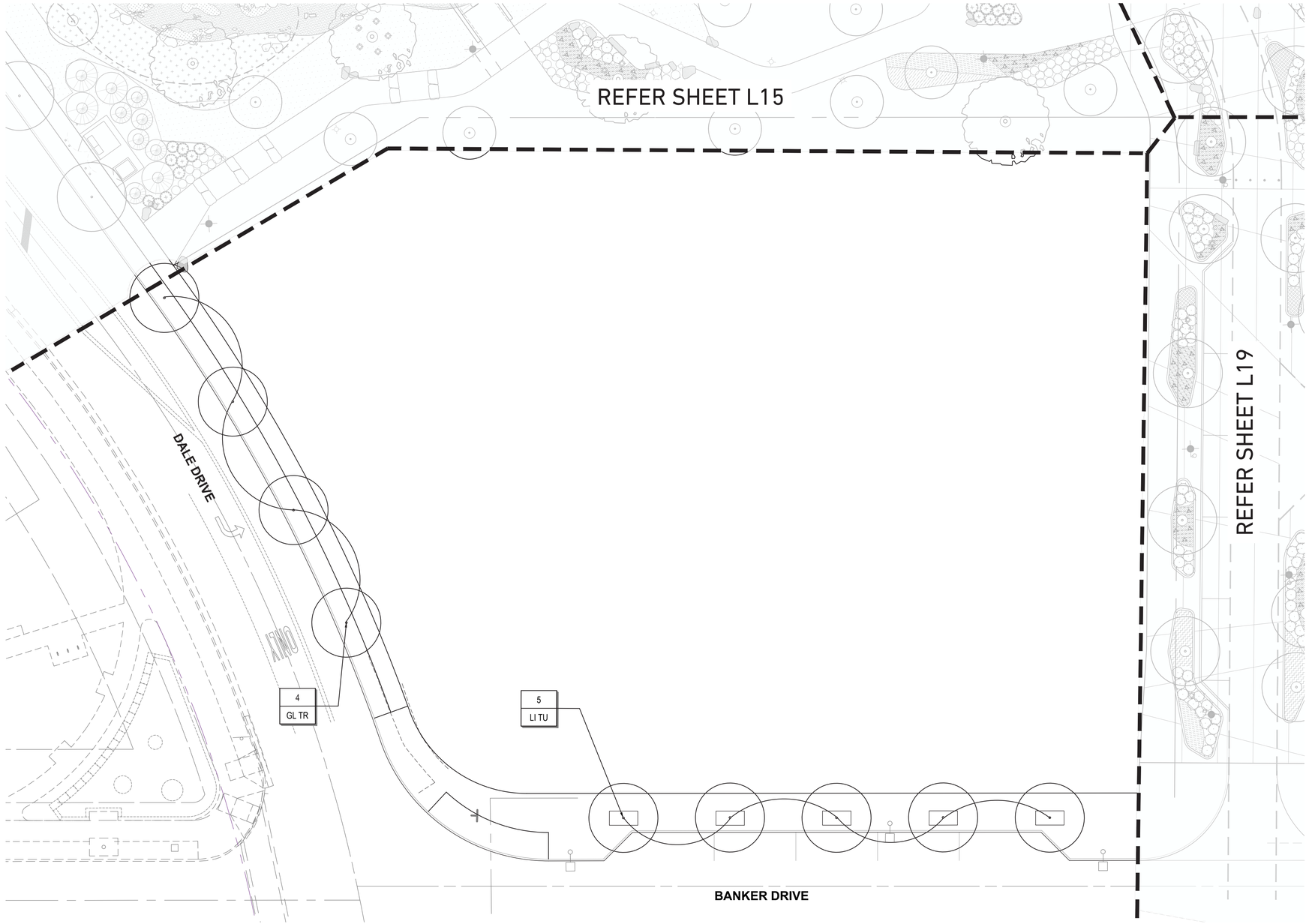

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

078-L18

0' 16' 32'

JUNE 02, 2025

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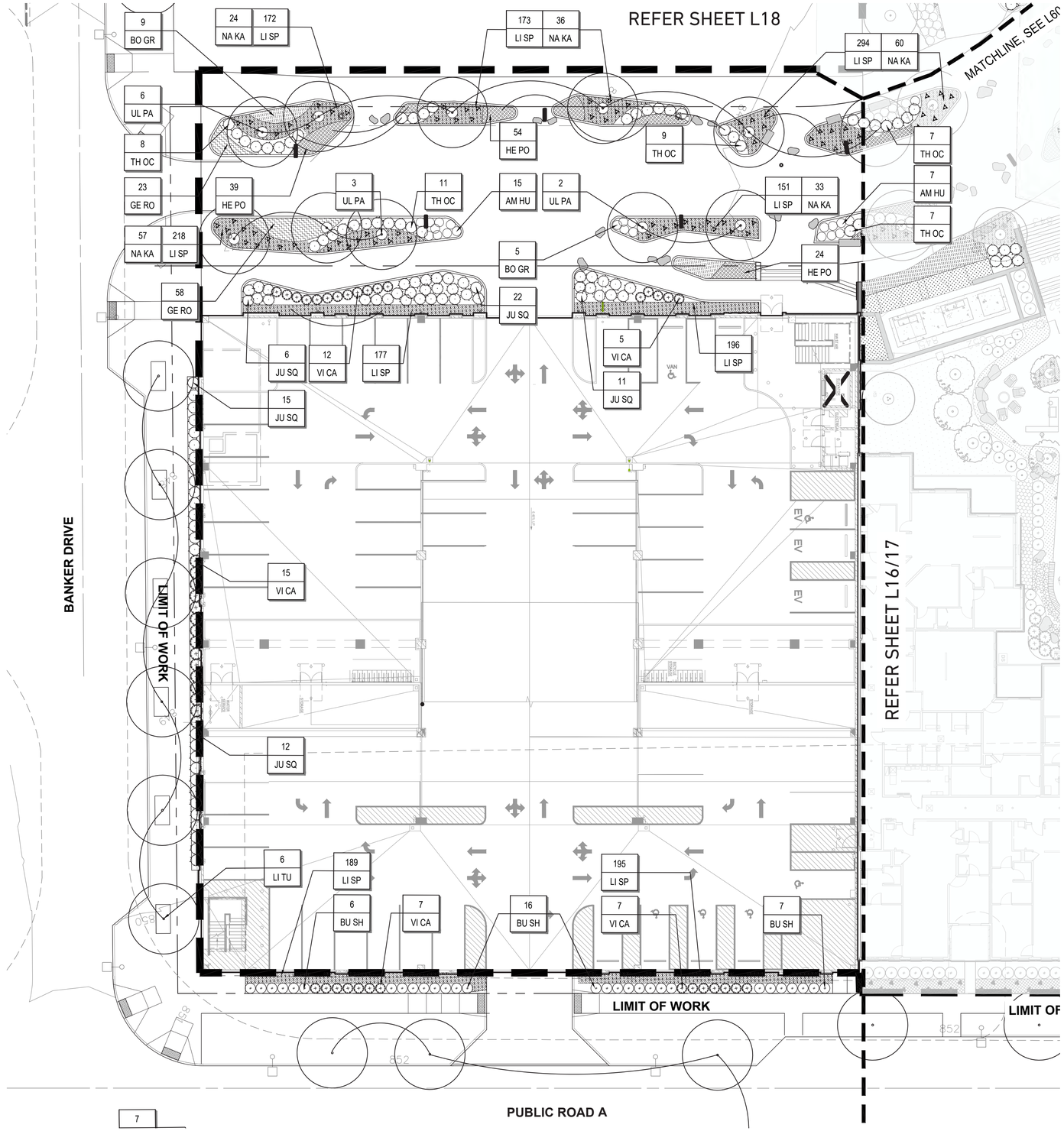

CRAWFORD HOYING

BRIDGE PARK
DUBLIN, OH

J- BLOCK - FINAL DEVELOPMENT PLAN SUBMITTAL
PLANTING PLAN

079-L19

0' 16' 32'

JUNE 02, 2025

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO
2025

SITE DATA TABLE

Total Site Area	5.24 Ac
Total Site Area Disturbed	7.93 Ac
Pre-Developed Impervious Area	2.21 Ac
Post-Developed Impervious Area (Phase 1 with Ex COTA Site)	3.58 Ac
Post-Developed Impervious Area (Phase 1 with Developed Phase 2 Site) (Estimated)	3.76 Ac
Disturbed Area within Existing and Proposed R/W	3.09 Ac
Flood Insurance Rate Map Number	39049C0151K
Zone	Zone X
Effective Date	06/17/2008
Base Flood Elevation	not applicable

Block J Required Residential Parking

Building	3 BR	2 BR	1 BR	Total
Phase 1 Condominiums	18	53	18	89
Phase 2 Condonimiums	50	50	5	105
Total Residential Units	**68**	**103**	**23**	**194**
Min. Residential Required Parking/Unit	2	1.5	1	
Max. Residential Allowable Parking/Unit	2	2	2	
Max. Residential Parking Allowed	136	206	46	388
Min. Residential Parking Required	**136**	**155**	**23**	**314**
Bicycle Parking Required (includes Phase 2)	1 space per 2 Dwelling Units Required			97

Block J Required Commercial Parking

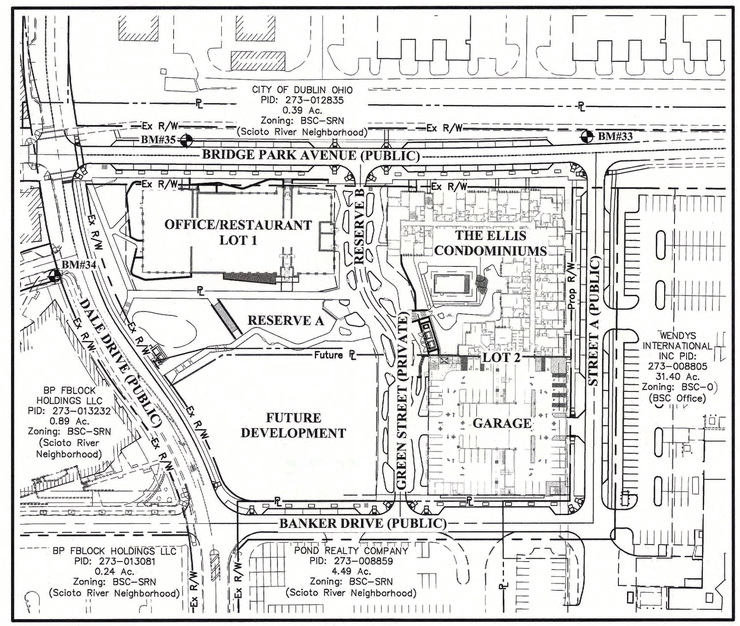
Building	Restaurant	Commercial	Office	Total
Office/Commerical	6,452	0	92,054	98,506
Min. Required Parking	10/1000 SF	3/1000 SF	3/1000 SF	
Max Allowable	125%	125%	125%	
Max Parking Allowed	82	0	347	429
Min. Parking Required	**65**	**0**	**277**	**342**
Bicycle Parking Required	1 space per 10 spaces Required			35
Total Parking Required	**201**	**155**	**300**	**656**
Total Bicycle Parking Required				**132**

Block J Provided Parking

	On Site	On Street	In Garage	Total
Block J Parking		**35**	**500**	**535**
Adjacent Garage Minimum Available Spaces			**129**	**129**
Total Provided & Available Spaces				**664**
Total Bicycle Parking	**20**		**112**	**132**

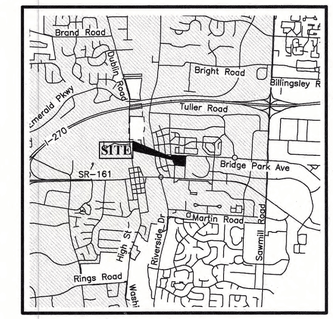
WENDY'S SITE EAST OF DAVE THOMAS BLVD PARKING SUMMARY

Existing Parking	234 Spaces
Proposed Parking with Modifications	183 Spaces
Net Loss of Parking	51 Spaces



INDEX MAP
Scale: 1" = 100'

GRAPHIC SCALE
0 50 100 200
1 inch = 100 feet



VICINITY MAP
Not to Scale

SHEET INDEX

SHEET NUMBER		SHEET NAME
1	C001	Title Sheet
2	C002	Typical Sections – Private Street
3	C003	Typical Sections – Public Street
4	C101	Existing Conditions Plan
5	C102	Demolition Plan
6	C201	Site Plan
7	C202	Utility Plan
8	C203	Overall Grading Plan
9	C301	Storm Sewer Profiles – Private
10	C302	Storm Sewer Profiles – Public
11	C303	Storm Sewer Profiles – Public
12	C304	Storm Sewer Profiles – Public
13	C401	Stormwater Bioretention Plan & Details – Private
14	C402	Stormwater Underground Detention Plan & Details – Private
15	C403	CMP Underground Detention Details
16	C404	Hydrodynamic Seperator Details
17	C407	Stormwater Detention Plan & Details – Public Street A
18	C408	Stormwater Detention Plan & Details – Banker Drive
19	C501	Photometric Plan
20	C502	Photometric Lighting Fixtures
21	C601	Fire Truck Turning Analysis
22	C602	Open Area Plan
23	C603	Overall Site & Parking Plan
24	C701	Tree Replacement Plan
25	C702	Tree Replacement Tables

DEVELOPER
Crawford Hoying Development Partners
6640 Riverside Drive, Suite 500
Dublin, Ohio 43017
Tel: (614) 335-2020
Fax: (614) 850-9191
jpeltier@crawfordhoying.com
James Peltier

ENGINEER
EMH&T Inc.
5500 New Albany Road
Columbus, Ohio 43054
Tel: (614) 775-4500
Fax: (614) 775-4800
swilson@emht.com
Sarah Wilson

GARAGE/OFFICE ARCHITECT
M+A Design
775 Yard Street, Suite 325
Columbus, Ohio 43212
Tel: (614) 764-0407
Fax: (614) 764-0237
jeffh@designwithma.com
Jeff Heffner

CONDOMINIUM ARCHITECT
Sullivan Bruck Architects
8 S. Grant Avenue
Columbus, Ohio 43215
Tel: (614) 464-9800
matthewl@sbarch.com
Matthew Lytle

LANDSCAPE ARCHITECT
MKSK
462 S. Ludlow Alley
Columbus, OH 43215
Tel: (614) 621-2796
troell@mkskstudios.com
Tony Roell

PROJECT DESCRIPTION
This project proposes the development of an Office/Restaurant, Condominiums, and a Parking Garage. This site is approximately 5.4± Ac in total. The site is located north of Banker Drive, East of Dale Drive, south of Bridge Park Avenue, and west of Wendy's Corporate Headquarters

STATE OF OHIO
SARAH WILSON
PE.86171
REGISTERED PROFESSIONAL ENGINEER

This is to certify that good engineering practices have been utilized in the design of this project and that all of the minimum standards as set forth by the city of dublin, including those standards greater than minimum where, in my opinion, they are needed to protect the safety of the public.

Sarah L Wilson — Professional Engineer | PE86171 — No. | 6/26/2025 — Date

Notify OHIO811.org Before You Dig
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To call dial 8-1-1 or 800-362-2764
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REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

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Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

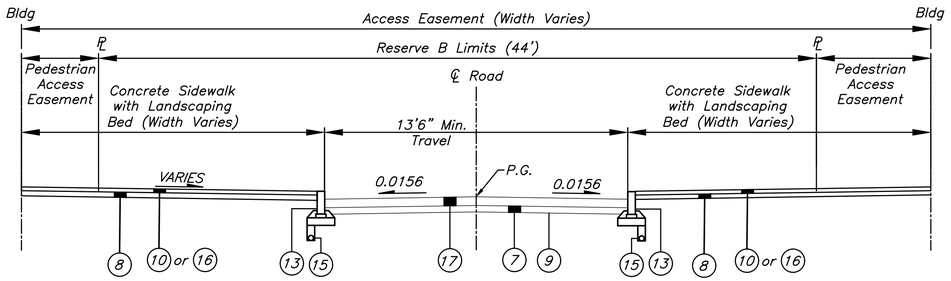
FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

TITLE SHEET
JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C001

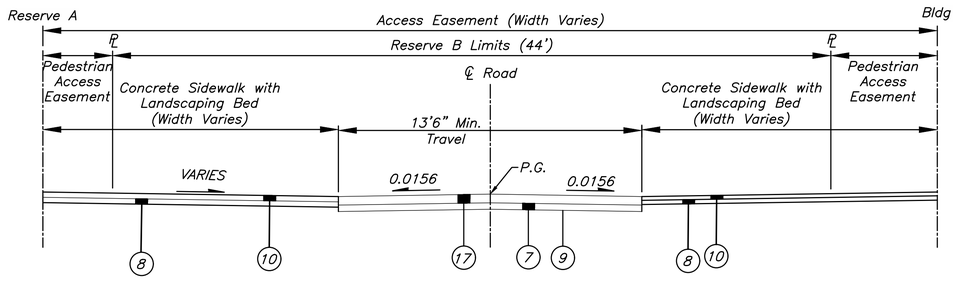
SHEET NUMBER
1 OF 25



GREEN STREET (PRIVATE STREET) WITH CURB

Not to Scale

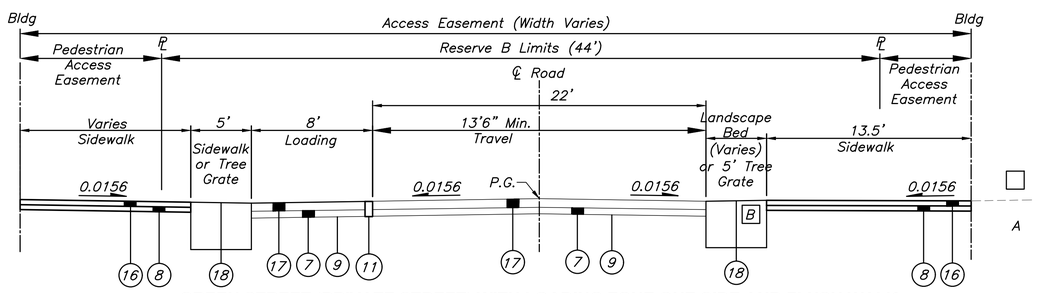
Sta: 100+36.23 to100+42.96



GREEN STREET (PRIVATE STREET) WITH CONCRETE AND FLUSH WALK

Not to Scale

Sta: 100+42.96 to 100+67.35
100+87.35 to 103+60.84
104+48.54 to 104+56.52



GREEN STREET (PRIVATE STREET) WITH LOADING ZONE ONE SIDE AND FLUSH WALK

Not to Scale

Sta: 100+77.35 to 101+77.36
100+67.94 to 104+40.54

LEGEND

1. Not Applicable
2. Not Applicable
3. Not Applicable
4. Not Applicable
5. Not Applicable
6. Not Applicable
7. Item 304 – 6" Aggregate Base
8. Item 304 – 4" Aggregate Base
9. Item 204 – Subgrade Compaction and Proof Rolling
10. Item SPEC – 4" Concrete Walk w/ Sandblast Finish (See Landscape Plan for Details)
11. Item 609 – Concrete Band (12" x 6")
12. Item 609 – Granite Curb (18" x 6")
13. Item 609 – Straight 18" Curb
14. Item 609 – Standard Concrete Curb & Gutter
15. Item 605 – 4" Pipe Underdrain
16. Item 608 – 4" Concrete Walk
17. Item 451 – 8" Concrete Pavement w/ Sandblast Fnish (See Landscape Plan for Details)
18. Item SPEC – Tree Grate (See Landscape Plan for Details)
19. Item 659 – Topsoil (T=6")
20. Item 659 – Seeding & Mulching, As Per Plan

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
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emht.com

FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

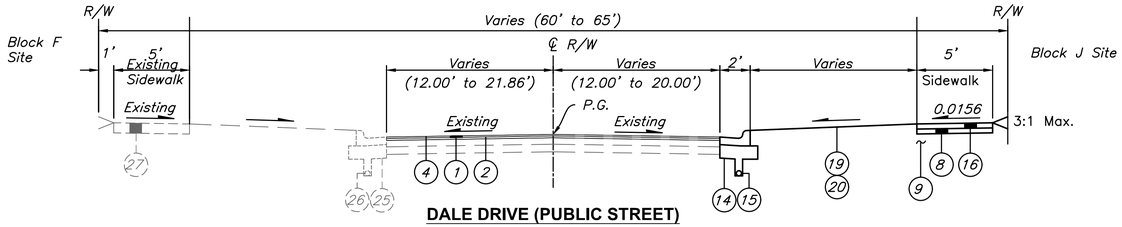
TYPICAL SECTIONS - PRIVATE STREET

JUNE 26, 2025

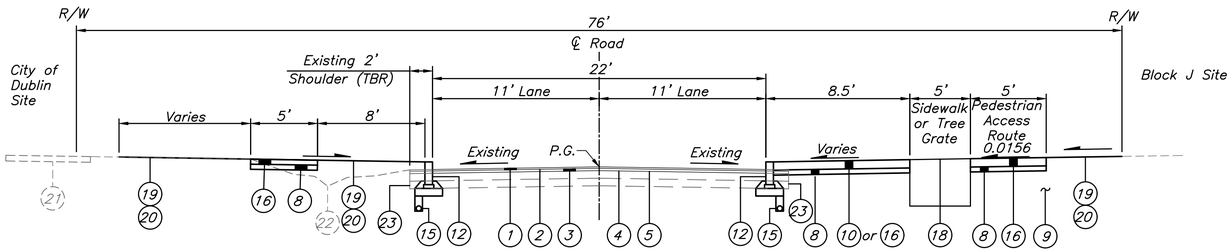
CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C002

