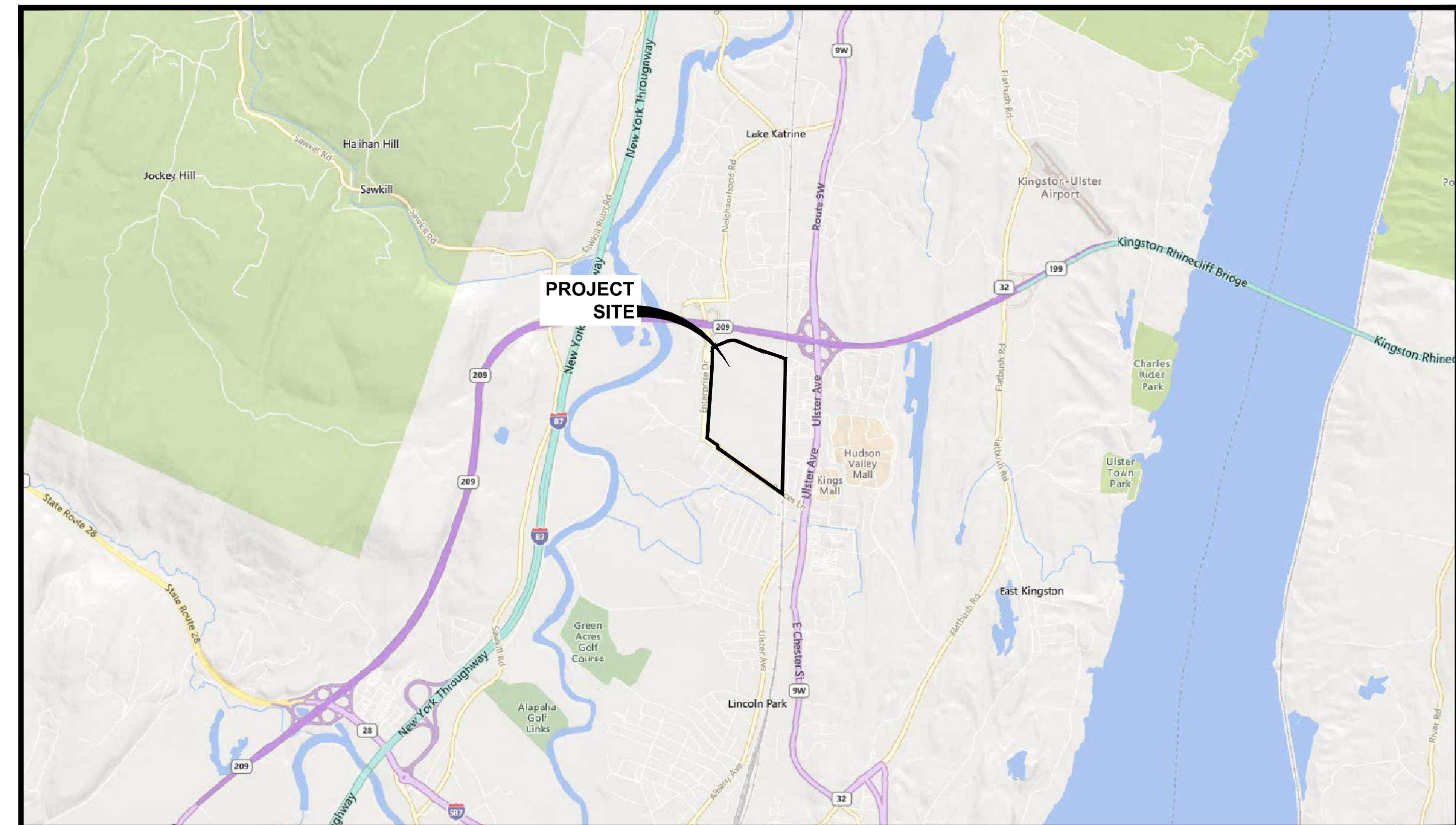


# iPARK 87 - EAST CAMPUS

## 300 ENTERPRISE DRIVE

### TOWN OF ULSTER, ULSTER COUNTY, NEW YORK 12401

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LOCATION MAP  
1" = 2,500'

**iPARK 87, LLC**  
 485 WEST PUTNAM AVENUE  
 GREENWICH, CT  
 PROJECT NO: 2222588.01  
 AUGUST 29, 2023



4 British American Boulevard  
 Latham, NY 12110  
 518-439-8235  
 labellapc.com

**MAP REFERENCE:**

1. BASE MAP TAKEN FROM A BOUNDARY SURVEY PREPARED BY LABELLA ASSOCIATES ENTITLED "ALTA LAND TITLE SURVEY PREPARED FOR NATIONAL RESOURCES," CONSISTING OF FOUR SHEETS, "SV1-SV4" DATED APRIL 19, 2023.
2. TOPOGRAPHIC BASE MAP INFORMATION TAKEN FROM CAD FILES PROVIDED BY BLUESKY, RECEIVED ON FEBRUARY 22, 2023.
3. UTILITY BASE MAP INFORMATION TAKEN FROM DRAWINGS PREPARED BY BRINNIER & LARIOS, ENTITLED "TECH CITY 2015" LAST REVISED FEBRUARY 18, 2015.

**DEMOLITION NOTES:**

1. REFER TO REQUIREMENTS OUTLINED IN THE EROSION & SEDIMENTS CONTROL PLANS & NOTES PRIOR TO COMMENCEMENT OF WORK.
2. CONFORM TO APPLICABLE CODE FOR DEMOLITION OF STRUCTURES, SAFETY OF ADJACENT STRUCTURES, DUST CONTROL, RUNOFF CONTROL, AND HAULING, DISPOSAL AND STORAGE OF DEBRIS.
3. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.
4. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING OPERATING FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY OWNER AND AUTHORITIES HAVING JURISDICTION.
5. NOTIFY ADJACENT OWNERS OF WORK THAT MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGE, OR DISRUPTION. COORDINATE WITH OWNER.
6. PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES. PROVIDE BRACING AND SHORING.
7. LOCATE AND IDENTIFY ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION AREA. DISCONNECT AND SEAL OR CAP OFF UTILITY SERVICES THAT WILL BE AFFECTED BY THIS PROJECT. NOTIFY AFFECTED UTILITY COMPANIES BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED.
8. DEMOLISH AND REMOVE COMPONENTS IN AN ORDERLY AND CAREFUL MANNER.
9. PROTECT EXISTING FEATURES THAT ARE NOT TO BE DEMOLISHED.
10. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESSES.
11. MAINTAIN EGRESS AND ACCESS AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT ROADWAYS, OR SIDEWALKS WITHOUT PERMITS. COORDINATE W/ AUTHORITY HAVING JURISDICTION.
12. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER. NOTIFY AUTHORITY HAVING JURISDICTION.
13. ROUGH GRADE AND COMPACT AREAS AFFECTED BY DEMOLITION TO MAINTAIN SITE GRADES AND CONTOURS.
14. FIELD VERIFY EXISTING CONDITIONS AND CORRELATE WITH REQUIREMENTS INDICATED ON DEMOLITION PLAN TO DETERMINE EXTENT OF SELECTIVE DEMOLITION REQUIRED.
15. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH SELECTIVE DEMOLITION OPERATIONS.
16. CONDUCT DEMOLITION OPERATIONS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND FACILITIES TO REMAIN. ENSURE SAFE PASSAGE OF PEOPLE AROUND SELECTIVE DEMOLITION AREA.
17. USE WATER MIST, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS TO LIMIT THE SPREAD OF DUST AND DIRT. COMPLY WITH GOVERNING ENVIRONMENTAL PROTECTION REGULATIONS. DO NOT USE WATER WHEN IT MAY DAMAGE EXISTING CONSTRUCTION, SUCH AS CAUSING ICING, DRAINING AND TRANSPORTING POLLUTANTS.
18. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
19. CLEAN ADJACENT STRIPINGS AND IMPROVEMENTS OF DUST, DIRT AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF SELECTIVE DEMOLITION.
20. PROMPTLY DISPOSE OF DEMOLISHED MATERIALS. ALL DEBRIS RESULTING FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE AT A FACILITY APPROVED TO RECEIVE THE DEBRIS. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. DO NOT BURN DEMOLISHED MATERIALS ON-SITE.

**SITE PLAN NOTES:**

**GENERAL CONSTRUCTION NOTES:**

1. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND UNDER THE SUPERVISION OF A NEW YORK STATE LICENSED LAND SURVEYOR.
2. ALL PAVEMENT RESTORATION SHALL MEET AND MATCH EXISTING GRADES.
3. ALL SAWCUT LINES SHALL BE PARALLEL AND CURVILINEAR TO EXISTING OR PROPOSED CURBING AND SHALL BE A CONSTANT DISTANCE OF 18" MIN AWAY.
4. ALL ARCHITECTURE IS SUBJECT TO PLANNING BOARD REVIEW.
5. NOTIFY ENGINEER 48 HOURS PRIOR TO INITIALIZATION OF ANY WORK ON SITE.
6. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT PRIOR REVIEW FROM THE ENGINEER.
7. CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AND MAINTAINING ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR PROPERLY & SAFELY MAINTAINING AREA BETWEEN ALL ADJOINING PROPERTIES.
9. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE SITE PROPERTY LINES OR PUBLIC HIGHWAY.
10. ALL EXISTING LAWN AREA, CURBING, PAVING, SIDEWALKS, CULVERTS OR OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED BY TRENCHING OR EXCAVATION OPERATIONS SHALL BE REPLACED OR REPAIRED TO A CONDITION EQUAL TO EXISTING, AS DESCRIBED IN CONTRACT DOCUMENTS OR AS ORDERED BY ENGINEER (A.G.B.). MAILBOXES, SIGN POSTS, ETC SHALL BE PROTECTED OR REMOVED AND REPLACED EXACTLY AS THEY WERE BEFORE BEING DISTURBED. REMOVE AND REPLACE AFFECTED CURBING AND SIDEWALK TO NEAREST JOINT. REMOVE PAVEMENT AND REPLACE TO SAW CUT LINE. SAW CUT IN STRAIGHT LINE TO POINT NEEDED TO BLEND GRADE. REMOVE LAWN AND REPLACE TO MINIMUM LIMIT OF EXCAVATION.
11. IF PREVIOUSLY UNKNOWN CULTURAL, ARCHEOLOGICAL, OR HISTORIC REMAINS OR ARTIFACTS ARE DISCOVERED IN THE COURSE OF CONSTRUCTION OF THIS PROJECT, THE PROJECT SPONSORS SHALL SUSPEND CONSTRUCTION OPERATIONS IN THE PERTINENT AREA AND SHALL NOTIFY THE PROJECT ENGINEER. CONSTRUCTION IN THAT AREA SHALL RESUME ONLY AFTER COMPLETION OF FEDERAL, TRIBAL, AND STATE COORDINATION TO DETERMINE WHETHER PROTECTION OR RECOVERY OF THE REMAINS IS WARRANTED, OR WHETHER THE SITE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES.

**LAYOUT NOTES:**

1. BUILDING DIMENSIONS TO BE TAKEN FROM ARCHITECTURAL BUILDING PLANS. NOTIFY THE ENGINEER OF ANY DEVIATION FROM CONDITIONS SHOWN ON THIS PLAN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP AS BUILT PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND THE ENGINEER AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADDITIONS TO THE SATISFACTION OF THE OWNER AND THE ENGINEER BEFORE UTILITIES WILL BE ACCEPTED.
3. PAVING NOTES:
  1. NO VEHICULAR TRAFFIC OF ANY SORT SHALL BE PERMITTED ON THE SURFACE OF SUBBASE COURSE MATERIAL ONCE IT HAS BEEN FINE GRADED, COMPACTED, AND IS READY FOR PAVING. SUBBASE MATERIAL SO PREPARED FOR PAVING SHALL BE PAVED WITHIN THREE DAYS OF PREPARATION.
  2. SUBBASE MATERIAL AND THE VARIOUS ASPHALT CONCRETE MATERIALS CALLED FOR IN THESE DRAWINGS SHALL CONFORM WITH THE REFERENCED SECTION OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED "LATEST EDITIONS". CONSTRUCTION SHALL BE AS FURTHER SET FORTH IN THOSE SPECIFICATIONS AND AS OTHERWISE PROVIDED FOR IN THESE DRAWINGS.
  3. PLACE ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE. SPREAD AND STRIKE-OFF USING A SELF-PROPELLED PAVING MACHINE, WITH VIBRATING SCREED. PLACEMENT IN INACCESSIBLE AND SMALL AREAS MAY BE BY HAND.
  4. PROVIDE JOINTS BETWEEN OLD AND NEW PAVEMENTS OR BETWEEN SUCCESSIVE DAY'S WORK.
  5. TACK COAT WHEN SPECIFIED OR CALLED OUT ON THE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATION SHALL CONFORM WITH THE FOLLOWING:
    - A. TACK COAT SHALL MEET THE MATERIAL REQUIREMENTS OF 702-90 ASPHALT EMULSION FOR TACK COAT OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED "LATEST EDITION", SHALL BE APPLIED IN ACCORDANCE WITH SECTION 407 - TACK COAT SHALL BE IN ACCORDANCE WITH THOSE SPECIFICATIONS AND AS OTHERWISE PROVIDED FOR IN THESE DRAWINGS.
    - B. REMOVE LOOSE AND FOREIGN MATERIAL FROM ASPHALT SURFACE BEFORE PAVING NEXT COURSE. USE POWER BROOMS, BLOWERS OR HAND BROOM.
    - C. APPLY TACK COAT TO ASPHALT PAVEMENT SURFACES & AND SURFACES OF CURBS, GUTTERS, MANHOLES, AND OTHER STRUCTURES PROJECTING INTO OR ABUTTING PAVEMENT. DRY TO A "TACKY" CONSISTENCY BEFORE PAVING.
    - D. TACK COAT ENTIRE VERTICAL SURFACE OF ABUTTING EXISTING PAVEMENT.
4. AFTER COMPLETION OF PAVING AND SURFACING OPERATIONS, CLEAN SURFACES OF EXCESS OR SPILLED ASPHALT, GRAVEL OR STONE MATERIALS TO THE SATISFACTION OF THE ENGINEER.

**GRADING NOTES:**

1. PRIOR TO SITE DISTURBANCE, CONTRACTOR TO INSTALL EROSION & SEDIMENT CONTROL MEASURES.
2. IF ROCK IS ENCOUNTERED DURING CONSTRUCTION & REMOVAL BY BLASTING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. ALL BLASTING OPERATIONS WILL ADHERE TO NEW YORK STATE AND LOCAL AUTHORITY ORDINANCES GOVERNING THE USE OF EXPLOSIVES. THE STATE REGULATIONS ARE CONTAINED IN 12 NYCRR 39 AND INDUSTRIAL CODE RULE 73.3.
4. STRIP ALL TOPSOIL PRIOR TO COMMENCING EARTHWORK OPERATIONS. TOPSOIL MAY BE STORED AND REUSED IN LAWN AND PLANTING AREAS ONLY. TOPSOIL AND SEED ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE TO REMAIN GREEN.
5. BOX ALL TREES AND HOUSE ALL SHRUBS AND HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. ORNAMENTAL TREES, SHRUBS AND HEDGES WHICH MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALED IN AND RE-PLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED TREES, SHRUBS, AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. ALL EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF ANY EASEMENT OR PROPERTY LINE.
7. REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS AND DELETERIOUS MATERIALS WITHIN THE AREAS SLATED FOR CONSTRUCTION.
8. IF PREVIOUSLY UNKNOWN CULTURAL, ARCHEOLOGICAL, OR HISTORIC REMAINS OR ARTIFACTS ARE DISCOVERED IN THE COURSE OF CONSTRUCTION OF THIS PROJECT, THE PROJECT SPONSORS SHALL SUSPEND CONSTRUCTION OPERATIONS IN THE PERTINENT AREA AND SHALL NOTIFY THE PROJECT ENGINEER. CONSTRUCTION IN THAT AREA SHALL RESUME ONLY AFTER COMPLETION OF FEDERAL, TRIBAL, AND STATE COORDINATION TO DETERMINE WHETHER PROTECTION OR RECOVERY OF THE REMAINS IS WARRANTED, OR WHETHER THE SITE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES.
9. IF THE INTENT OF THIS PLAN FOR ALL SITE GRADING TO DRAIN & NO PONDING OCCURS. MINIMUM SLOPE OF AT LEAST ONE PERCENT ALONG THE FLOW LINE AND 2% CROSS SLOPE ON ALL PAVED OR CONCRETE SURFACES UNLESS OTHERWISE NOTED. CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR ANY DEVIATIONS OR AREA ON THE PLAN WHERE THE SITE DOES NOT MEET THESE REQUIREMENT.

**UTILITY PLAN NOTES:**

**GENERAL CONSTRUCTION NOTES:**

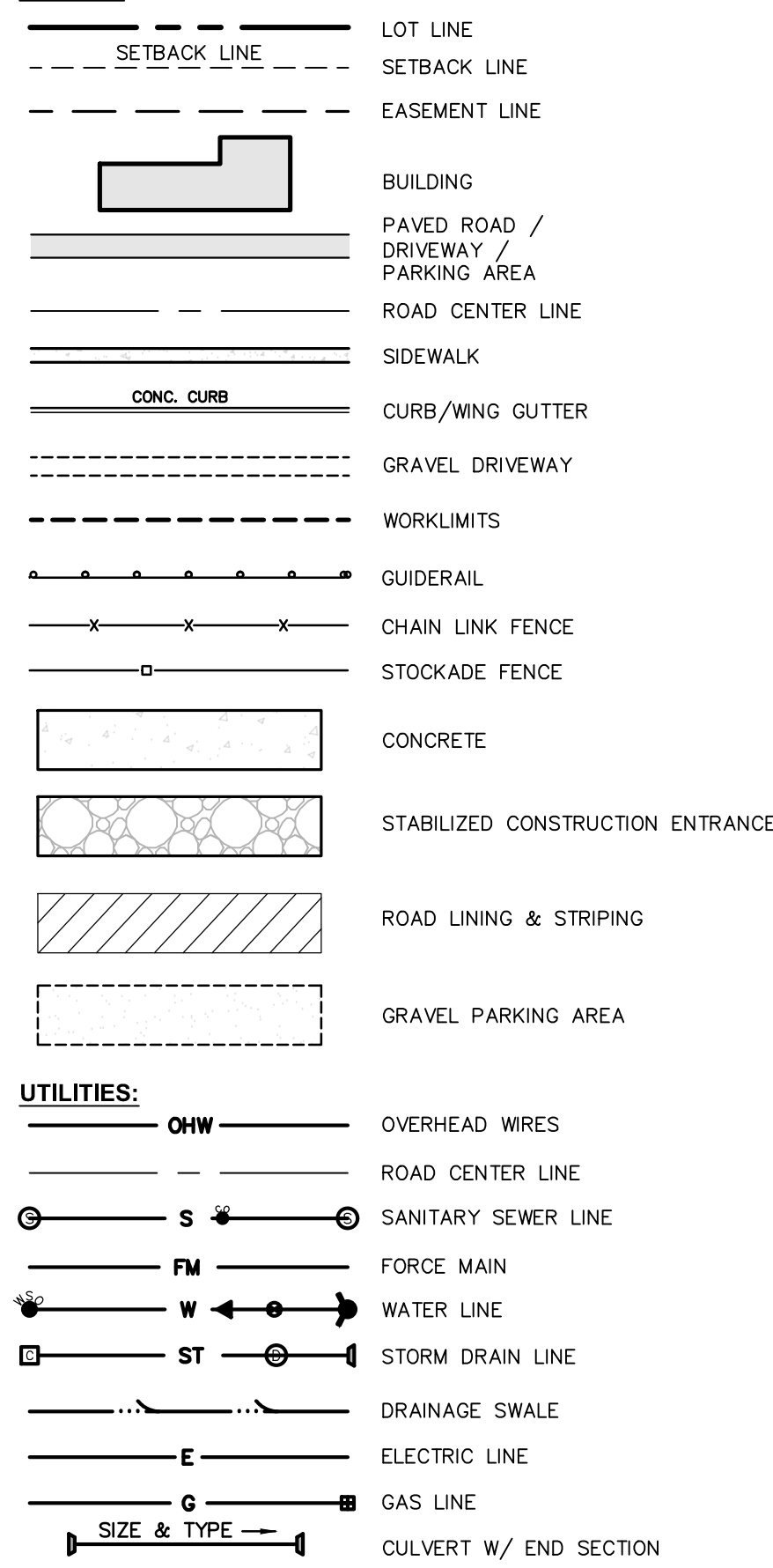
1. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO VERIFY THEIR ACTUAL LOCATION IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.
3. SEWER MAINS IN RELATION TO WATER MAINS; WHERE POSSIBLE, SEWERS SHALL BE LAID AT LEAST 10 (TEN) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18 (EIGHTEEN) INCHES BETWEEN TOP OF SEWER AND BOTTOM OF THE WATER MAIN AT UTILITY CROSSINGS. WHEN NOT POSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, SEWER PIPE SHALL BE PRESSURE RATED AND TESTED @ 150psi, 10 (TEN) FEET ON EACH SIDE OF THE WATER MAIN BEING CROSSED.
4. ALL PROPOSED UTILITIES SHALL TERMINATE 5 FEET FROM ANY PROPOSED BUILDING FACE. CONTRACTOR TO COORDINATE WITH BUILDING PLANS FOR ANY CONNECTIONS.
5. ALL STORM SEWER SHALL BE SMOOTH INTERIOR HOPE UNLESS OTHERWISE SPECIFIED.
6. ALL SANITARY SEWER SHALL BE SDR 35 UNLESS OTHERWISE SPECIFIED. ALL BUILDING SEWERS SHALL BE SCHEDULE 80 UNLESS OTHERWISE SPECIFIED.
7. ALL WATER PIPE SHALL BE CL25 DUCTILE IRON PIPE UNLESS OTHERWISE SPECIFIED.
8. CONTRACTOR TO VERIFY STATUS OF ALL UTILITY SERVICES PRIOR TO INTERRUPTION.
9. EXPLORATORY EXCAVATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT ALL UTILITY CONNECTION LOCATIONS AND AS NEEDED TO VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK.
10. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES, VERIFY EXISTING UTILITY INVERTS AND NOTIFY THE ENGINEER IF ANY VARIATION FROM THE PLAN IS REQUIRED.
11. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE FOR THE DURATION OF THE WORK.
12. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND ASSOCIATED CONDITIONS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING UTILITY TRENCHES AND EXCAVATIONS AND FOR THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF THE WORK.
14. IF ROCK REMOVAL BY BLASTING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

**ROCK BLASTING NOTES:**

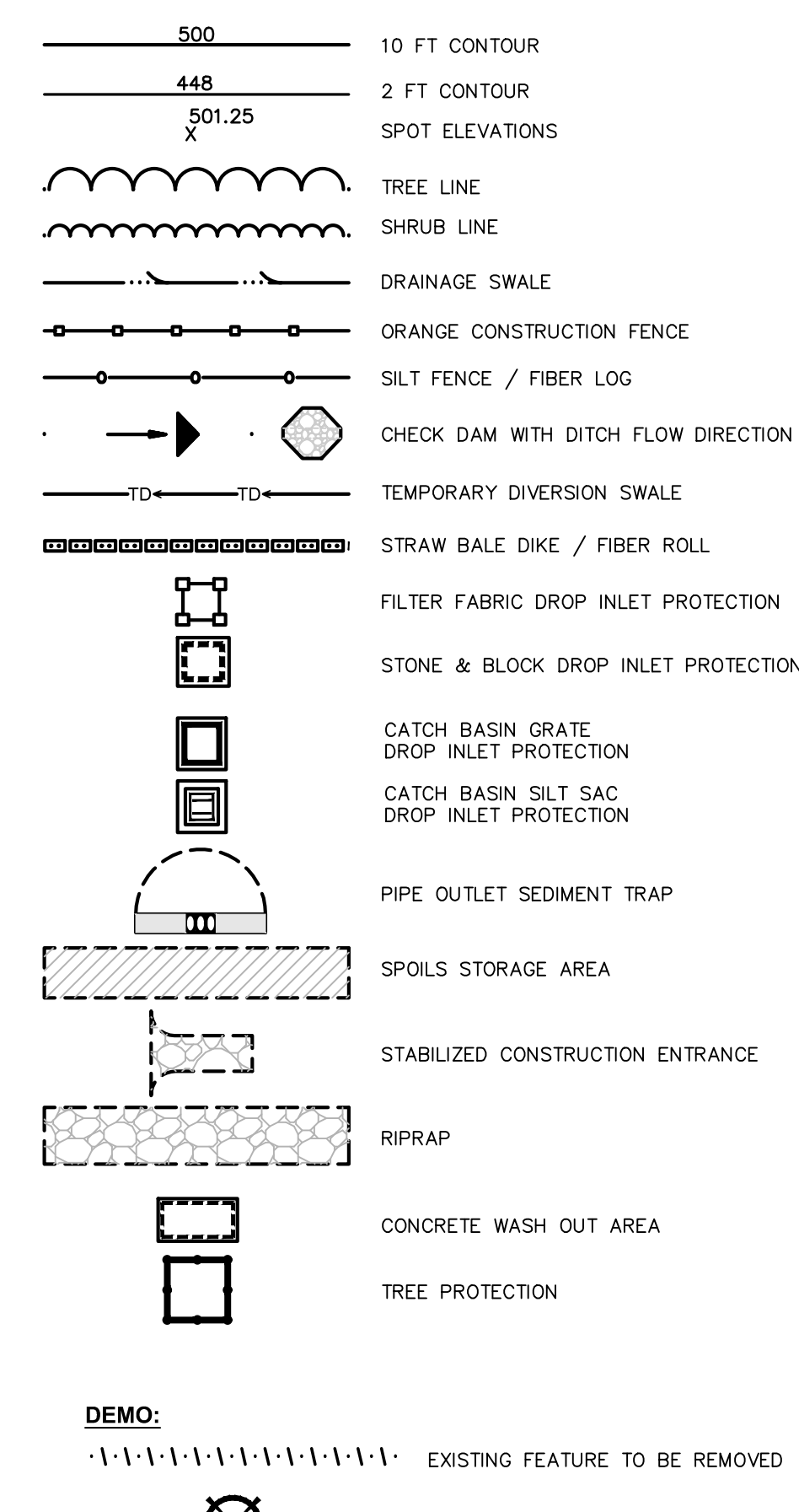
- BLASTING OF BEDROCK IS NOT ANTICIPATED AT THIS SITE IN ORDER TO COMPLETE THE PROPOSED DEVELOPMENT. HOWEVER, THESE NOTES ARE INCLUDED SHOULD UNFORESEEN CONDITIONS REQUIRE THE NEED FOR BLASTING TO EXCAVATE BEDROCK.
1. ALL RECOMMENDED SAFETY REQUIREMENTS AND STANDARDS REFERENCED AND ANY LOCAL RESTRICTIONS SHALL BE APPLIED AS REQUIRED FOR SAFETY, SECURITY, AND SPECIFICALLY RELATED DETAILS FOR BLASTING PROCEDURES. AT ALL TIMES, FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE FOLLOWED CONCERNING THE TRANSPORTATION AND STORAGE OF EXPLOSIVES.
  2. A MINIMUM OF FOUR (4) WEEKS PRIOR TO COMMENCEMENT OF THE INITIAL BLASTING OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AS APPROPRIATE: POLICE AGENCIES, GAS AND ELECTRIC SERVICE COMPANIES, TELEPHONE AND CABLE OPERATING COMPANIES, TOWN WATER AND SEWER DEPARTMENTS, NYSDOT, AND LOCAL FIRE, RESCUE, AND AMBULANCE SERVICES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM THE USE OF EXPLOSIVES. EXPLOSIVES SHALL BE STORED IN A SECURE MANNER IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES.
  4. THE CONTRACTOR SHALL NOTIFY EACH PROPERTY AND UTILITY OWNER HAVING A BUILDING, STRUCTURE, OR OTHER INSTALLATION ABOVE OR BELOW GROUND IN PROXIMITY TO THE SITE OF THE WORK OF HIS INTENTION TO USE EXPLOSIVES. NOTICE SHALL BE GIVEN SUFFICIENTLY IN ADVANCE TO ENABLE THE OWNERS TO TAKE STEPS TO PROTECT THEIR PROPERTY. NOTICE SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DAMAGE RESULTING FROM HIS BLASTING OPERATIONS.
  5. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT PRE-BLAST SURVEYS WITH PROPERTY OWNERS LOCATED IN THE AREA POTENTIALLY AFFECTED BY AIRBLAST OVERPRESSURE AND GROUND VIBRATION OR AS REQUIRED.
  6. THE CONTRACTOR SHALL IMPLEMENT ENGINEERING MEASURES IN ORDER TO MINIMIZE THE POTENTIAL IMPACTS OF DUST, NOISE AND GROUND VIBRATION. BLAST VIBRATION CONTROL WILL BE ACHIEVED BY LIMITING THE CHARGE PER DELAY SO THAT THE PEAK PARTICLE VELOCITY REMAINS BELOW THE SPECIFIED LEVELS.
  7. A APPROPRIATELY QUALIFIED, LICENSED BLASTING SPECIALIST, WITH EXPERIENCE SHALL BE ONSITE AND SUPERVISE BLASTING OPERATIONS. AT ALL TIMES, THE BLASTING AREA SHALL BE RESTRICTED TO BLASTING OPERATIONS AND AUTHORIZED PERSONNEL ONLY.
  8. PROTECTIVE MEASURES INCLUDING INSTALLATION OF SIGNAGE, NOTIFICATION OF NEARBY RESIDENTS, TRAFFIC CONTROL, AS NECESSARY ALONG NEARBY ROADS, AUDIBLE PRE-BLAST WARNINGS, AND USE OF BLAST MATS SHALL BE IMPLEMENTED.
  9. DELIVERY AND TRANSPORT OF EXPLOSIVES FROM THE POWDER MAGAZINES TO THE BLAST AREA WILL BE BY VEHICLES SPECIFICALLY DESIGNED FOR THIS USE BY THE CRITERIA OUTLINED IN THE SAFETY REQUIREMENTS. ONLY AUTHORIZED PERSONS WILL TRANSPORT AND HANDLE THE EXPLOSIVES AS DESIGNATED BY THE ISSUING AUTHORITY OF THOSE LICENSES FOR THIS PURPOSE.
  10. MONITORING OF PEAK PARTICLE VELOCITY (INCHES/SECOND) AND PEAK AIRBLAST OVERPRESSURE (PSI) SHALL BE PERFORMED DURING ALL BLASTS.

**LEGEND:**

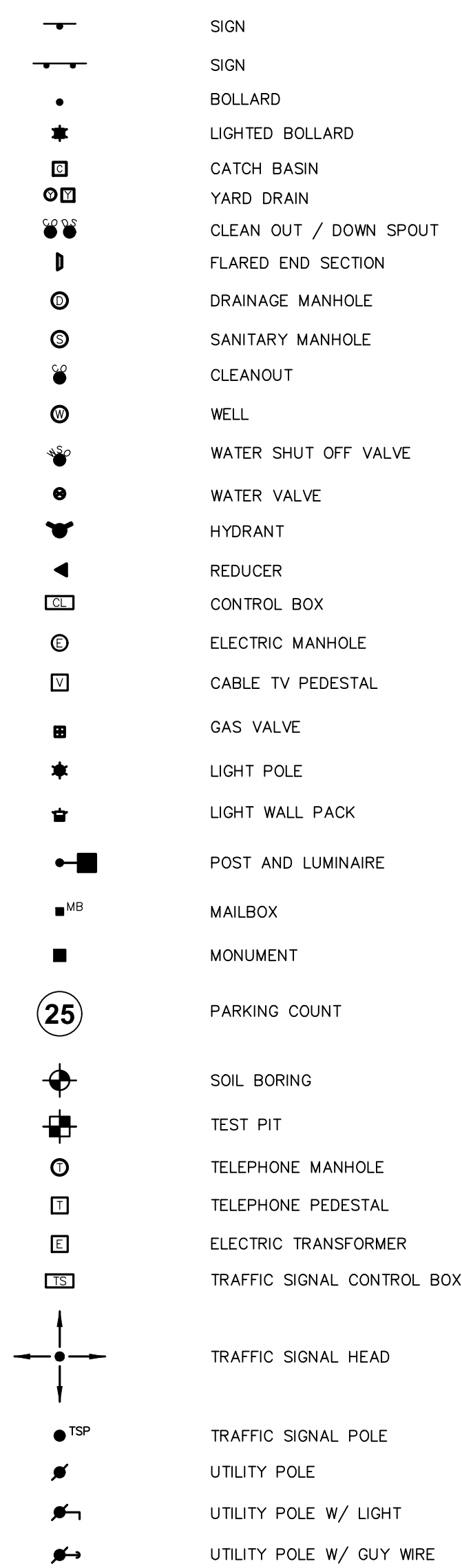
**LAYOUT:**



**GRADING & EROSION CONTROL:**



**SYMBOLS:**



4 British American Boulevard  
Latham, NY 12110  
518-439-8235

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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE:	DESCRIPTION:
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB  
REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

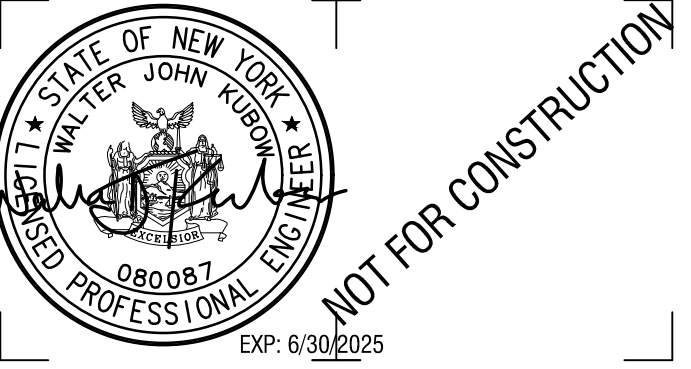
DATE: 08/29/23

DRAWING NAME:

DRAWING NUMBER:

**NOTES & LEGENDS**

**G002**



CERTIFICATE OF AUTHORIZATION NUMBER:  
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LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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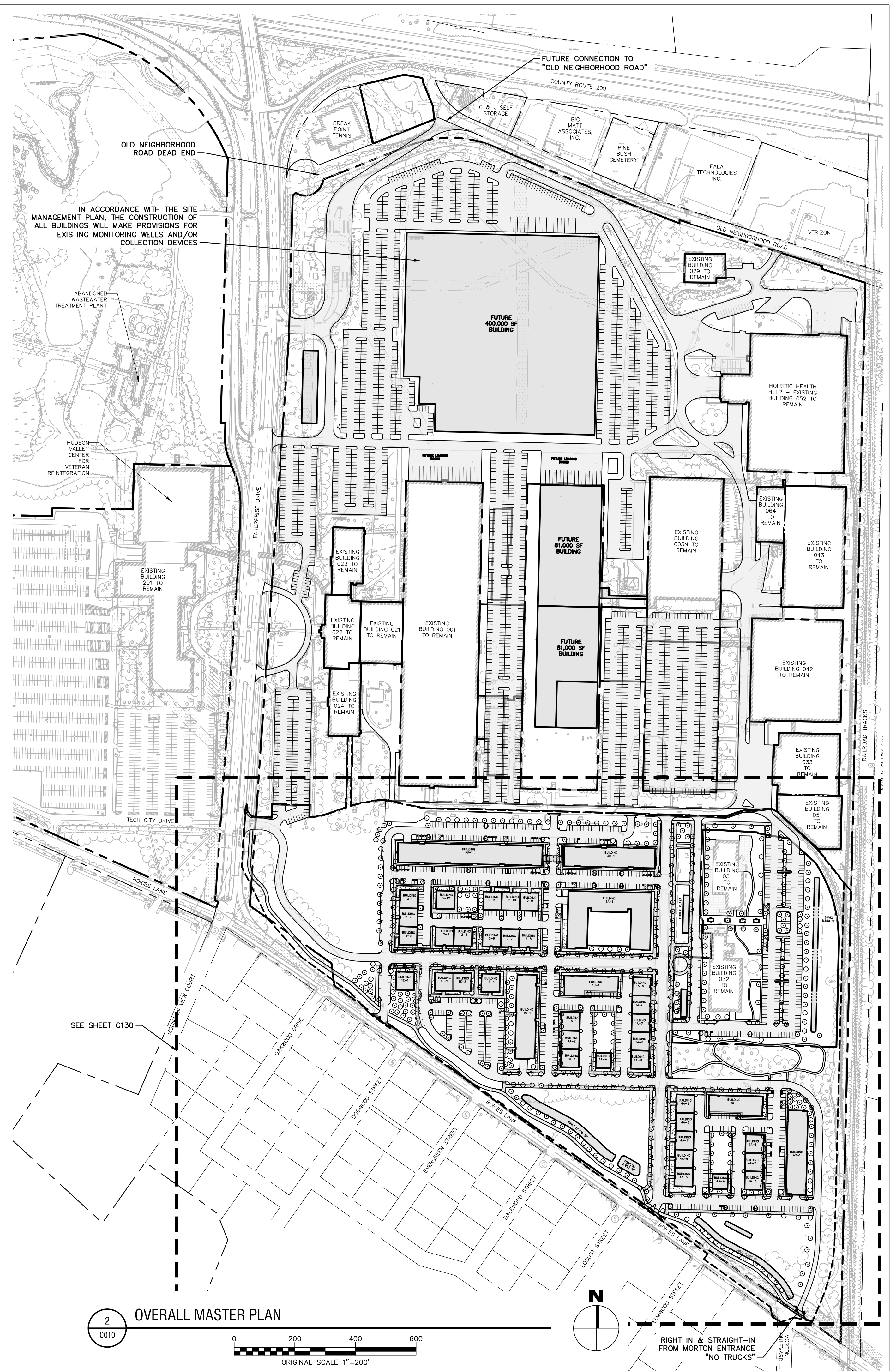
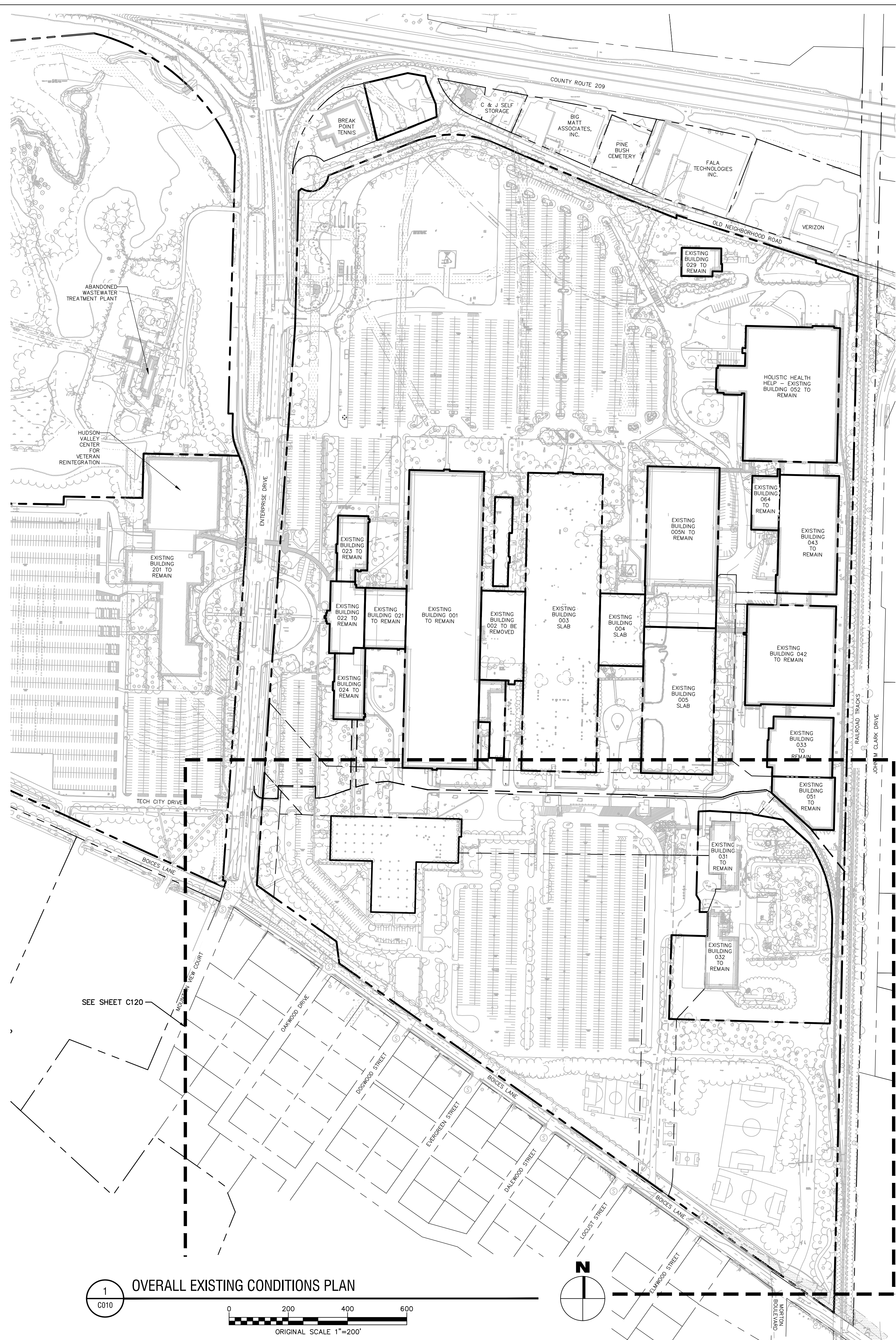
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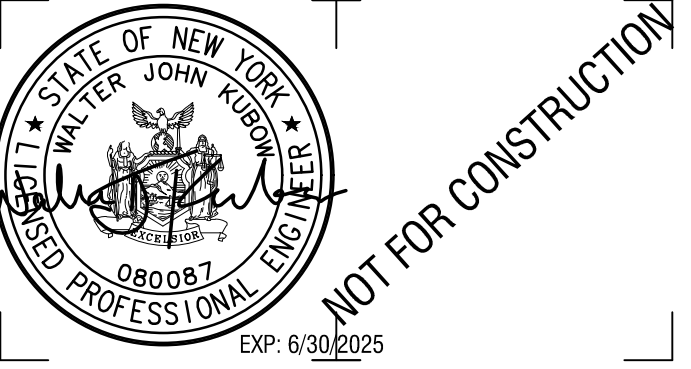
DRAWING NAME:

**OVERALL EXISTING  
CONDITIONS & MASTER PLAN**

DRAWING NUMBER:

**C010**





CERTIFICATE OF AUTHORIZATION NUMBER:  
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LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

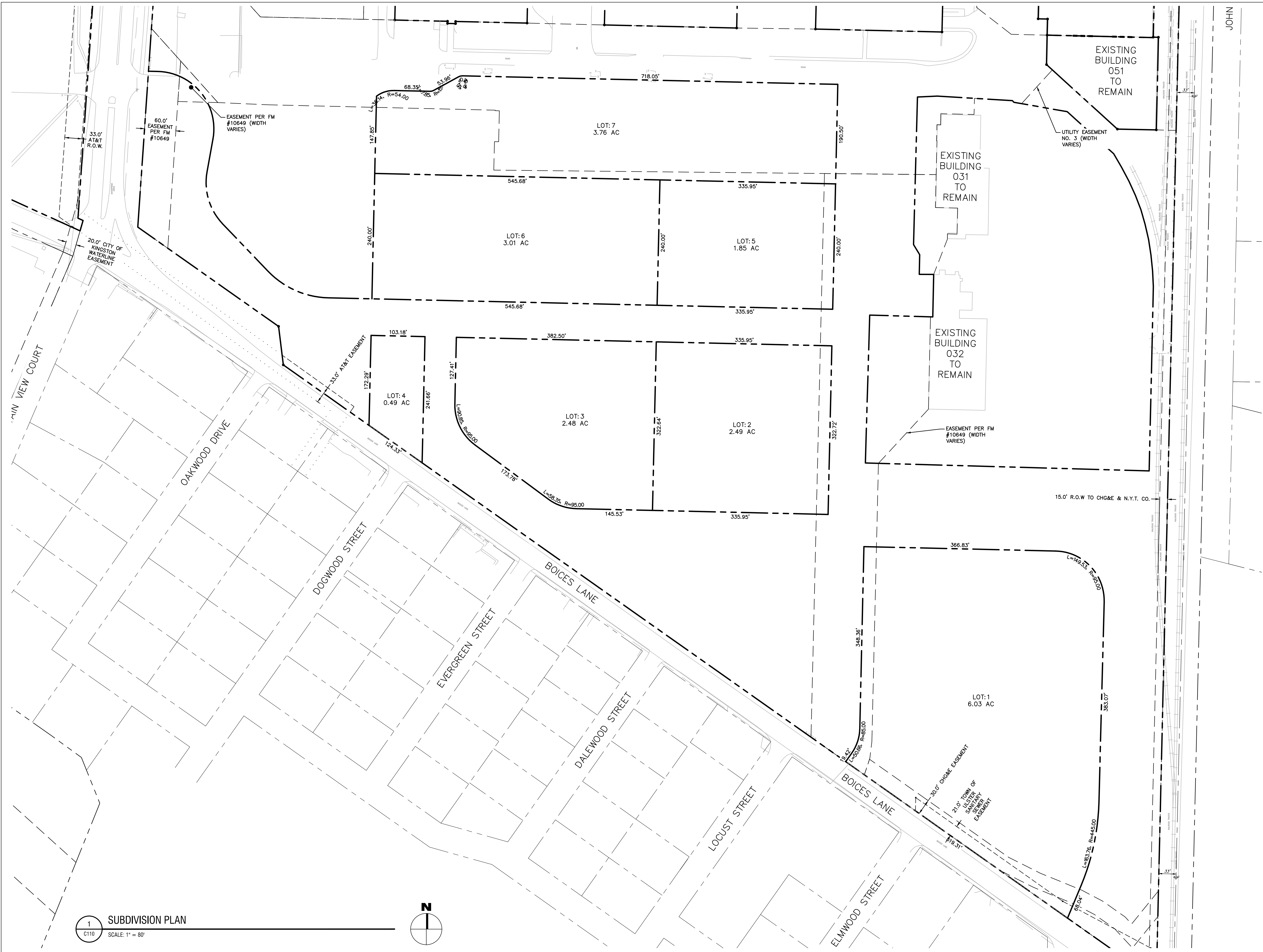
DATE: 08/29/23

DRAWING NAME:

**SUBDIVISION PLAN**

DRAWING NUMBER:

**C110**



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NOT FOR CONSTRUCTION

CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

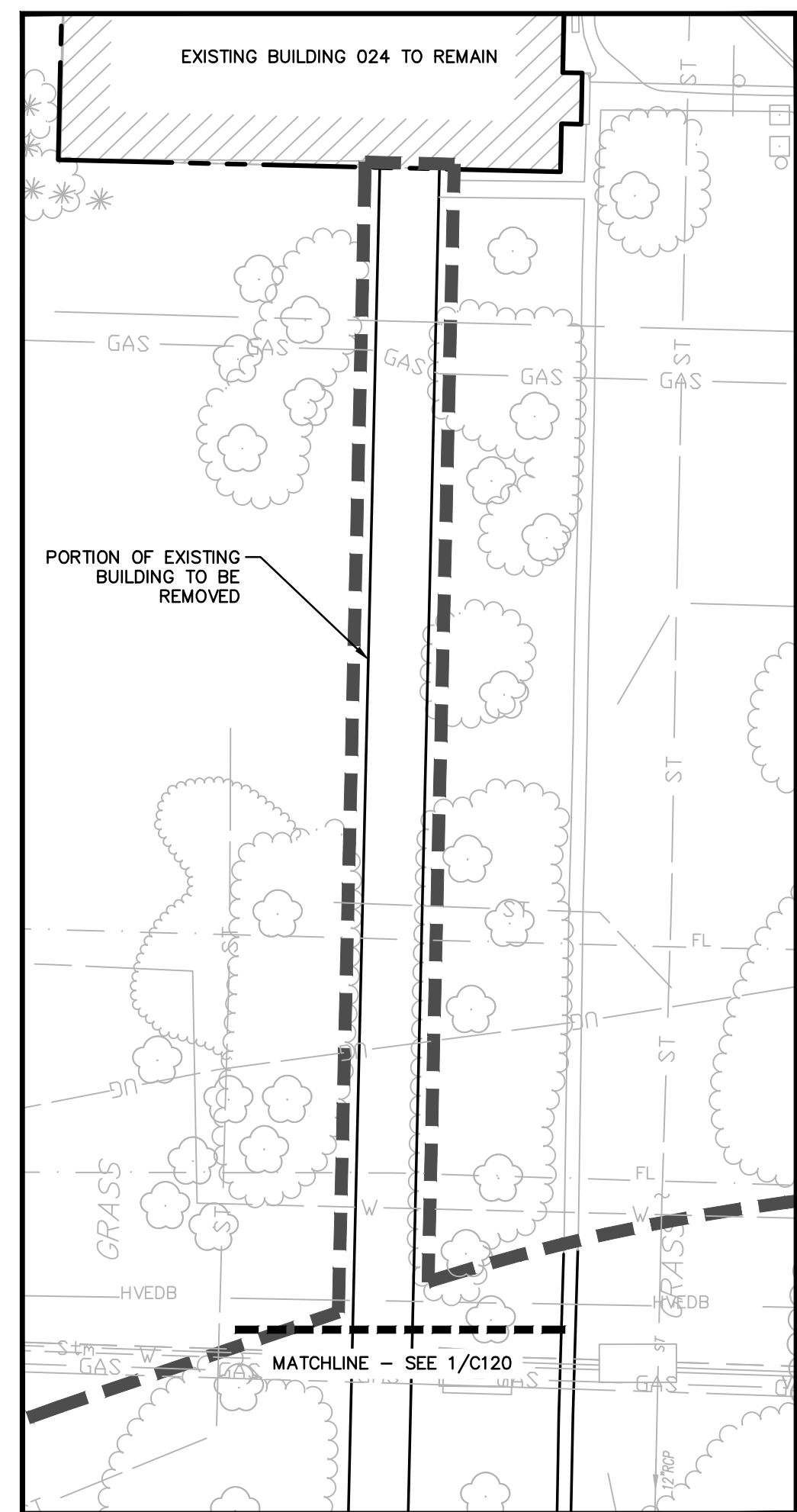
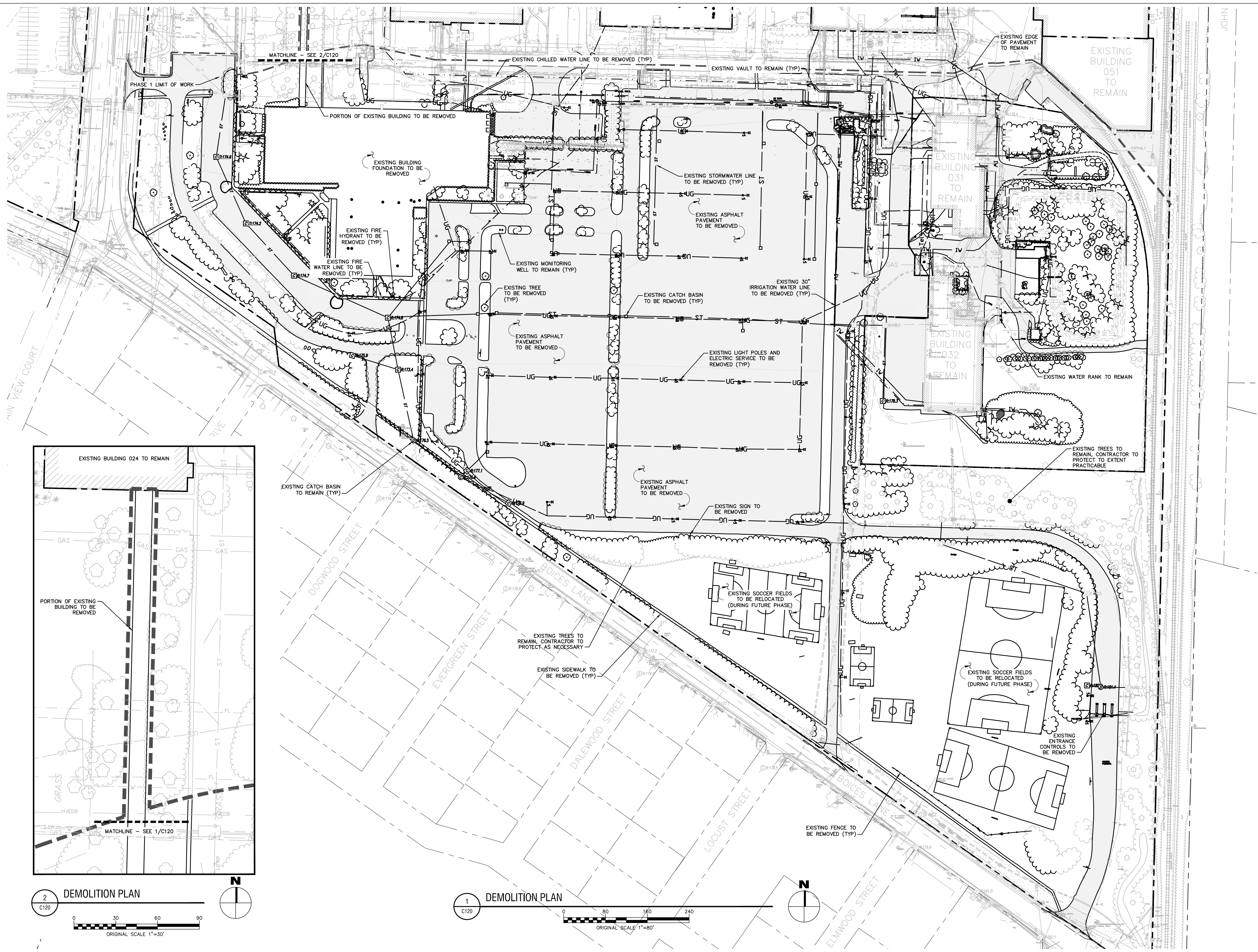
DATE: 08/29/23

DRAWING NUMBER:

**EXISTING CONDITIONS & DEMOLITION PLAN**

DRAWING NUMBER:

**C120**



**2 DEMOLITION PLAN**  
C120  
0 30 60 90  
ORIGINAL SCALE 1"=30'

**1 DEMOLITION PLAN**  
C120  
0 80 160 240  
ORIGINAL SCALE 1"=80'



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

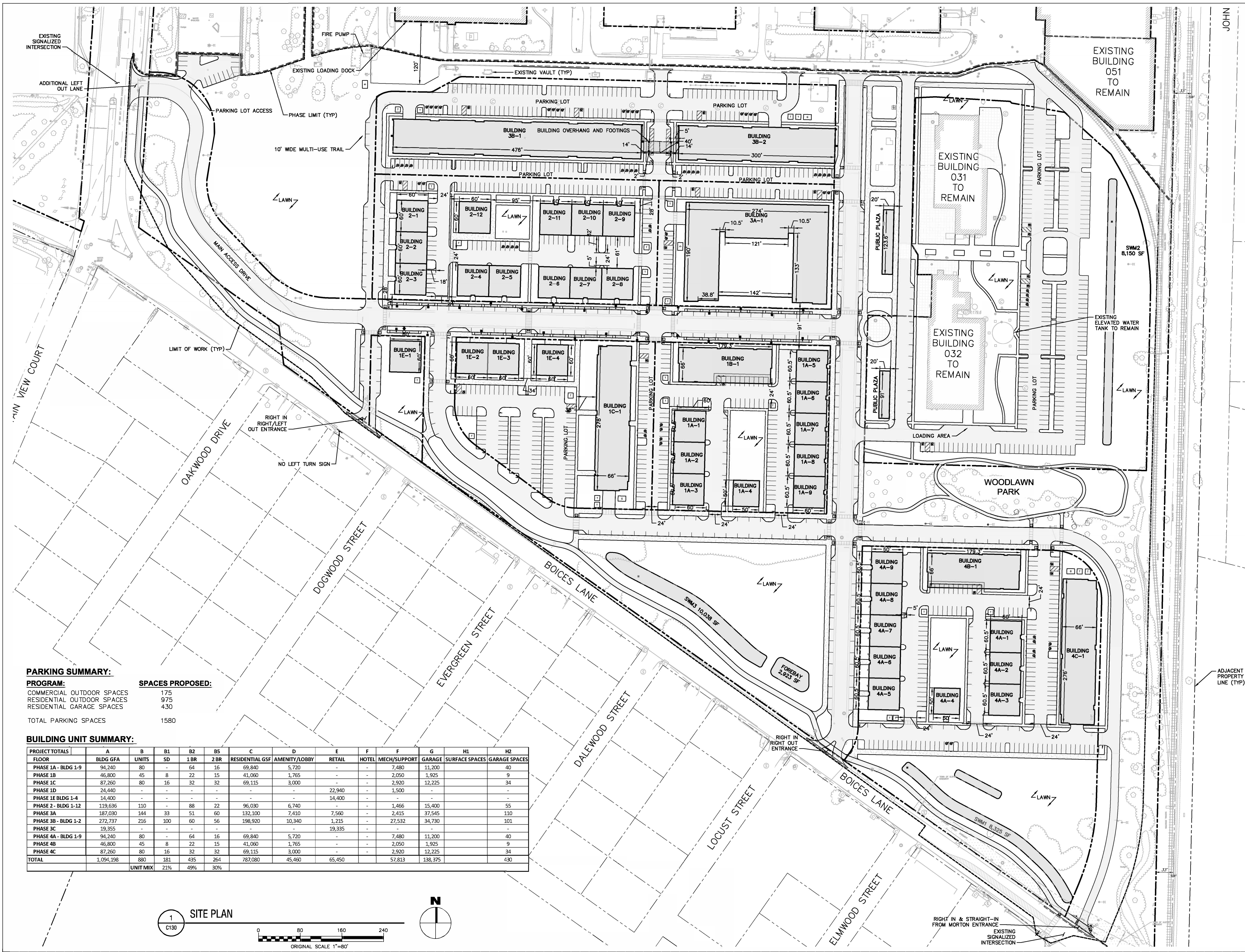
DATE: 08/29/23

DRAWING NAME:

**SITE PLAN**

DRAWING NUMBER:

**C130**

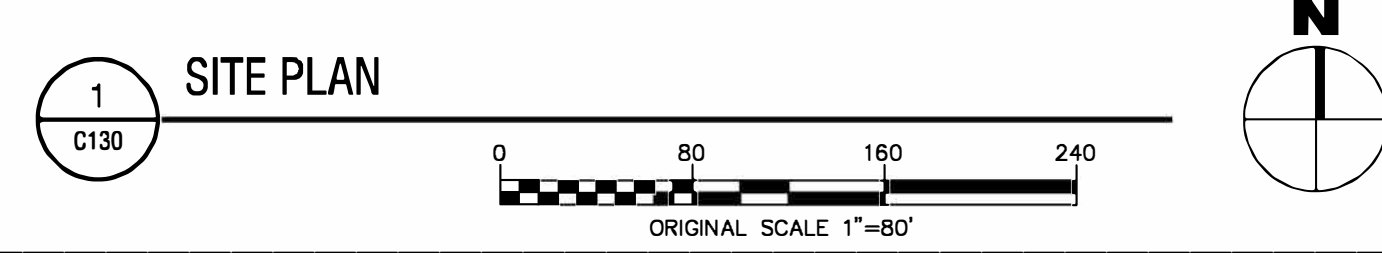


**PARKING SUMMARY:**

PROGRAM:	SPACES PROPOSED:
COMMERCIAL OUTDOOR SPACES	175
RESIDENTIAL OUTDOOR SPACES	975
RESIDENTIAL GARAGE SPACES	430
<b>TOTAL PARKING SPACES</b>	<b>1580</b>

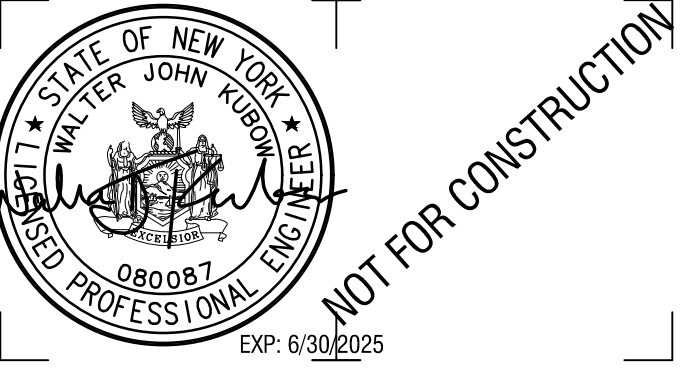
**BUILDING UNIT SUMMARY:**

PROJECT TOTALS	A	B	B1	B2	B5	C	D	E	F	F	G	H1	H2
FLOOR	BLDG GFA	UNITS	SD	1 BR	2 BR	RESIDENTIAL GSF	AMENITY/LOBBY	RETAIL	HOTEL	MECH/SUPPORT	GARAGE	SURFACE SPACES	GARAGE SPACES
PHASE 1A - BLDG 1-9	94,240	80	-	64	16	69,840	5,720	-	7,480	-	11,200	-	40
PHASE 1B	46,800	45	8	22	15	41,060	1,765	-	-	2,050	1,925	-	9
PHASE 1C	87,260	80	16	32	32	69,115	3,000	-	-	2,920	12,225	-	34
PHASE 1D	24,440	-	-	-	-	-	-	22,940	-	1,500	-	-	-
PHASE 1E BLDG 1-4	24,440	-	-	-	-	-	-	14,400	-	-	-	-	-
PHASE 2 - BLDG 1-12	119,636	110	-	88	22	96,030	6,740	-	-	1,466	15,400	-	55
PHASE 3A	187,030	144	33	51	60	132,100	7,410	7,560	-	2,415	37,545	-	110
PHASE 3B - BLDG 1-2	272,737	216	100	60	56	198,920	10,340	1,215	-	27,532	34,730	-	101
PHASE 3C	19,355	-	-	-	-	-	-	19,335	-	-	-	-	-
PHASE 4A - BLDG 1-9	94,240	80	-	64	16	69,840	5,720	-	7,480	-	11,200	-	40
PHASE 4B	46,800	45	8	22	15	41,060	1,765	-	-	2,050	1,925	-	9
PHASE 4C	87,260	80	16	32	32	69,115	3,000	-	-	2,920	12,225	-	34
<b>TOTAL</b>	<b>1,094,198</b>	<b>880</b>	<b>181</b>	<b>435</b>	<b>264</b>	<b>787,080</b>	<b>45,460</b>	<b>65,450</b>	<b>-</b>	<b>57,813</b>	<b>138,375</b>	<b>-</b>	<b>430</b>
		<b>UNIT MIX</b>		<b>21%</b>	<b>49%</b>	<b>30%</b>							



1 SITE PLAN

C130



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

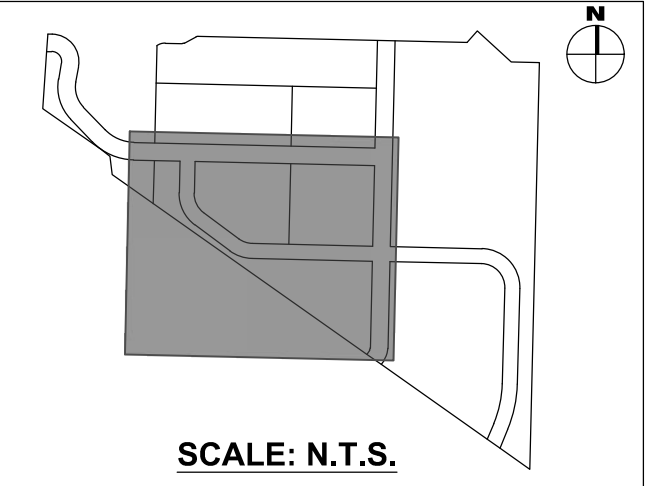
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



SCALE: N.T.S.