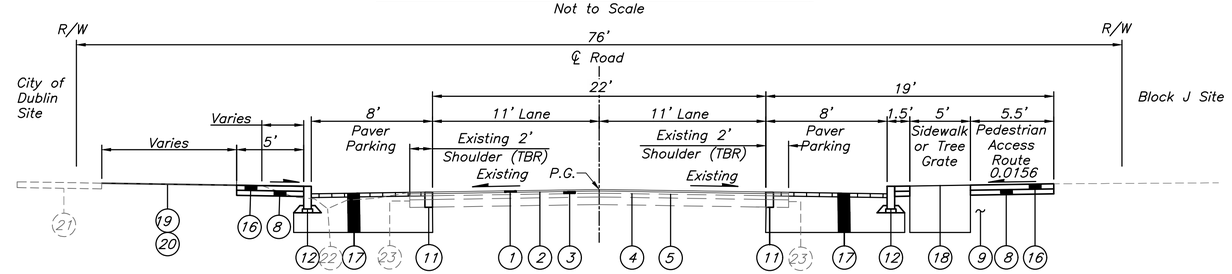
SHEET NUMBER
2 OF 25



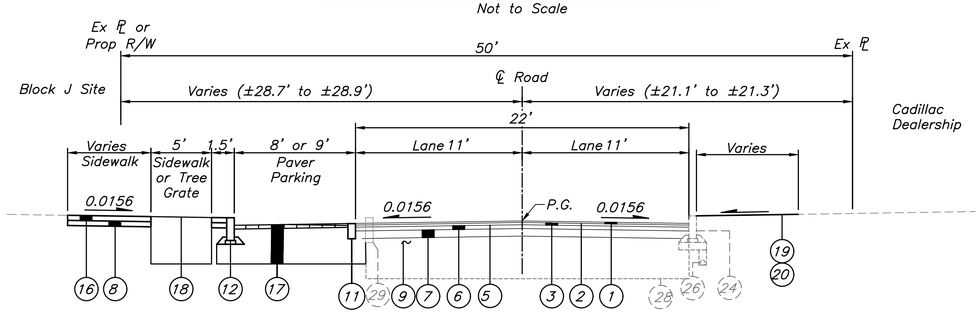
DALE DRIVE (PUBLIC STREET)
Not to Scale



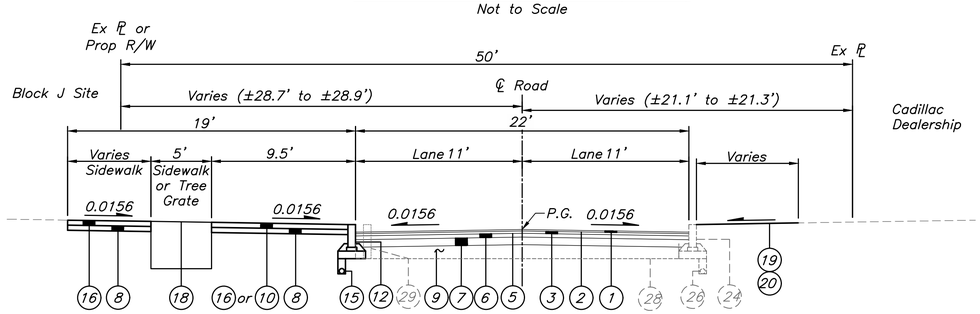
BRIDGE PARK AVENUE WITHOUT PARKING (76' R/W)
Not to Scale



BRIDGE PARK AVENUE WITH PARKING (76' R/W)
Not to Scale



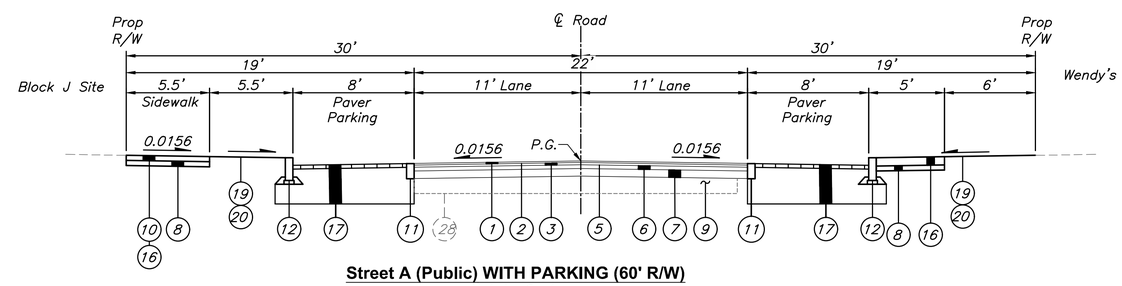
BANKER DRIVE WITH PARKING (50' R/W)
Not to Scale



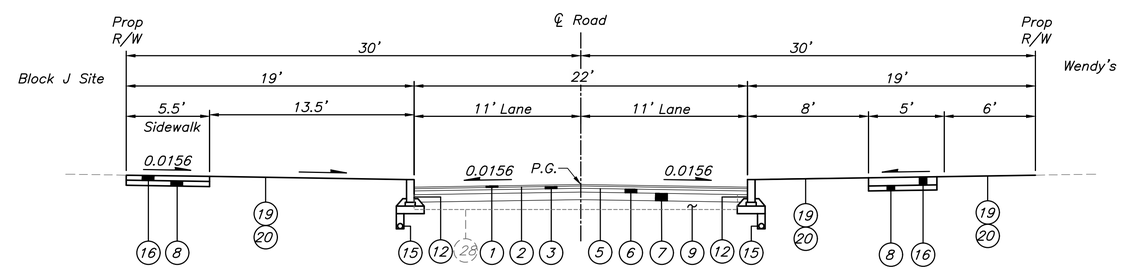
BANKER DRIVE WITHOUT PARKING (50' R/W)
Not to Scale

LEGEND

1. Item 448 – 1.25" Asphalt Concrete Surface Course (Medium Traffic), PG64–22
2. Item 407 – NTSS–1HM Trackless Tack Coat for Intermediate Course (0.06 Gal/Sq. Yd.)
3. Item 448 – 1.75" Asphalt Concrete Intermediate Course (Medium Traffic), PG64–22
4. Item 259 – Existing Pavement Planing (T=3")
5. Item 407 – NTSS–1HM Trackless Tack Coat (0.08 Gal./Sq. Yd.)
6. Item 301 – 6" Asphalt Concrete Base, PG64–22
7. Item 304 – 6" Aggregate Base
8. Item 304 – 4" Aggregate Base
9. Item 204 – Subgrade Compaction and Proof Rolling
10. Item SPEC – Brick Paver Walk (See Landscape Plan for Details)
11. Item 609 – Concrete Band (12" x 6")
12. Item 609 – Granite Curb (18" x 6")
13. Item 609 – Straight 18" Curb
14. Item 609 – Standard Concrete Curb & Gutter
15. Item 605 – 4" Pipe Underdrain
16. Item 608 – 4" Concrete Walk
17. Item SPEC – Brick Paver Roadway
18. Item SPEC – Tree Grate (See Landscape Plan for Details)
19. Item 659 – Topsoil (T=6")
20. Item 659 – Seeding & Mulching, As Per Plan
21. Existing Shared Use Path – To Remain
22. Existing Ditch
23. Existing 2' Shoulder (To Be Removed)
24. Existing Straight 18" Curb – To Remain
25. Existing Curb & Gutter – To Remain
26. Existing Underdrain – To Remain
27. Existing Sidewalk – To Remain
28. Existing Pavement – Full Depth Pavement Removal
29. Existing Concrete Curb – To Be Removed



Street A (Public) WITH PARKING (60' R/W)
Not to Scale



Street A (Public) WITHOUT PARKING (60' R/W)
Not to Scale

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

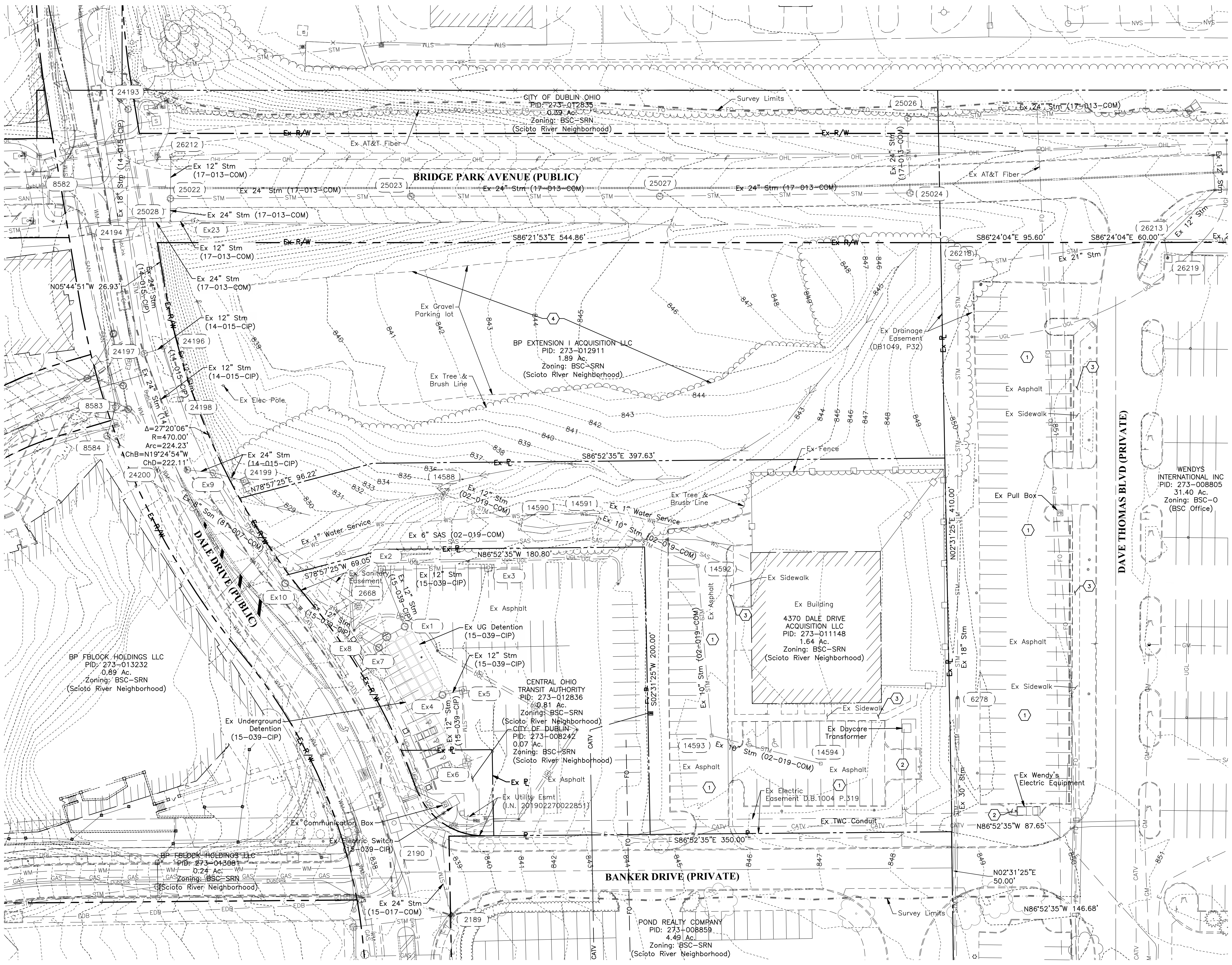
TYPICAL SECTIONS - PUBLIC STREET

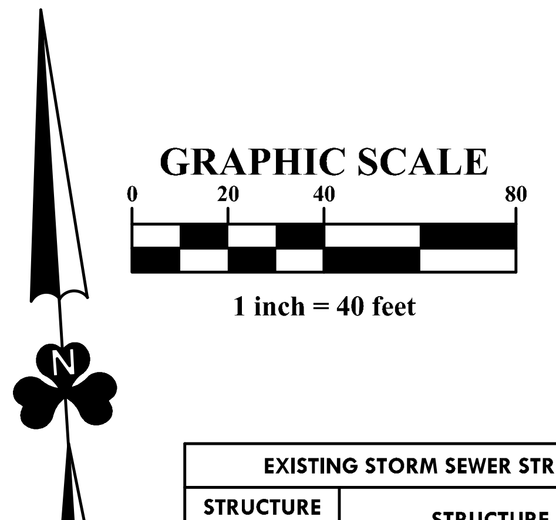
JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C003

SHEET NUMBER
3 OF 25





PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

EXISTING STORM SEWER STRUCTURE TABLE	
STRUCTURE NUMBER	STRUCTURE DESCRIPTION
1926	Ex. Storm Manhole Ex. Rim= 850.19 Ex. 36"(E) Inv= 844.40 Ex. 36"(W) Inv= 844.42
2189	Ex. Storm Curb & Gutter Inlet Ex. Rim= 838.88 Ex. 24"(NW) Inv= 830.93 Ex. 24"(W) Inv= 830.92 Ex. 15"(SE) Inv= 833.85
2190	Ex. Curb & Gutter Inlet Ex. Rim= 838.95 Ex. 18"(SW) Inv= 832.50
6273	Ex. Storm Curb & Gutter Inlet Ex. Rim= 840.21 Ex. 15"(NW) Inv= 834.91 Ex. 15"(SE) Inv= 834.78
6277	Ex. Storm Manhole Ex. Rim= 846.41 Ex. 27"(N) Inv= 840.36 Ex. 27"(S) Inv= 840.45 Ex. 12"(E) Inv= 842.91
6278	Ex. Grated Storm Manhole Ex. Rim= 849.15 Ex. 30"(N) Inv= 841.42 Ex. 30"(S) Inv= 841.45 Ex. 10"(SE) Inv= 845.64
6279	Ex. Storm Catch Basin Ex. Rim= 845.23 Ex. 15"(N) Inv= 841.36 Ex. 15"(S) Inv= 841.43
6280	Ex. Storm Catch Basin Ex. Rim= 846.46 Ex. 18"(S) Inv= 843.28
9835	Ex. Storm Manhole Ex. Rim= 840.21 Ex. 27"(N) Inv= 833.90 Ex. 36"(E) Inv= 831.51 Ex. 36"(W) Inv= 831.49 Ex. 15"(SE) Inv= 834.21
10892	Ex. Storm Manhole Ex. Rim= 843.70 Ex. Est. Inv= 835.35
14588	Ex. Headwall Ex. 12"(SW) Inv= 836.14
14589	Ex. Storm Catch Basin with Window Ex. Rim= 842.04 Ex. 12"(NW) Inv= 836.24 Ex. 8"(SE) Inv= 837.05
14590	Ex. Headwall Ex. 4"(W) Inv= 837.65
14591	Ex. Headwall Ex. 10"(SE) Inv= 838.44
14592	Ex. Storm Catch Basin Ex. Rim= 845.04 Ex. 10"(S) Inv= 841.28 Ex. 10"(NW) BURIED
14593	Ex. Storm Catch Basin Ex. Rim= 845.14 Ex. 10"(N) Inv= 841.61 Ex. 10"(E) Inv= 841.69
14594	Ex. Storm Catch Basin Ex. Rim= 845.32 Ex. 10"(W) Inv= 842.32
24194	Ex. Storm Manhole Ex. Rim= 825.84 Ex. 18"(N) Inv= 816.32 Ex. 24"(E) Inv= 815.42 Ex. 24"(S) Inv= 815.34 Ex. 24"(W) Inv= 815.23
24196	Ex. Storm Catch Basin Ex. Rim= 823.33 Ex. 12"(S) Inv= 818.19 Ex. 12"(W) Inv= 818.08 *From Dubscovery
24197	Ex. Storm Manhole Ex. Rim= 825.19 Ex. 24"(N) Inv= 816.34 Ex. 24"(S) Inv= 816.37 Ex. 24"(E) Inv= 817.18
24198	Ex. Storm Catch Basin Ex. Rim= 823.41 Ex. 12"(N) Inv = 818.91 *From Dubscovery
24199	Ex. Storm Catch Basin Ex. Rim= 826.51 Ex. 24"(W) Inv= 817.42` *From Dubscovery
24200	Ex. Storm Manhole Ex. Rim= 826.35 Ex. 24"(N) Inv= 817.25 Ex. 24"(E) Inv= 817.24
24369	Ex. Storm Curb & Gutter Inlet Ex. Rim= 854.34 Ex. 12"(S) Inv= 849.79
24370	Ex. Storm Curb & Gutter Inlet Ex. Rim= 854.24 Ex. 12"(N) Inv= 849.79 Ex. 12"(SW) Inv= 849.75
25022	Ex. Storm Manhole Ex. Rim= 826.55 Ex. 12"(N) Inv= 819.17 Ex. 24"(E) Inv= 819.25 Ex. 24"(S) Inv= 817.27
25023	Ex. Storm Manhole Ex. Rim= 835.05 Ex. 24"(E) Inv= 828.63 Ex. 24"(W) Inv= 826.78
25024	Ex. Storm Manhole Ex. Rim= 849.28 Ex. 24"(N) Inv= 841.17 Ex. 24"(W) Inv= 841.02

EXISTING STORM SEWER STRUCTURE TABLE	
STRUCTURE NUMBER	STRUCTURE DESCRIPTION
25026	Ex. Storm Manhole Ex. Rim= 849.18 Ex. 24"(E) Inv= 842.53 Ex. 24"(S) Inv= 842.47
25027	Ex. Storm Manhole Ex. Rim= 844.94 Ex. 24"(W) Inv= 835.79 Ex. 24"(E) Inv= 837.72
25028	Ex. Storm Manhole Ex. Rim= 826.47 Ex. 24"(W) Inv= 816.79 Ex. 24"(N) Inv= 816.73 Ex. 12"(E) Inv= 819.63
26212	Ex. Storm Catch Basin Ex. Rim= 825.04 Ex. 12"(S) Inv= 820.35
26213	Ex. Storm Manhole Ex. Rim= 853.12 Ex. 12"(NE) Inv= 848.44 Ex. 24"(E) Inv= 845.74 Ex. 12"(S) Inv= 847.7 Ex. 24"(W) Inv= 845.67
26218	No Survey, Record Plan or Dubscovery Information
26219	Ex. Grated Storm Manhole Ex. Rim= 851.24 Ex. 10"(N) Inv= 847.90
Ex1	Ex. Storm Manhole Ex. Rim= 838.60 Ex. 12"(N) Inv= 832.92 Ex. 24"(S) Inv= 831.71 Ex. 15"(W) Inv=833.44 (From Record Plan)
Ex2	Ex. Storm Catch Basin Ex. Rim= 837.72 Ex. 12"(S) Inv= 833.31 Ex. 12"(E) Inv= 833.33
Ex3	Ex. Storm Catch Basin Ex. Rim= 839.92 Ex. 12"(W) Inv= 835.68
Ex4	Ex. Storm Manhole Ex. Rim= 838.87 Ex. 12"€ Inv= 834.01 (From Record Plan) Ex. 24"(N) Inv= 831.66 Ex. 15"(W) Inv = 833.44 (From Record Plan)
Ex5	Ex. Storm Catch Basin Ex. Rim= 839.17 Ex. 12"(W) Inv= 834.36 Ex. 12"(S) Inv= 834.41
Ex6	Ex. Storm Catch Basin Ex. Rim= 838.91 Ex. 12"(N) Inv= 834.78
Ex7	Ex. Storm Manhole Ex. Rim= 837.88 Ex. 15"(E) Inv= 833.44 (From Record Plan) Ex. 24"(S) Inv=831.41 Ex. 12"(NW) Inv= 833.01 (From Record Plan)
Ex8	Ex. Storm Catch Basin Ex. Rim= 837.28 Ex. 12"(SE) Inv= 833.06
Ex9	Ex. Storm Manhole Ex. Rim= 826.16 Ex. 24"(W) Inv=818.17 (From Record Plan) Ex. 24"(E) Inv=818.81 (From Record Plan)
Ex10	Ex. Storm Manhole Ex. Rim= 831.29 Ex. 12"(N) Inv= 823.28 Ex. 12"(SW) Inv=826.34 (From Reocrd Plan)
Ex23	Ex. Storm Catch Basin with 6"x24" Window E Ex. Rim= 825.74 Ex. 12"(W) Inv= 819.63

EXISTING SANITARY STRUCTURE TABLE	
STRUCTURE NUMBER	STRUCTURE DESCRIPTION
2668	Ex. Sanitary Manhole Ex. Rim= 836.02 Ex. 8"(NW) Inv= 822.87
8582	Ex. Sanitary Manhole Ex. Rim= 825.67 Ex. 12"(W) Inv= 809.51 Ex. 12"(S) Inv= 809.52
8583	Ex. Sanitary Manhole Ex. Rim= 824.95 Ex. 12"(N) Inv= 810.30 Ex. 24"(SW) Inv= 810.39
8584	Ex. Sanitary Manhole Ex. 8"(SE) Inv=808.55

NOTES

1. Signs located inside of right of way are public signs.
2. Signs located on private property are private signs.

LEGEND

—— STM ——	Ex Storm Sewer
—— SAN ——	Ex Sanitary Sewer
—— SAS ——	Ex Sanitary Service
—— WM ——	Ex Water Main
—— DWS ——	Ex Domestic Water Service
—— Dublink ——	Ex Dublink
—— C ——	Ex Communication
—— EDB ——	Ex AEP Duct Bank
—— E ——	Ex Electric
—— GAS —— GAS ——	Ex Gas Main
—— UGL ——	Ex Underground Street Lighting
—— CATV ——	Ex Cable TV
- - - - - - - -	Ex Topography
—— WS ——	Ex Water Service
—— FO ——	Ex Fiber Optics
—— GM ——	Ex Natural Gas
—— OHL ——	Ex Overhead Lighting
⌒⌒⌒⌒	Ex Bush
——···——>	Ex Stream
—□—□—□—	Ex Fence
✿ ✹	Ex Vegetation
⊸	Ex Sign

CODED NOTES

⟨1⟩	Ex. Asphalt Pavement
⟨2⟩	Ex Concrete Pavement
⟨3⟩	Ex Concrete Sidewalk
⟨4⟩	Ex Gravel Pavement

The existing conditions shown hereon is based on a topographic survey performed in November 2024 and a supplemental topographic survey performed in April 2025 by or under the direct supervision of Joshua M. Meyer, Professional Surveyor Number 8485. Supplemental GIS and record plan data (topographic and boundary) has been used where field data was not available and do not reflect field verified conditions. The contractor shall be responsible to verify the site conditions and topography prior to the initiation of any site work or disturbance. The demolition work specified on this sheet is not the responsibility of the Surveyor of Record, nor do they represent or warrant this work.

Joshua M. Meyer
Professional Surveyor No. 8485

Date

V1-24

REVISION RECORD				
NO.	DATE	REVISION DESCRIPTION	ENG	DUB

EMH&T
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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

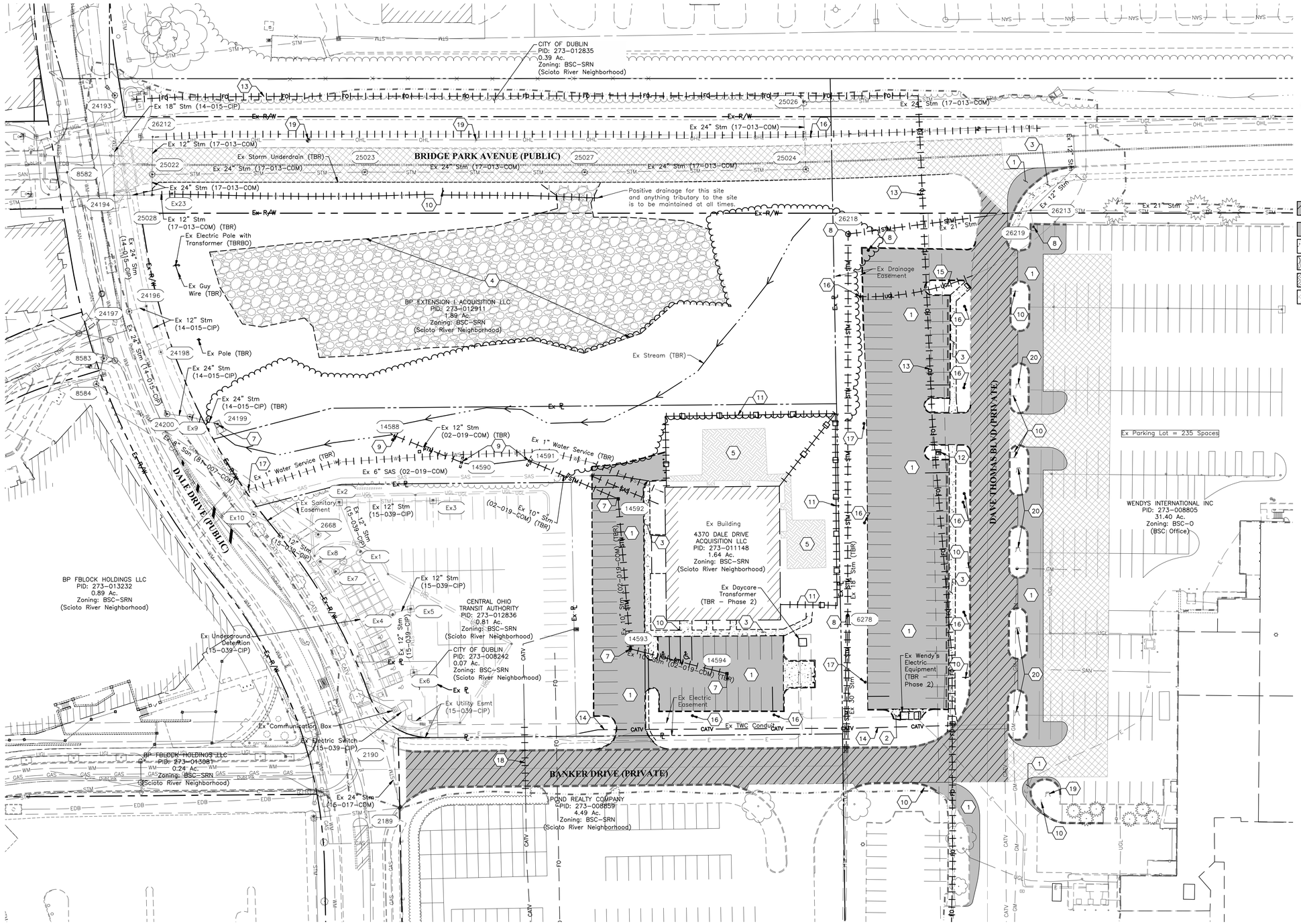
EXISTING CONDITIONS PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C101

SHEET NUMBER
4 OF 25



PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

LEGEND

- Asphalt Pavement To Be Removed and Replaced
- Asphalt Pavement To Be Removed
- Concrete To Be Removed
- Gravel To Be Removed
- Playground To Be Removed
- Asphalt Pavement To Be Milled
- (TBR) To Be Removed
- (TBRR) To Be Removed & Replaced
- (TBRBO) To Be Removed By Others
- (TBRL) To Be Relocated

NOTES

1. The existing electric equipment for the Daycare and Wendy's sites shall remain in service during Phase 1 of the demolition and Mass Excavation. The electrical equipment shall be removed after the Wendy's site electrical equipment is relocated.
2. Contractor to coordinate with AEP to remove the existing power poles along Dale Drive.
3. The existing asphalt and curb located on Wendy's and Cadillac Dealership properties that will be disturbed from the bypass storm construction shall be removed and replaced to original condition.

CODED NOTES

1. Ex. Asphalt Pavement (TBR)
2. Ex Concrete Pavement (TBR)
3. Ex Concrete Sidewalk (TBR)
4. Ex Gravel Pavement (TBR)
5. Ex Playground Pavement/Equipment (TBR)
6. Ex Concrete Curb (TBR)
7. Ex Storm Catch Basin (TBR)
8. Ex Storm Manhole (TBR)
9. Ex Headwall (TBR)
10. Ex Sign (TBR)
11. Ex Fence (TBR)
12. Ex Pull Box (TBR)
13. Ex AT&T Fiber Optic (TBRL)
14. Ex Time Warner Cable (TBR)
15. Ex Underground Lighting (TBR)
16. Ex Light Pole (TBR)
17. Plug existing 1" water service after existing 1" valve to be coordinated with City of Columbus Division of Water.
18. Ex CATV (TBRL)
19. Ex Electric Pole (TBRL)
20. Ex Tree Stump (TBR)

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

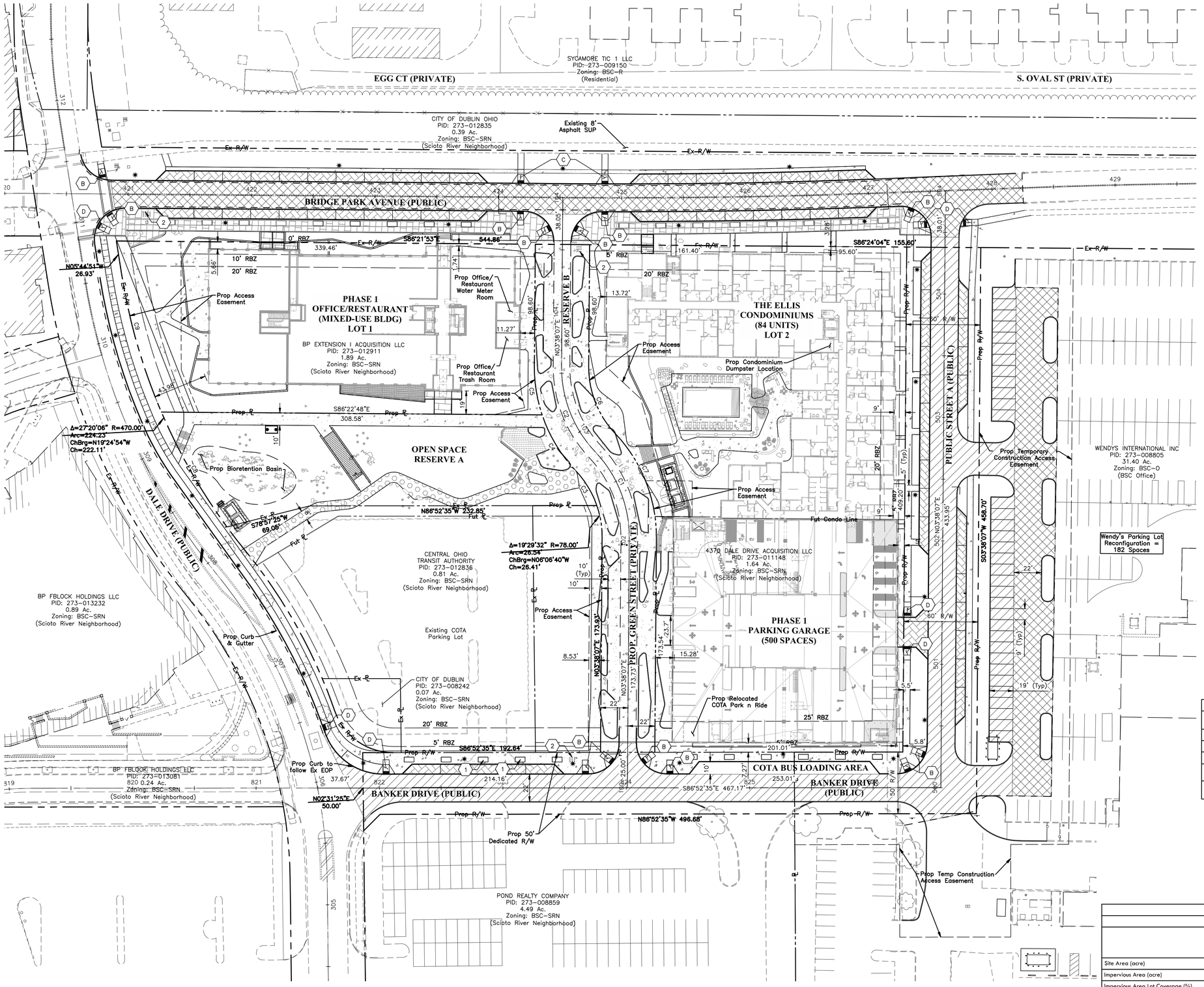
DEMOLITION PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C102

SHEET NUMBER
5 OF 25



LEGEND

- Brick Paver Roadway (See Sheet 3 for Detailed Section Plans)
- Brick Paver Sidewalk (See Sheet 3 for Detailed Section Plans)
- Concrete Pavement (See Sheets 2–3 for Detailed Section Plans)
- Concrete Sidewalk (See Sheets 2–3 for Detailed Section Plans)
- Full Depth Pavement Replacement (See Sheets 2–3 for Detailed Section Plans)
- Mill & Overlay (See Sheet 3 for Detailed Section Plans)
- Gravel Sidewalk (See Landscape Plan for Detail)
- RBZ — Required Build Zone (per Dublin Zoning Code)

CURB RAMP CODED NOTES

- (B) Curb Ramp Type B (PD–01)
- (C) Curb Ramp Type C (PD–01)
- (D) Curb Ramp Type D (PD–01)

CODED NOTES

- (1) Tree Box (See Landscape Plan for Details)
- (2) Bicycle Rack (See Landscape Plan for Details)

GENERAL NOTES

1. Tree boxes cannot be constructed until the parking lot on the COTA lot has been removed. Additional phasing information will be needed as project progresses.
2. See Landscape Plan for concrete pavement finishing details.

Bridge Park Block J City of Dublin Zoning Code Requirements

Block J Building	Phase 1 & 2 Condominium Buildings	Phase 1 Office/Restaurant Building	Phase 1 Parking Garage
Building Type	Apartment Building §153.062(O)(3)	Mixed Use Building §153.062(O)(6)	Parking Structure §153.062(O)(12)
Front Required Build Zone (RBZ)	5-20 ft	0-10 ft 25% of front façade permitted between 10-20 ft	5-25 ft
Corner Required Build Zone (RBZ)	5-20 ft	0-10 ft	5-25 ft
Front Property Line Coverage	Minimum 75%	Minimum 95%	Minimum 90%
Minimum Side Yard Setback	5 ft	0 ft	5 ft
Minimum Rear Yard Setback	5 ft	5 ft	5 ft
Maximum Impervious Coverage	70%	85%	80%
Additional Semi-Pervious Coverage	20%	10%	10%
Maximum Height	4.5 stories	5 stories	5 stories

Bridge Park Block J Front Line Property Line Calculations

	Total Length of Front Property Line	Principal Structure Length in RBZ	Front Property Line Coverage
Garage	389 LF	374 LF	96%
Phase 1 Condominium	478 LF	431 LF	90%
Office/Restaurant	483 LF	249 LF	52%
Future Phase 2 Condominiums*	367 LF	341 LF*	93%*

* Calculations estimates the Future Phase 2 structure into the Front Property Line Calculations and is subject to change when site is developed.

Bridge Park Block J Total Lot Coverage Calculations

	Phase 1 w/ Existing COTA Site	Phase 1 and Future Phase 2 Condominiums
Site Area (acre)	5.24	
Impervious Area (acre)	3.58	3.76
Impervious Area Lot Coverage (%)	68.4%	71.7%
Semi-Impervious Area (acre)	0.07	
Additional Semi-Pervious Coverage (%)	1.4%	

Bridge Park Block J Individual Lot Coverage Calculations

	Phase 1 Lot				Phase 2 Lot	
	Office/Restaurant Lot 1	Phase 1 Condominium & Garage Lot 2	Open Space Reserve "A"	Green Street "Reserve B"	COTA Parking Lot	Future Phase 2 Condominiums
Site Area (acre)	1.03	2.101	0.55	0.43	1.13	
Impervious Area (acre)	0.70	1.76	0.11	0.36	0.66	0.84
Impervious Area Lot Coverage (%)	67.4%	83.6%	20.0%	83.3%	58.6%	74.3%
Semi-Impervious Area (acre)	0.00	0	0.06	0	0.01	
Additional Semi-Pervious Coverage (%)	0.0%	0.0%	10.3%	0.0%	1.3%	

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

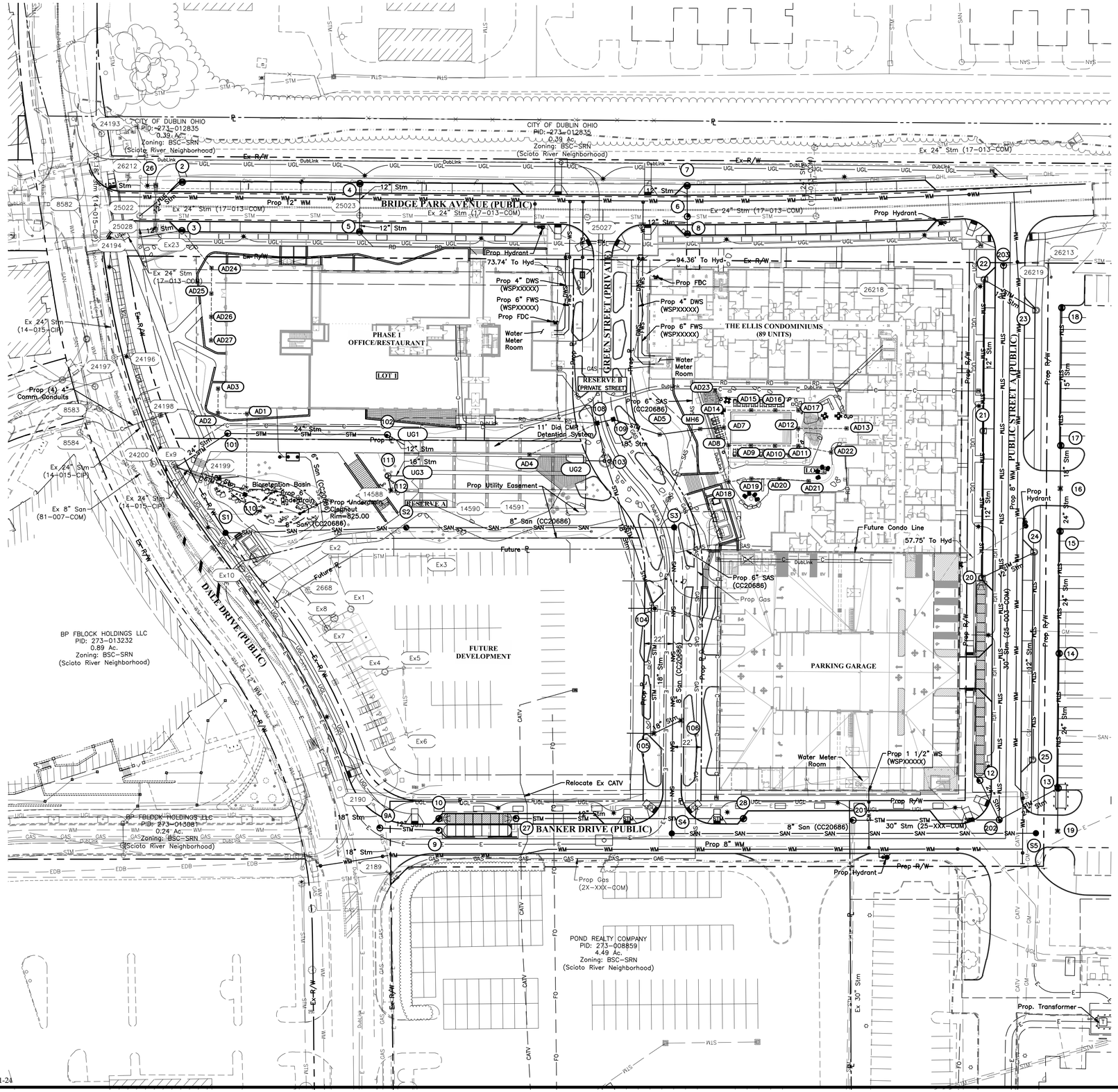
SITE PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C201

SHEET NUMBER
6 OF 25



LEGEND

EXISTING

- STM — Ex Storm Sewer
- SAN — Ex Sanitary Sewer
- SAS — Ex Sanitary Service
- WM — Ex Water Main
- DWS — Ex Domestic Water Service
- Dublink — Ex Dublink
- C — Ex Communication
- EDB — Ex AEP Duct Bank
- E — Ex Electric
- GAS — Ex Gas Main
- UGL — Ex Underground Street Lighting
- CATV — Ex Cable TV

PROPOSED

- STM — Prop Storm Sewer
- RD — Prop Roof Drain
- SAN — Prop Sanitary Sewer
- SAS — Prop Sanitary Service
- WM — Prop Public Water Main
- WS — Prop Water Service
- DWS — Prop Private DWS
- FWS — Prop Private FWS
- C — Prop Communication
- E — Prop Underground Electric
- UGL — Prop Underground Site Lighting

GRAPHIC SCALE

0 20 40 80

1 inch = 40 feet

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

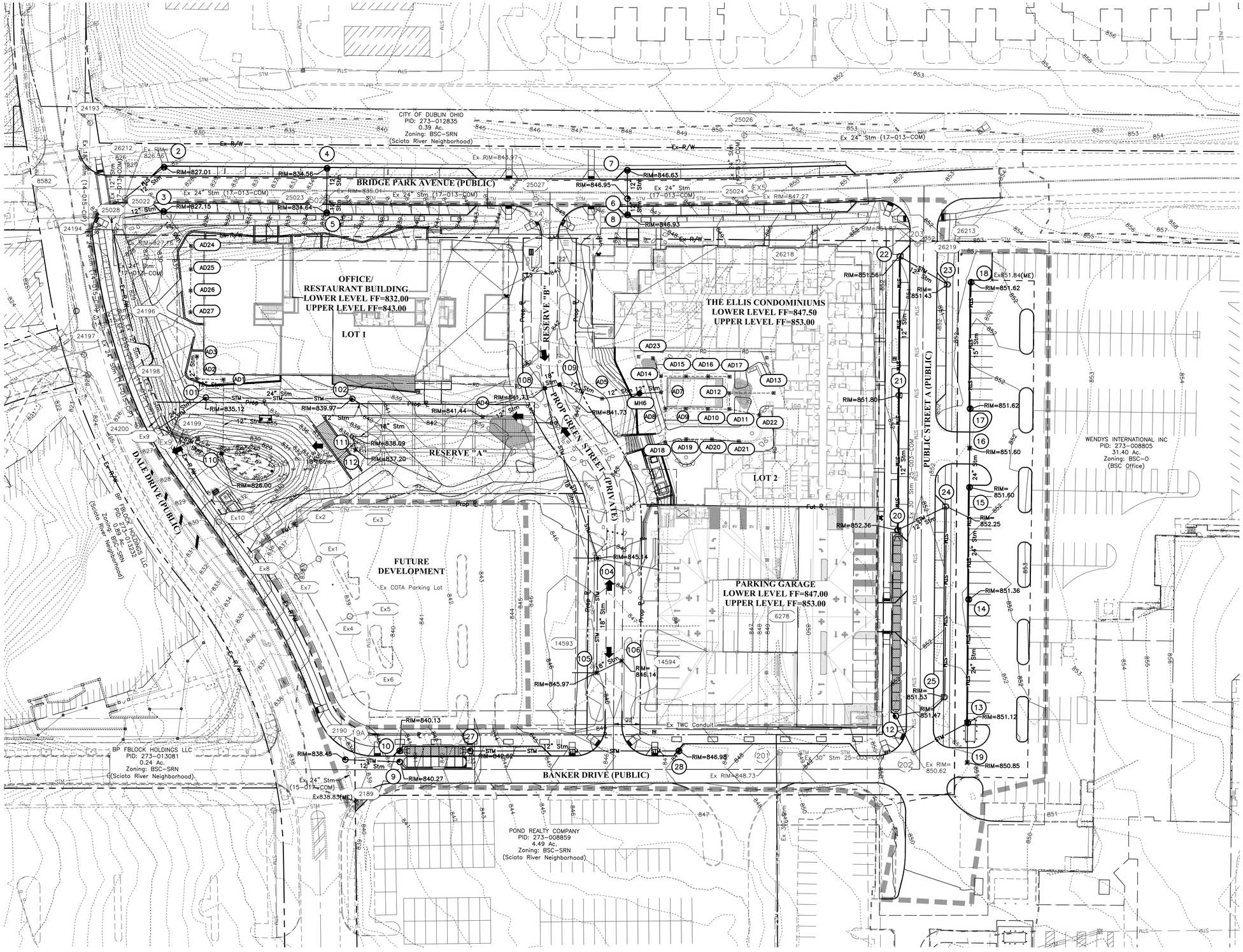
UTILITY PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C202

SHEET NUMBER
7 OF 25



PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

LEGEND

EXISTING	
836 / 835	Contours
PROPOSED	
841 / 840	Contours
×841.00	Spot Elevation
	Major Flood Route Arrow
	Grading Limits