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

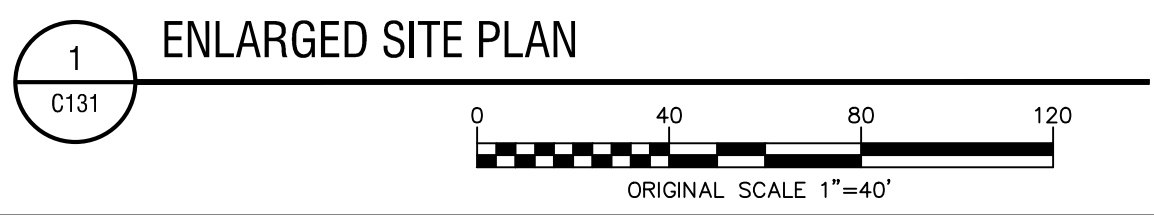
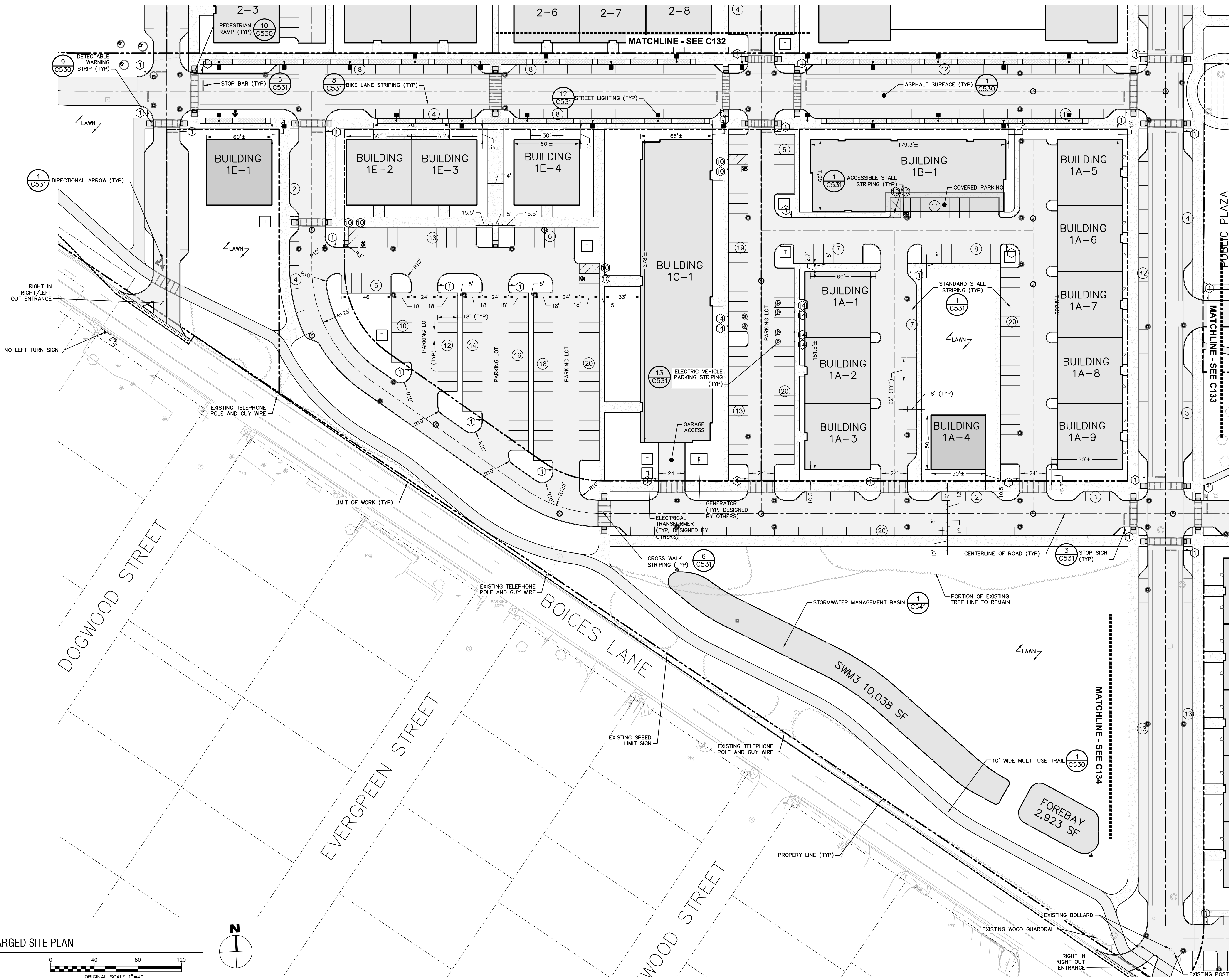
DATE: 08/29/23

DRAWING NAME:

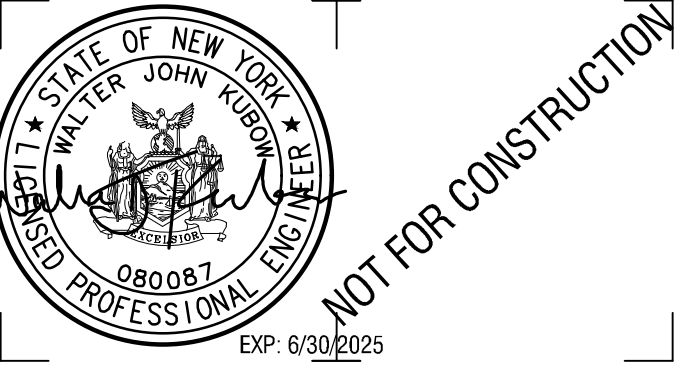
**ENLARGED SITE PLAN**

DRAWING NUMBER:

**C131**



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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

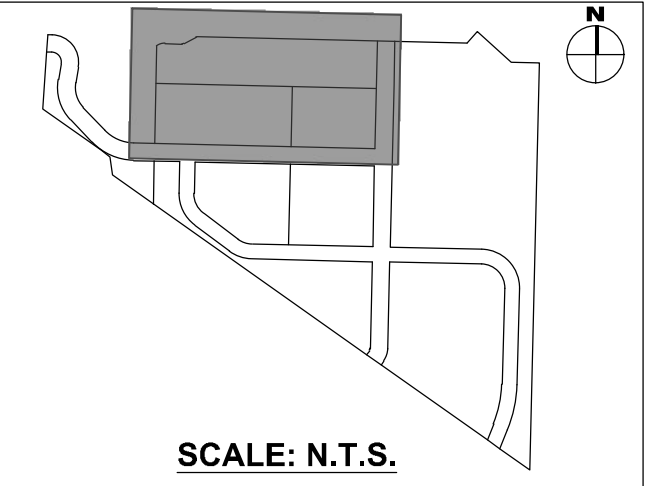
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

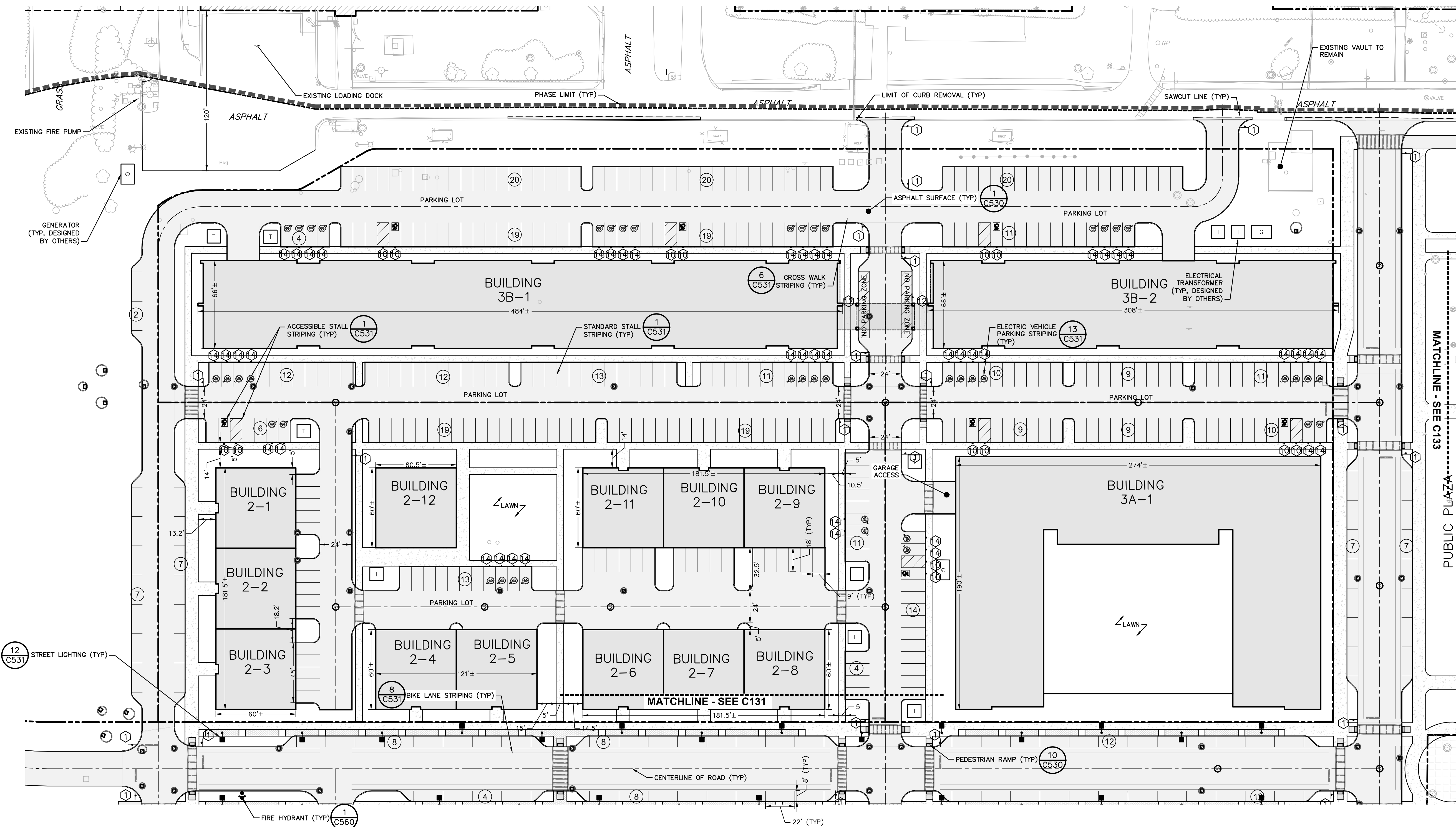
DATE: 08/29/23

DRAWING NAME:

**ENLARGED SITE PLAN**

DRAWING NUMBER:

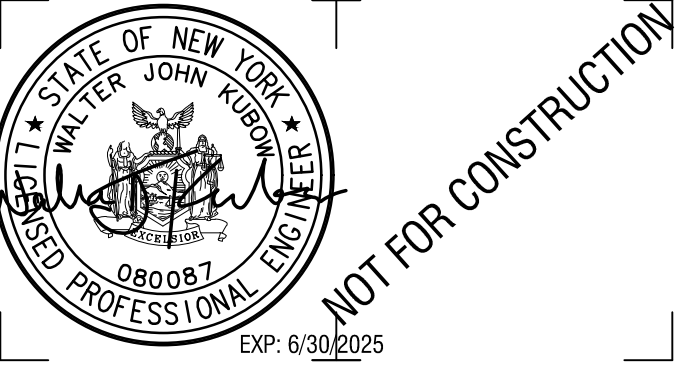
**C132**



1 ENLARGED SITE PLAN  
C132







CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

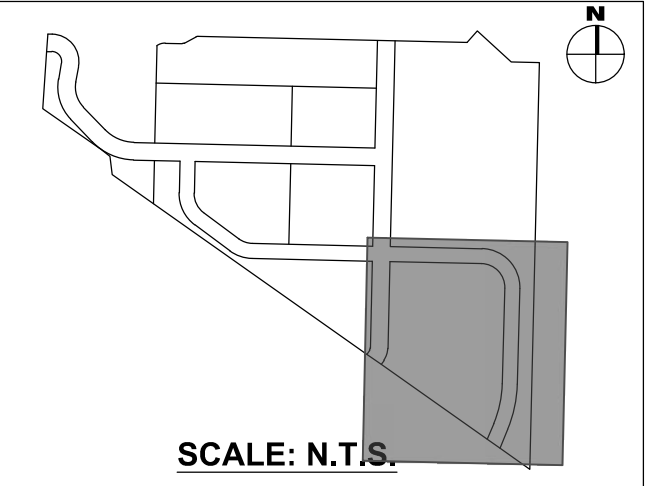
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

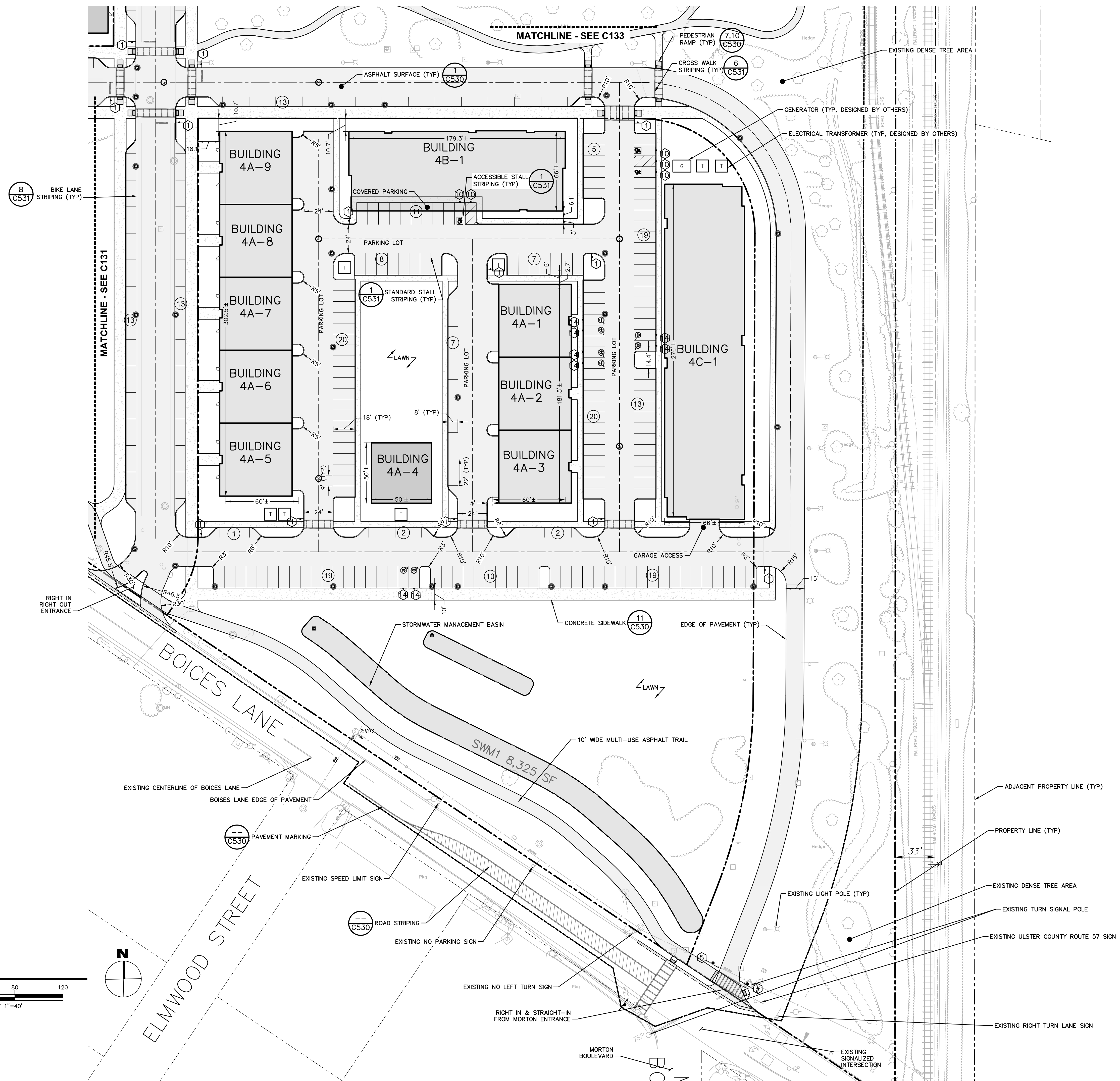
DATE: 08/29/23

DRAWING NAME:

**ENLARGED SITE PLAN**

DRAWING NUMBER:

**C134**



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NOT FOR CONSTRUCTION

CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

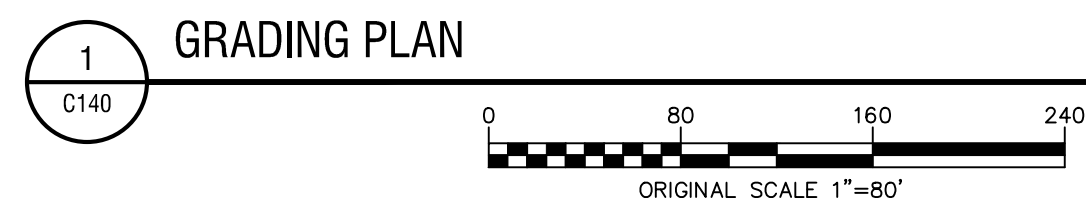
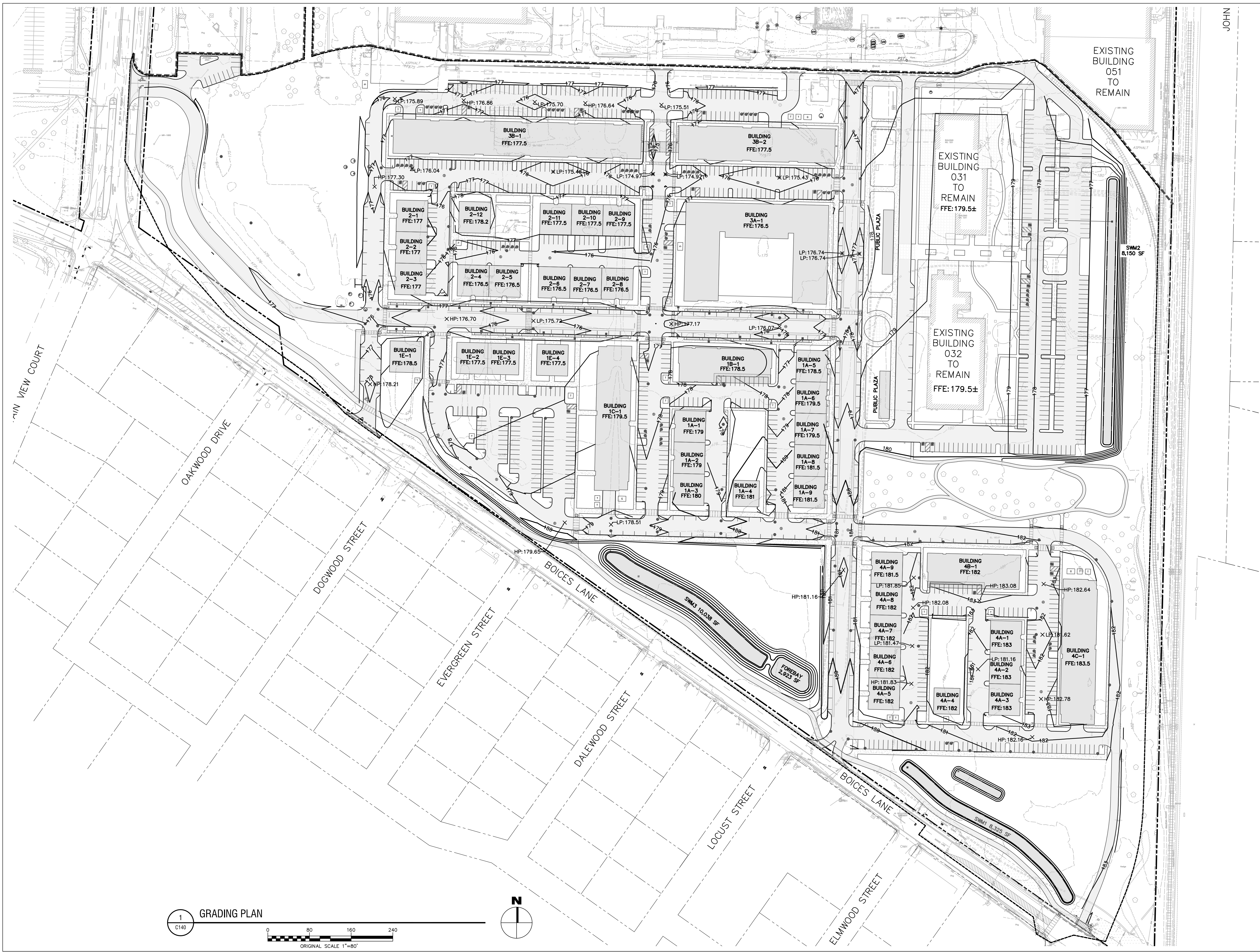
DATE: 08/29/23

DRAWING NAME:

**GRADING PLAN**

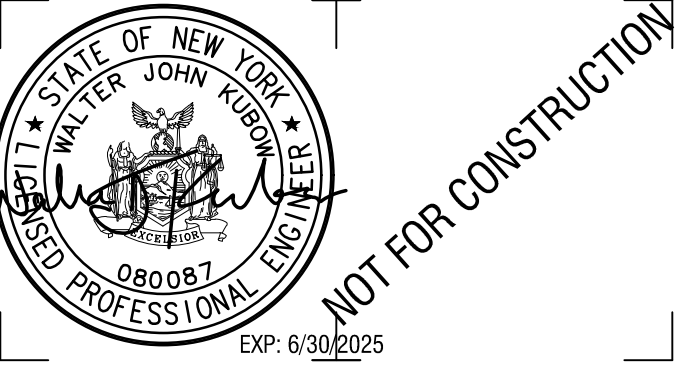
DRAWING NUMBER:

**C140**



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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

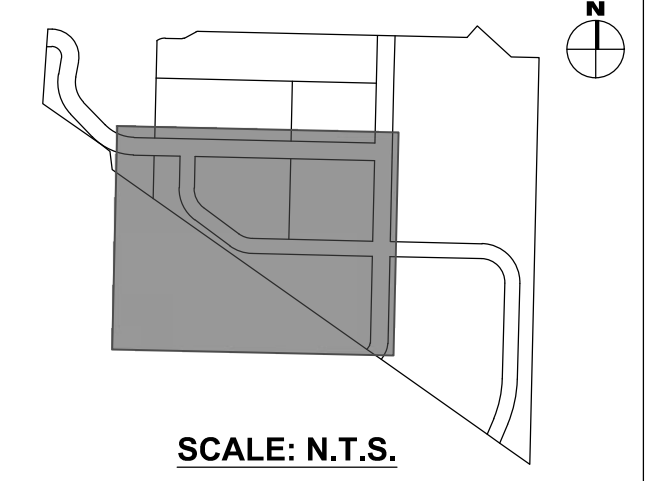
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**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

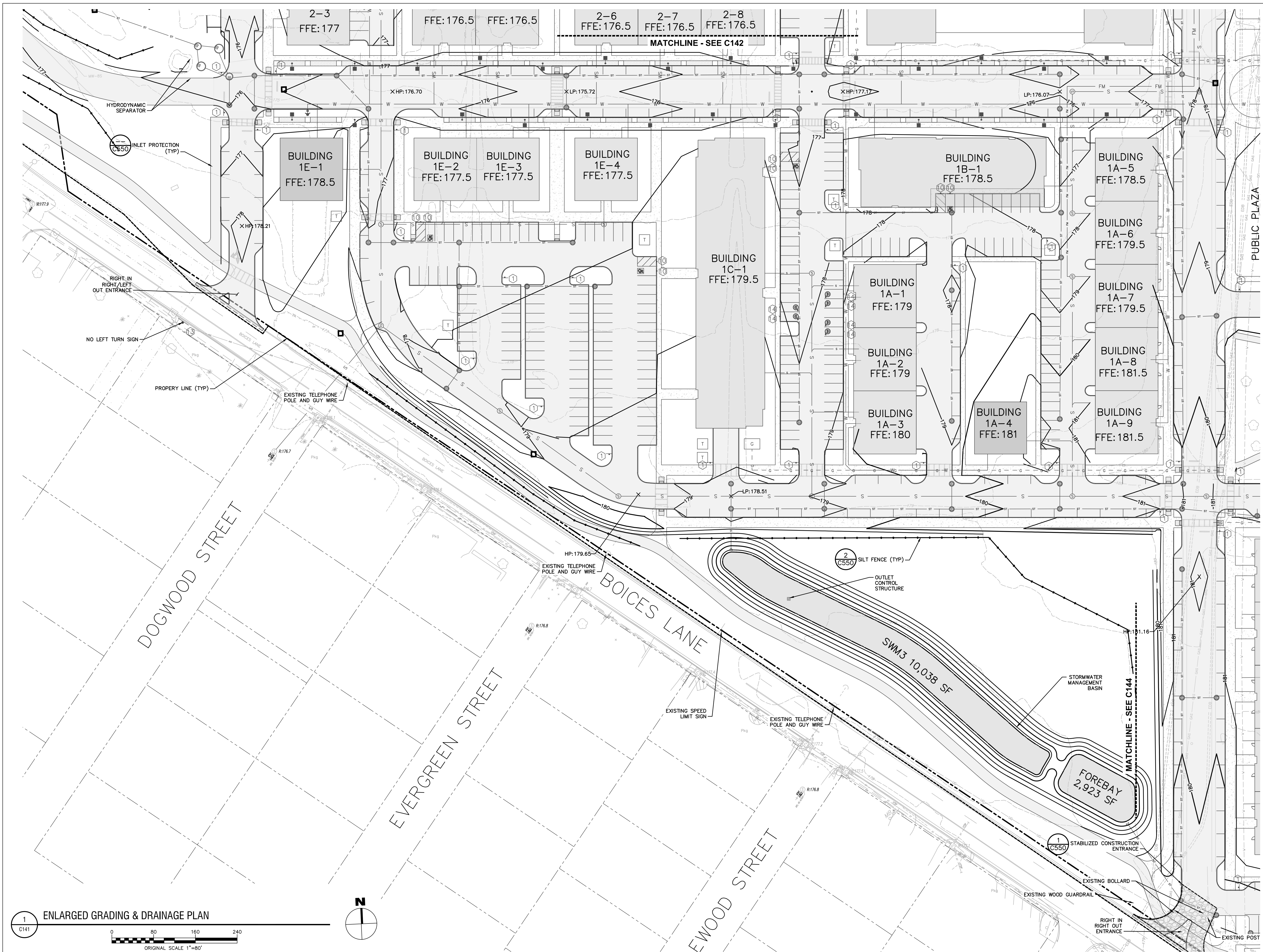
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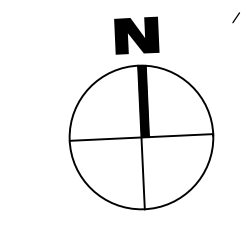
**ENLARGED GRADING & EROSION CONTROL PLAN**