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

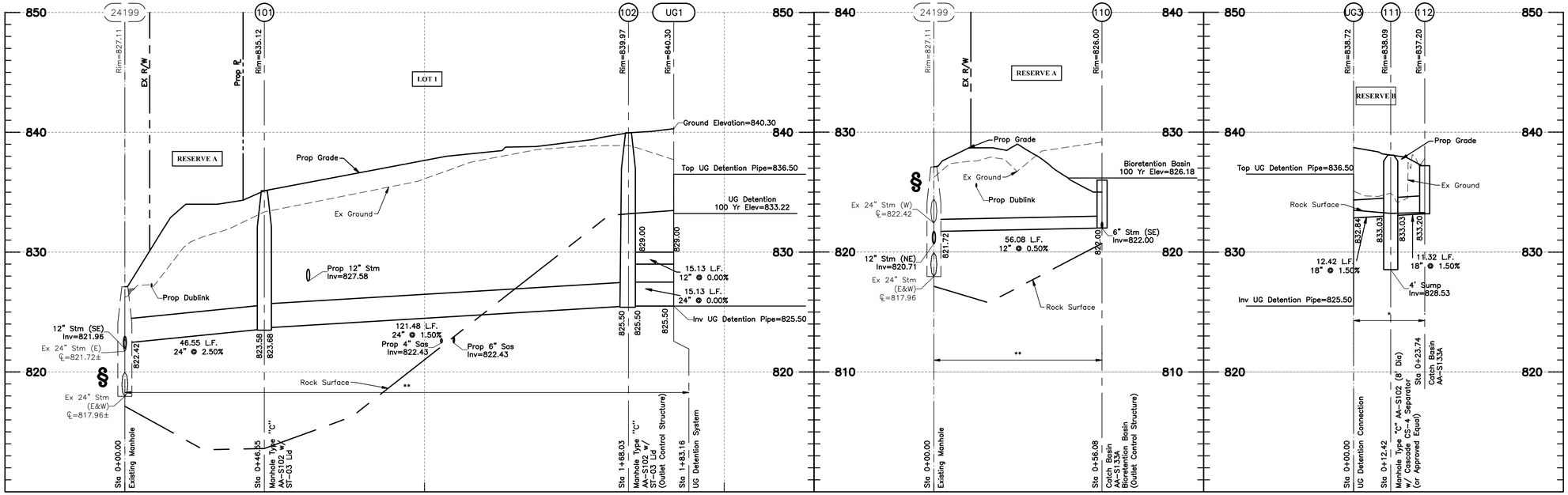
OVERALL GRADING PLAN

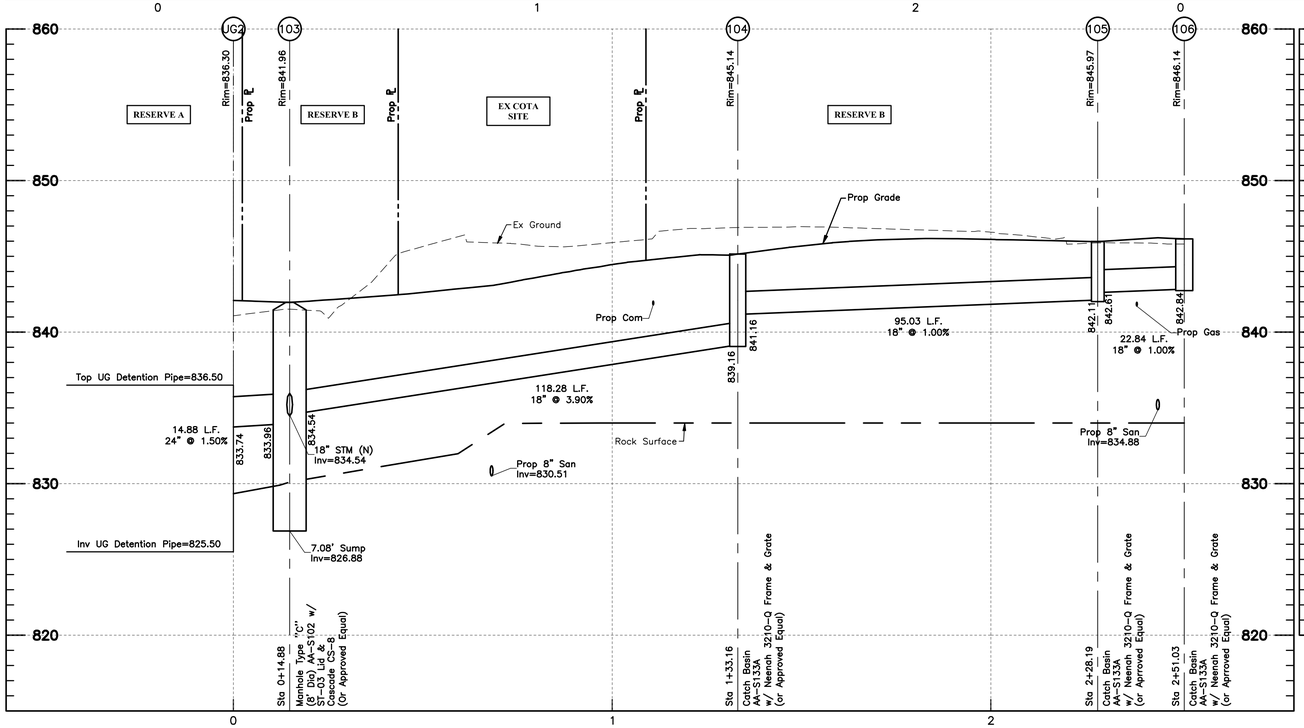
JUNE 26, 2025

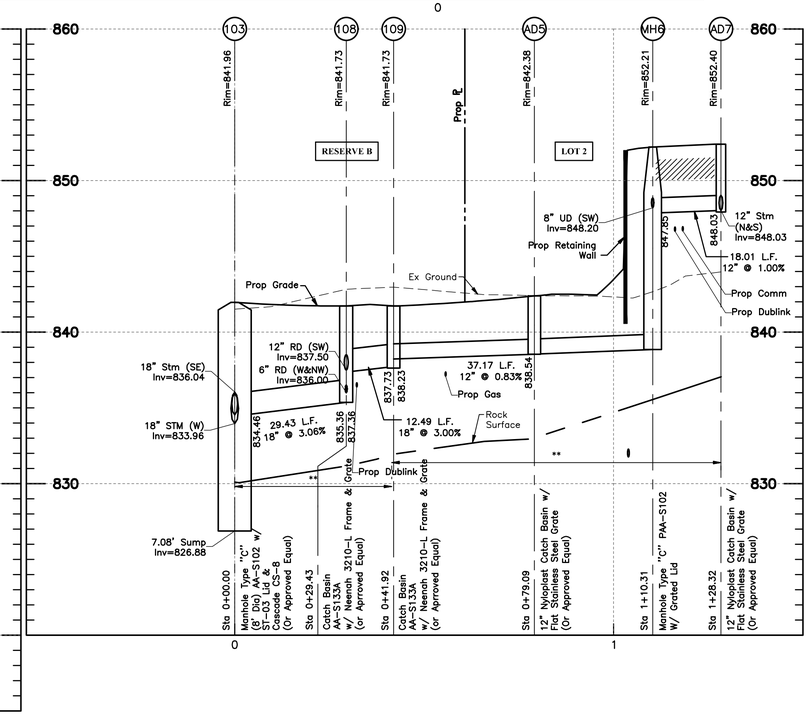
CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C203

SHEET NUMBER
8 OF 25







PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

NOTES:

All elevations on this plan are based on NAVD 1988 datum, unless otherwise noted.

All backfill shall be compacted to the density of the existing ground unless otherwise noted:

Backfill to be placed and compacted per Item 203 to minimum 30" above storm sewer pipe prior to storm sewer installation in accordance with Item 901.04 as necessary.

* Compacted Backfill, Per Item 911

** Compacted Granular Backfill, Per Item 912

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

§ Contractor to verify invert and location of existing utility before construction.

All stationing is to the ℄ of the Structure unless otherwise noted

See Sheet 16 for Cascade CS-4 and CS-8 Hydrodynamic Separator details.

See Sheets 14 and 15 for Corrugated Metal Pipe Underground Detention details.

See Sheet 13 for Bioretention Basin outlet structure details.

NO.	DATE	REVISION RECORD REVISION DESCRIPTION	ENG	DUB

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

STORM SEWER PROFILES - PRIVATE

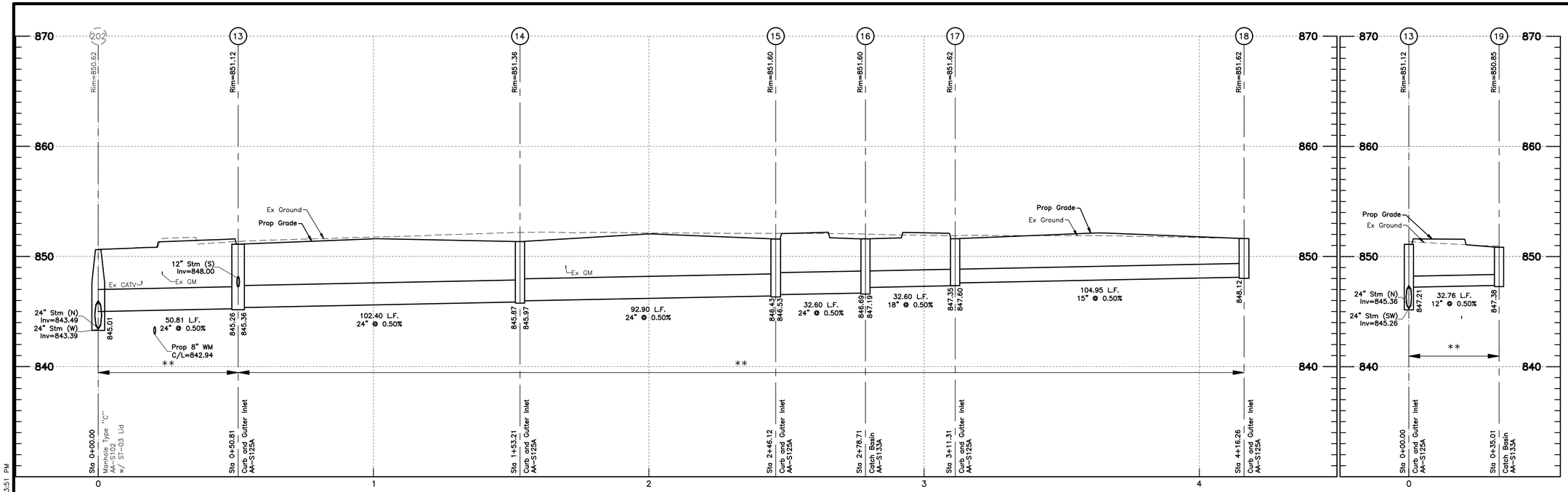
JUNE 26, 2025

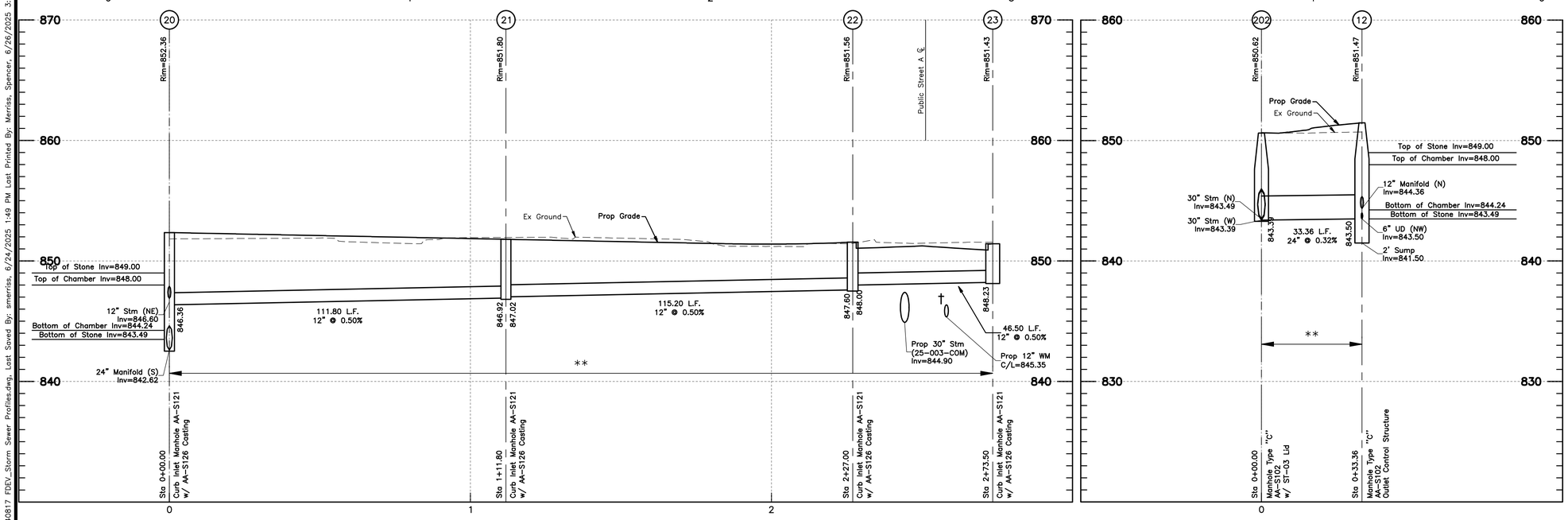
CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C301

SHEET NUMBER
9 OF 25

HORIZ 1 inch = 20: 0 10 20 40
VERT 1 inch = 5: 0 2.5 5 10





NOTES:

All elevations on this plan are based on NAVD 1988 datum, unless otherwise noted.

All backfill shall be compacted to the density of the existing ground unless otherwise noted:

Backfill to be placed and compacted per Item 203 to minimum 30" above storm sewer pipe prior to storm sewer installation in accordance with Item 901.04 as necessary.

* Compacted Backfill, Per Item 911

** Compacted Granular Backfill, Per Item 912

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

Contractor to verify invert and location of existing utility before construction.

All stationing is to the ℄ of the Structure unless otherwise noted

See sheet 17 for Public Street A Underground Detention details

HORIZ 1 inch = 20 (0, 10, 20, 40)

VERT 1 inch = 5 (0, 2.5, 5, 10)

REVISION RECORD

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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

STORM SEWER PROFILES - PUBLIC

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER

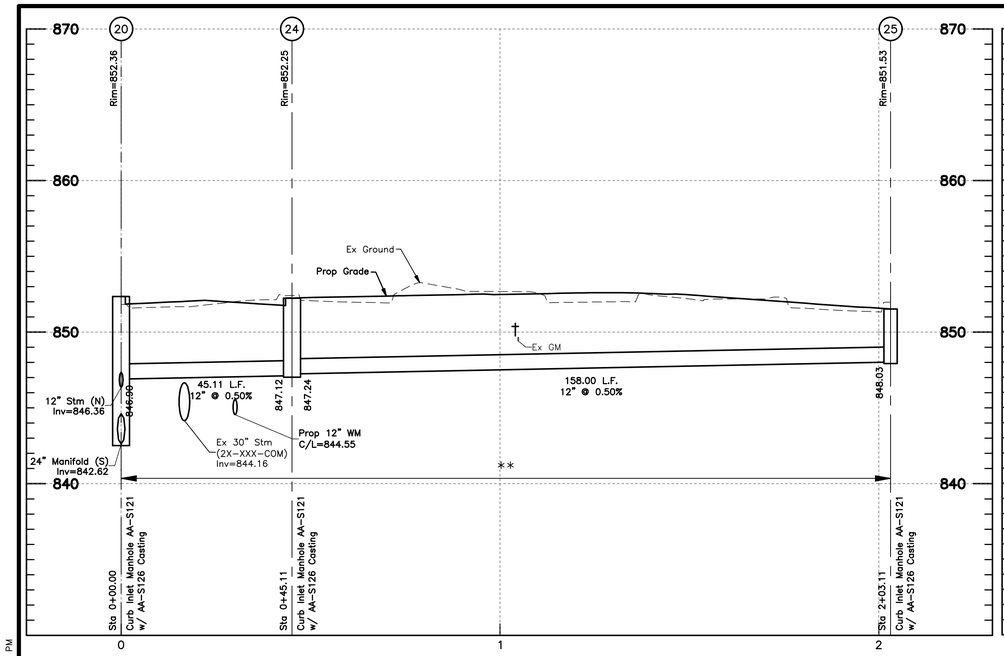
25-003-COM

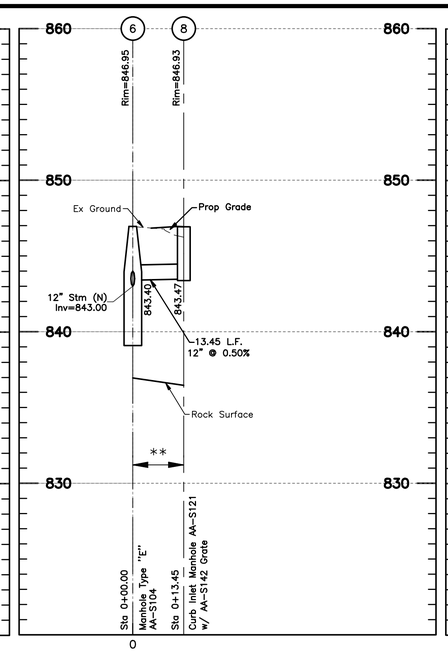
DRAWING NUMBER

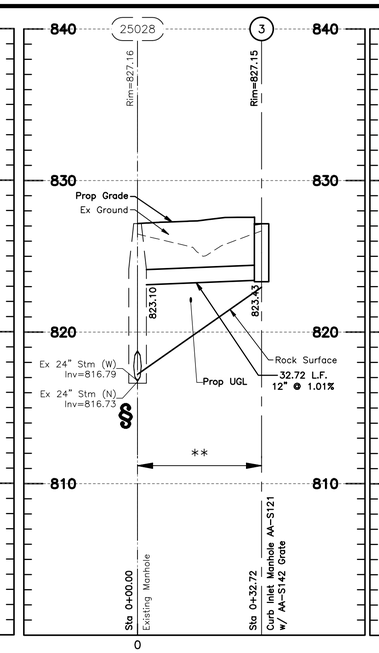
C302

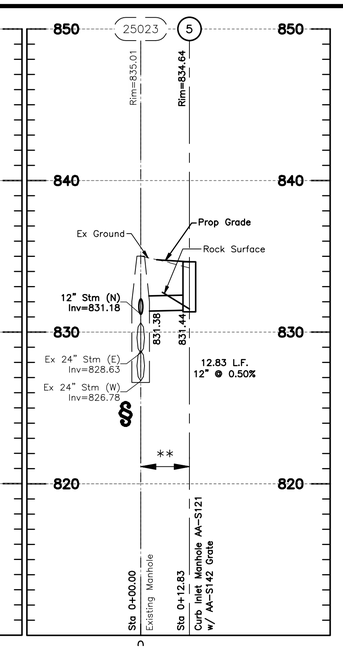
SHEET NUMBER

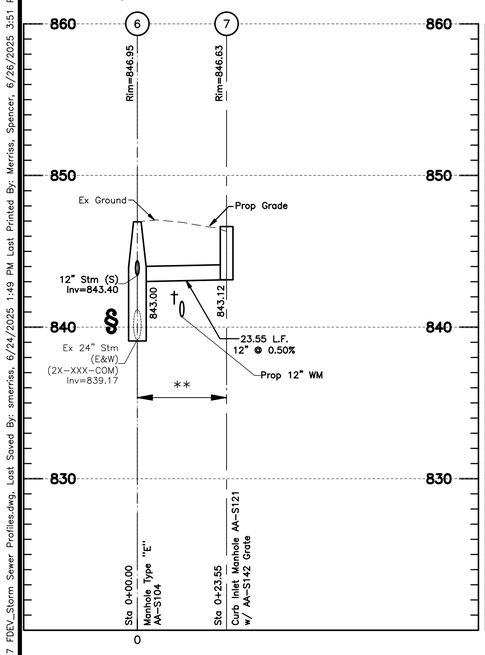
10 OF 25

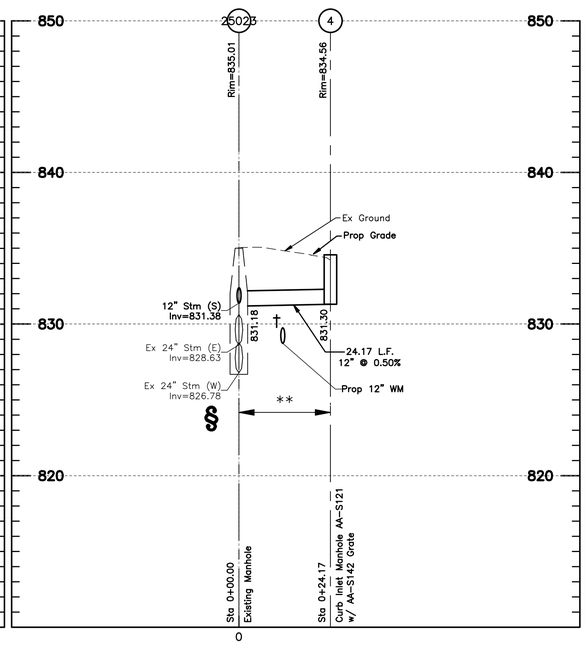


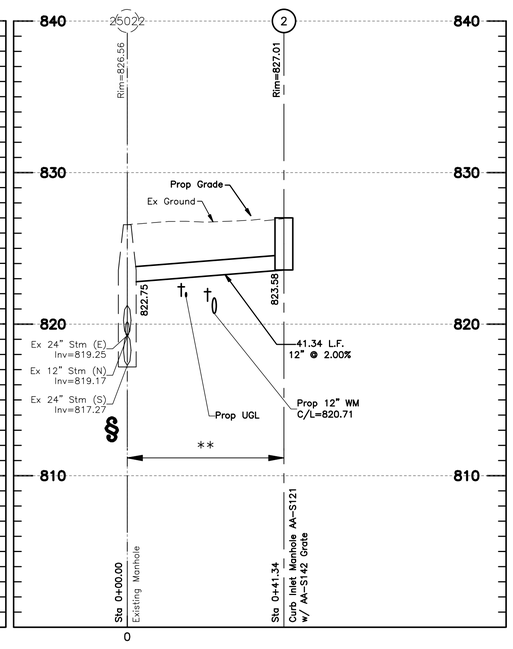












NOTES:

All elevations on this plan are based on NAVD 1988 datum, unless otherwise noted.

All backfill shall be compacted to the density of the existing ground unless otherwise noted:

Backfill to be placed and compacted per Item 203 to minimum 30" above storm sewer pipe prior to storm sewer installation in accordance with Item 901.04 as necessary.

* Compacted Backfill, Per Item 911

** Compacted Granular Backfill, Per Item 912

† Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted.

§ Contractor to verify invert and location of existing utility before construction.

All stationing is to the ℄ of the Structure unless otherwise noted

See sheet 17 for Public Street A Underground Detention details

HORIZ 1 inch = 20: 0 10 20 40

VERT 1 inch = 5: 0 2.5 5 10

NO.	DATE	REVISION RECORD REVISION DESCRIPTION	ENG	DUB

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Phone: 614.775.4500 Toll Free: 888.775.3648
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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

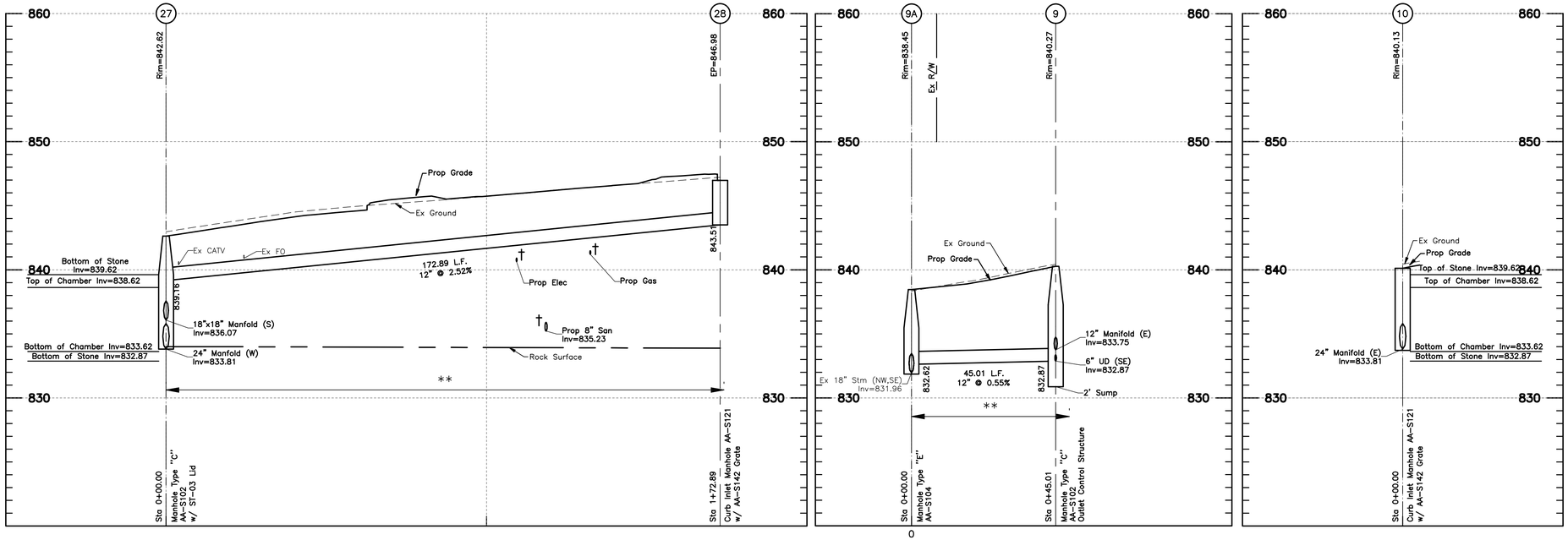
STORM SEWER PROFILES - PUBLIC

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C303

SHEET NUMBER
11 OF 25



HORIZ 1 inch = 20: 0, 10, 20, 40

VERT 1 inch = 5: 0, 2.5, 5, 10

NOTES:

All elevations on this plan are based on NAVD 1988 datum, unless otherwise noted.

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NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

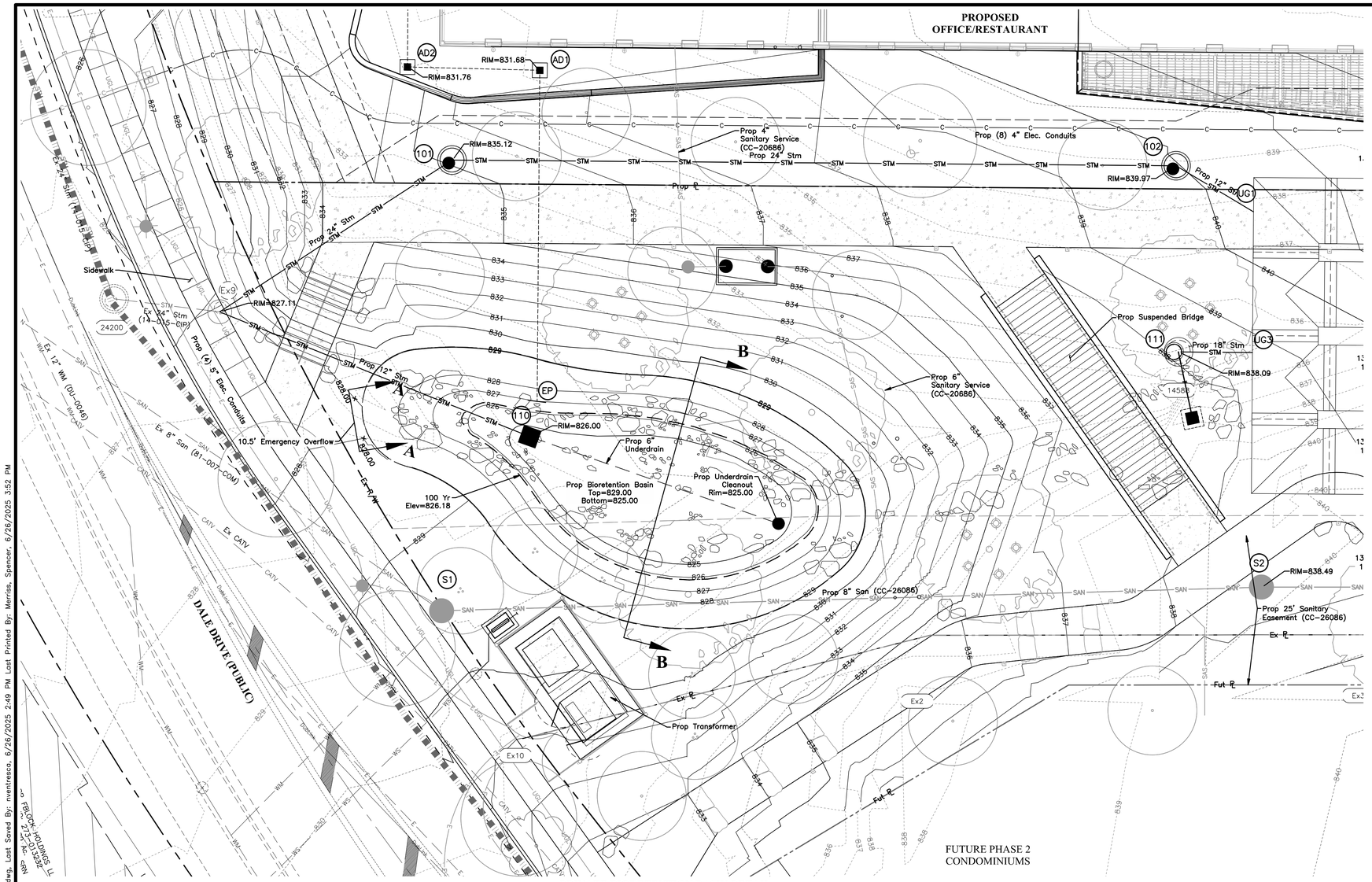
STORM SEWER PROFILES - PUBLIC

JUNE 26, 2025

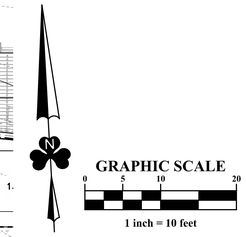
CITY OF DUBLIN PROJECT NUMBER
25-003-COM

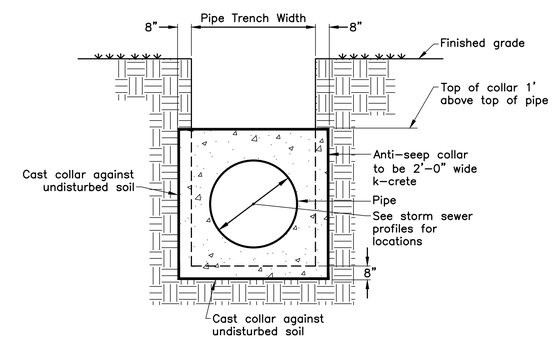
DRAWING NUMBER
C304

SHEET NUMBER
12 OF 25

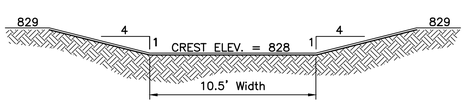


PRIVATE BIORETENTION BASIN DETAIL
Scale: 1"=10'



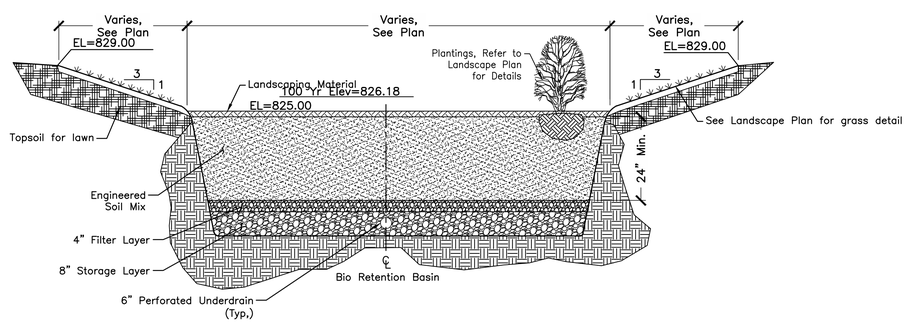


ANTI-SEEP COLLAR
NOT TO SCALE

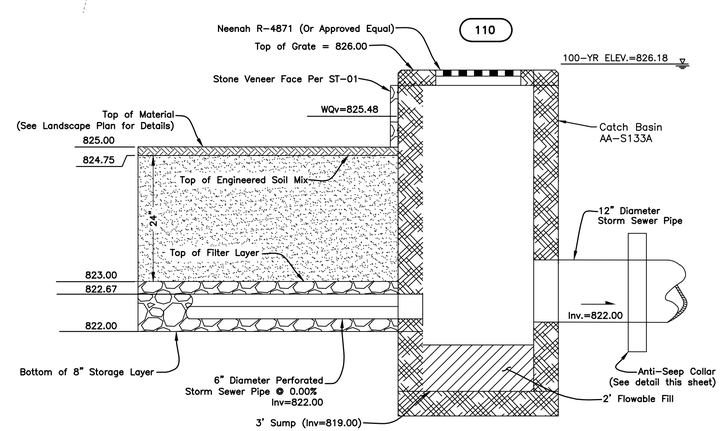


NOTE:
1. Emergency spillway shall be reinforced 100% synthetic, non-biodegradable materials and meet State of Ohio, Department of Transportation Construction and Material Specification Section 712.11, Type E.

EMERGENCY OVERFLOW WEIR SECTION A-A
NOT TO SCALE



BIORETENTION BASIN SECTION B-B
NOT TO SCALE



PROPOSED BIORETENTION BASIN OUTLET STRUCTURE
NOT TO SCALE

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

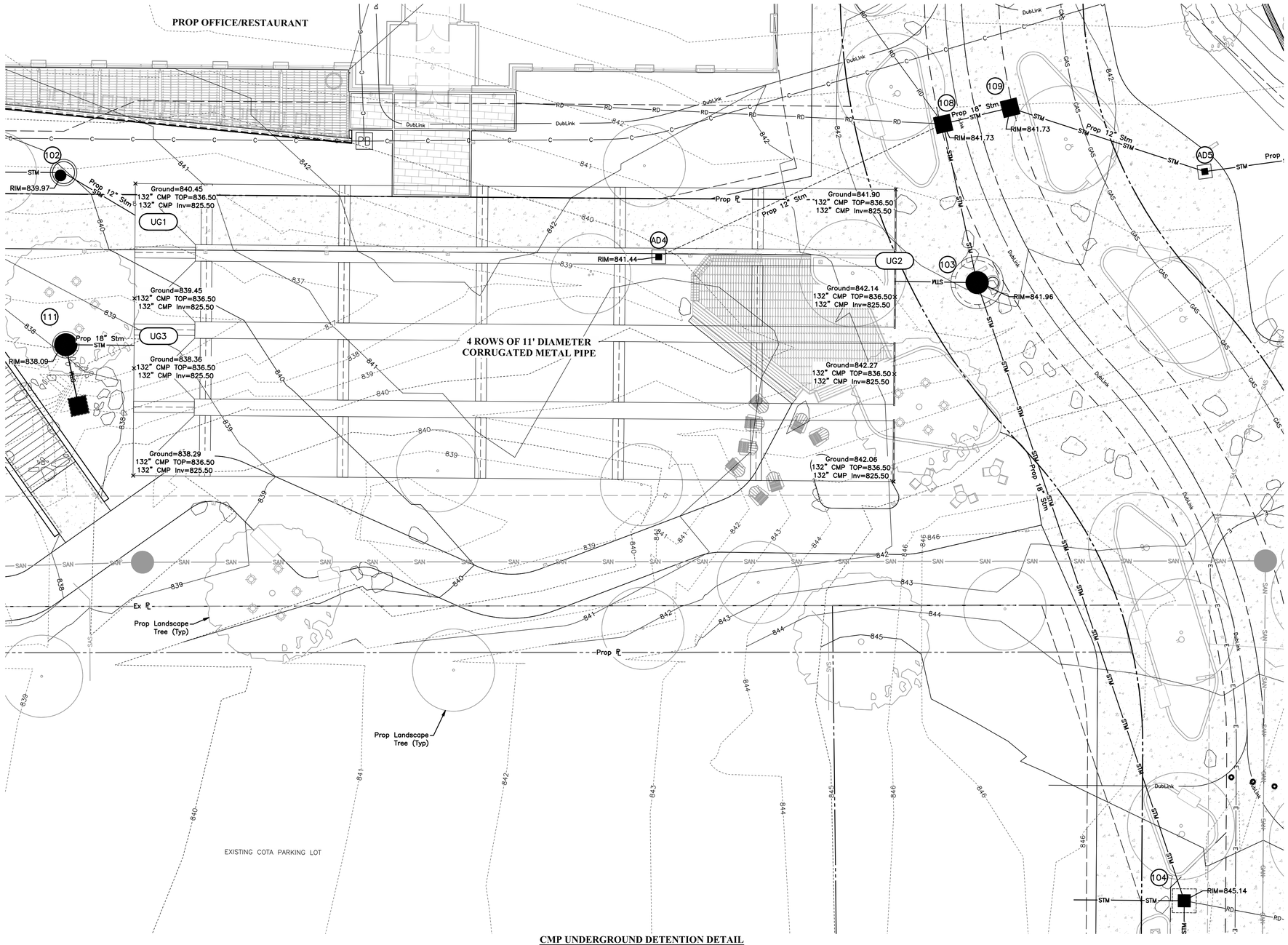
STORMWATER BIORETENTION PLAN & DETAILS - PRIVATE

JUNE 26, 2025

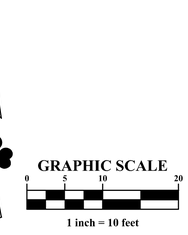
CITY OF DUBLIN PROJECT NUMBER
25-003-COM

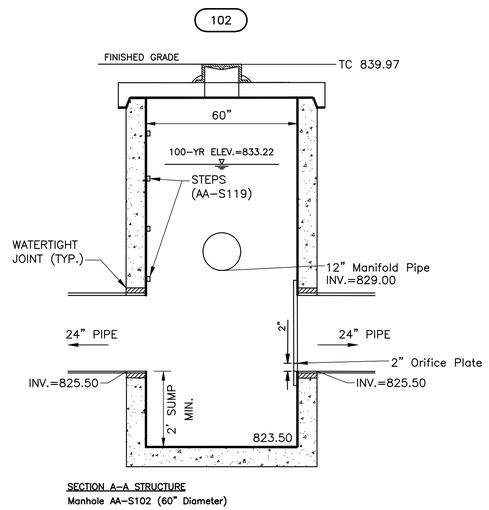
DRAWING NUMBER
C401

SHEET NUMBER
13 OF 25



CMP UNDERGROUND DETENTION DETAIL
Scale: 1"=10'





SECTION A–A STRUCTURE
Manhole AA–S102 (60" Diameter)

CMP UNDERGROUND DETENTION OUTLET STRUCTURE DETAIL
Not to Scale

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

NO.	DATE	REVISION DESCRIPTION	REVISION RECORD	ENG	DUB

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BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

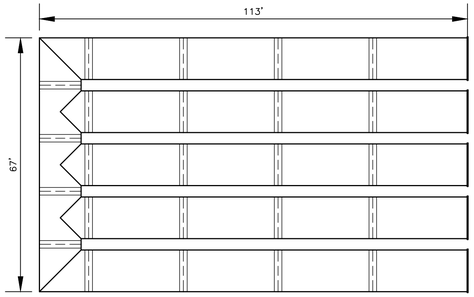
STORMWATER UNDERGROUND DETENTION PLAN & DETAILS - PRIVATE

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C402

SHEET NUMBER
14 OF 25



ASSEMBLY
Not to Scale

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25

PIPE DETAILS
- DIAMETER = 132"
- CORRUGATION = 5x1
- GAGE = 14
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 36"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"

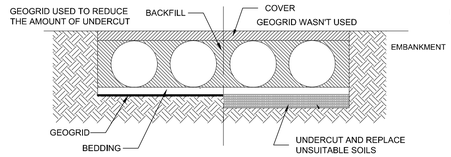
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.



GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

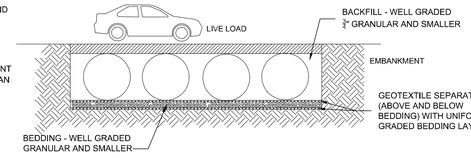
GEOMEMBRANE BARRIER

THE RESISTIVITY OF A PROJECT SITE MAY CHANGE OVER TIME DUE TO THE USE OF VARIOUS SALTING, DE-ICING, AND AGRICULTURAL AGENTS APPLIED ON OR NEAR THE AREA. TO MITIGATE THE POTENTIAL IMPACT OF THESE AGENTS, AN HDPE MEMBRANE LINER WILL BE INSTALLED ON THE CROWN OF EACH PIPE, CREATING AN IMPERMEABLE BARRIER. THIS MEASURE IS DESIGNED TO PROTECT THE SYSTEM FROM ENVIRONMENTAL CHANGES THAT COULD LEAD TO PREMATURE CORROSION AND REDUCE THE OVERALL SERVICE LIFE.

IN-SITU TRENCH WALL

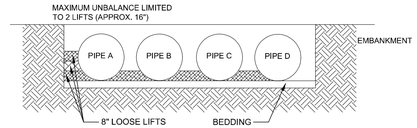
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



BACKFILL PLACEMENT

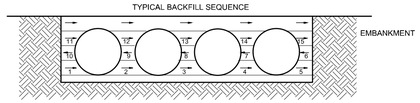
MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.



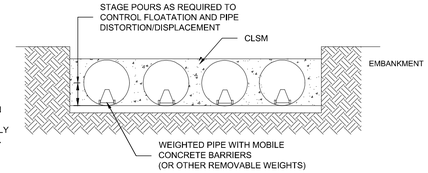
IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.

TYPICAL BACKFILL SEQUENCE



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

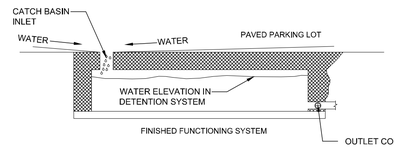


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

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INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

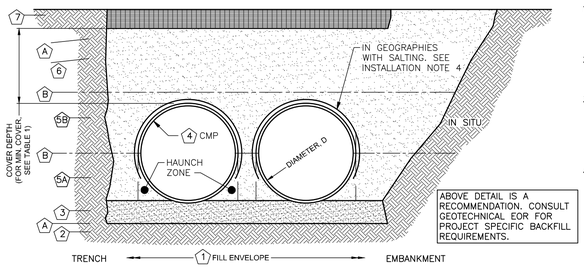
MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"–10"	12"	1 1/2" x 1/4"
12"–48"	12"	2 2/3" x 1/2"
>48"–96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" – 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION



ABOVE DETAIL IS A RECOMMENDATION. CONSULT GEOTECHNICAL EOR FOR PROJECT SPECIFIC BACKFILL REQUIREMENTS.

MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

INSTALLATION NOTES

1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW–STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

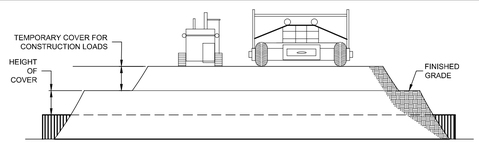
TABLE 2:

CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" – 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	AASHTO 26.5.2 OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	AASHTO M 43: 3, 357, 4, 467, 5, 56, 57 (APPROVED REGIONAL EQUIVALENTS INCLUDE CA–7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4	CORRUGATED METAL PIPE			
5A	CRITICAL BACKFILL	AASHTO M 145: A-1, A-2, A-3 *	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/– LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4–1.3).	
5B	BACKFILL	AASHTO M 145: A-1, A-2, A-3		
6	COVER MATERIAL	UP TO MIN. COVER – SEE 5A AND 5B ABOVE ABOVE MIN. COVER – PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON–BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- * APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA–7, CODOT #67, MIDOT 2G, 34G, OR 21AA STONE OR GRAVEL; #8; #57; MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL
NOT TO SCALE



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

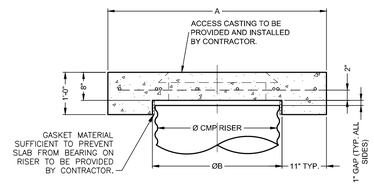
POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPS (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

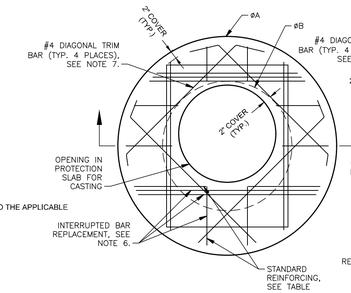
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



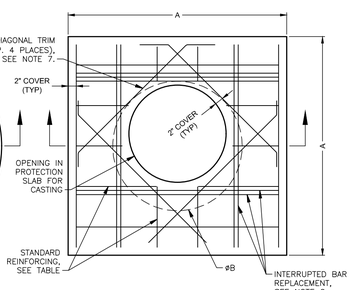
SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

CMP UNDERGROUND DETENTION DETAILS

JUNE 2, 2025

CITY OF DUBLIN PROJECT NUMBER
25-XXX-COM

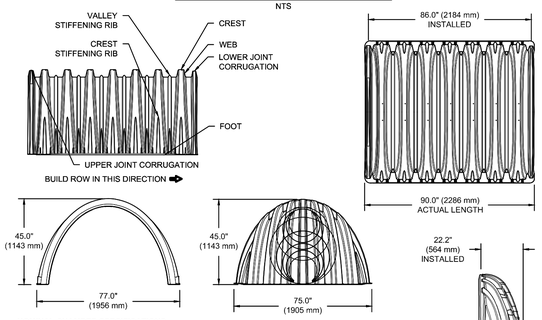
DRAWING NUMBER
C403

SHEET NUMBER
15 OF 24

V1–24

MC-3500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

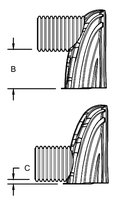
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