DRAWING NUMBER:

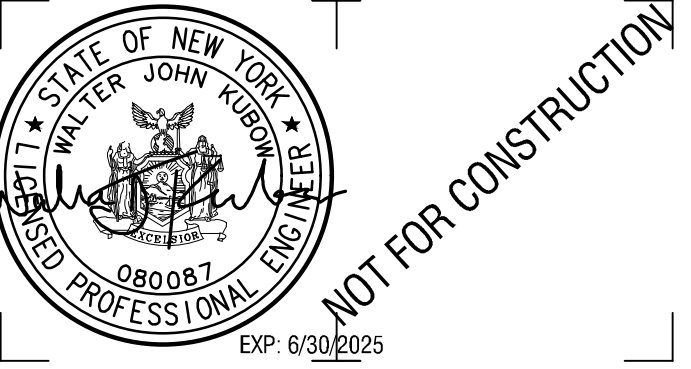
**C141**



**1 ENLARGED GRADING & DRAINAGE PLAN**  
ORIGINAL SCALE 1"=80'



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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

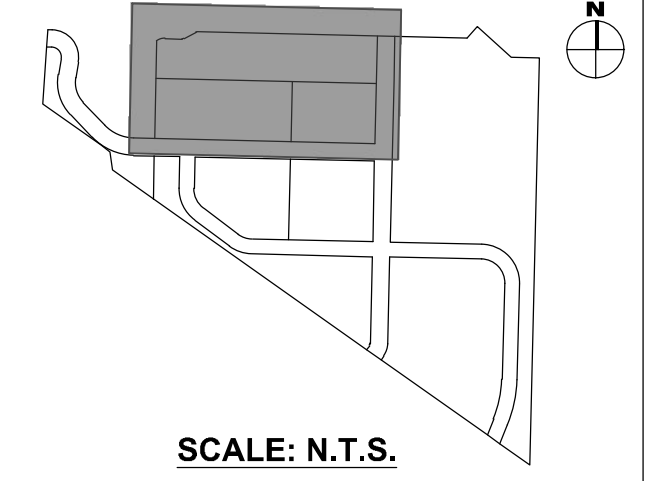
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

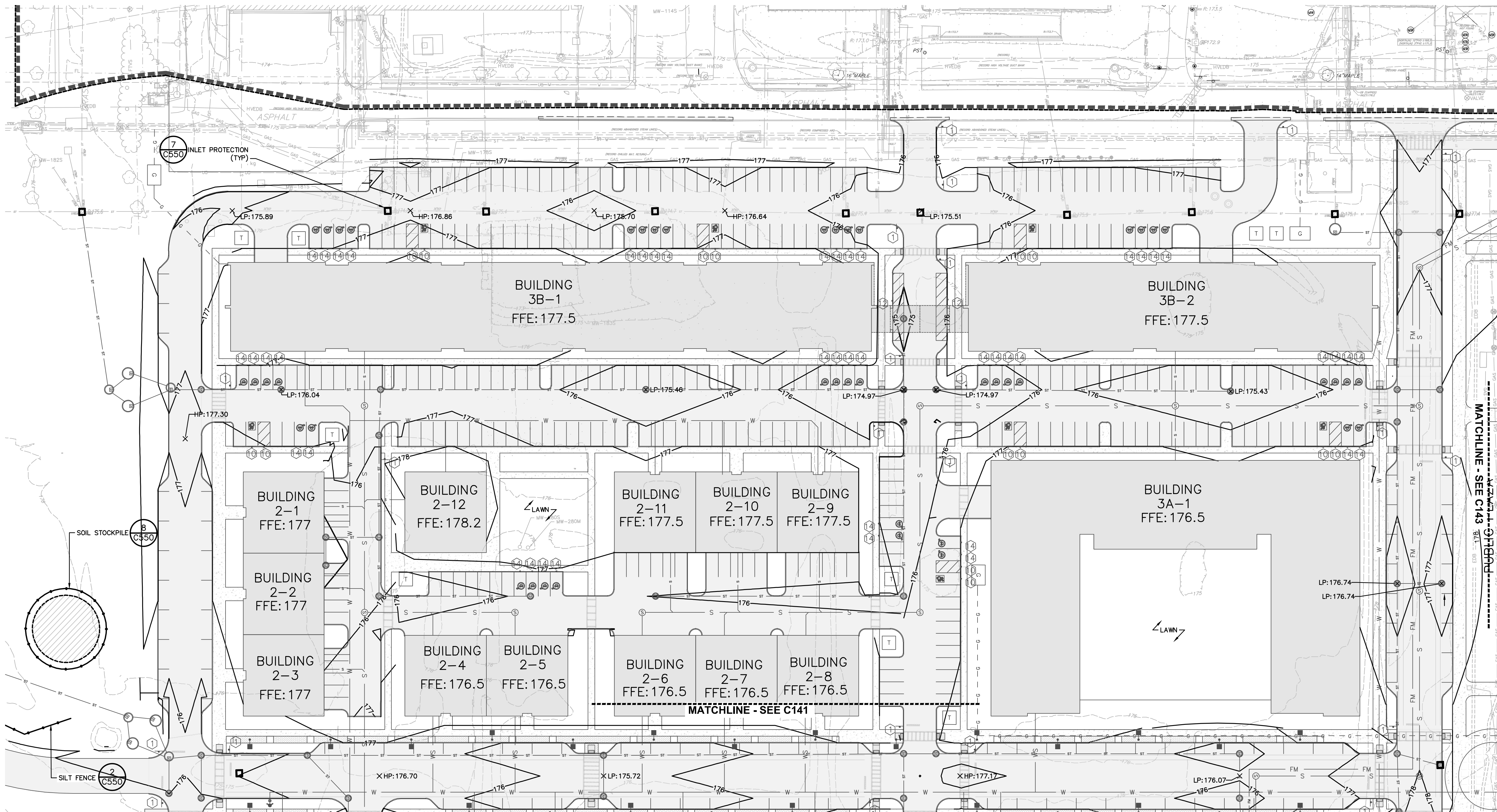
**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		
PROJECT NUMBER: 2222588.01		
DRAWN BY: DAS, HEB		
REVIEWED BY: WJK		
ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL		
DATE: 08/29/23		
DRAWING NAME:		

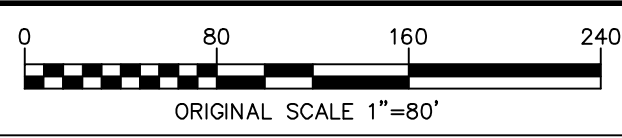
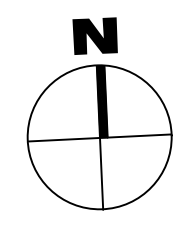
**ENLARGED GRADING & EROSION CONTROL PLAN**

DRAWING NUMBER:

**C142**

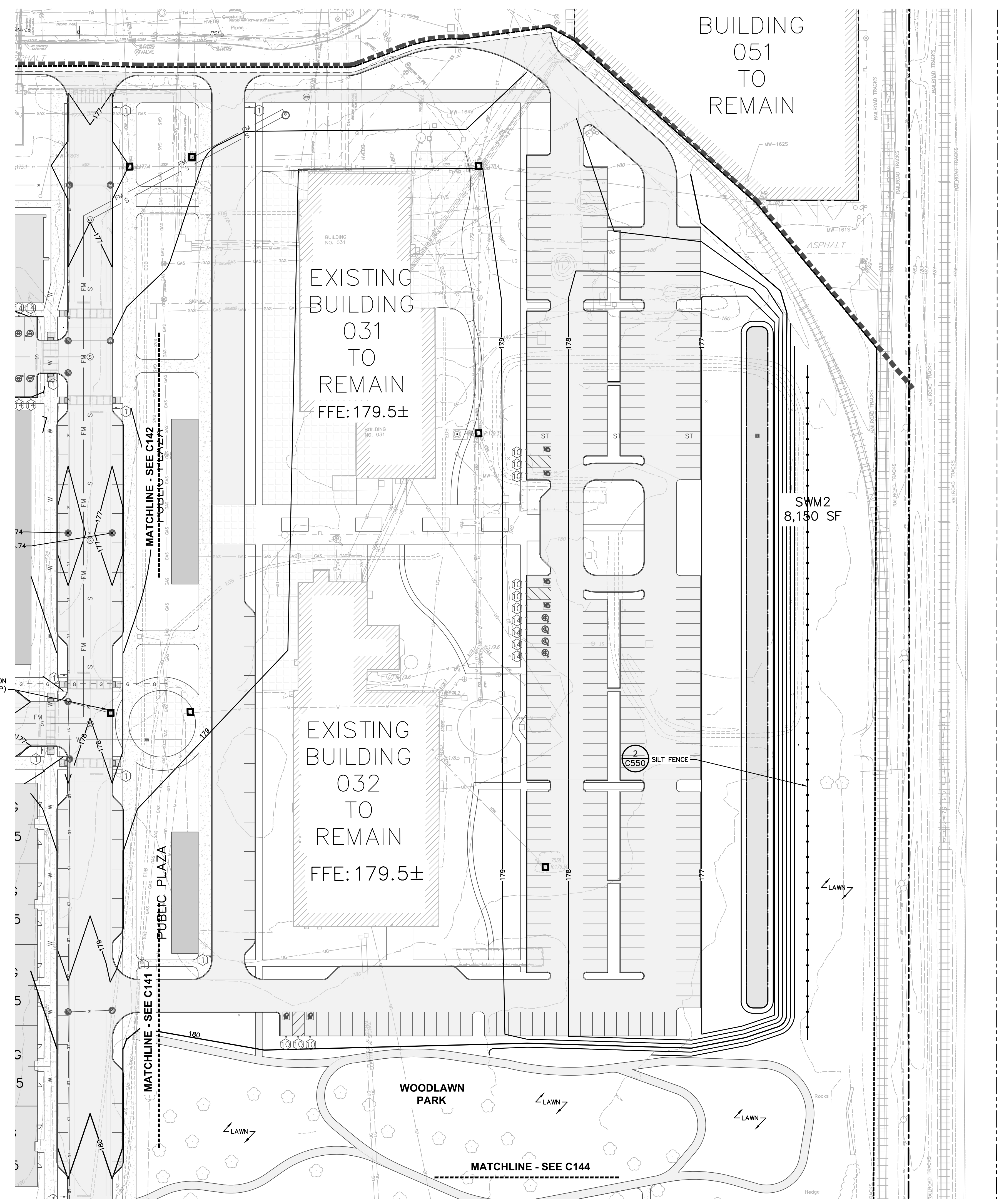
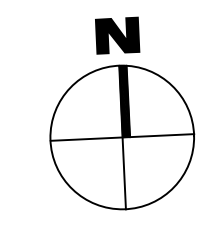
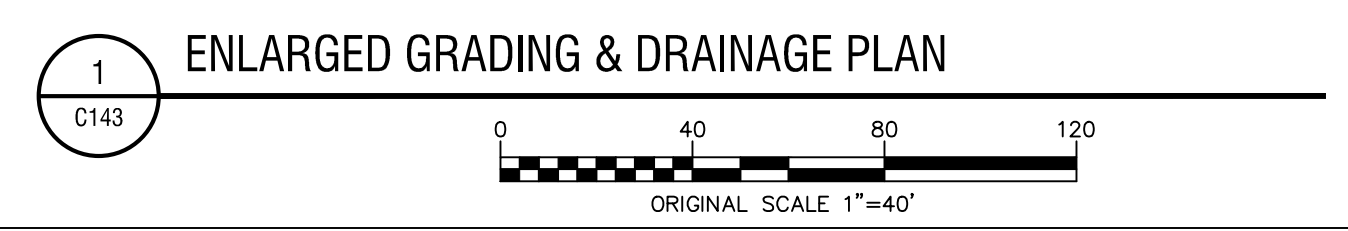


**1** ENLARGED GRADING & DRAINAGE PLAN  
ORIGINAL SCALE 1"=80'

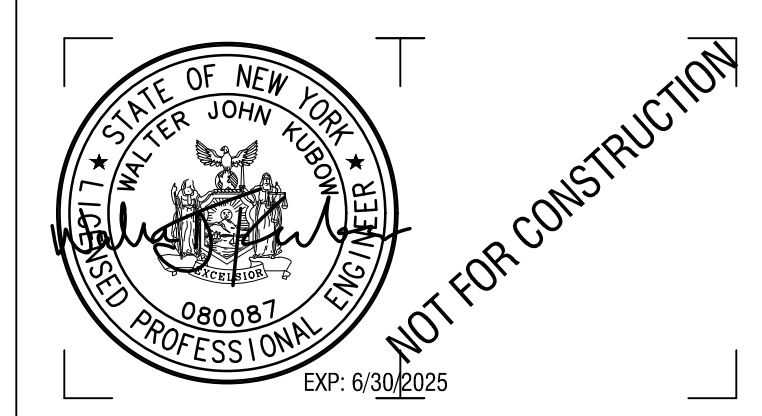


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4 British American Boulevard  
Latham, NY 12110  
518-439-8235  
labellapc.com

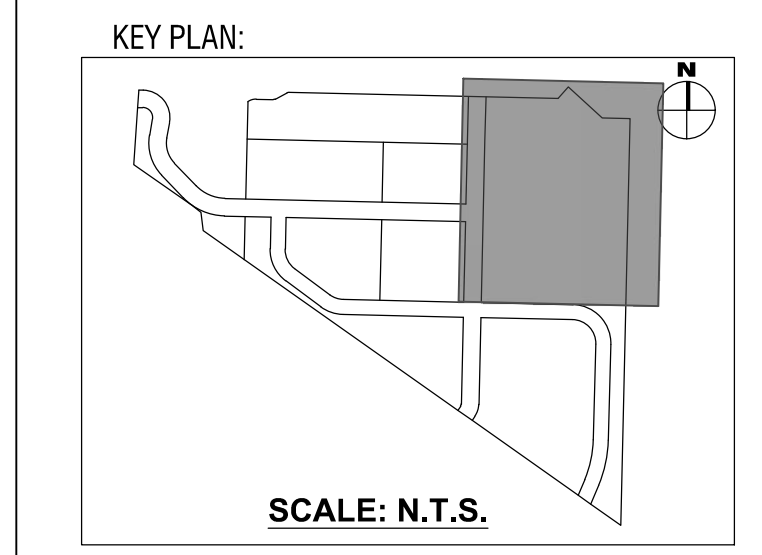


CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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CLIENT NAME:  
**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830



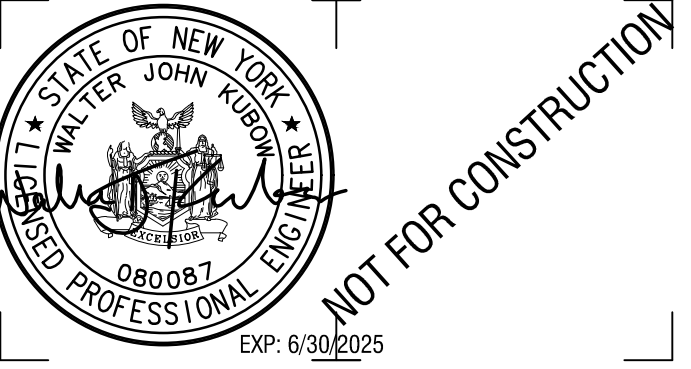
PROJECT NAME:  
**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		
PROJECT NUMBER: 2222588.01		
DRAWN BY: DAS, HEB		
REVIEWED BY: WJK		
ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL		
DATE: 08/29/23		
DRAWING NAME:		

**ENLARGED GRADING & EROSION CONTROL PLAN**

DRAWING NUMBER:

**C143**



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

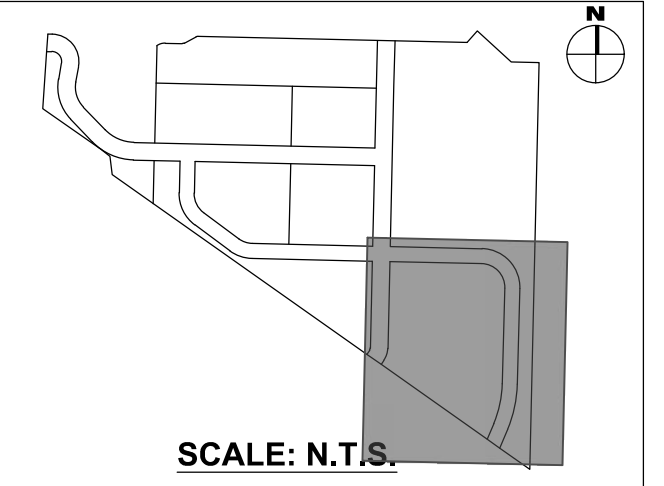
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

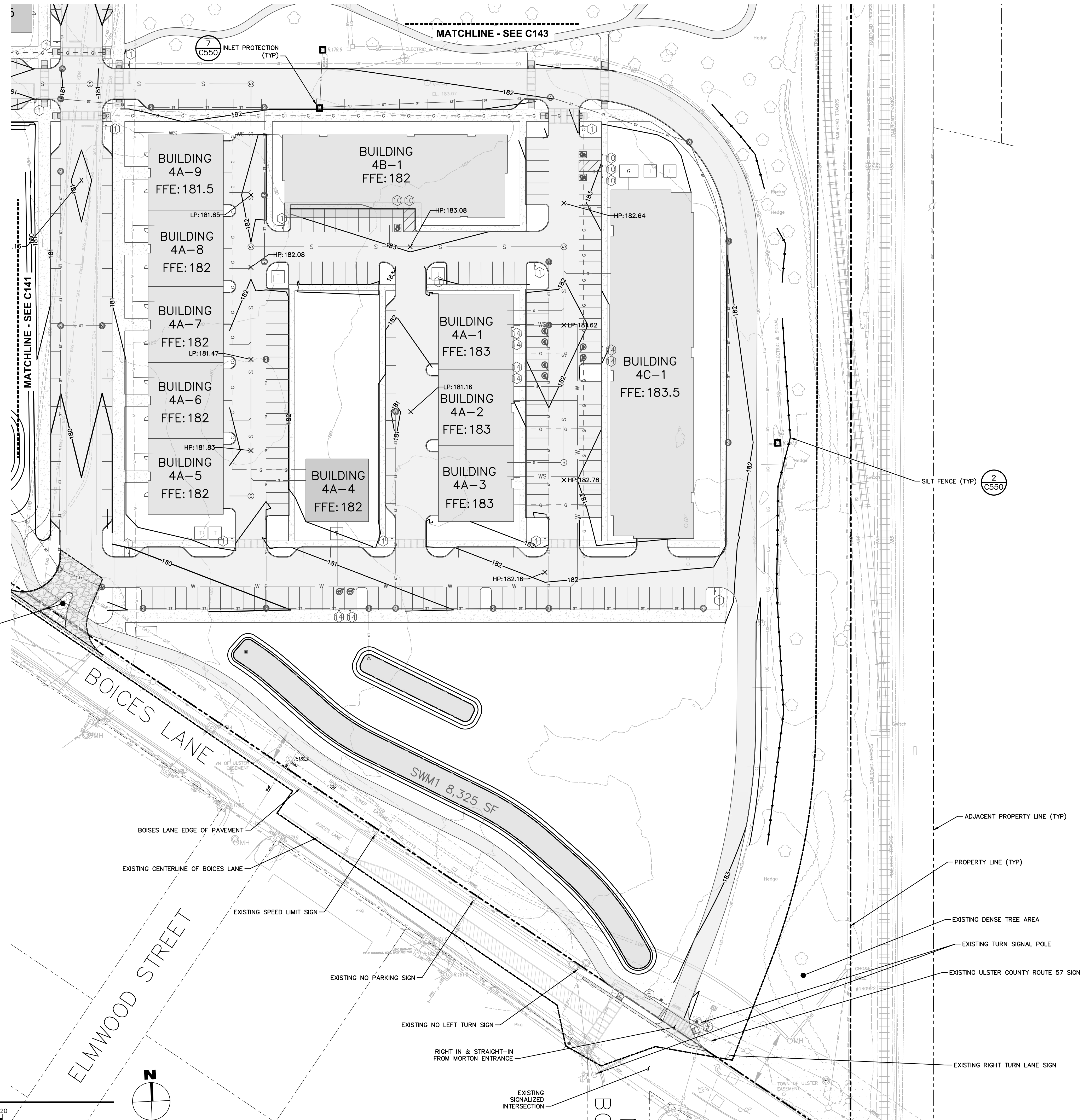
DATE: 08/29/23

DRAWING NAME:

**ENLARGED GRADING & EROSION CONTROL PLAN**

DRAWING NUMBER:

**C144**



1 C550 STABILIZED CONSTRUCTION ENTRANCE

2 C550 SILT FENCE (TYP)

BOICES LANE  
ELMWOOD STREET

BOICES LANE EDGE OF PAVEMENT  
EXISTING CENTERLINE OF BOICES LANE

EXISTING SPEED LIMIT SIGN

EXISTING NO PARKING SIGN

EXISTING NO LEFT TURN SIGN

RIGHT IN & STRAIGHT-IN FROM MORTON ENTRANCE

EXISTING SIGNALIZED INTERSECTION

ADJACENT PROPERTY LINE (TYP)

PROPERTY LINE (TYP)

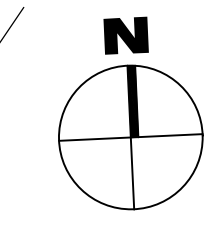
EXISTING DENSE TREE AREA

EXISTING TURN SIGNAL POLE

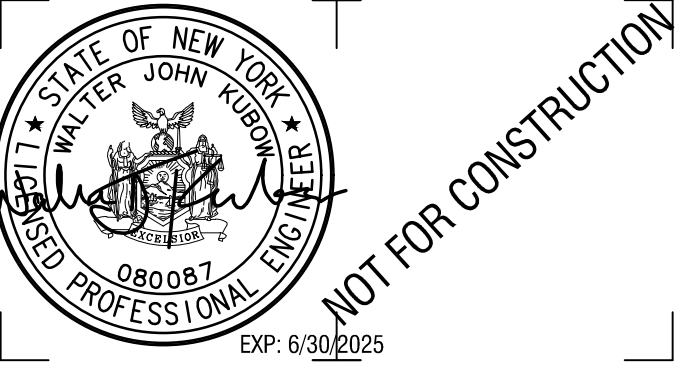
EXISTING ULSTER COUNTY ROUTE 57 SIGN

EXISTING RIGHT TURN LANE SIGN

1 C144 ENLARGED GRADING & DRAINAGE PLAN



V:\ark\lab\Projects\National Resources\2222588.01 - iPak P1\08\_Drawings\Civil\01\_C141-C144\_2222588-01\_GROAD-ENLARGE.dwg  
 8/29/2023 12:02:15 PM



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

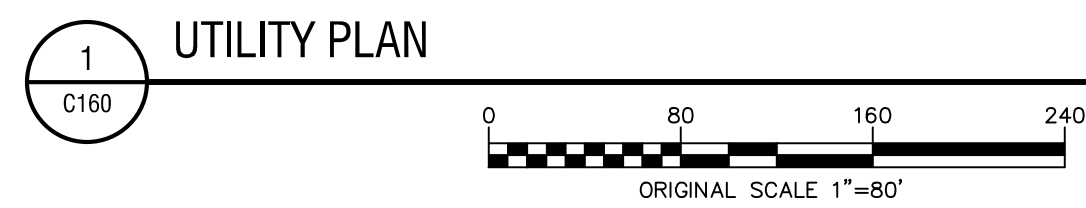
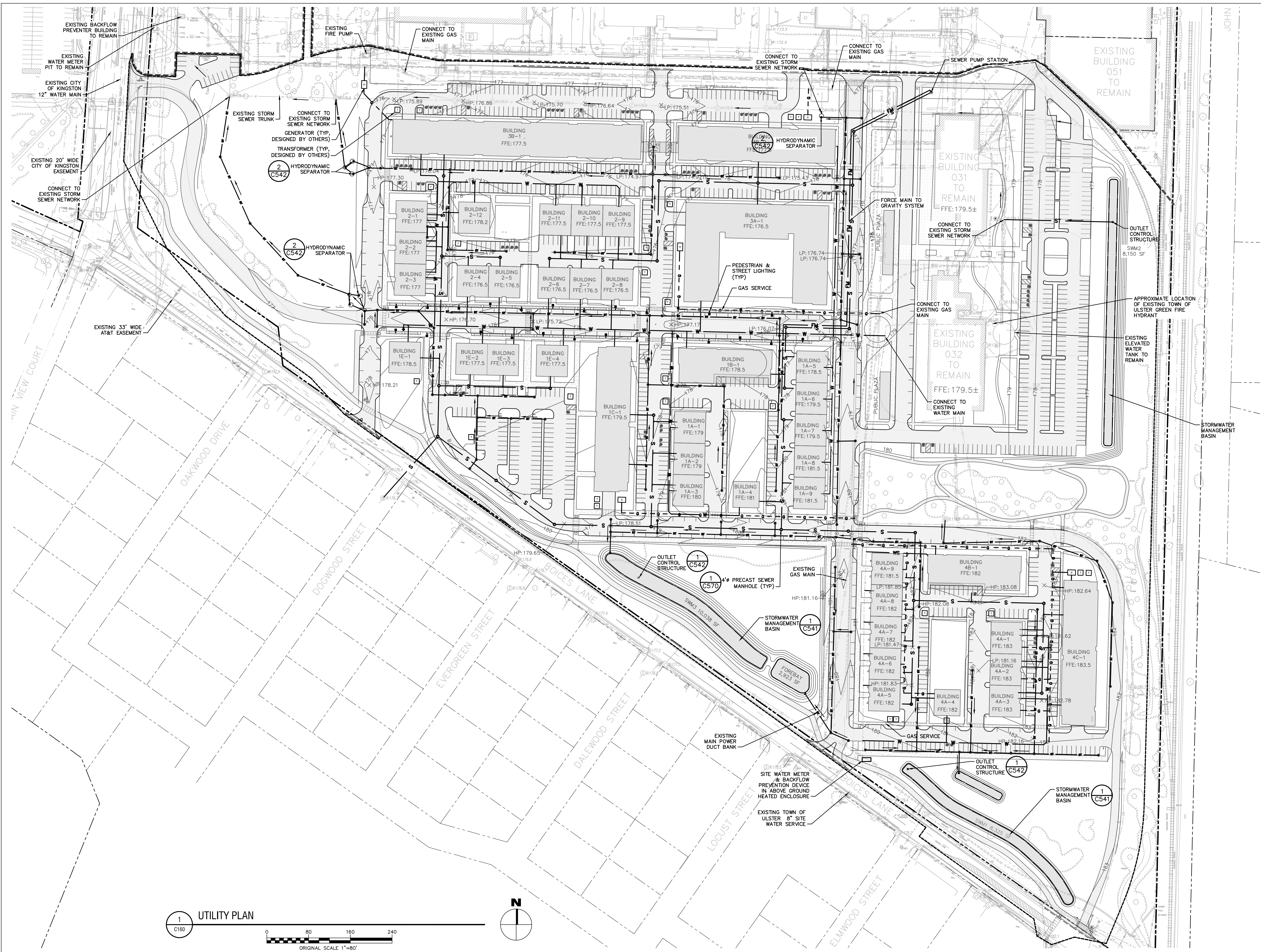
DATE: 08/29/23

DRAWING NAME:

**UTILITY PLAN**

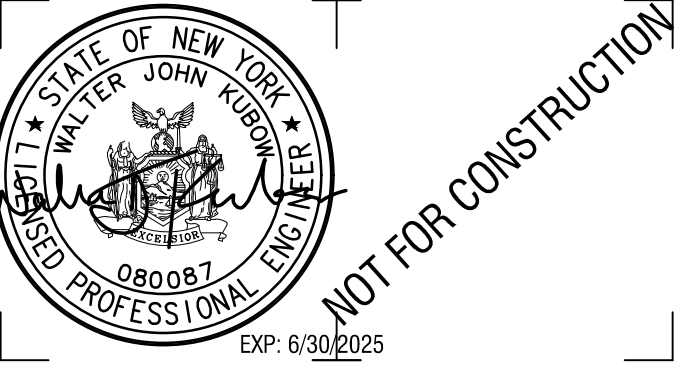
DRAWING NUMBER:

**C160**



\\schlab\Projects\National Resources\2222588.01 - iPak P1\08\_Drawings\Civil\01\_C160\_2222588-01\_UTL.dwg  
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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

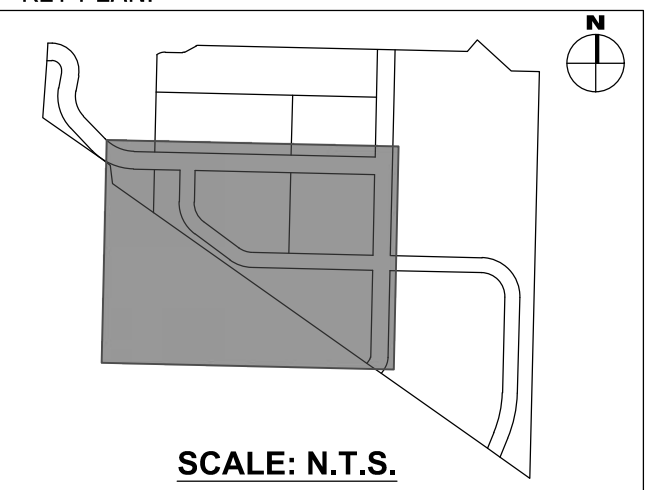
It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



SCALE: N.T.S.