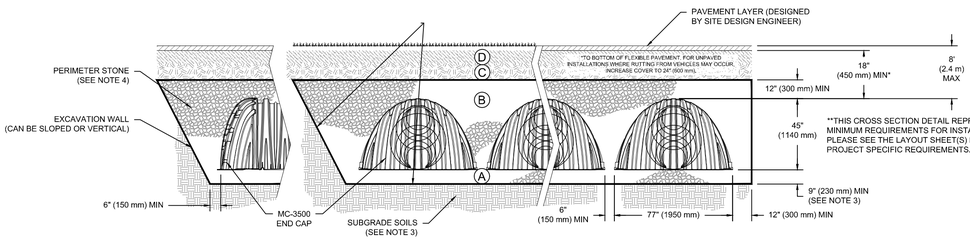


CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN "B" ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[3]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[3]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

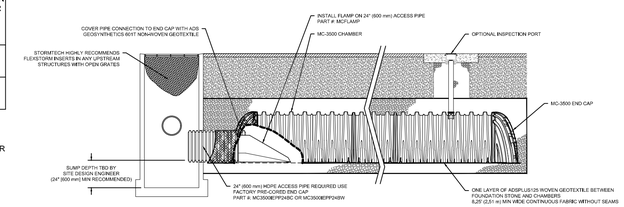


NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

NOTES

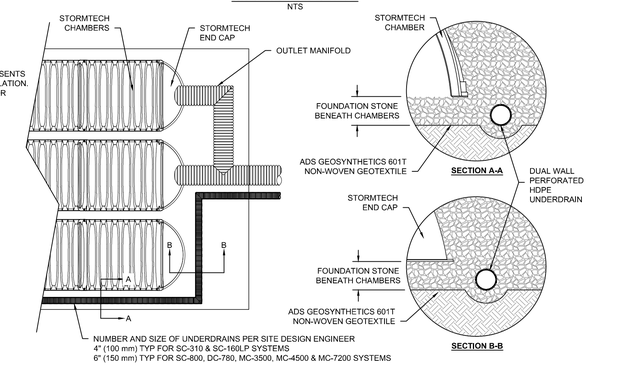
1. REFERENCE SHEET 18 FOR "INSPECTION & MAINTENANCE" AND "MC-SERIES END CAP INSERTION DETAILS"

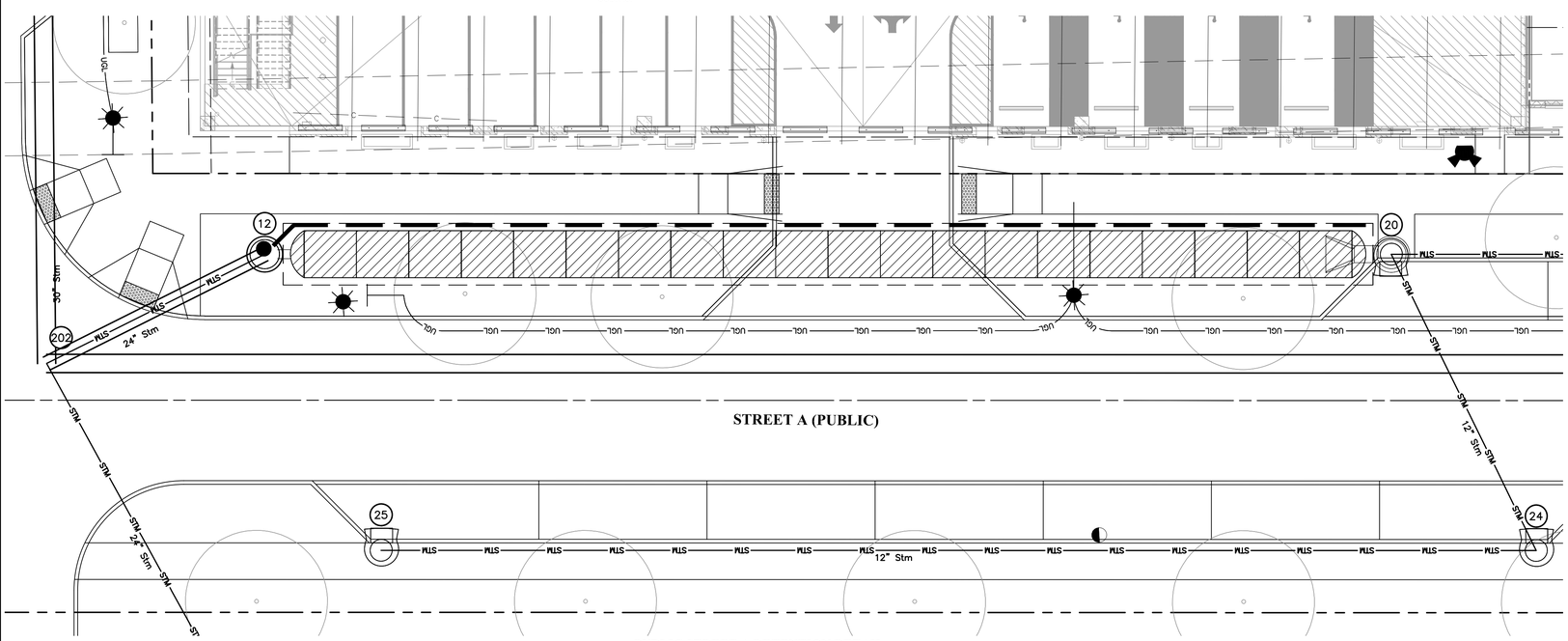


MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

UNDERDRAIN DETAIL

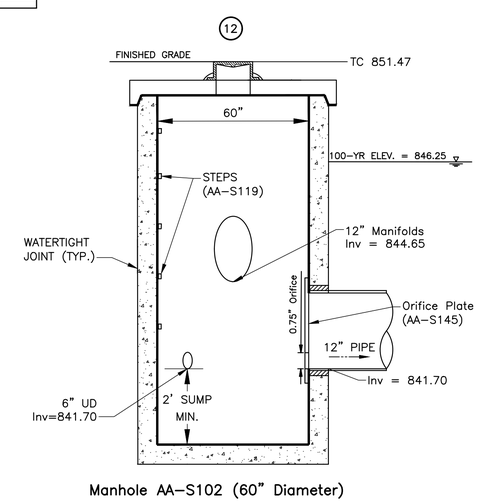
NTS





PUBLIC STREET A DETENTION DETAIL
Scale: 1"=10'

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet



STORMTECH OUTLET STRUCTURE 12 DETAIL
Not to Scale

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

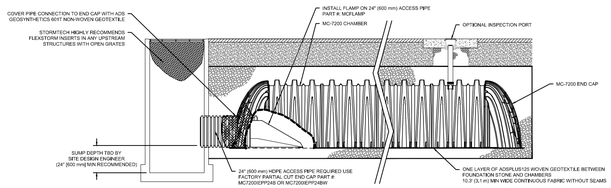
STORMWATER DETENTION PLAN & DETAILS - PUBLIC STREET A

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C407

SHEET NUMBER
17 OF 25



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

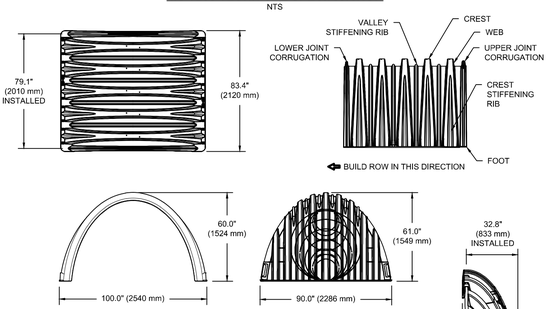
STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

MC-7200 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

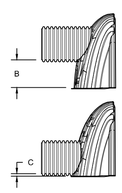
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

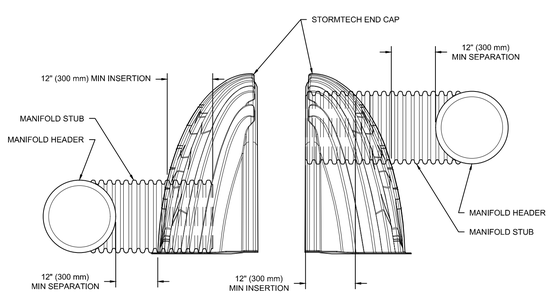
NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL

NTS

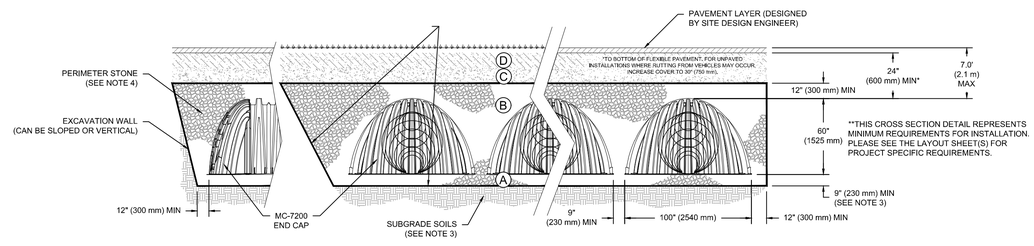


NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

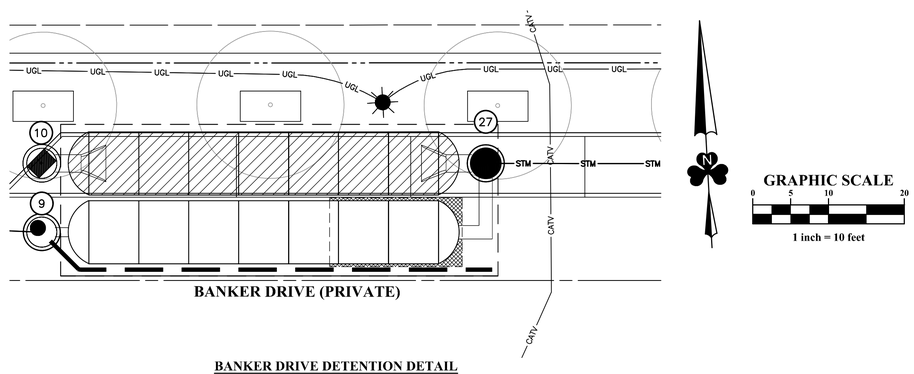
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

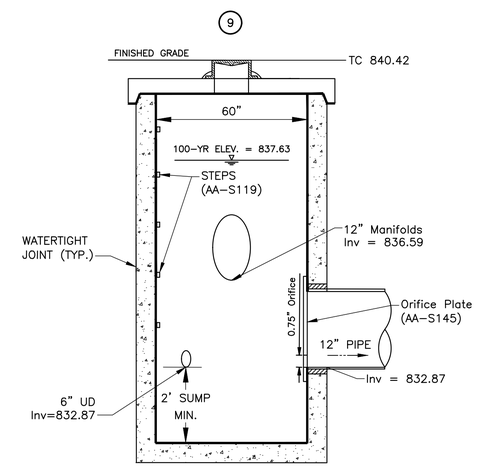


NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



BANKER DRIVE DETENTION DETAIL
Scale: 1"=10'



Manhole AA-S102 (60" Diameter)

STORMTECH OUTLET STRUCTURE 9 DETAIL
Not to Scale

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

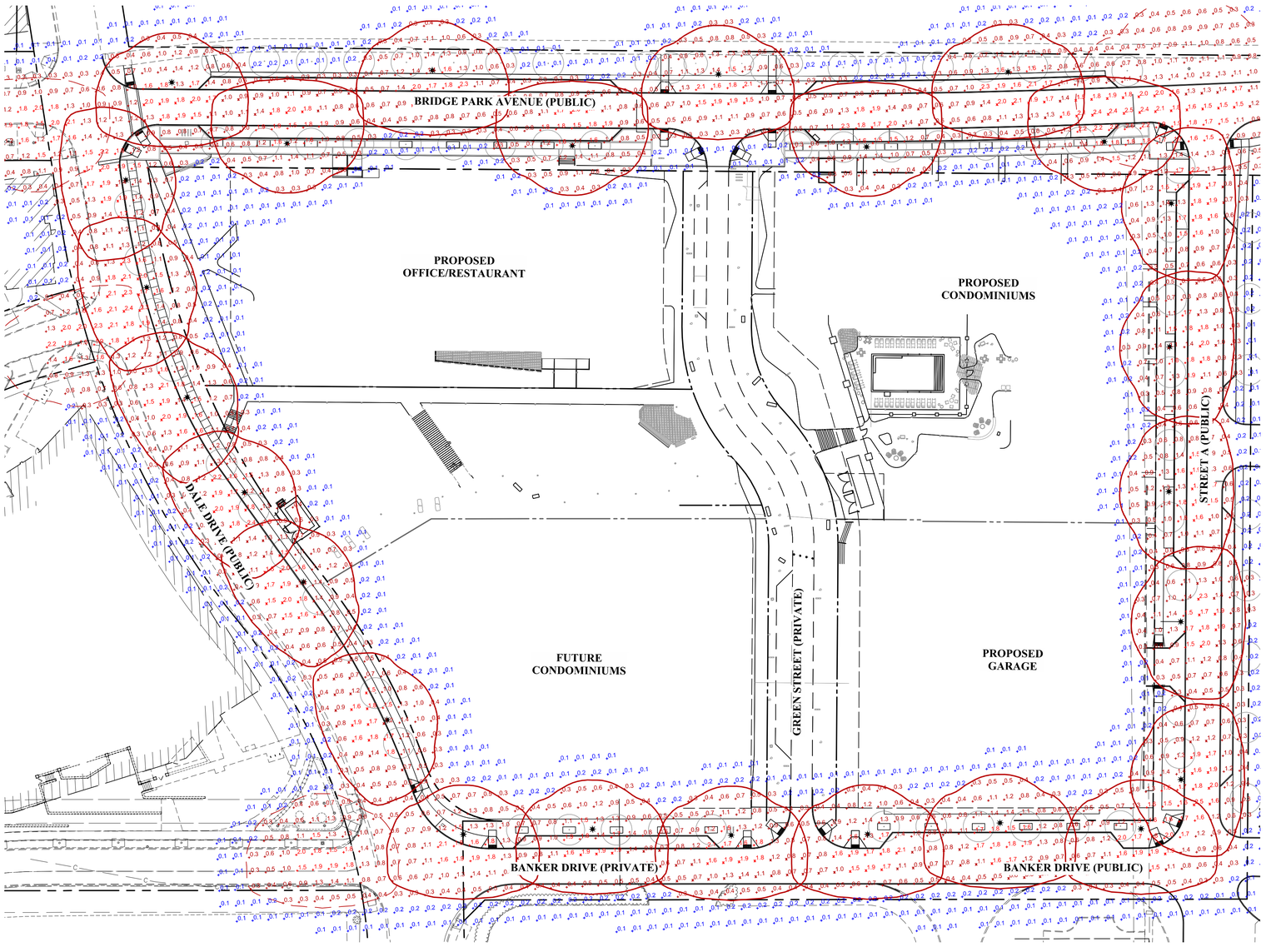
STORMWATER DETENTION PLAN & DETAILS - BANKER DRIVE

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C408

SHEET NUMBER
18 OF 25



GRAPHIC SCALE

0 20 40 80

1 inch = 40 feet

PHOTOMETRIC STATISTICS

Description	Avg	Max	Min	Avg/Min	Max/Min
Banker Dr	1.1 fc	2.1 fc	0.4 fc	2.8:1	5.3:1
Bridge Park Ave	1.1 fc	2.5 fc	0.4 fc	2.8:1	6.3:1
Dale Dr	1.3 fc	2.4 fc	0.4 fc	3.3:1	6.0:1
Public Street A	1.2 fc	2.5 fc	0.4 fc	3.0:1	6.3:1

LEGEND

Proposed Post Top Light
Cree Area Edge Round
ARE-EDR-3M-04-E-UH-BK-525-40K

0.25 Foot-Candle

Existing Street Light
(To Remain)

0.25 Foot-Candle

*0.1 - 0.2 Foot-Candles
*0.3 - 1.4 Foot-Candles
*1.5 & Greater Foot-Candles

Notes: See Landscape Plan for Private Site Photometric Plan

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

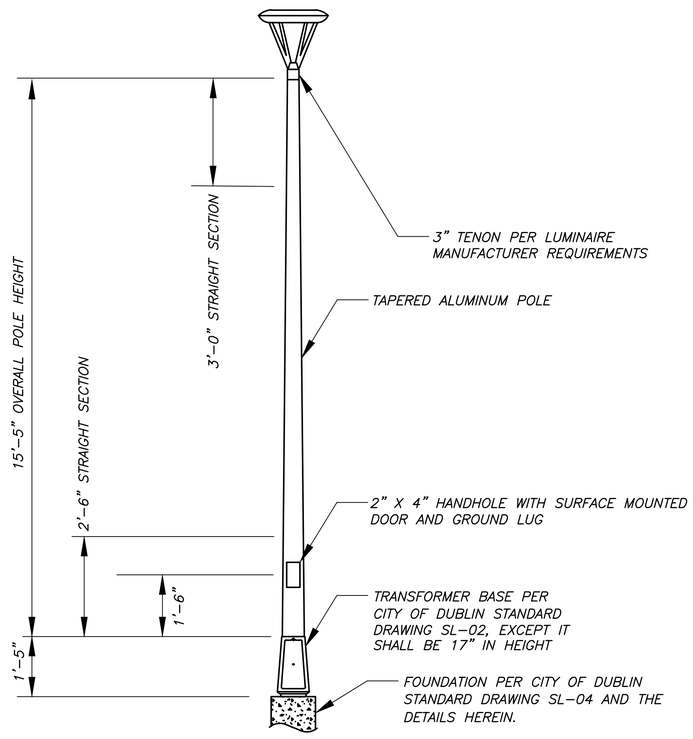
PHOTOMETRIC PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C501

SHEET NUMBER
19 OF 25



THE EDGE® Series

LED Area Luminaire – Round

Rev. Date: V14 06/25/2024

Product Description

THE EDGE® Series has a slim, low profile design. Its rugged cast aluminum housing minimizes wind load requirements and features an integral, weathertight LED driver compartment, spun vented cover, high performance aluminum heat sinks and leaf/debris guard.
Applications: Auto Dealerships, parking lots, campuses, facade lighting and general site lighting applications

Performance Summary

Patented NanoOptic® Product Technology

Assembled in the USA by Cree Lighting from US and imported parts

Initial Delivered Lumens: Up to 25,065

CRI: Minimum 70 CRI (4000K & 5700K); 80 CRI (3000K); 90 CRI (5000K)

CCT: Turtle Friendly Amber, 3000K (+/-300K), 4000K (+/-300K), 5000K (+/- 500K), 5700K (+/- 500K) standard

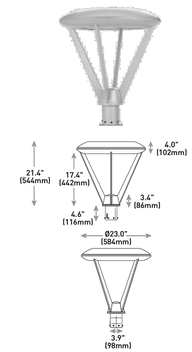
Limited Warranty[1]: 10 years for luminaire/10 years for Colorfast DeltaGuard® finish / up to 5 years for Synapse® accessories/1 year for accessories

[1] See https://www.creelighting.com/resources/warranties/ for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

Accessories

Field-Installed	
Bird Spikes XA-BRDSPK **Synapse® SimplySnap 10V Interface** DIM10-220F - 120V-277V - Requires other Synapse components to complete system - Refer to DIM10-220F spec sheet for details	**Backlight Control Shields** XA-20BLS-4 - Four-pack - Unpainted stainless steel - For use with 5M and 5S optics - Consult factory for shielding for use with 2M, 3M, and 4M optics

R3 Mount
- Fits over 2-3/8" to 3" O.D. Tenon



LED Count (x10)	Weight
04	33.8 lbs. (15.3kg)
06	35.2 lbs. (15.9kg)
08	37.0 lbs. (16.8kg)
10	40.7 lbs. (18.5kg)
12	42.4 lbs. (19.3kg)

R4/R5 Mount - see page 14 for weight & dimensions

Ordering Information

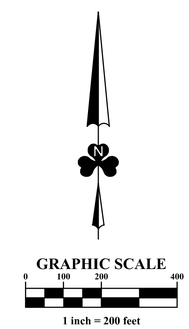
Example: ARE-EDR-2M-R3-12-E-UL-SV-350

ARE-EDR				E				
Family	**Optic**	**Mounting***	**LED Count (x10)**	**Series**	**Voltage**	**Finish**	**Drive Current**	**Options**
ARE-EDR	**2M** Type II Medium **2MB** Type II Medium w/BLS **2MP** Type II Medium w/ Partial BLS **3M** Type III Medium **3MB** Type III Medium w/BLS **3MP** Type III Medium w/Partial BLS **4M** Type IV Medium **4MB** Type IV Medium w/BLS **4MP** Type IV Medium w/Partial BLS **5M** Type V Medium **5S** Type V Short	**R3** Spider, Center Tenon, Fits over 2-3/8" to 3" OD Tenon **R4** Spider, Center Direct, Fits inside 4" Square Pole **R5** Spider, Center Direct, Fits inside 5" Round Pole	**04**** **06**** **08**** **10** **12**	E	**UL** Universal 120-277V **UH** Universal 347-480V	**BK** Black **BZ** Bronze **SV** Silver **WH** White	**350** 350mA **525** 525mA **700** 700mA - Available with 40-60 LEDs	**DIM 0-10V Dimming** - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current **F Fuse** - Compatible only with 120V, 277V or 347V (phase to neutral) - Consult factory if fusing is required for 208V, 240V or 480V (phase to phase) - When code dictates fusing, use time delay fuse **HL Hi/Low (Dual Circuit Input)** - Refer to HL spec sheet for details - Sensor not included **P Button Photocell** - Available with UL voltage only **30K 3000K Color Temperature** - Minimum 80 CRI - Color temperature per luminaire **40K 4000K Color Temperature** - Minimum 70 CRI - Color temperature per luminaire **50K 5000K Color Temperature** - Minimum 90 CRI - Color temperature per luminaire **TRL Amber Turtle Friendly LEDs** - Available only with 350mA - 600nm dominant wavelength - Additional shielding (by others) may be required for Florida Fish and Wildlife Conservation Commission compliance

* Reference EPA and pole configuration suitability data on page 14
** Consists of multiple 20 LED light bars. 40, 60, and 80 LED units use blanks as needed in place of populated light bars

Website: creelighting.com
US: (800) 236-6800 **Canada:** (800) 473-1234

CREE LIGHTING®



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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

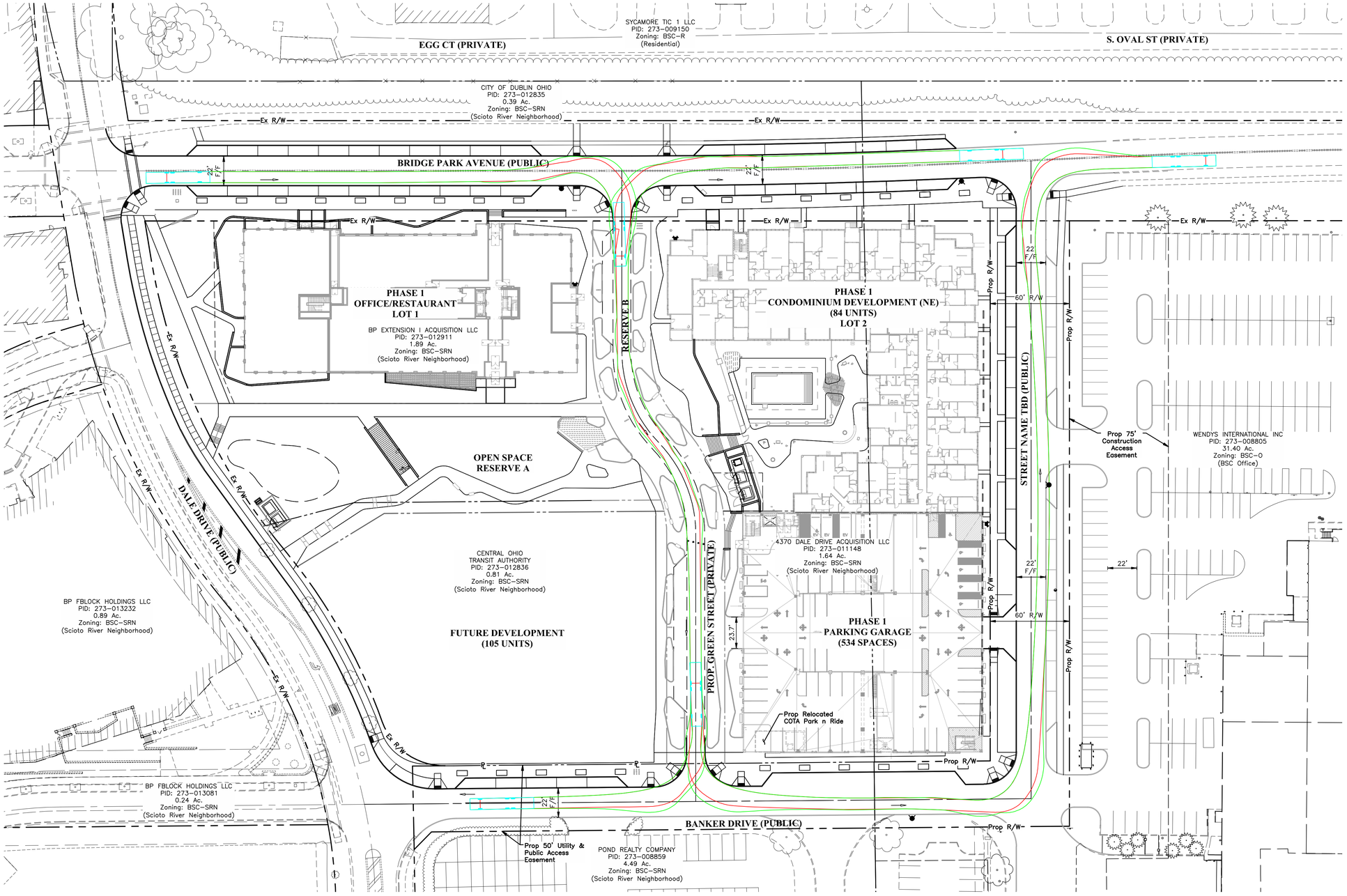
PHOTOMETRIC LIGHTING FIXTURES

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C502

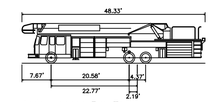
SHEET NUMBER
20 OF 25



GRAPHIC SCALE

0 20 40 80

1 inch = 40 feet



Aerial Ladder Fire Truck	
Overall Length	48.330ft
Overall Width	8.330ft
Overall Body Height	10.489ft
Min Body Ground Clearance	0.920ft
Track Width	8.330ft
Lock-to-lock time	6.00s
Max Wheel Angle	38.10°

REVISION RECORD

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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

FIRE TRUCK TURNING ANALYSIS

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER

25-003-COM

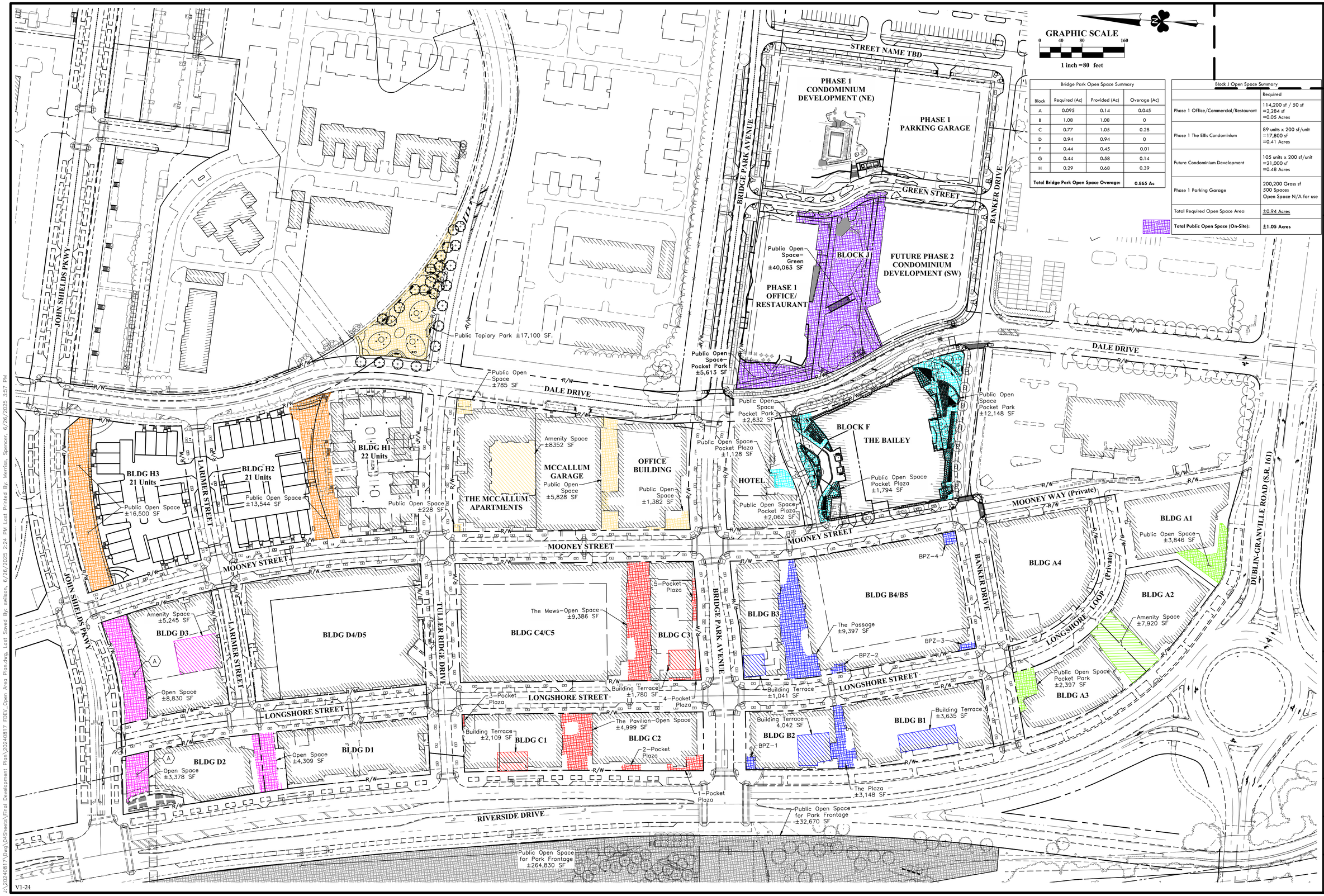
DRAWING NUMBER

C601

SHEET NUMBER

21 OF 25

V1-24



Bridge Park Open Space Summary			
Block	Required (Ac)	Provided (Ac)	Overage (Ac)
A	0.095	0.14	0.045
B	1.08	1.08	0
C	0.77	1.05	0.28
D	0.94	0.94	0
F	0.44	0.45	0.01
G	0.44	0.58	0.14
H	0.29	0.68	0.39
Total Bridge Park Open Space Overage:			**0.865 Ac**

Block J Open Space Summary	
	Required
Phase 1 Office/Commercial/Restaurant	114,200 sf / 50 sf =2,284 sf =0.05 Acres
Phase 1 The Ellis Condominium	89 units x 200 sf/unit =17,800 sf =0.41 Acres
Future Condominium Development	105 units x 200 sf/unit =21,000 sf =0.48 Acres
Phase 1 Parking Garage	200,200 Gross sf 500 Spaces Open Space N/A for use
Total Required Open Space Area	±0.94 Acres
Total Public Open Space (On-Site):	**±1.05 Acres**

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

OPEN AREA PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

DRAWING NUMBER
C602

SHEET NUMBER
22 OF 25

Block J Required Residential Parking

Building	3 BR	2 BR	1 BR	Total
Phase 1 Condominiums	18	53	18	89
Phase 2 Condominiums	50	50	5	105
Total Residential Units	**68**	**103**	**23**	**194**
Min. Residential Required Parking/Unit	2	1.5	1	
Max. Residential Allowable Parking/Unit	2	2	2	
Max. Residential Parking Allowed	136	206	46	388
Min. Residential Parking Required	**136**	**155**	**23**	**314**
Bicycle Parking Required (includes Phase 2)	1 space per 2 Dwelling Units Required			97

Block J Required Commercial Parking

Building	Restaurant	Commercial	Office	Total
Office/Commerical	6,452	0	92,054	98,506
Min. Required Parking	10/1000 SF	3/1000 SF	3/1000 SF	
Max Allowable	125%	125%	125%	
Max Parking Allowed	82	0	347	429
Min. Parking Required	**65**	**0**	**277**	**342**
Bicycle Parking Required	1 space per 10 spaces Required			35
Total Parking Required	**201**	**155**	**300**	**656**
Total Bicycle Parking Required				

Block J Provided Parking

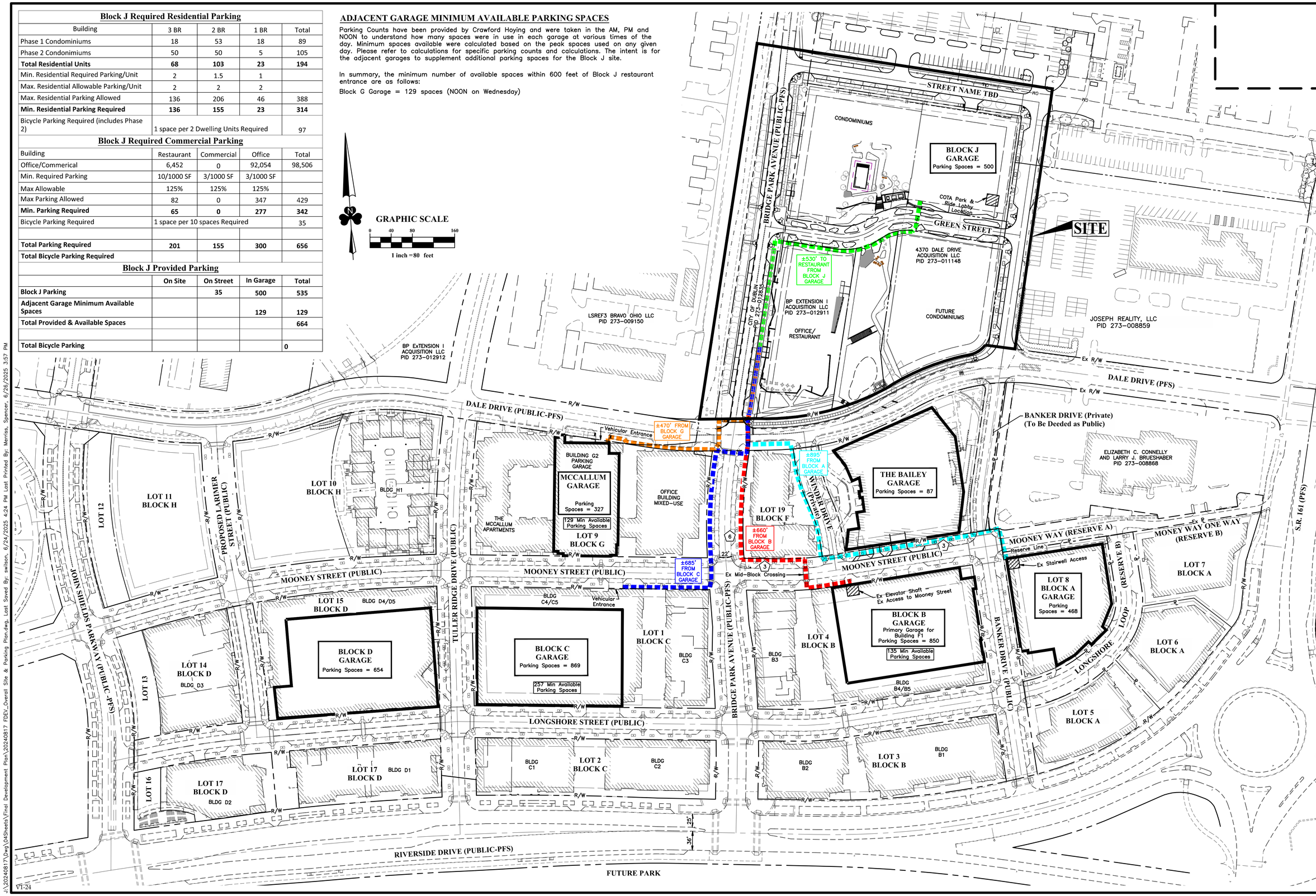
	On Site	On Street	In Garage	Total
Block J Parking		**35**	**500**	**535**
Adjacent Garage Minimum Available Spaces			**129**	**129**
Total Provided & Available Spaces				**664**
Total Bicycle Parking				**0**

ADJACENT GARAGE MINIMUM AVAILABLE PARKING SPACES

Parking Counts have been provided by Crawford Hoying and were taken in the AM, PM and NOON to understand how many spaces were in use in each garage at various times of the day. Minimum spaces available were calculated based on the peak spaces used on any given day. Please refer to calculations for specific parking counts and calculations. The intent is for the adjacent garages to supplement additional parking spaces for the Block J site.

In summary, the minimum number of available spaces within 600 feet of Block J restaurant entrance are as follows:

Block G Garage = 129 spaces (NOON on Wednesday)



NO.	DATE	REVISION DESCRIPTION	ENG	DUB

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FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

OVERALL SITE & PARKING PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER

25-003-COM

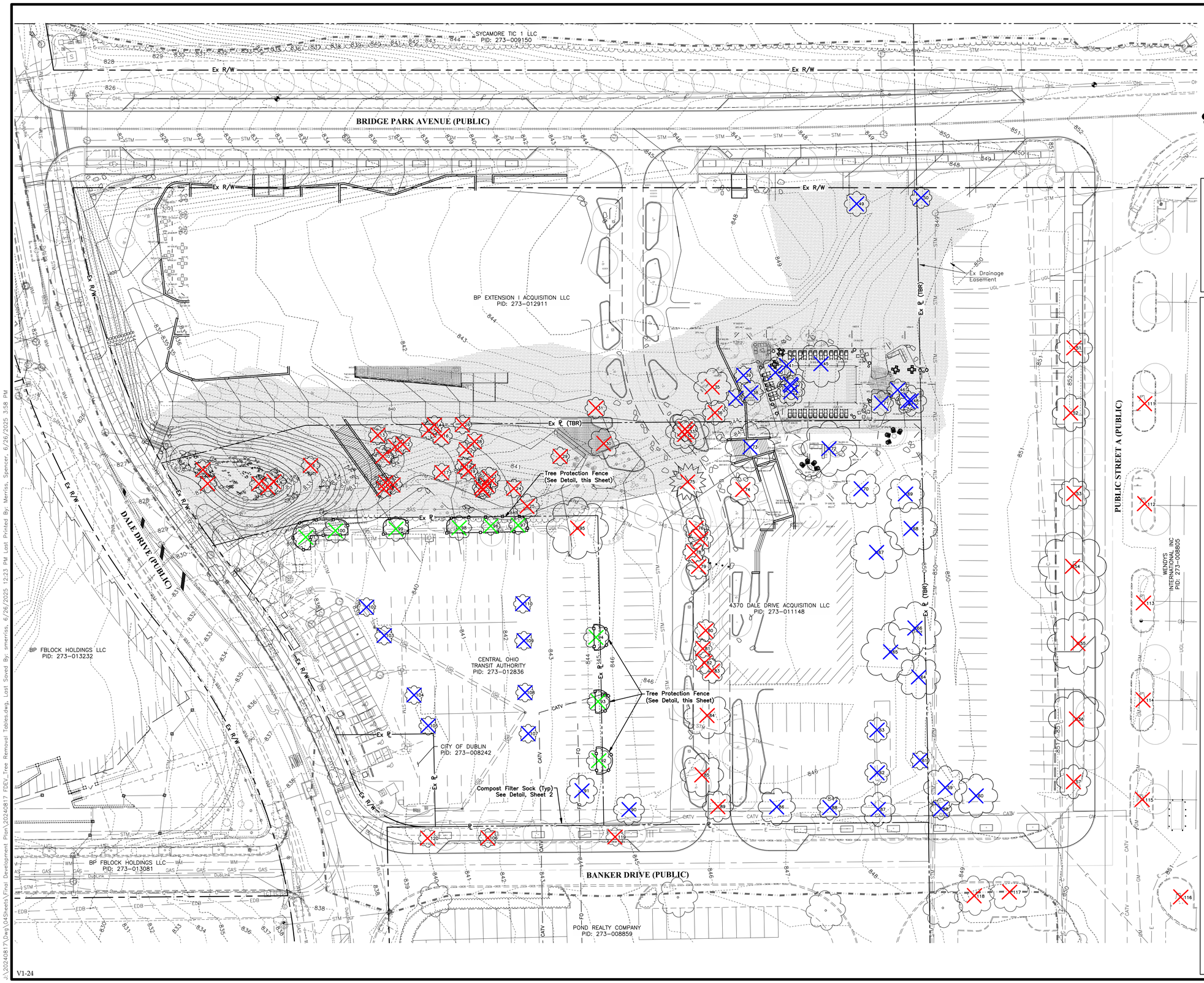
DRAWING NUMBER

C603

SHEET NUMBER

23 OF 25

V1-24



PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

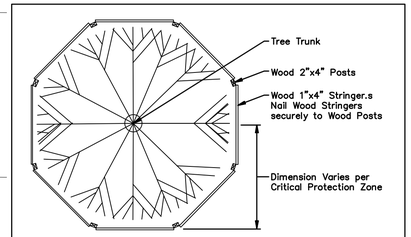
PLAN SET DATE
February 20, 2025

GRAPHIC SCALE
0 15 30 60
1 inch = 30 feet

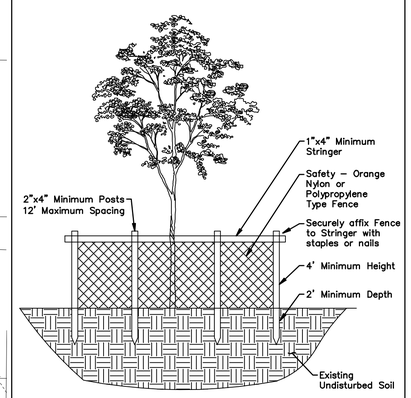
NOTE:
Contractor shall confirm with Crawford-Hoying that clearing is acceptable to proceed on the COTA and Wendy's properties.

LEGEND

- Trees To Be Removed and Replaced (Outside Building Footprint)
- Trees To Be Removed Exempt from Replacement (Inside Building Footprint)
- Trees To Be Transplanted
- Brush Area To Be Cleared



NOTE:
For groups of Trees, place Barricades between Trees and Construction Activity.



NOTE:
1. For groups of trees place the Barricades at the dripline around the groups perimeter.
2. Installation of Tree Protection Barricades shall be performed before any Site Development Activity takes place.
3. The Tree Protection Barricades shall remain in place throughout the Construction Phase and until all Site Development Activities are fully complete.
4. Any damage that may occur to the Barricades shall be repaired or replaced to the original specifications within 24 hours of the damage occurring.
5. The area within the Tree Protection Barricades shall not be used for the storage of any materials, supplies or debris or the disposal of any solid, liquid or gaseous materials that could cause harm to the trees.
6. Any tree scheduled to remain if damaged during construction shall be replaced by providing equivalent monetary value to the City's tree fund.
7. Monetary tree value shall be determined by using the guide for plant appraisal, published by the International Society of Arboriculture or other sources as determined by the City Forester.
8. Barricades shall protect all trees scheduled to remain before and during all Construction Activities.
9. Any Proposed Undergound Utilities shall be routed around protected trees to the outside of the tree's dripline. If this is not feasible, as determined by the City, a sleeve may be used under the tree, provided that all acceptable horticultural/arboricultural practices are adhered to.
10. Tree Protection Barricades shall be located to protect a minimum of 75% of the Critical Protection Zone.