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB  
REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

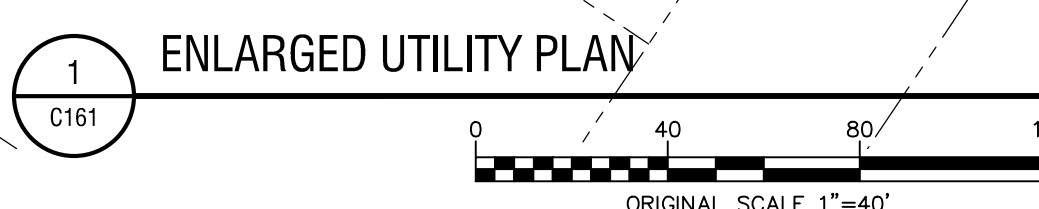
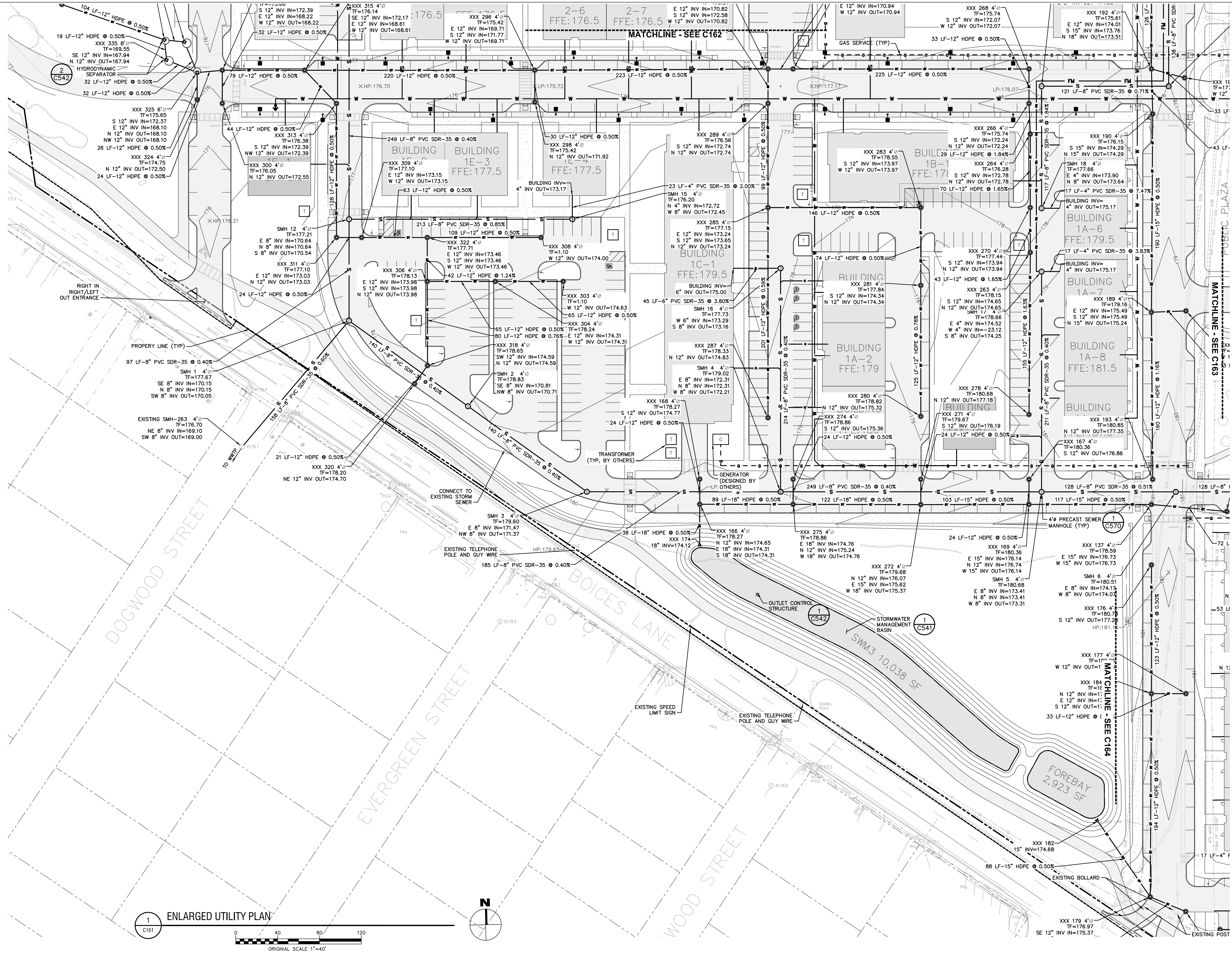
DATE: 08/29/23

DRAWING NAME:

**ENLARGED UTILITY PLAN**

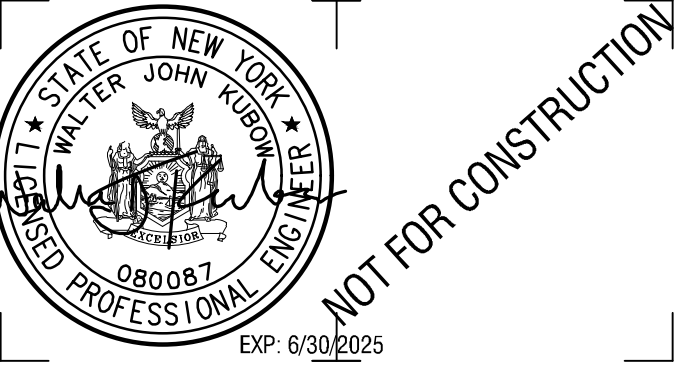
DRAWING NUMBER:

**C161**



1 ENLARGED UTILITY PLAN

V:\arch\lab\Projects\National Resources\2222588.01 - iPak P1\08\_Drawings\Civil\01\_C161-C164\_2222588-01\_UTL-ENLARGED.dwg  
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CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

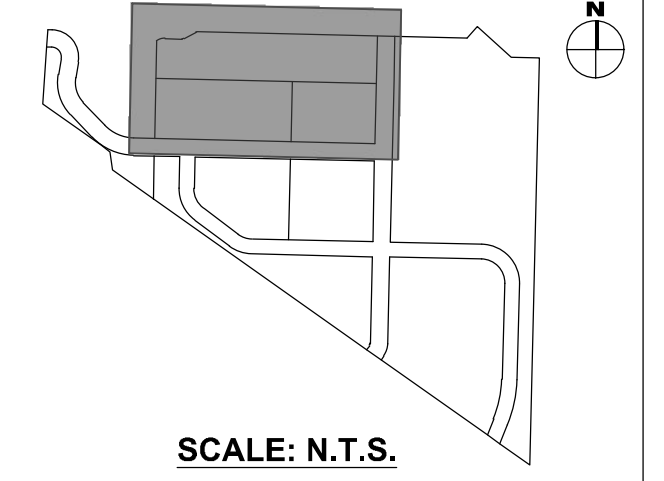
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



SCALE: N.T.S.

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

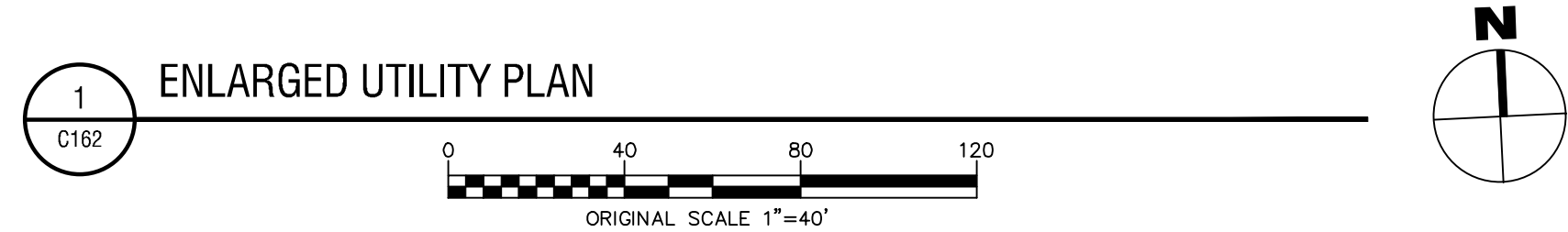
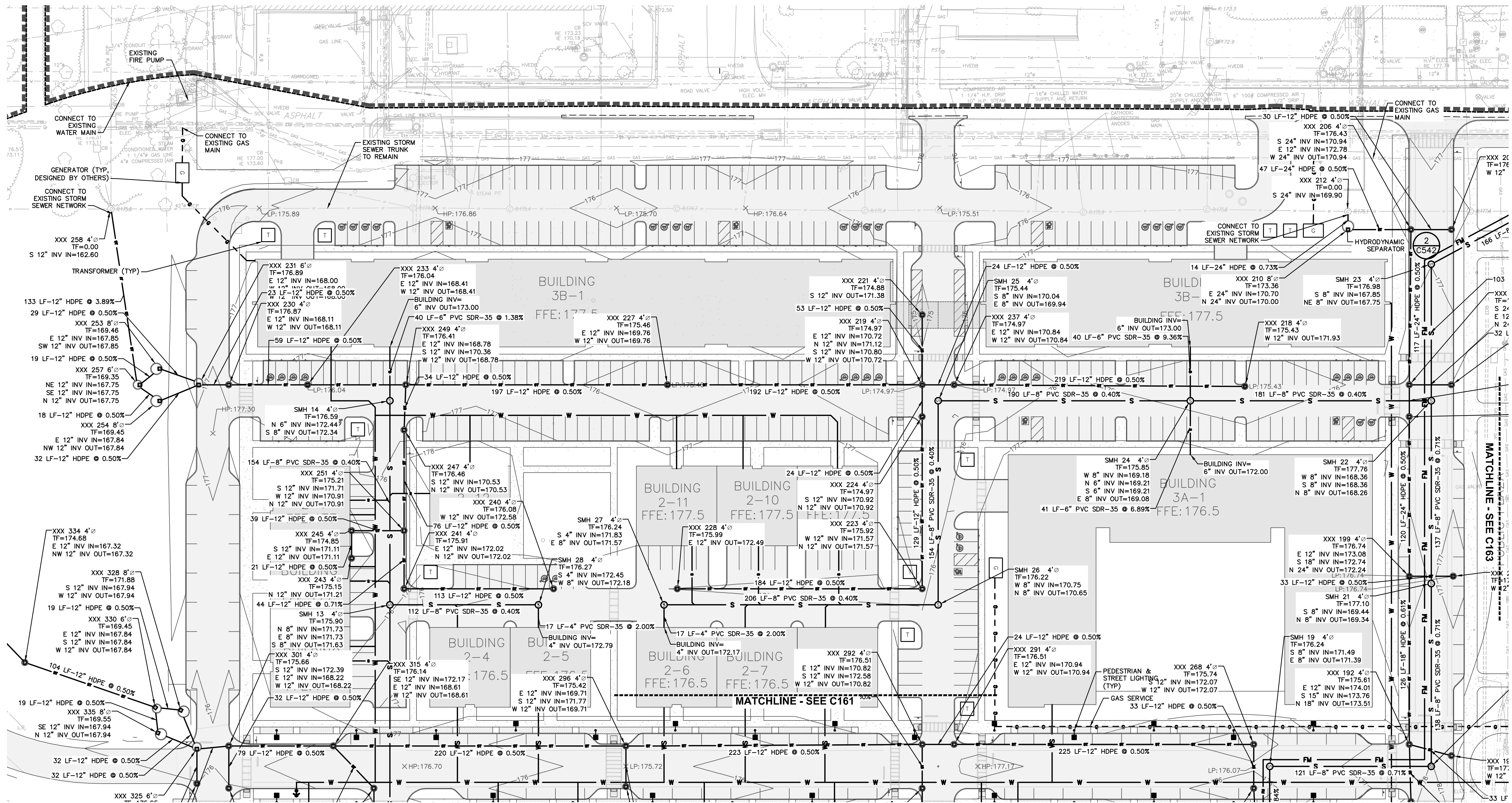
DATE: 08/29/23

DRAWING NAME:

**ENLARGED UTILITY PLAN**

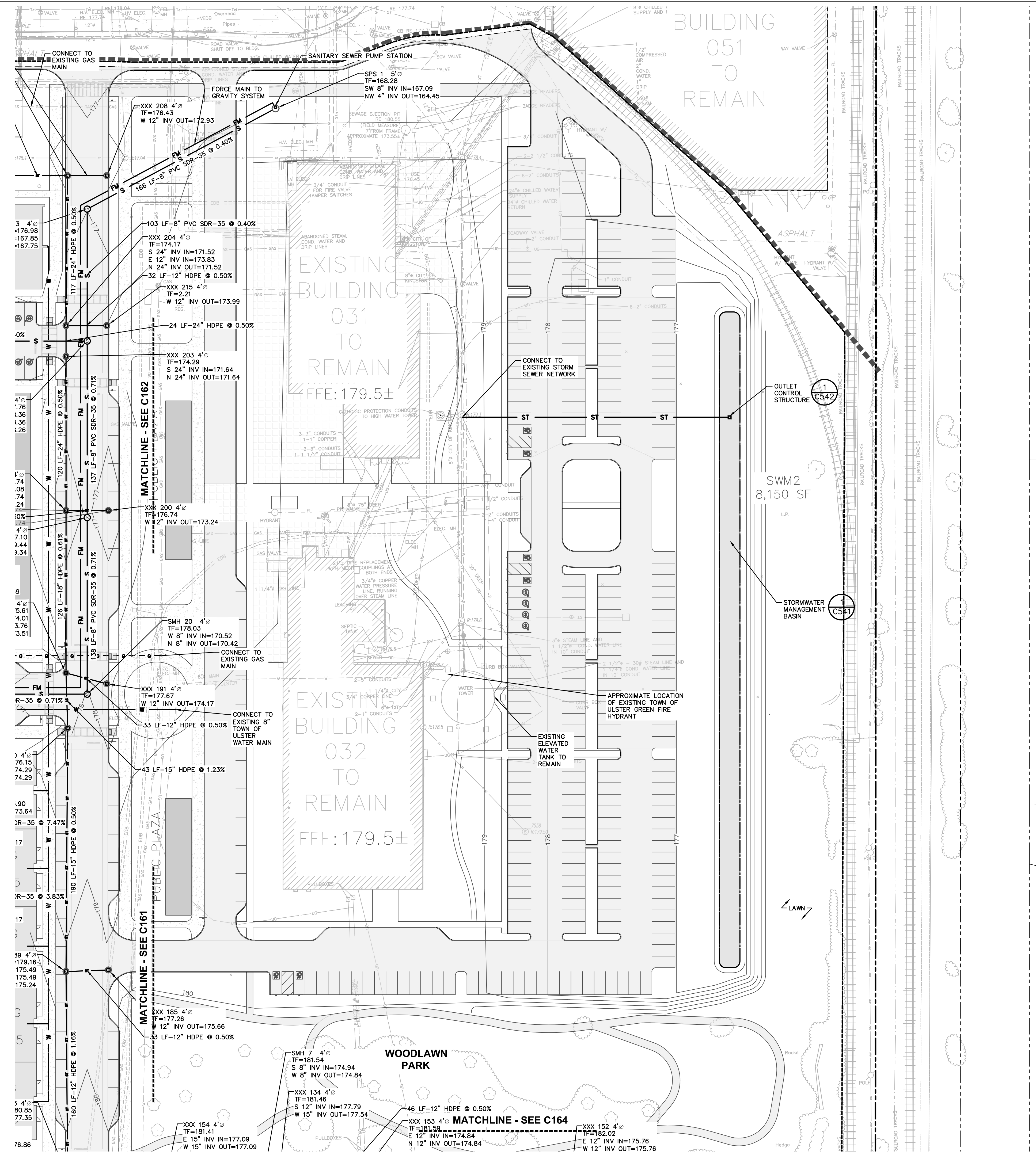
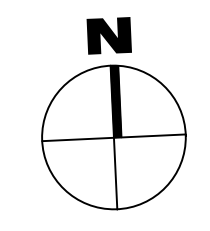
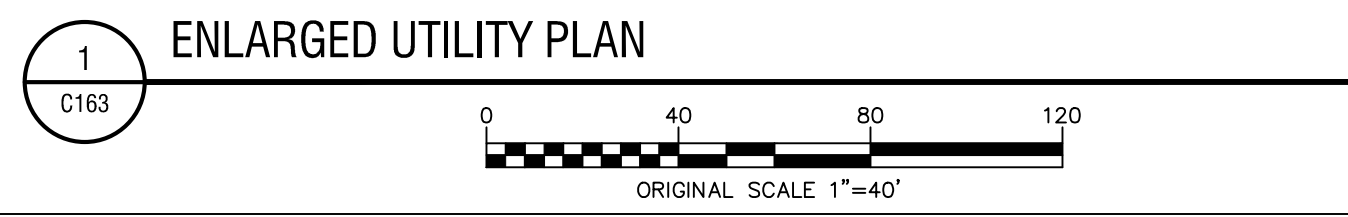
DRAWING NUMBER:

**C162**

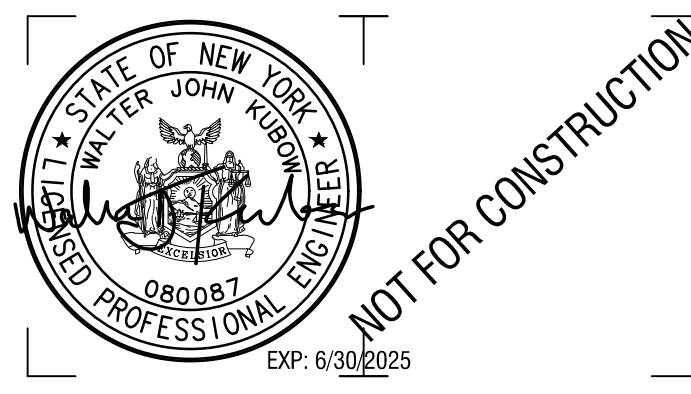


1 ENLARGED UTILITY PLAN  
C162

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8/29/2023 12:07:28 PM



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Latham, NY 12110  
518-439-8235  
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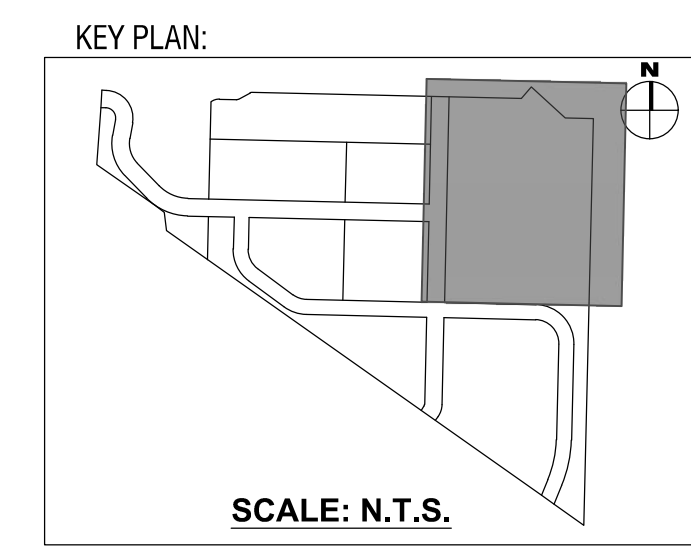


CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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CLIENT NAME:  
**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830



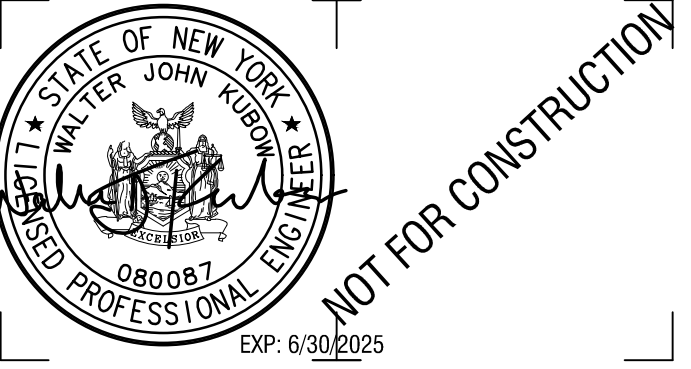
PROJECT NAME:  
**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		
PROJECT NUMBER: 2222588.01		
DRAWN BY: DAS, HEB		
REVIEWED BY: WJK		
ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL		
DATE: 08/29/23		
DRAWING NAME:		

**ENLARGED UTILITY PLAN**

DRAWING NUMBER:

**C163**



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

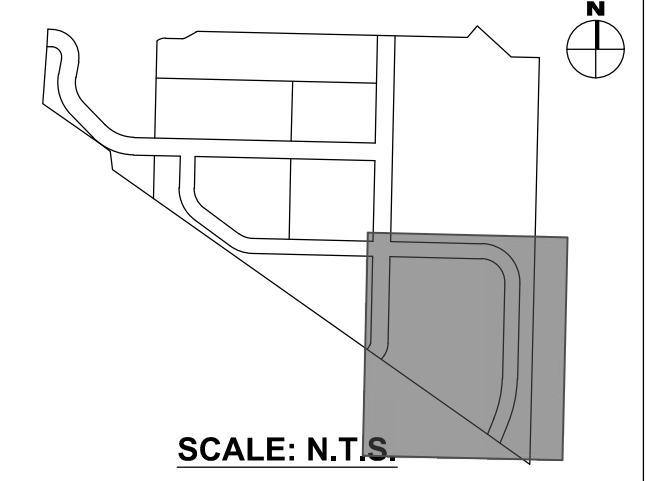
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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

KEY PLAN:



PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

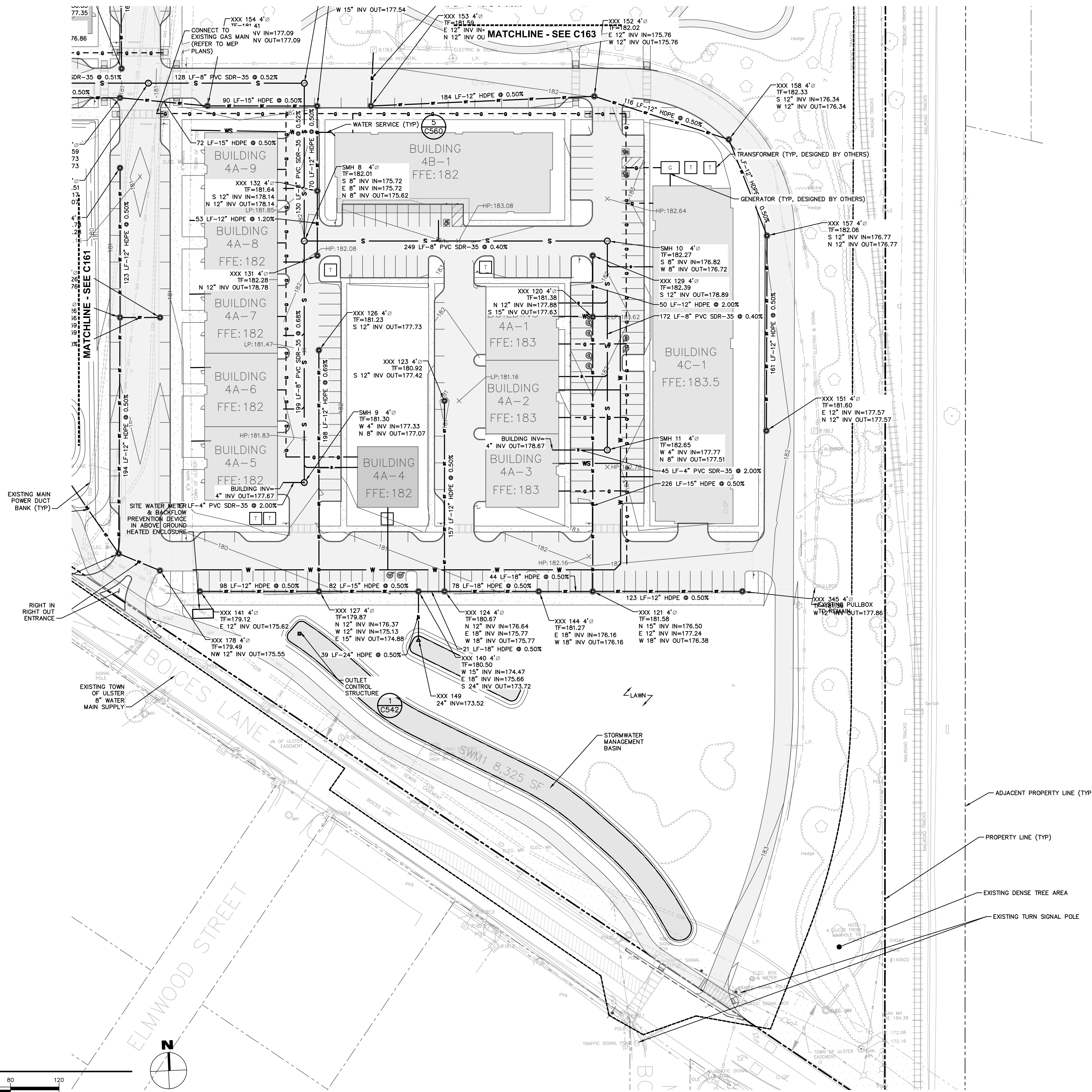
DATE: 08/29/23

DRAWING NUMBER:

**ENLARGED UTILITY PLAN**

DRAWING NUMBER:

**C164**





NOT FOR CONSTRUCTION

CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

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485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

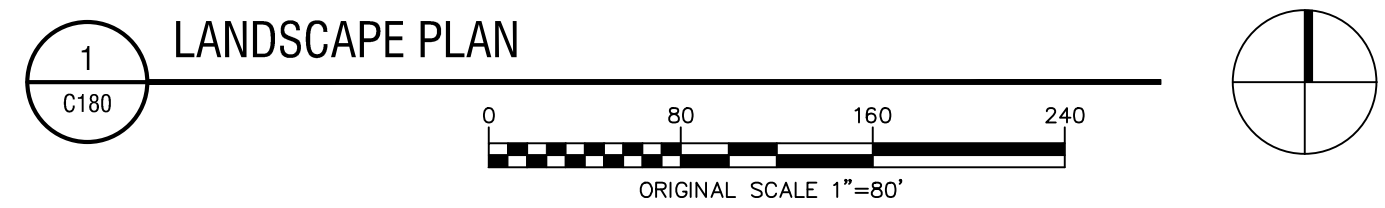
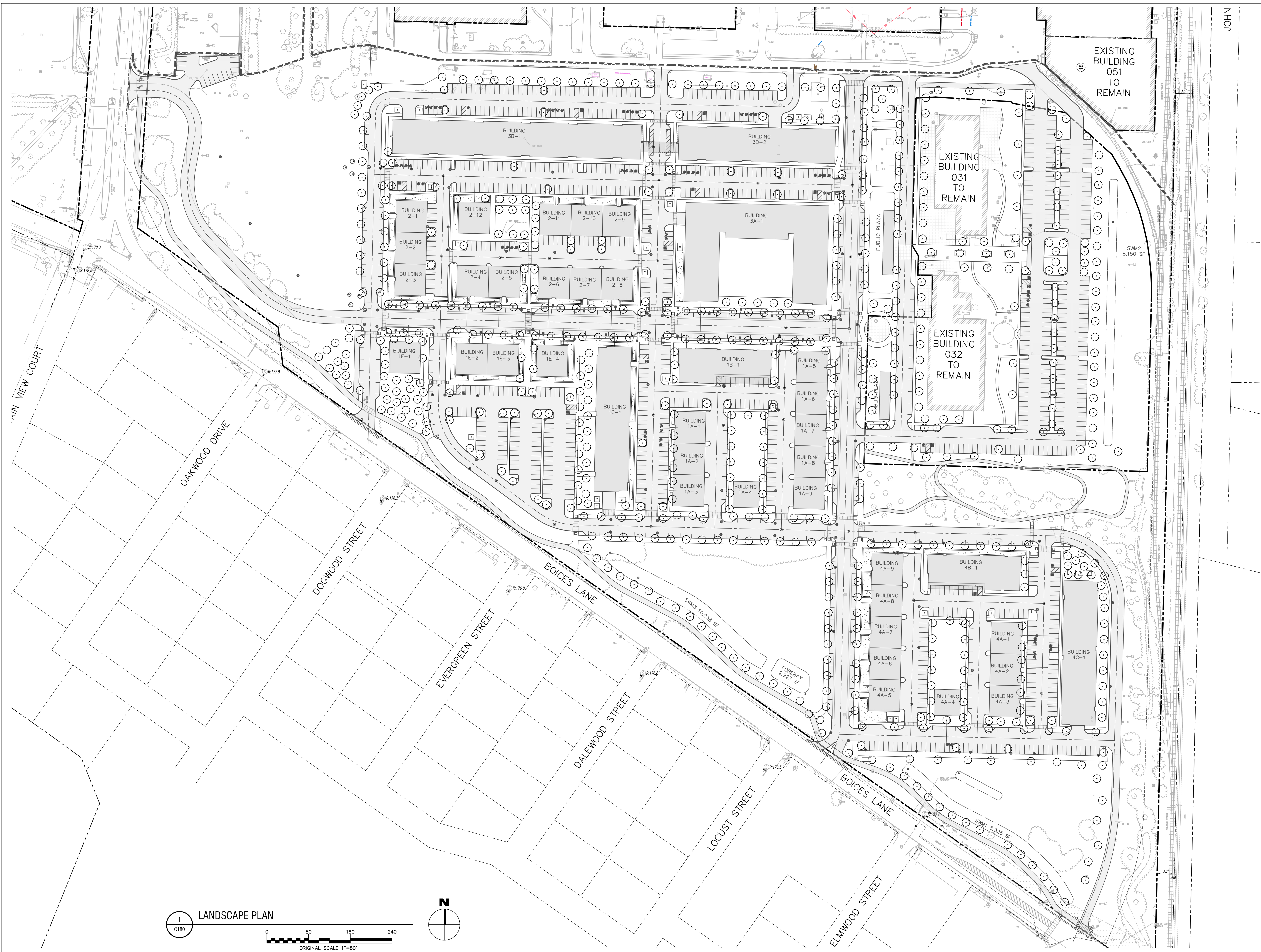
DATE: 08/29/23

DRAWING NUMBER:

**LANDSCAPE PLAN**

DRAWING NUMBER:

**C180**



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NOT FOR CONSTRUCTION

CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

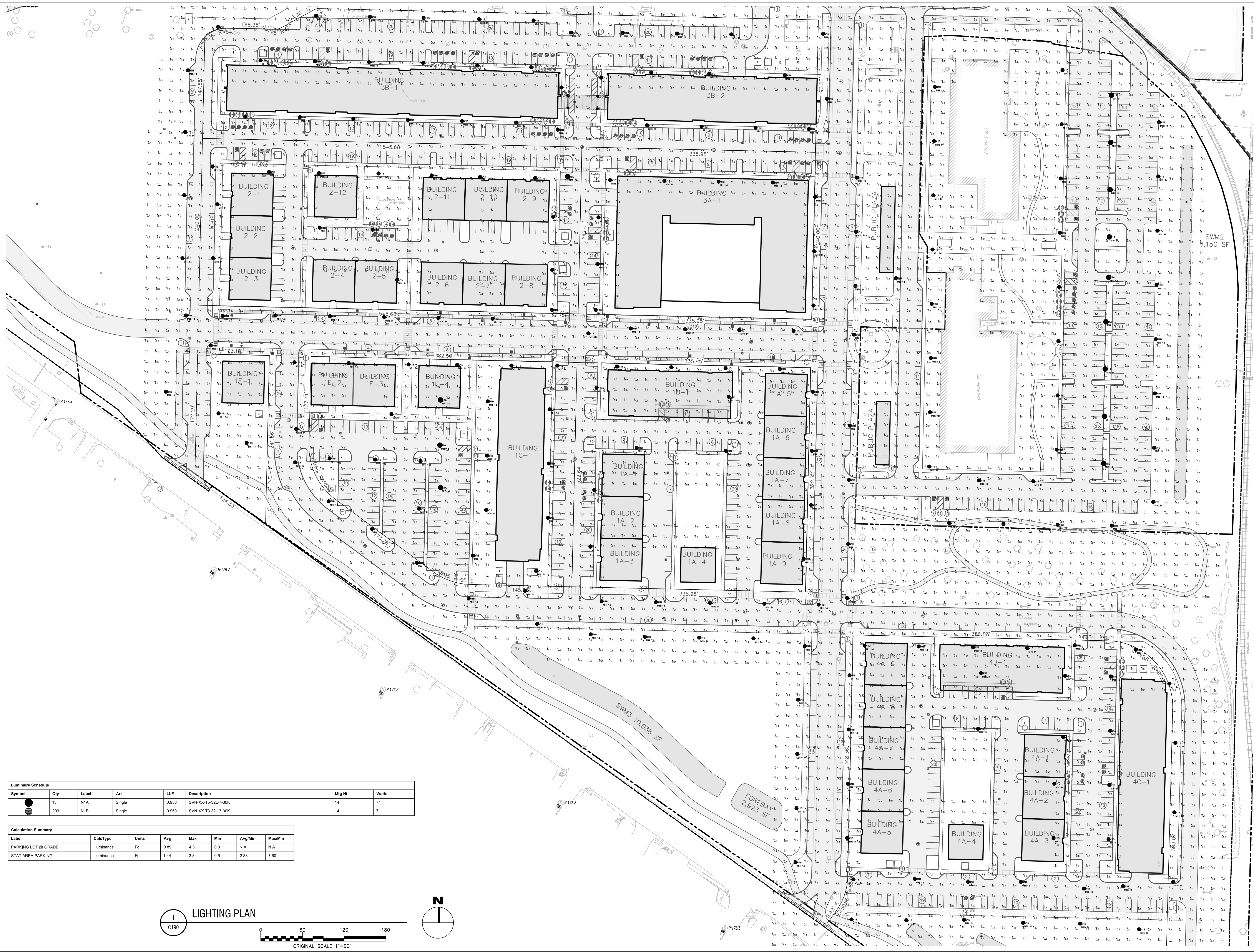
DATE: 08/29/23

DRAWING NAME:

**LIGHTING PLAN**

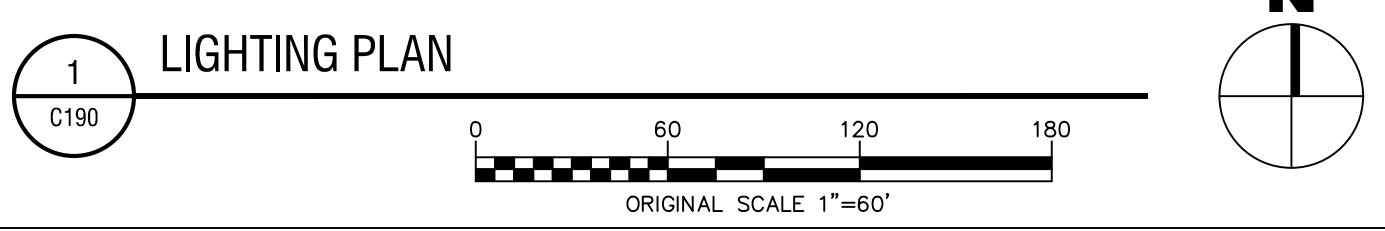
DRAWING NUMBER:

**C190**



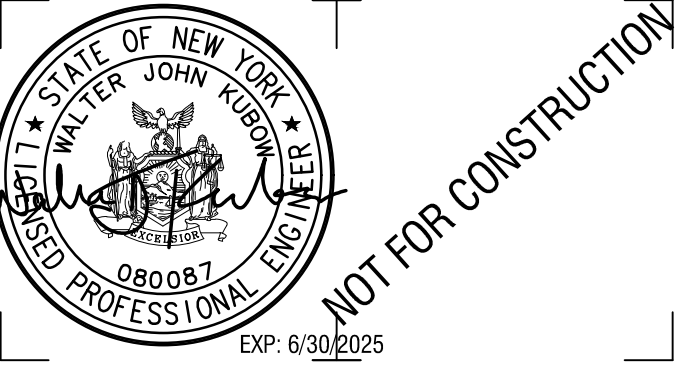
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●	13	N1A	Single	0.950	SVN-XX-TS-32L-7-30K	14	71
●	209	N1B	Single	0.950	SVN-XX-TS-32L-7-30K	14	71

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING LOT @ GRADE	Illuminance	Fc	0.89	4.3	0.0	N.A.	N.A.
STAT AREA PARKING	Illuminance	Fc	1.44	3.8	0.5	2.88	7.60



1 LIGHTING PLAN

\\schlabell\Projects\National Resources\Civil\01\_C190\_2222588-01\_LIGHTING.dwg 8/29/2023 12:12:37 PM



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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GREENWICH, CT 06830

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**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

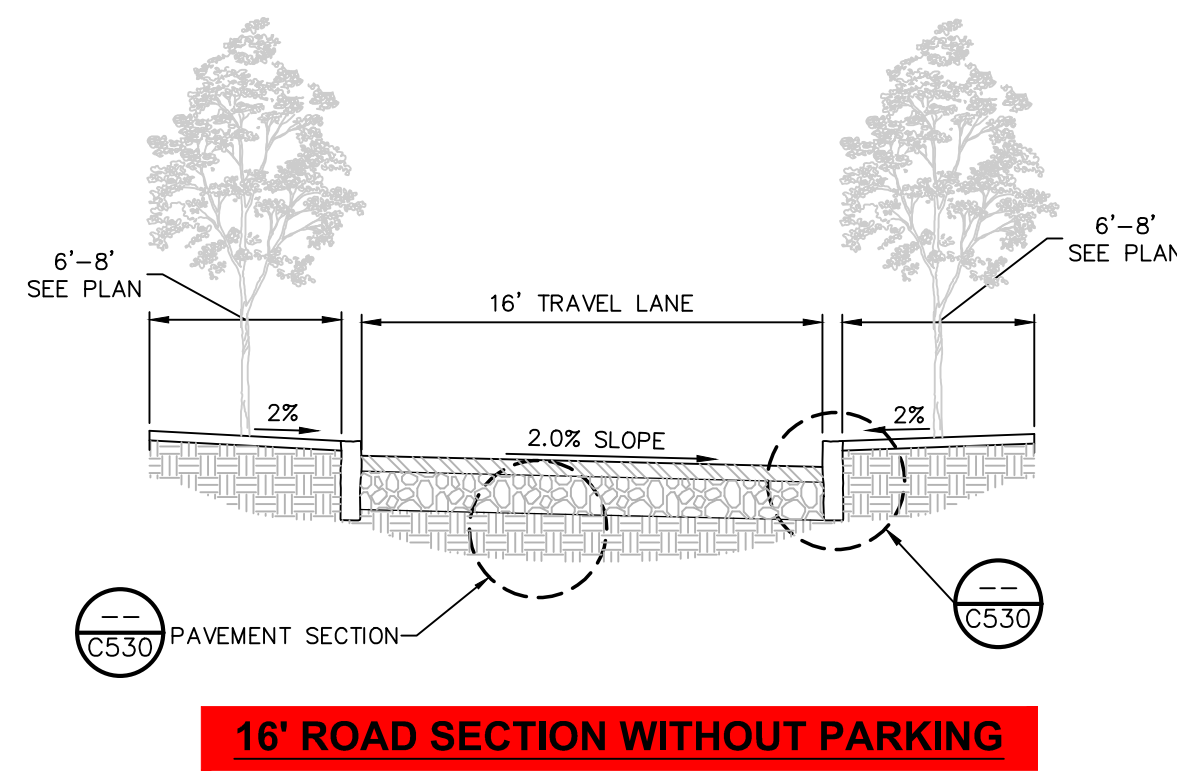
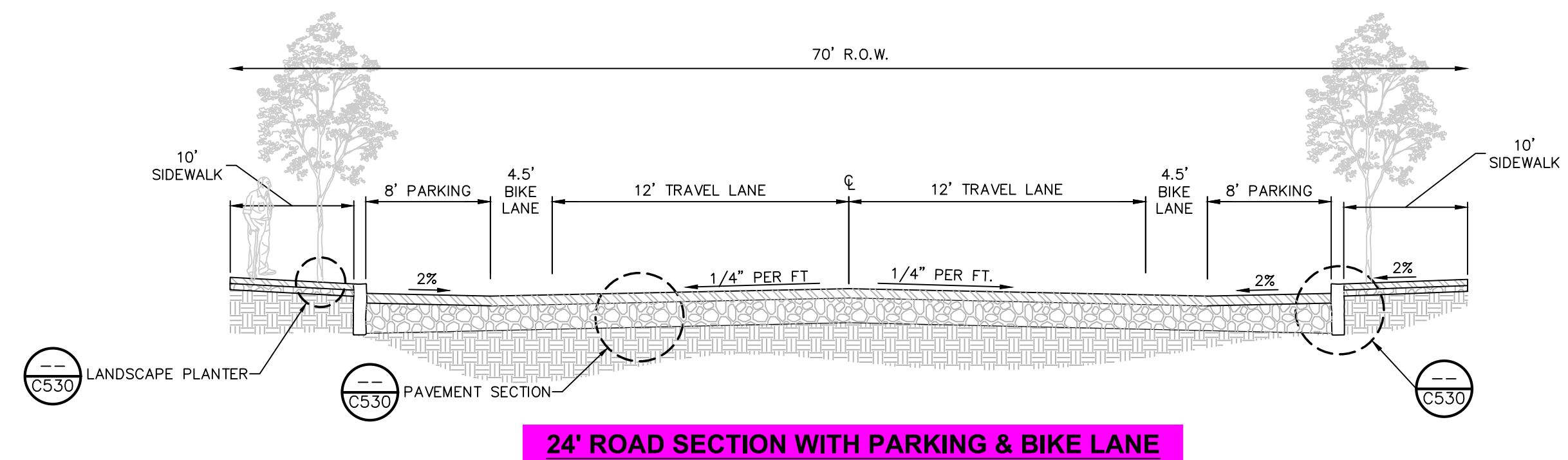
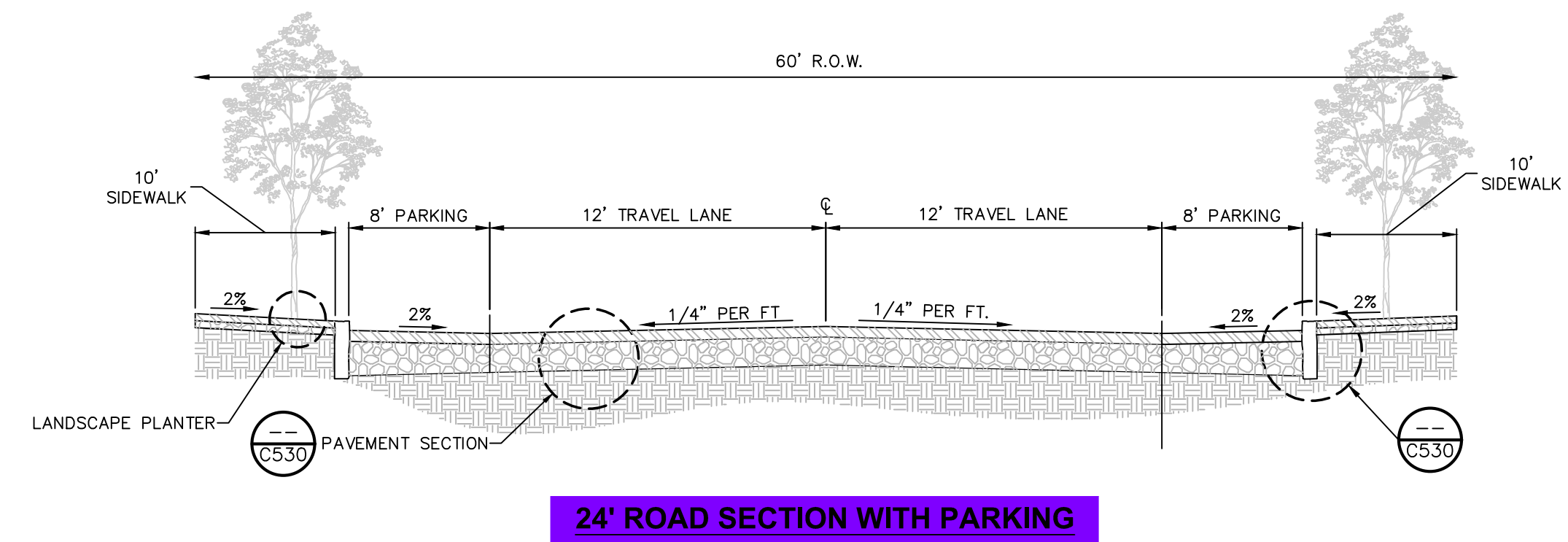
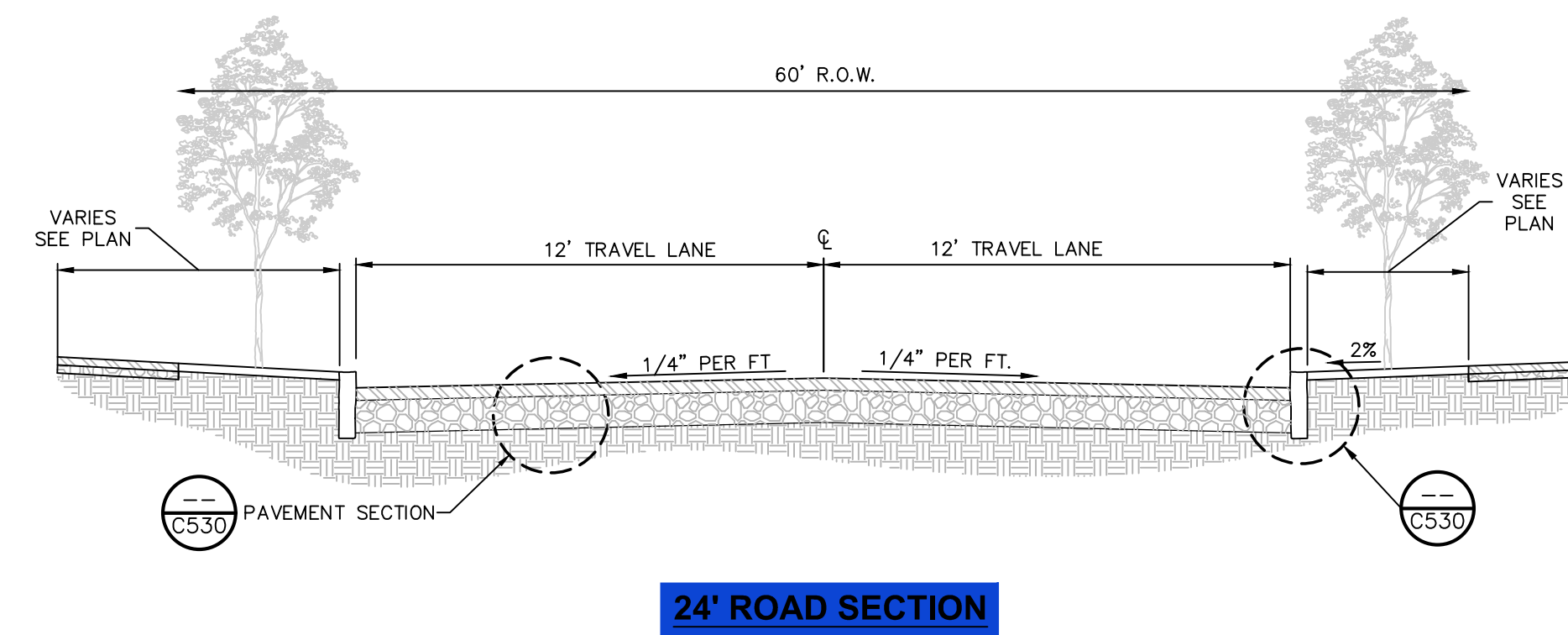
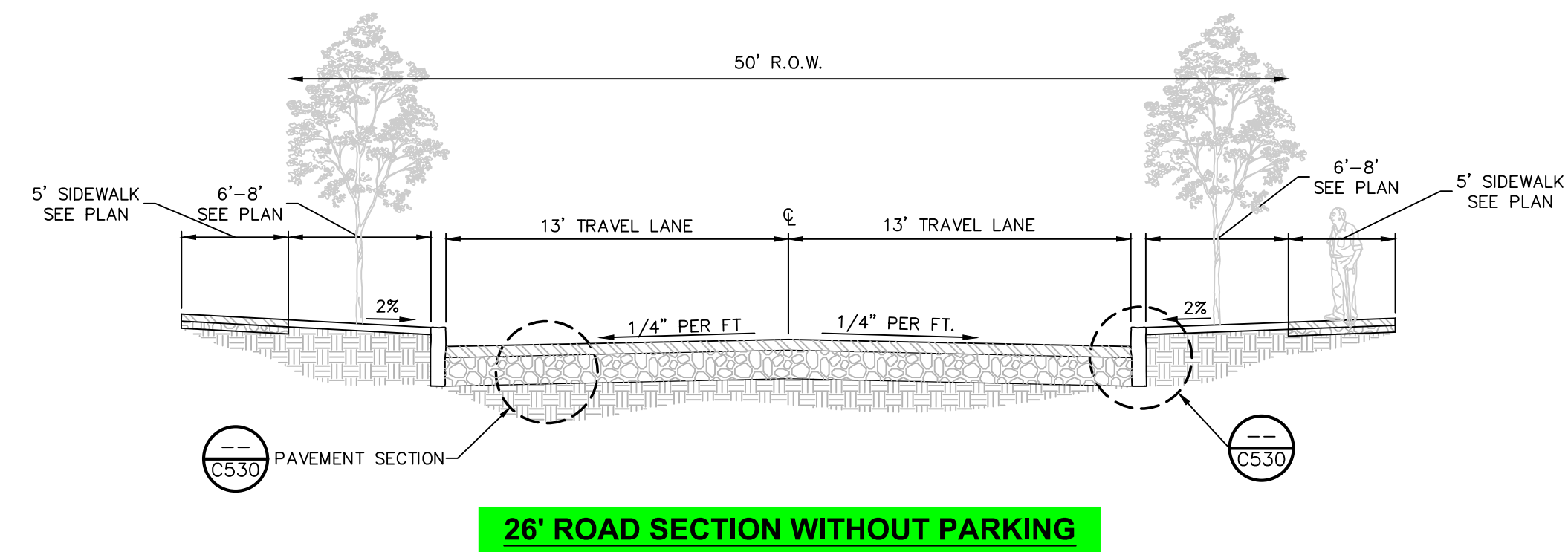
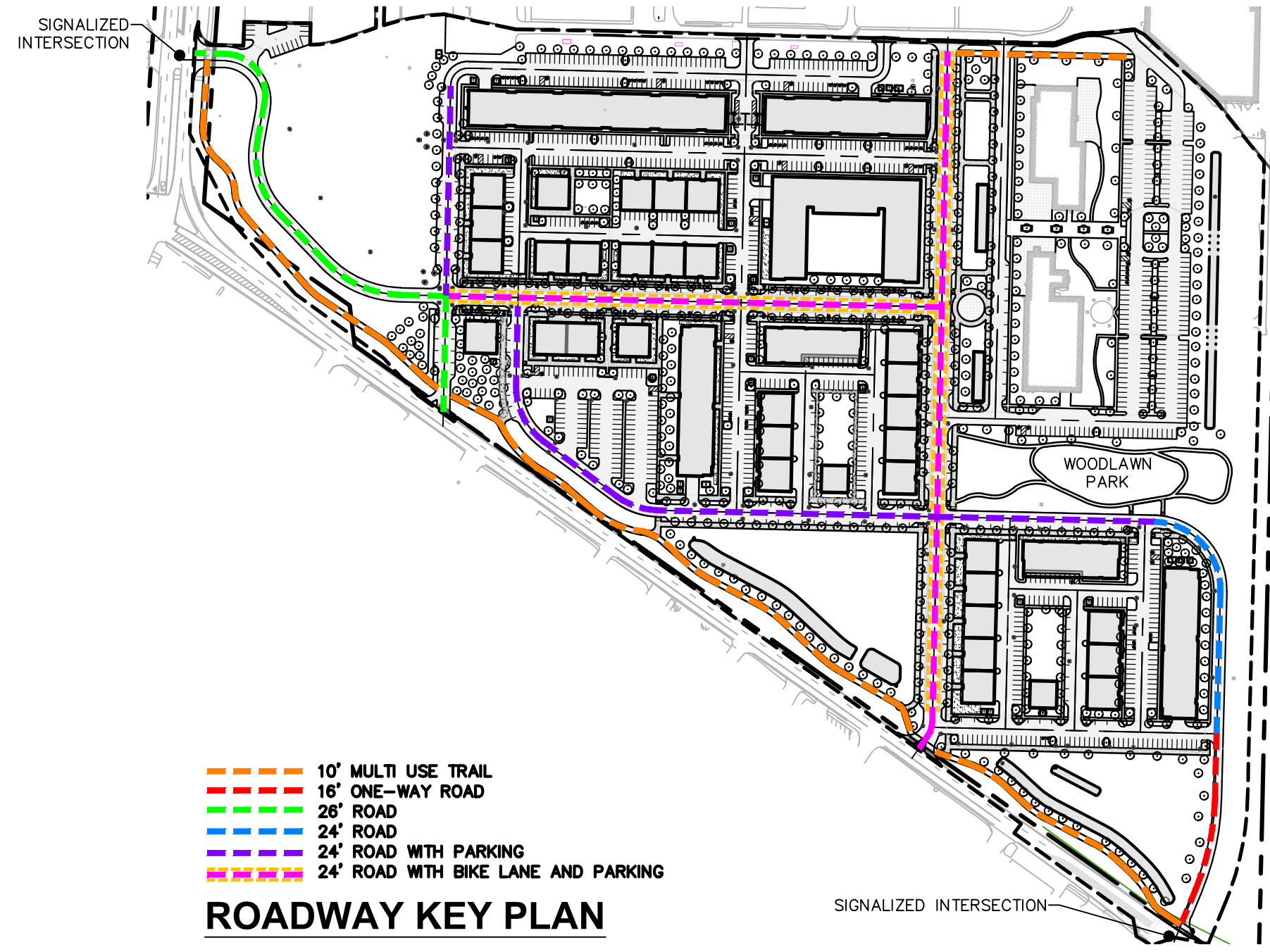
DATE: 08/29/23

DRAWING NAME:

**ROAD CROSS SECTIONS**

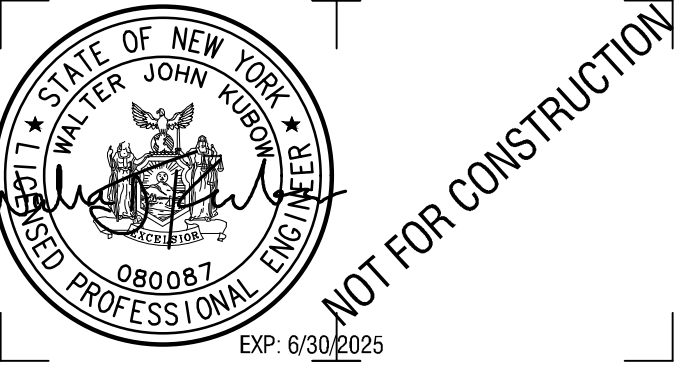
DRAWING NUMBER:

**C520**









CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

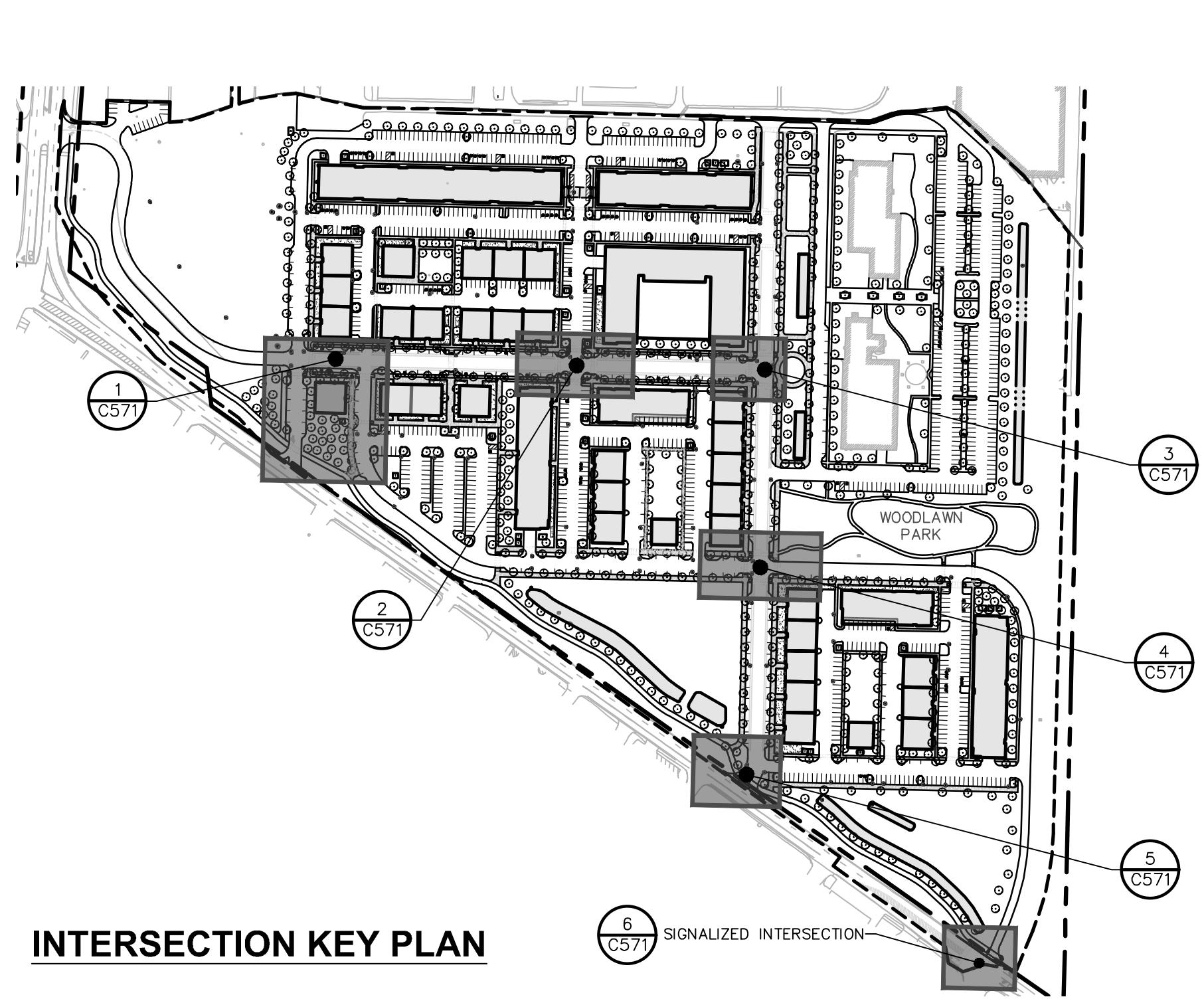
DATE: 08/29/23

DRAWING NAME:

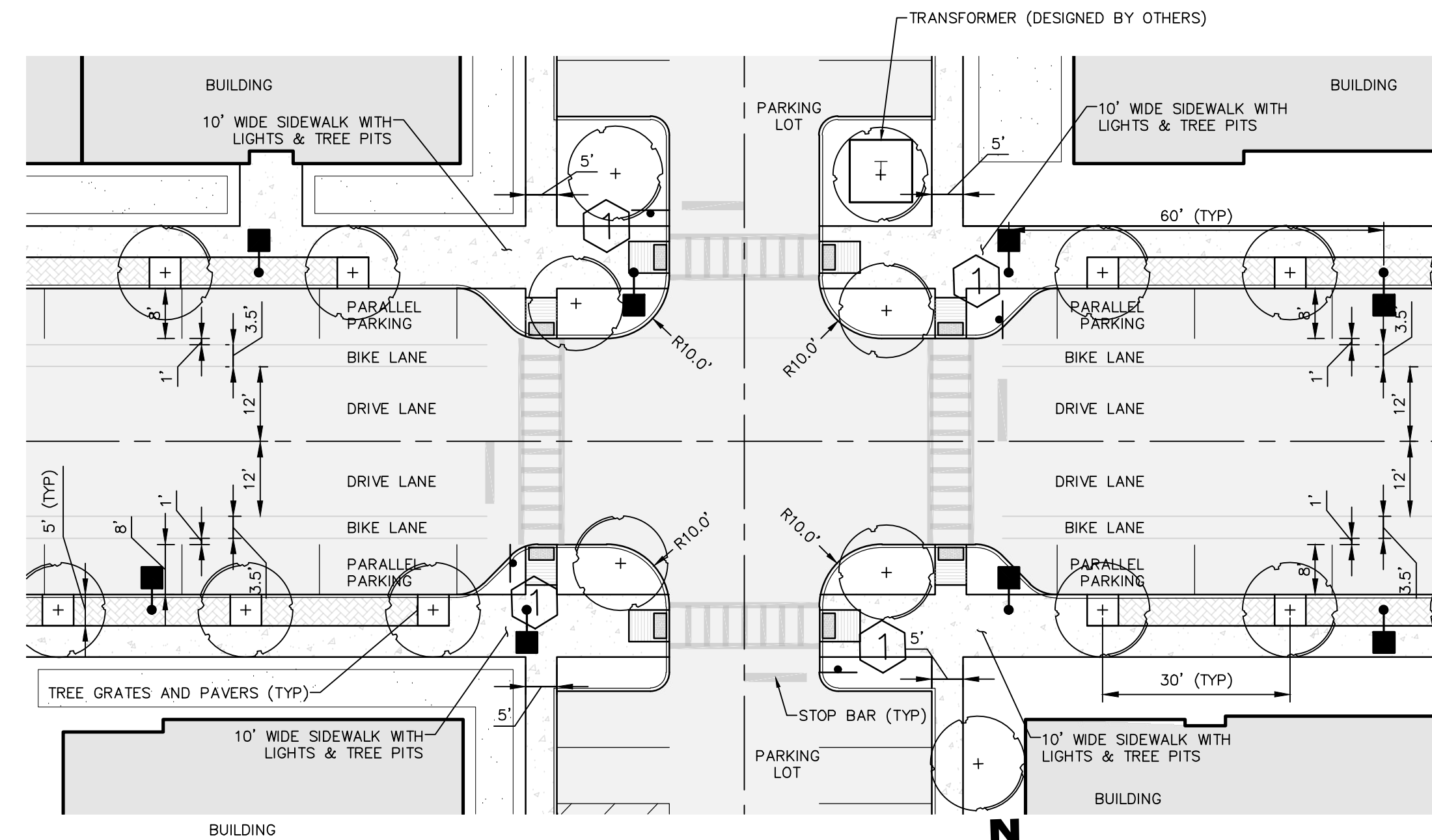
**INTERSECTION ENLARGEMENTS**

DRAWING NUMBER:

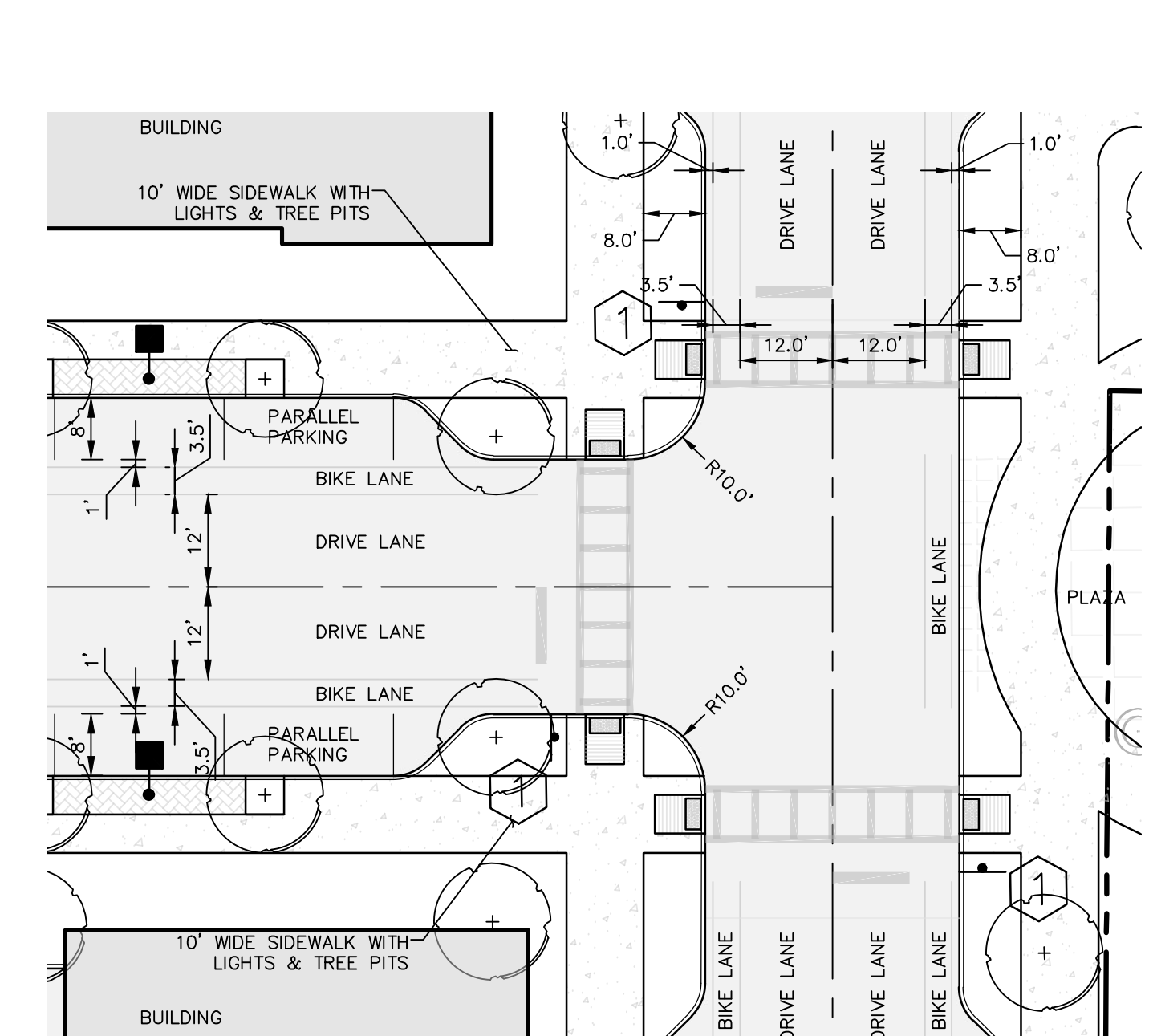
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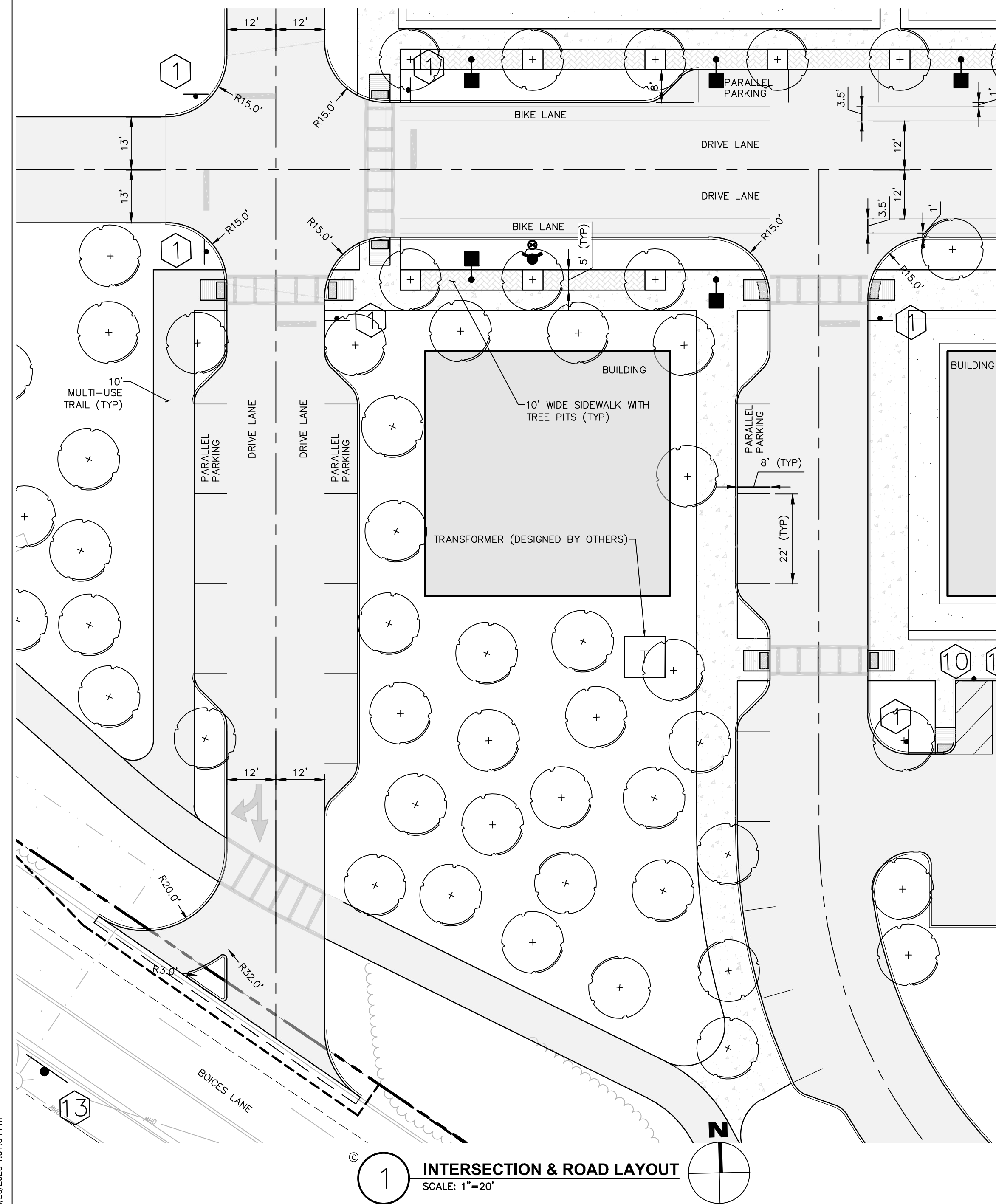
**INTERSECTION KEY PLAN**



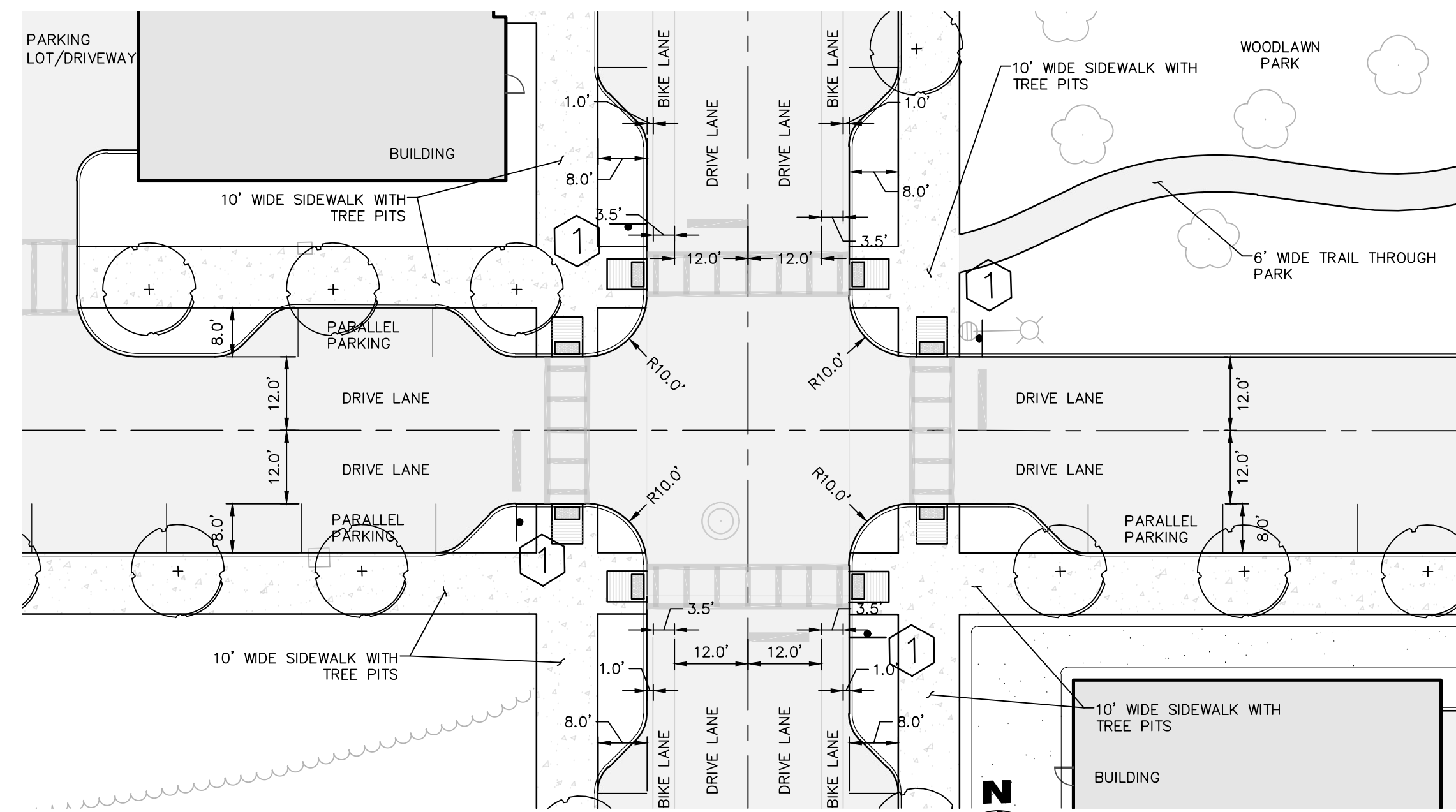
**2 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



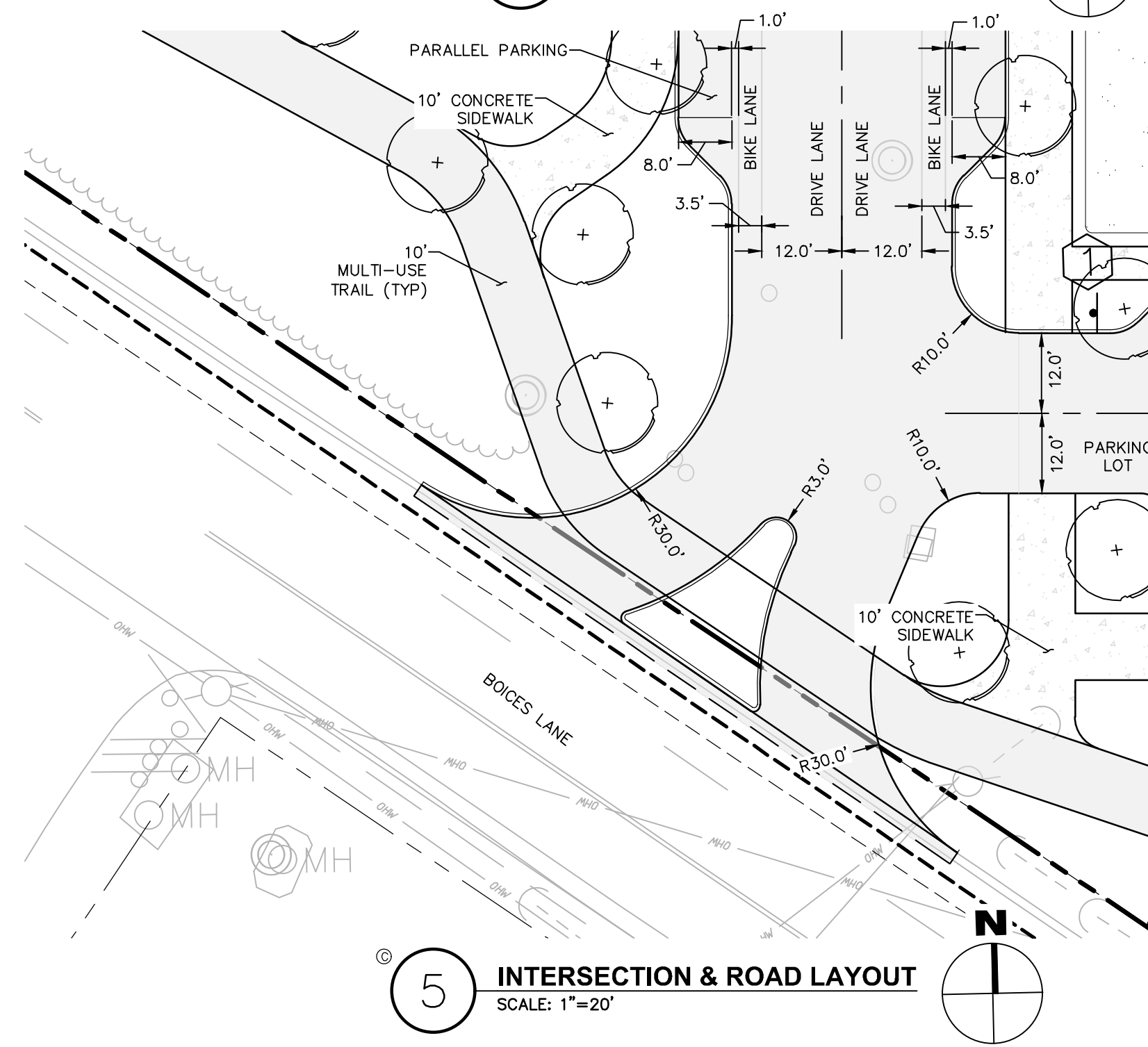
**3 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



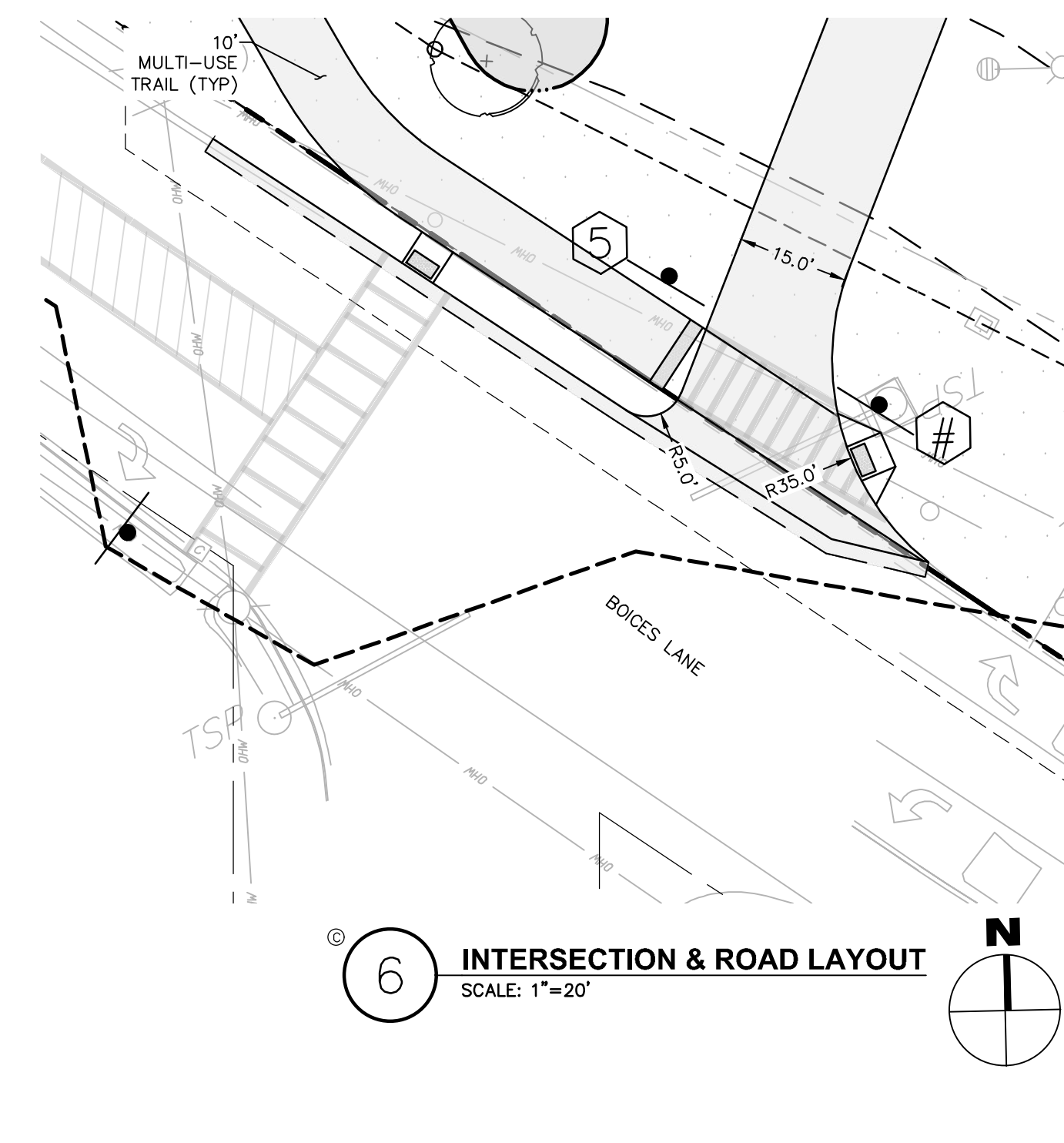
**1 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



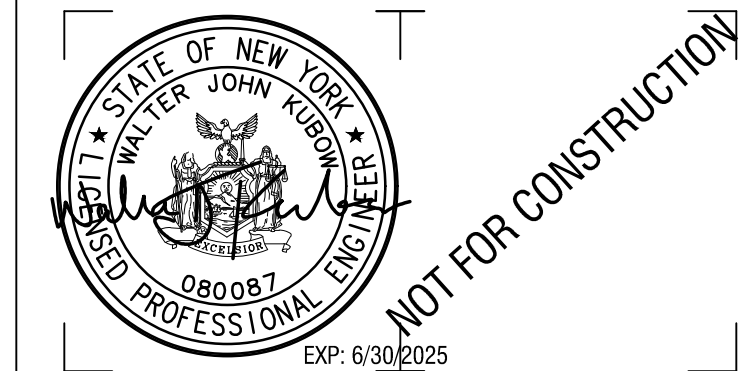
**4 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



**5 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



**6 INTERSECTION & ROAD LAYOUT**  
SCALE: 1"=20'



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

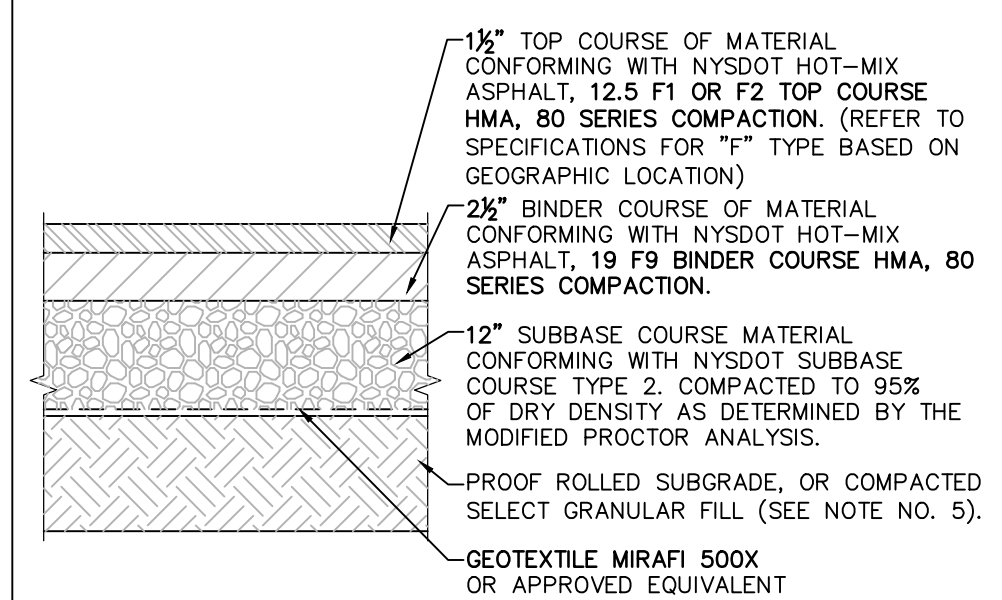
**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		
PROJECT NUMBER:	2222588.01	
DRAWN BY:	DAS, HEB	
REVIEWED BY:	WJK	
ISSUED FOR:	SITE PLAN & SUBDIVISION APPROVAL	
DATE:	08/29/23	
DRAWING NAME:		

**SITE DETAILS**

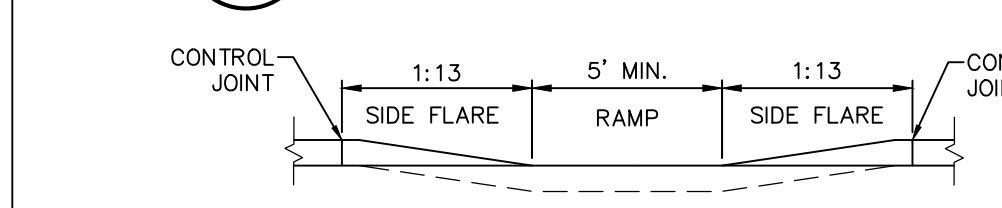
DRAWING NUMBER:

**C530**

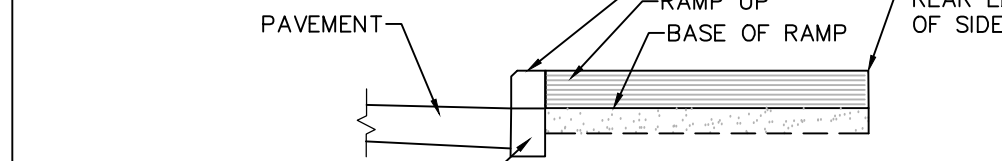


**NOTES:**  
1. MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED "CURRENT VERSION", AND ALL ADDENDA THERE TO.  
2. SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 - SUBBASE COURSE OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS.  
3. HOT MIX ASPHALT (HMA) PAVEMENT SHALL CONFORM WITH SECTION 400 - HOT MIX ASPHALT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS. ALTHOUGH SECTION 400 IN ITS ENTIRETY IS REFERENCED, THE HOT MIX ASPHALT (HMA) PAVEMENT(S) SPECIFIED FOR THIS CONTRACT SHALL BE AS SPECIFIED UNDER SECTION 402 - HOT MIX ASPHALT (HMA) PAVEMENTS.  
4. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407 - TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.  
5. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203 - EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

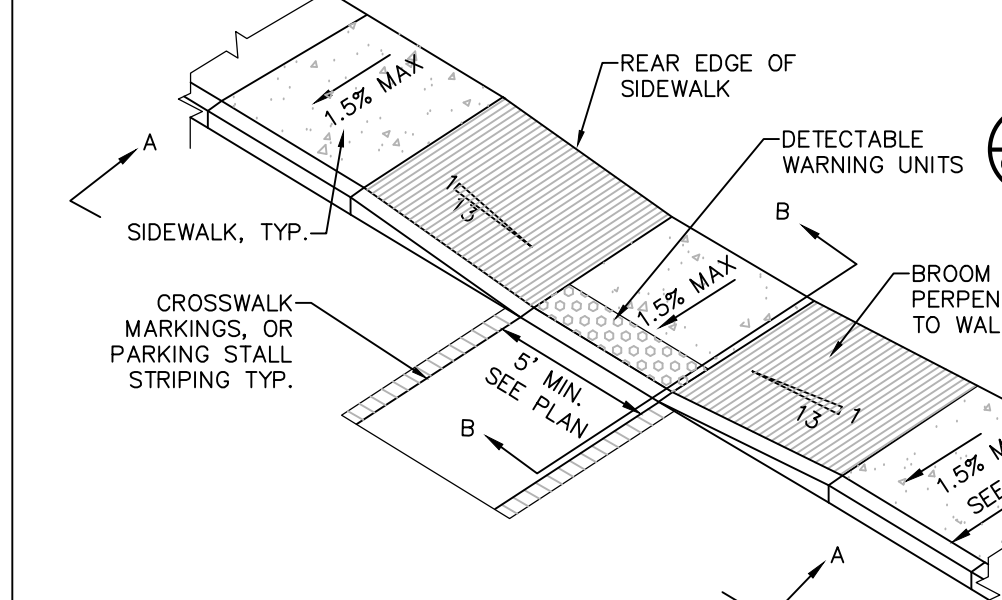
**1 PAVEMENT SECTION DETAIL**  
SCALE: NOT TO SCALE



**SECTION A-A**

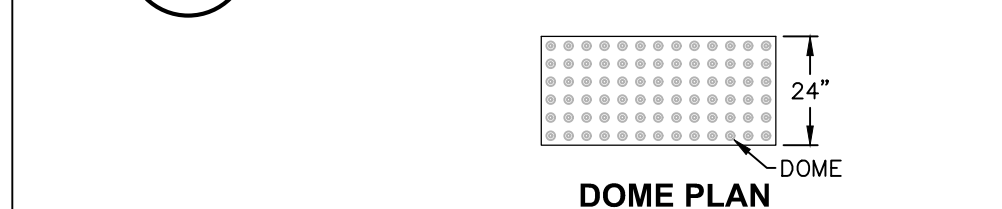


**SECTION B-B**

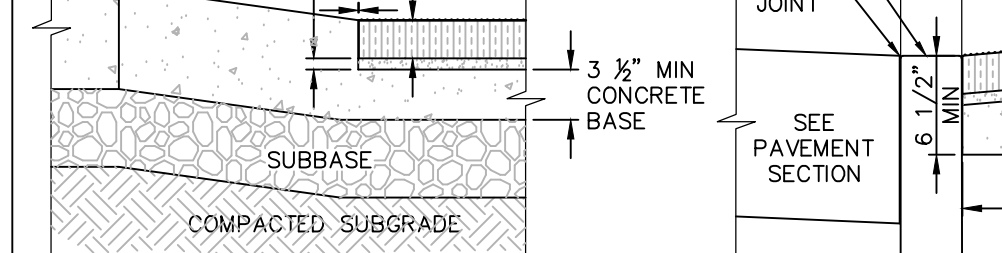


**NOTES:**  
1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED, "CURRENT VERSION", AND ALL ADDENDA THERE TO; SPECIFICALLY SECTION 608 - SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS.  
2. SLOPE RAMP AND SIDE FLARES AS INDICATED IN THE PLANS OR AS ORDERED BY THE ENGINEER.  
3. DETECTABLE WARNING UNITS SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE W/ ADA REQUIREMENTS.