TREE PROTECTION DETAIL
Not to Scale

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

REVISION RECORD

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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

TREE REPLACEMENT PLAN

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
PLN-2025-00020

DRAWING NUMBER
C701

SHEET NUMBER
24 OF 25

ID	Common Name	Scientific Name	DBH (inches)	No. of Trunks	Condition
1	Eastern Cottonwood	Populus deltoides	6	1	Good
2	Eastern Cottonwood	Populus deltoides	6	1	Good
3	Eastern Cottonwood	Populus deltoides	6	1	Good
4	Eastern Cottonwood	Populus deltoides	8	1	Good
5	Eastern Cottonwood	Populus deltoides	6,6 (12)	2	Good
6	Eastern Cottonwood	Populus deltoides	6	1	Good
7	Eastern Cottonwood	Populus deltoides	6	1	Good
8	Eastern Cottonwood	Populus deltoides	6	1	Good
9	Eastern Cottonwood	Populus deltoides	6	1	Good
10	Eastern Cottonwood	Populus deltoides	7	1	Good
11	Eastern Cottonwood	Populus deltoides	7,7 (14)	2	Good
12	Eastern Cottonwood	Populus deltoides	6	1	Good
13	Staghorn Sumac	Rhus typhina	6	1	Good
14	Eastern Cottonwood	Populus deltoides	6	1	Good
15	Eastern Cottonwood	Populus deltoides	6	1	Good
16	Eastern Cottonwood	Populus deltoides	7	1	Good
17	Eastern Cottonwood	Populus deltoides	6	1	Good
18	Eastern Cottonwood	Populus deltoides	6	1	Good
19	Eastern Cottonwood	Populus deltoides	6	1	Good
20	Eastern Cottonwood	Populus deltoides	6	1	Good
21	Eastern Cottonwood	Populus deltoides	7	1	Good
22	Eastern Cottonwood	Populus deltoides	6	1	Good
23	Eastern Cottonwood	Populus deltoides	7	1	Good
24	Eastern Cottonwood	Populus deltoides	6	1	Good
25	Eastern Cottonwood	Populus deltoides	8	1	Good
26	Eastern Cottonwood	Populus deltoides	6	1	Good
27	Eastern Cottonwood	Populus deltoides	6	1	Good
28	Eastern Cottonwood	Populus deltoides	6	1	Good
29	Box Elder	Acer negundo	6,6 (12)	2	Good
30	Eastern Cottonwood	Populus deltoides	10	1	Good
31	Staghorn Sumac	Rhus typhina	7	1	Good
~~32~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~8~~	~~1~~	~~Poor~~
33	Box Elder	Acer negundo	14	1	Good
34	Box Elder	Acer negundo	9	1	Good
~~35~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~12~~	~~1~~	~~Poor~~
~~36~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~8~~	~~1~~	~~Poor~~
37	Green Ash	Fraxinus pennsylvanica	6	1	Fair
38	Green Ash	Fraxinus pennsylvanica	8	1	Fair
39	Callery Pear	Pyrus callergana	6	1	Good
40	Callery Pear	Pyrus callergana	10	1	Good
41	Callery Pear	Pyrus callergana	8	1	Good
42	Box Elder	Acer negundo	6	1	Good
43	Green Ash	Fraxinus pennsylvanica	9	1	Fair
44	Green Ash	Fraxinus pennsylvanica	9	1	Fair
45	Hackberry	Celtis occidentalis	15	1	Good
46	Callery Pear	Pyrus callergana	7	1	Good
47	Callery Pear	Pyrus callergana	7	1	Good
48	Callery Pear	Pyrus callergana	10	1	Good
49	Black Locust	Robinia pseudoacacia	8,7 (15)	2	Good
50	Black Walnut	Juglans nigra	7,6,6 (19)	3	Good
51	Red Maple	Acer rubrum	12	1	Good
52	Red Maple	Acer rubrum	12	1	Good
53	Japanese Zelkova	Zelkova serrata	10	1	Good
54	Small-Leaved Linden	Tilia cordata	22	1	Fair
55	Small-Leaved Linden	Tilia cordata	20	1	Fair
56	Small-Leaved Linden	Tilia cordata	18	1	Good
57	Red Maple	Acer rubrum	11,8 (19)	2	Good
58	Small-Leaved Linden	Tilia cordata	7	1	Good
59	Red Maple	Acer rubrum	14	1	Good
60	Red Maple	Acer rubrum	14	1	Good
61	Hedge Maple	Acer campestre	6,6 (12)	2	Good
62	Japanese Zelkova	Zelkova serrata	8	1	Good
63	Japanese Zelkova	Zelkova serrata	8	1	Good
64	Thornless Honey Locust	Gleditsia triacanthos var. inermis	14	1	Good
65	Thornless Honey Locust	Gleditsia triacanthos var. inermis	19	1	Good
66	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17	1	Good
67	Tulip Poplar	Liriodendron tulipifera	17	1	Good
68	Tulip Poplar	Liriodendron tulipifera	17	1	Good
69	Hedge Maple	Acer campestre	12	1	Good
70	Silver Maple	Acer saccharinum	12	1	Good

ID	Common Name	Scientific Name	DBH (inches)	No. of Trunks	Condition
71	Black Cherry	Prunus serotina	8	1	Good
72	Tulip Poplar	Liriodendron tulipifera	18	1	Good
73	Tulip Poplar	Liriodendron tulipifera	16	1	Good
74	Silver Maple	Acer saccharinum	10	1	Good
75	Norway Spruce	Picea abies	12	1	Good
76	Crabapple sp.	Malus sp.	8	1	Fair
77	Crabapple sp.	Malus sp.	8	1	Fair
78	Crabapple sp.	Malus sp.	7	1	Fair
79	Crabapple sp.	Malus sp.	8	1	Fair
80	Crabapple sp.	Malus sp.	7,6 (13)	2	Fair
81	Crabapple sp.	Malus sp.	6	1	Fair
82	Crabapple sp.	Malus sp.	7	1	Fair
83	Crabapple sp.	Malus sp.	8,6 (15)	2	Fair
84	Silver Maple	Acer saccharinum	15	1	Good
~~85~~	~~Silver Maple~~	~~Acer saccharinum~~	~~14~~	~~1~~	~~Poor~~
~~86~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~12~~	~~1~~	~~Poor~~
~~87~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~11~~	~~1~~	~~Poor~~
88	Small-Leaved Linden	Tilia cordata	8	1	Good
~~89~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~10~~	~~1~~	~~Poor~~
~~90~~	~~Green Ash~~	~~Fraxinus pennsylvanica~~	~~10~~	~~1~~	~~Poor~~
91	Hackberry	Celtis occidentalis	10	1	Good
92	London Plane Tree	Platanus x hispanica	8	1	Good
93	London Plane Tree	Platanus x hispanica	7	1	Good
94	London Plane Tree	Platanus x hispanica	8	1	Good
95	Hackberry	Celtis occidentalis	20	1	Good
96	London Plane Tree	Platanus x hispanica	6	1	Good
97	London Plane Tree	Platanus x hispanica	6	1	Good
98	London Plane Tree	Platanus x hispanica	8	1	Good
99	London Plane Tree	Platanus x hispanica	8	1	Good
100	London Plane Tree	Platanus x hispanica	8	1	Good
101	London Plane Tree	Platanus x hispanica	8	1	Good
102	Small-Leaved Linden	Tilia cordata	6	1	Good
103	Small-Leaved Linden	Tilia cordata	6	1	Good
104	Small-Leaved Linden	Tilia cordata	6	1	Good
105	Small-Leaved Linden	Tilia cordata	6	1	Good
106	Sugar Maple	Acer saccharum	6	1	Good
107	Small-Leaved Linden	Tilia cordata	6	1	Good
108	Small-Leaved Linden	Tilia cordata	6	1	Good
109	Small-Leaved Linden	Tilia cordata	6	1	Good
110	Small-Leaved Linden	Tilia cordata	6	1	Good
111	Silver Maple	Acer saccharinum	*6	1	Good
112	Japanese Zelkova	Zelkova serrata	*8	1	Good
113	Sugar Maple	Acer saccharum	*20	1	Good
114	Japanese Zelkova	Zelkova serrata	*4	1	Good
115	Sugar Maple	Acer saccharum	*12	1	Good
116	Sugar Maple	Acer saccharum	*10	1	Good
117	Sugar Maple	Acer saccharum	*8	1	Good
118	Sugar Maple	Acer saccharum	*8	1	Good
119	Sugar Maple	Acer saccharum	*6	1	Good
120	Sugar Maple	Acer saccharum	*6	1	Good

* Estimated

Inside Building Footprint Totals			
Poor Condition Ash Tree Caliper (inches)	43		
Fair to Good Condition Ash Tree Caliper (inches)	32		
Other Tree Caliper Total (inches)	382		
Outside Building Footprint Totals			
Poor Condition Ash Tree Caliper (inches)	28		
Poor Condition Silver Maple Tree Caliper (inches)	14		
Other Tree Caliper Total (inches)	578		
Trees To Be Transplanted Totals			
London Plane Tree Caliper Total (inches)	67		

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

EMH&T
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FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

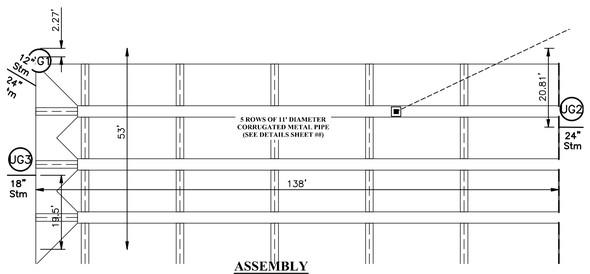
TREE REPLACEMENT TABLES

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
PLN-2025-00020

DRAWING NUMBER
C702

SHEET NUMBER
25 OF 25



ASSEMBLY
Not to Scale

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINTEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25

PIPE DETAILS
- DIAMETER = 132"
- CORRUGATION = 5x1
- GAGE = 14
- COATING = ALT2
- COATING = POLYMER COATING (ADD ALTERNATE)
- WALL TYPE = SOLID
- BARREL SPACING = 36"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"

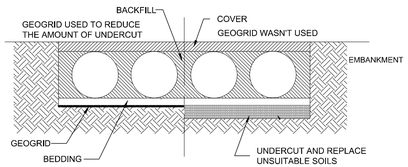
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.



GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

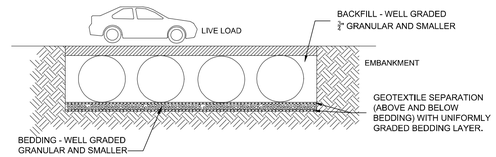
GEOMEMBRANE BARRIER

THE RESISTIVITY OF A PROJECT SITE MAY CHANGE OVER TIME DUE TO THE USE OF VARIOUS SALTING, DE-ICING, AND AGRICULTURAL AGENTS APPLIED ON OR NEAR THE AREA. TO MITIGATE THE POTENTIAL IMPACT OF THESE AGENTS, AN HDPE MEMBRANE LINER WILL BE INSTALLED ON THE CROWN OF EACH PIPE, CREATING AN IMPERMEABLE BARRIER. THIS MEASURE IS DESIGNED TO PROTECT THE SYSTEM FROM ENVIRONMENTAL CHANGES THAT COULD LEAD TO PREMATURE CORROSION AND REDUCE THE OVERALL SERVICE LIFE.

IN-SITU TRENCH WALL

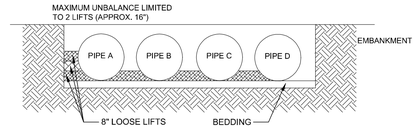
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



BACKFILL PLACEMENT

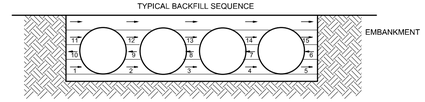
MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.



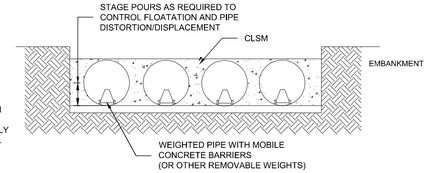
IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.

TYPICAL BACKFILL SEQUENCE



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

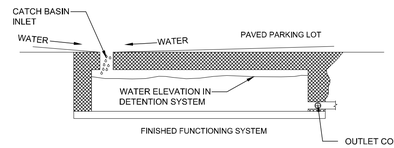


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

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INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

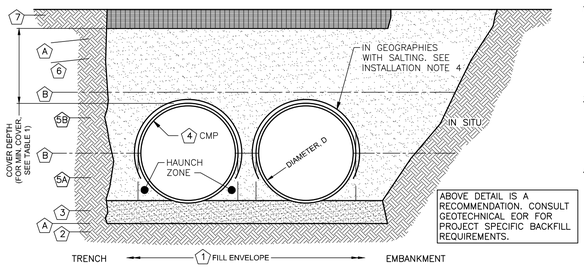
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

FINAL DEVELOPMENT PLAN
BRIDGE PARK - BLOCK J
4370 - 4455 DALE DRIVE
CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"–10"	12"	1 1/2" x 1/4"
12"–48"	12"	2 2/3" x 1/2"
>48"–96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" – 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION



ABOVE DETAIL IS A RECOMMENDATION. CONSULT GEOTECHNICAL EOR FOR PROJECT SPECIFIC BACKFILL REQUIREMENTS.

MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

INSTALLATION NOTES

1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW–STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

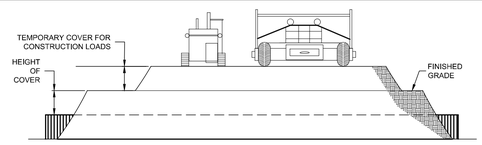
TABLE 2:

CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" – 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	**AASHTO 26.5.2** OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	**AASHTO M 43: 3, 357, 4, 467, 5, 56, 57** (APPROVED REGIONAL EQUIVALENTS INCLUDE CA–7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4		CORRUGATED METAL PIPE		
5A	CRITICAL BACKFILL	**AASHTO M 145: A-1, A-2, A-3 ***	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/– LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4–1.3).	
5B	BACKFILL	**AASHTO M 145: A-1, A-2, A-3**		
6	COVER MATERIAL	UP TO MIN. COVER – SEE 5A AND 5B ABOVE ABOVE MIN. COVER – PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON–BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- * APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA–7, CODOT #67, MIDOT 2G, 34G, OR 21AA STONE OR GRAVEL; #8; #57; MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL
NOT TO SCALE



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.0

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

NOTE:
THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

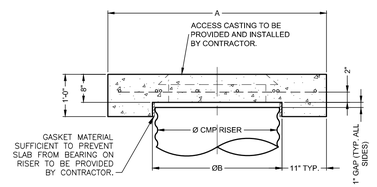
POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPS (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

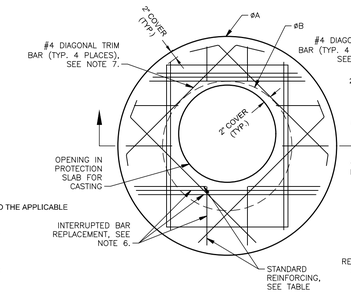
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



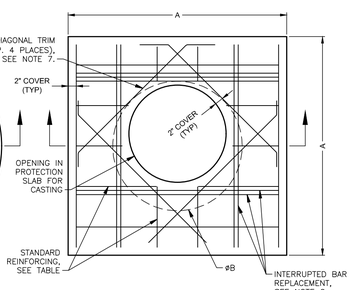
SECTION VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

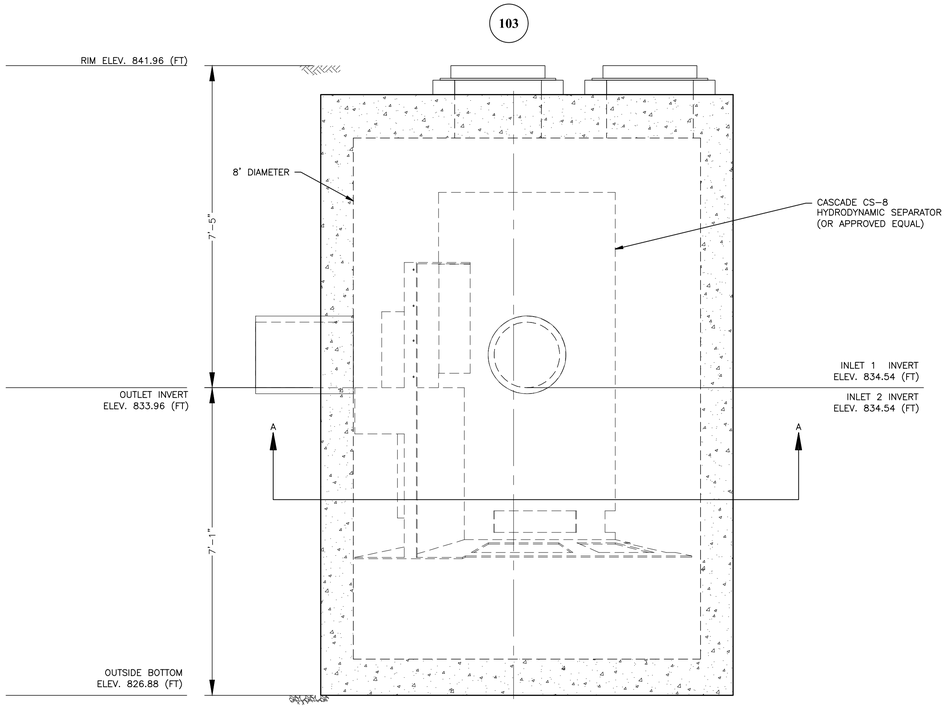
CMP UNDERGROUND DETENTION DETAILS

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER
25-003-COM

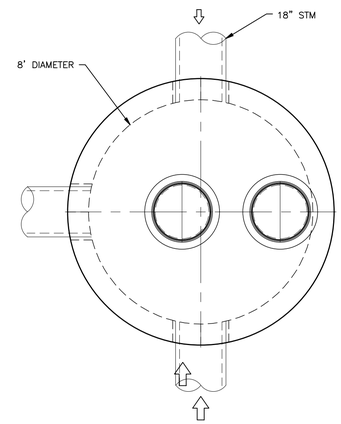
DRAWING NUMBER
C403

SHEET NUMBER
15 OF 25



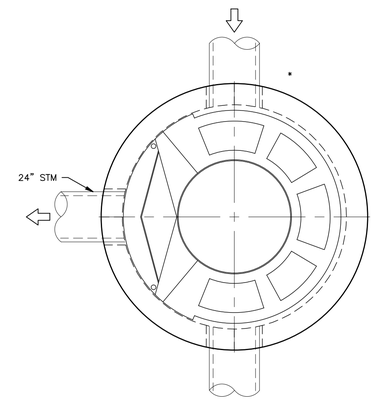
CONTECH CASCADE CS-8 HYDRODYNAMIC SEPARATOR (OR APPROVED EQUAL) DETAIL

NOT TO SCALE



PLAN VIEW

NOT TO SCALE



SECTION A-A DETAIL

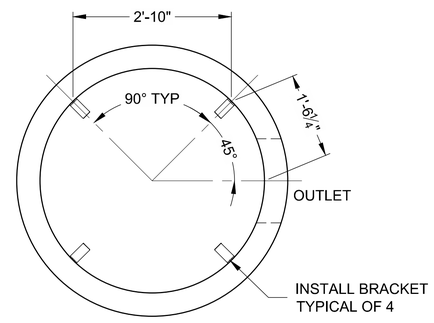
NOT TO SCALE

GENERAL NOTES

1. Contech to provide all materials unless noted otherwise.
2. For fabrication drawings with detailed structure dimensions and weights, please contact your Contech representative. Www.conteches.com
3. Cascade separator water quality structure shall be in accordance with all design data and information contained in this drawing. Contractor to confirm structure meets requirements of project.
4. Structure shall meet AASHTO HS-20 load rating, assuming earth cover of 0' – 2', and groundwater elevation at, or below, the outlet pipe invert elevation. Engineer of record to confirm actual groundwater elevation. Castings shall meet AASHTO M306 and be cast with the Contech logo.
5. Cascade separator structure shall be precast concrete conforming to ASTM C-478 and AASHTO load factor design method.
6. All precast concrete manufactured parts shall conform to astm c-478, with minimum concrete strength of 4000 psi at 28 days
7. Joint sealant shall conform to ASTM C-990 or ASTM C-443

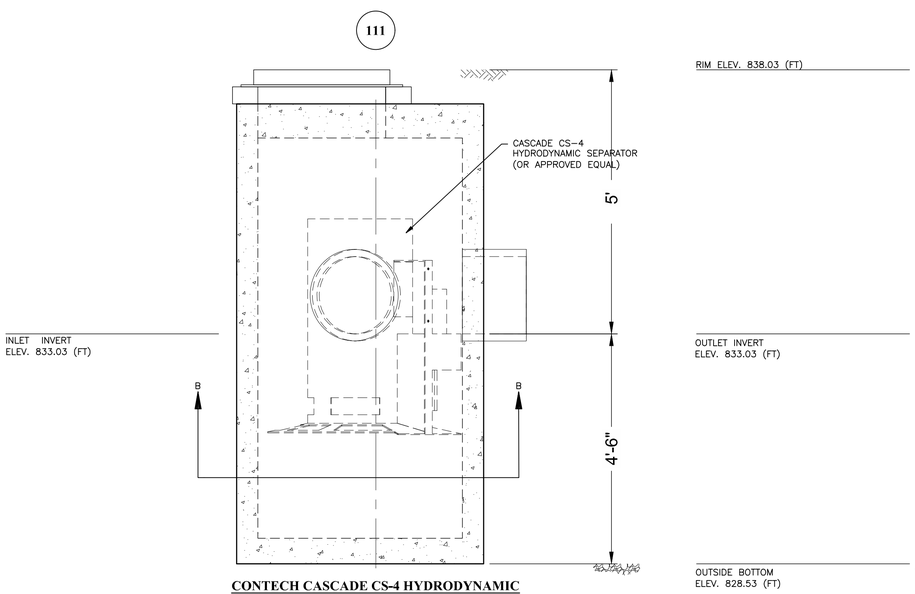
INSTALLATION NOTES

1. Any sub-base, backfill depth, and/or anti-flotation provisions are site-specific design considerations and shall be specified by engineer of record.
2. Contractor to provide equipment with sufficient lifting and reach capacity to lift and set the cascade separator manhole structure.
3. Contractor to add joint sealant between all structure sections, and assemble structure.
4. Contractor to provide, install, and grout pipes. Match pipe inverts with elevations shown. All pipe centerlines to match pipe opening centerlines.
5. Contractor to take appropriate measures to assure unit is water tight, holding water to flowline invert minimum. It is suggested that all joints below pipe inverts are grouted.



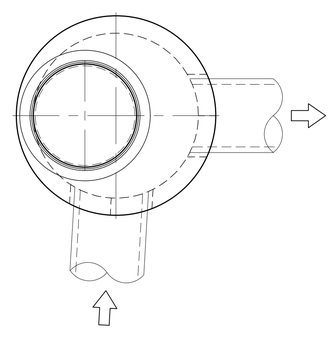
CONTECH CASCADE HYDRODYNAMIC SEPARATOR BRACKET DETAIL

NOT TO SCALE



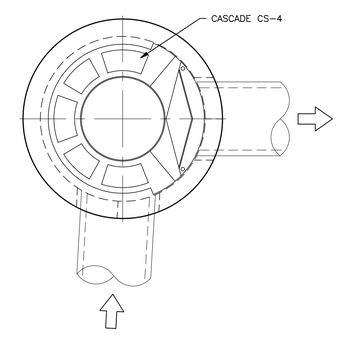
CONTECH CASCADE CS-4 HYDRODYNAMIC SEPARATOR (OR APPROVED EQUAL)

NOT TO SCALE



PLAN VIEW

NOT TO SCALE



SECTION B-B DETAIL

NOT TO SCALE

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

PLAN SET DATE
June 26, 2025

REVISION RECORD

NO.	DATE	REVISION DESCRIPTION	ENG	DUB

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

FINAL DEVELOPMENT PLAN

BRIDGE PARK - BLOCK J

4370 - 4455 DALE DRIVE

CITY OF DUBLIN, FRANKLIN COUNTY, OHIO

HYDRODYNAMIC SEPERATOR DETAILS

JUNE 26, 2025

CITY OF DUBLIN PROJECT NUMBER

25-003-COM

DRAWING NUMBER

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SHEET NUMBER

16 OF 25