**7 PEDESTRIAN RAMP SECTION - DROP CURB**  
SCALE: NOT TO SCALE



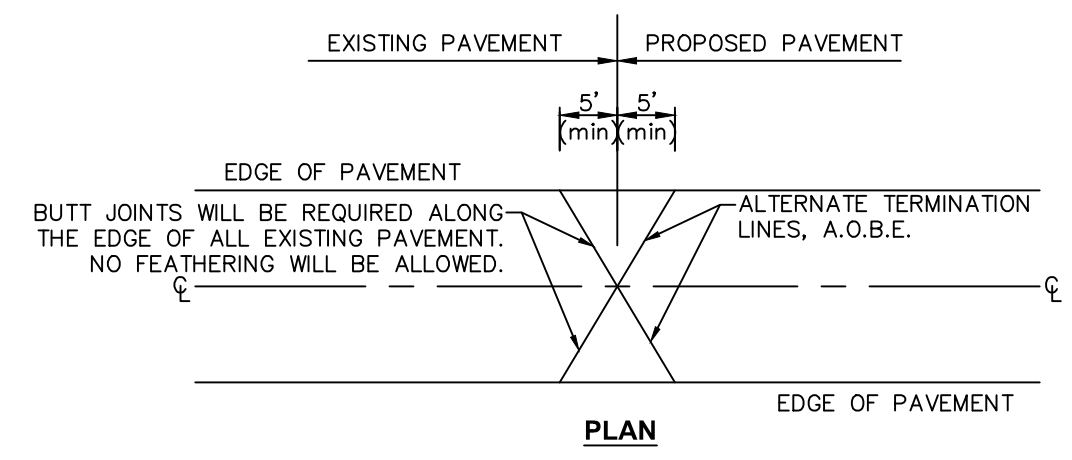
**DOME PLAN**



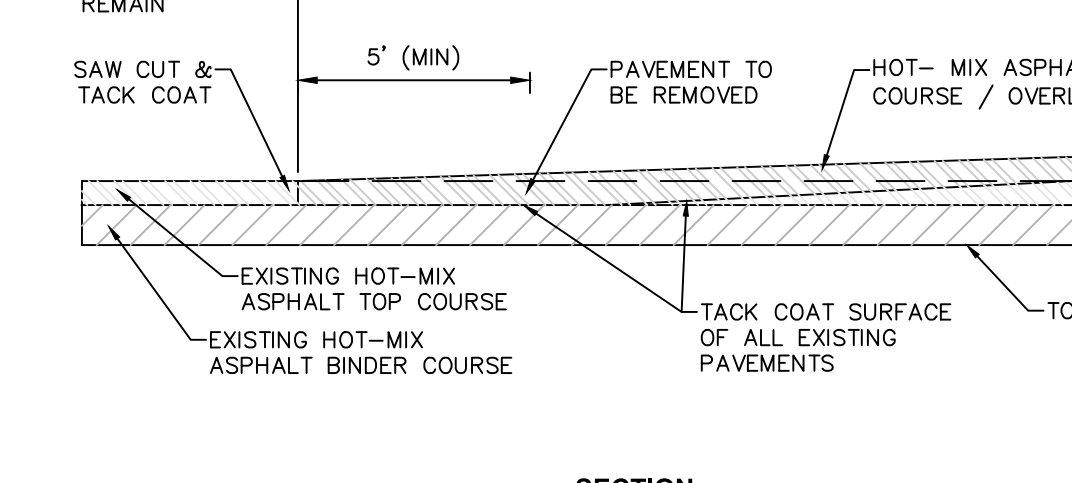
**SECTION A-A THRU RAMP** and **SECTION B-B THRU RAMP**

**NOTES:**  
1. COORDINATE W/ OWNER FOR COLOR.  
2. DETECTABLE WARNING UNIT SHALL BE ADA COMPLIANT, AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.  
3. MATERIALS: UNIT SHALL BE 24-INCH DETECTABLE WARNING ADA PAVERS, DOME STRAIGHT ROW SPACING PATTERN ADA-2 OR ADA-3, ADA COMPLIANT WARNING PAVES AS MANUFACTURED BY WAUSAU TILE OR CAST IRON, CAST IN PLACE ADA COMPLIANT WARNING PLATE A MANUFACTURED BY TUFILITE OR EQUAL.

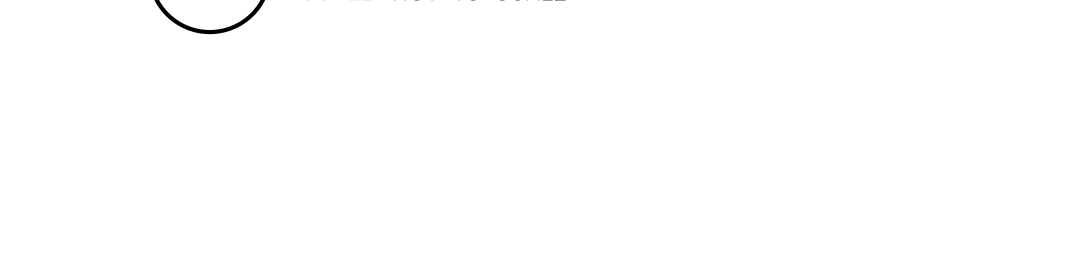
**9 DETECTABLE WARNING UNITS FOR RAMPS**  
SCALE: NOT TO SCALE



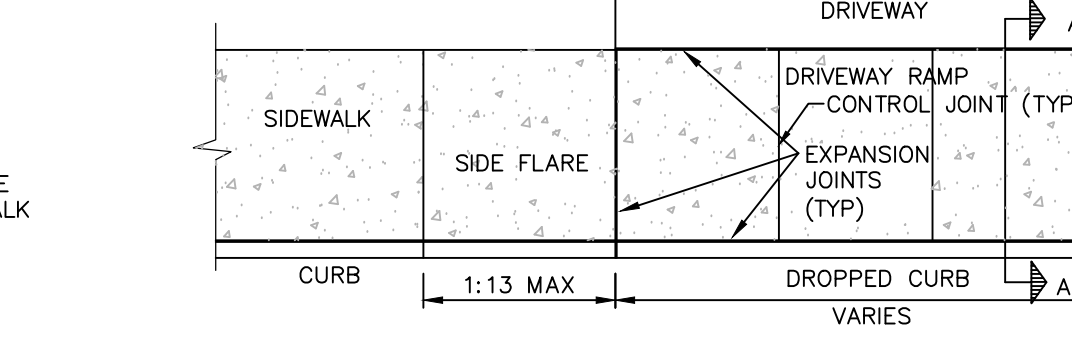
**2 PAVEMENT OVERLAY TRANSITION DETAIL**  
SCALE: NOT TO SCALE



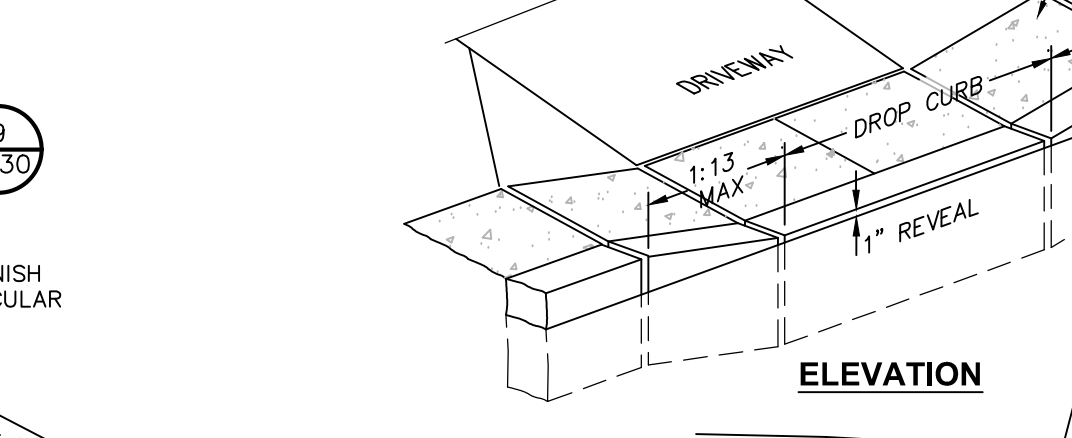
**3 PAVEMENT TRANSITION DETAIL**  
SCALE: NOT TO SCALE



**4 TRENCH SURFACE RESTORATION IN ASPHALT PAVEMENT**  
SCALE: NOT TO SCALE



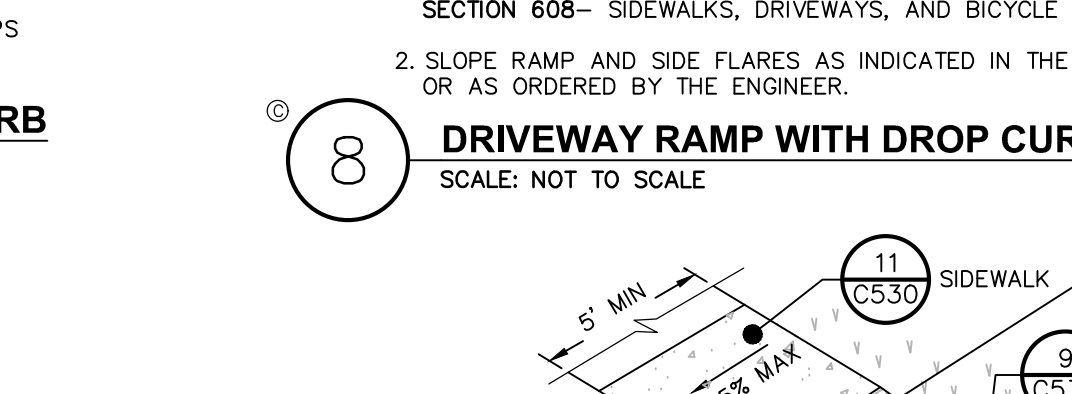
**8 DRIVEWAY RAMP WITH DROP CURB**  
SCALE: NOT TO SCALE



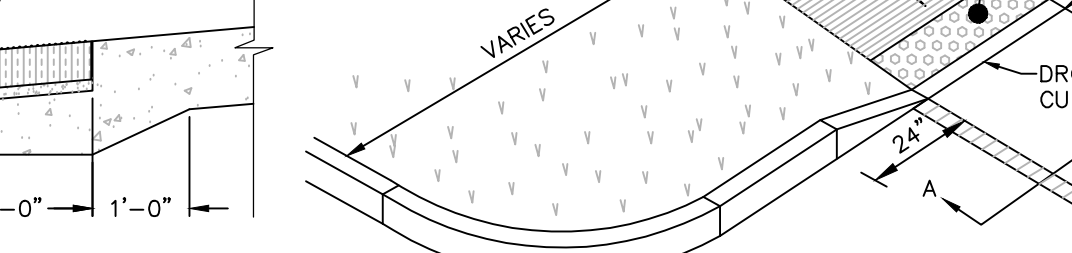
**CONCRETE DRIVEWAY APRON**



**EXPANSION JOINT**



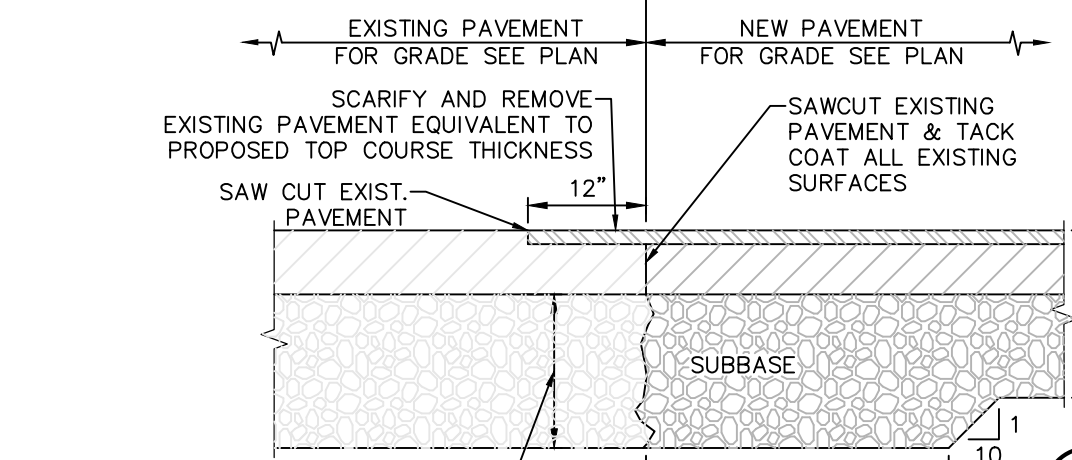
**11 CONCRETE SIDEWALK DETAIL**  
SCALE: NOT TO SCALE



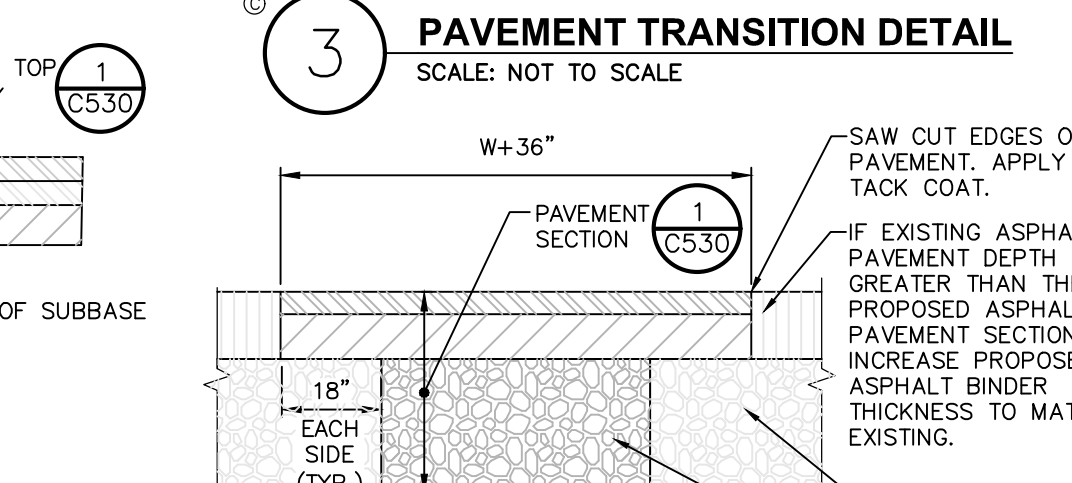
**CONTROL JOINT**

**NOTES:**  
1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED, "CURRENT VERSION", AND ALL ADDENDA THERE TO; SPECIFICALLY SECTION 608 - SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS.  
2. SLOPE RAMP AND SIDE FLARES AS INDICATED IN THE PLANS OR AS ORDERED BY THE ENGINEER.  
3. DETECTABLE WARNING UNITS SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE W/ ADA REQUIREMENTS.

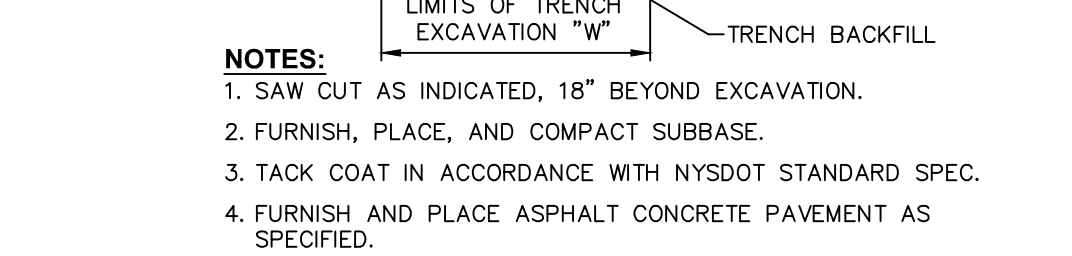
**10 PEDESTRIAN RAMP SECTION - DROP CURB**  
SCALE: NOT TO SCALE



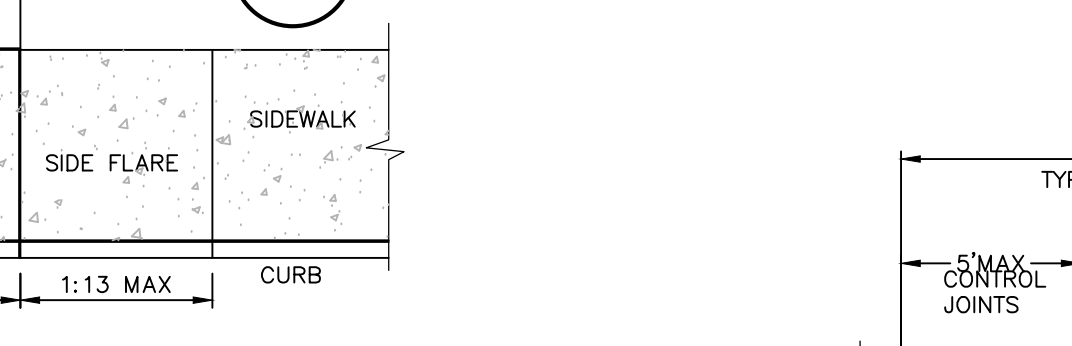
**2 PAVEMENT OVERLAY TRANSITION DETAIL**  
SCALE: NOT TO SCALE



**3 PAVEMENT TRANSITION DETAIL**  
SCALE: NOT TO SCALE



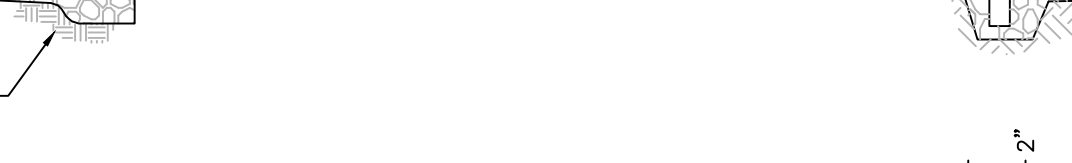
**4 TRENCH SURFACE RESTORATION IN ASPHALT PAVEMENT**  
SCALE: NOT TO SCALE



**8 DRIVEWAY RAMP WITH DROP CURB**  
SCALE: NOT TO SCALE



**CONCRETE DRIVEWAY APRON**



**EXPANSION JOINT**



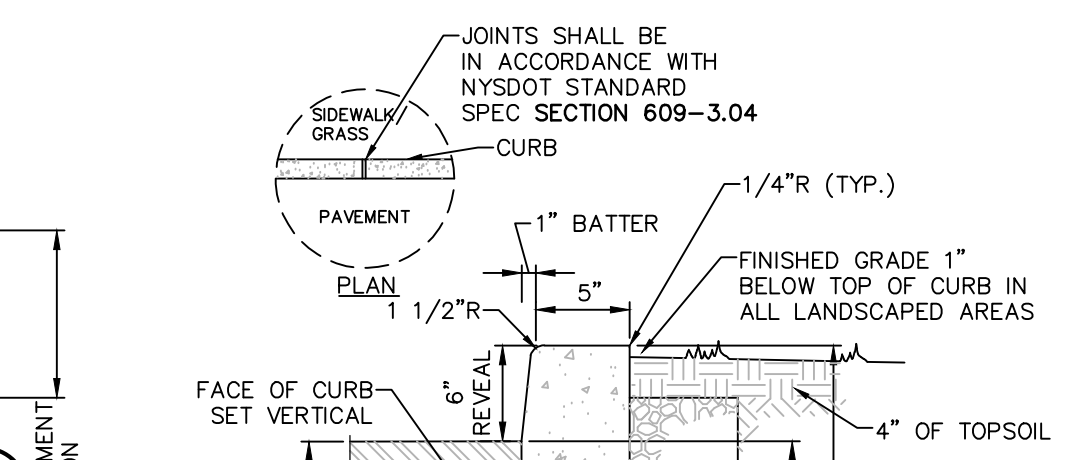
**11 CONCRETE SIDEWALK DETAIL**  
SCALE: NOT TO SCALE



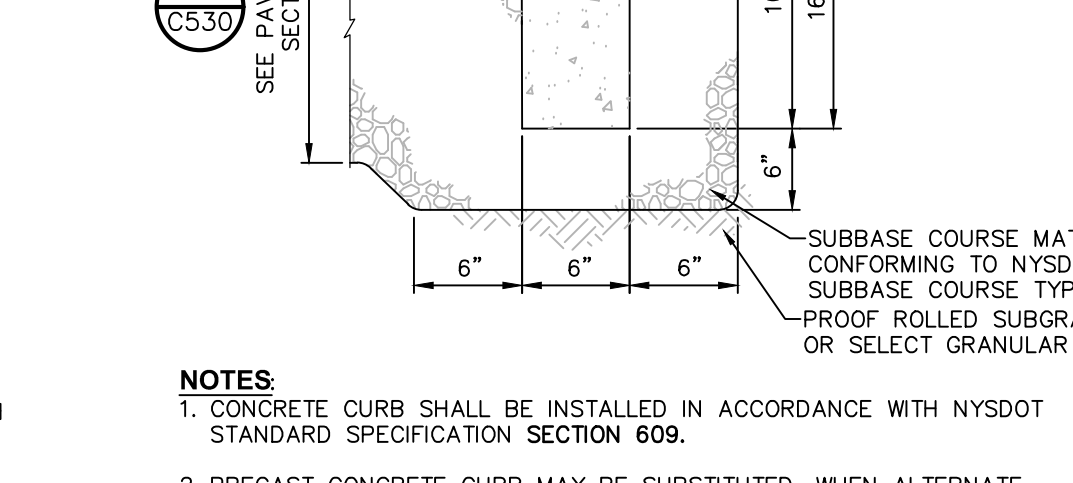
**CONTROL JOINT**

**NOTES:**  
1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED, "CURRENT VERSION", AND ALL ADDENDA THERE TO; SPECIFICALLY SECTION 608 - SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS.  
2. SLOPE RAMP AND SIDE FLARES AS INDICATED IN THE PLANS OR AS ORDERED BY THE ENGINEER.  
3. DETECTABLE WARNING UNITS SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE W/ ADA REQUIREMENTS.

**10 PEDESTRIAN RAMP SECTION - DROP CURB**  
SCALE: NOT TO SCALE



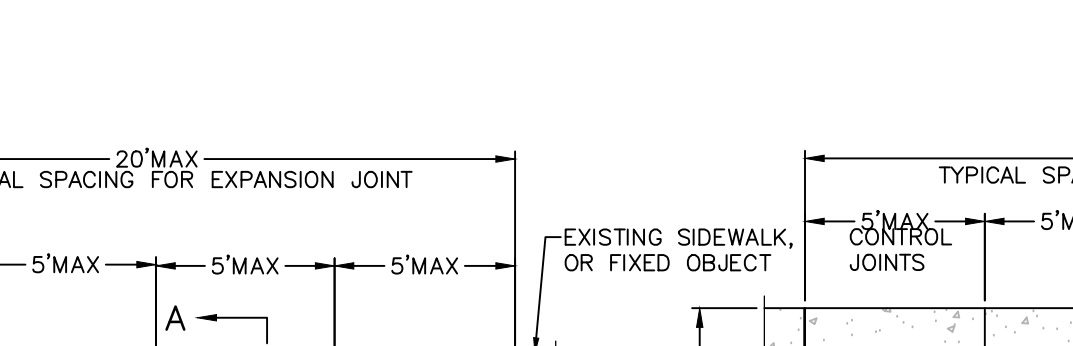
**6 CAST IN PLACE CONCRETE CURB AT SIDEWALK**  
SCALE: NOT TO SCALE



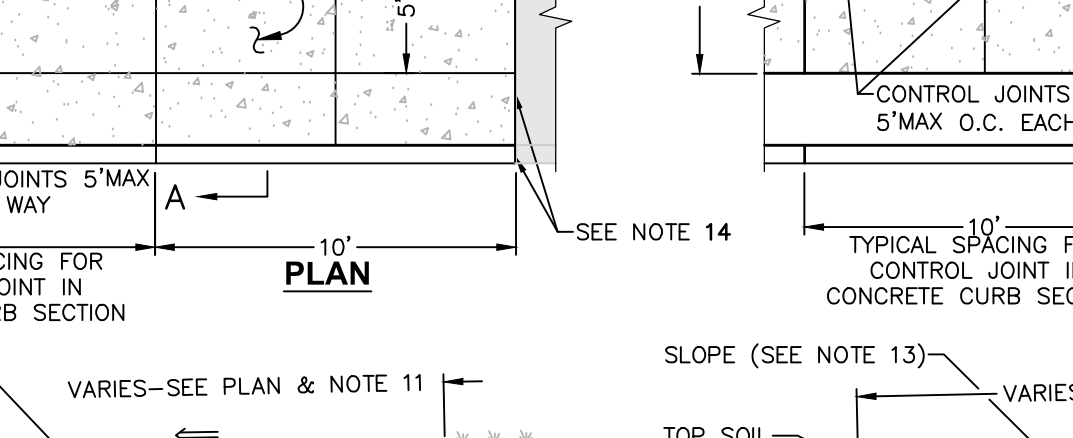
**5 CAST IN PLACE CONCRETE CURB**  
SCALE: NOT TO SCALE



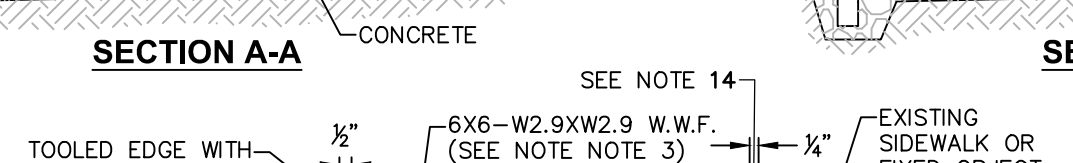
**4 TRENCH SURFACE RESTORATION IN ASPHALT PAVEMENT**  
SCALE: NOT TO SCALE



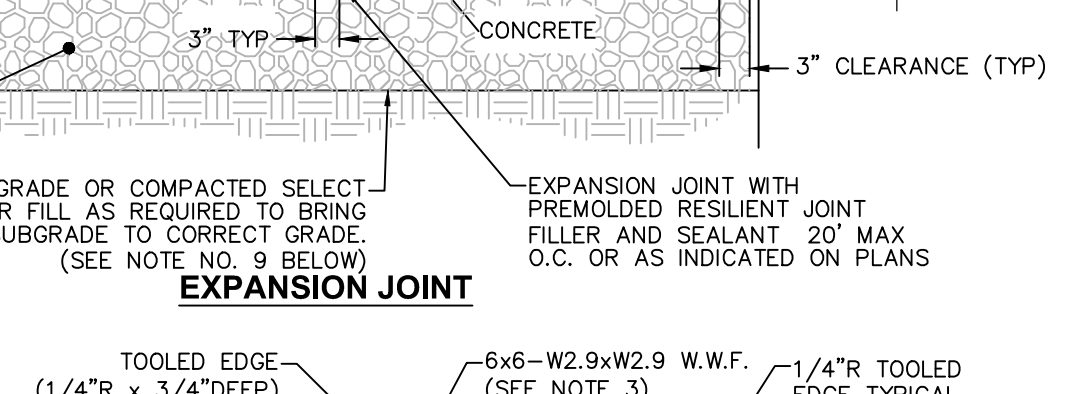
**8 DRIVEWAY RAMP WITH DROP CURB**  
SCALE: NOT TO SCALE



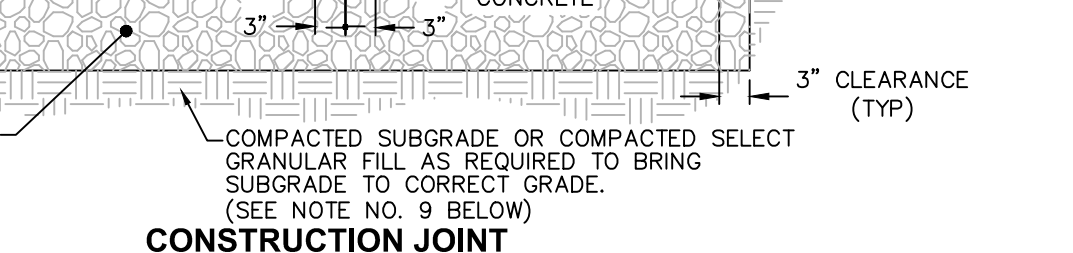
**CONCRETE DRIVEWAY APRON**



**EXPANSION JOINT**



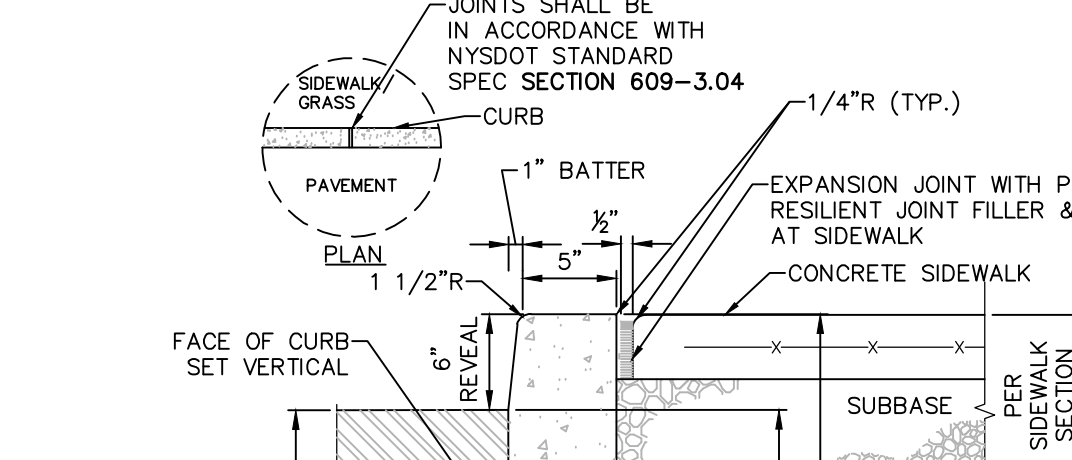
**11 CONCRETE SIDEWALK DETAIL**  
SCALE: NOT TO SCALE



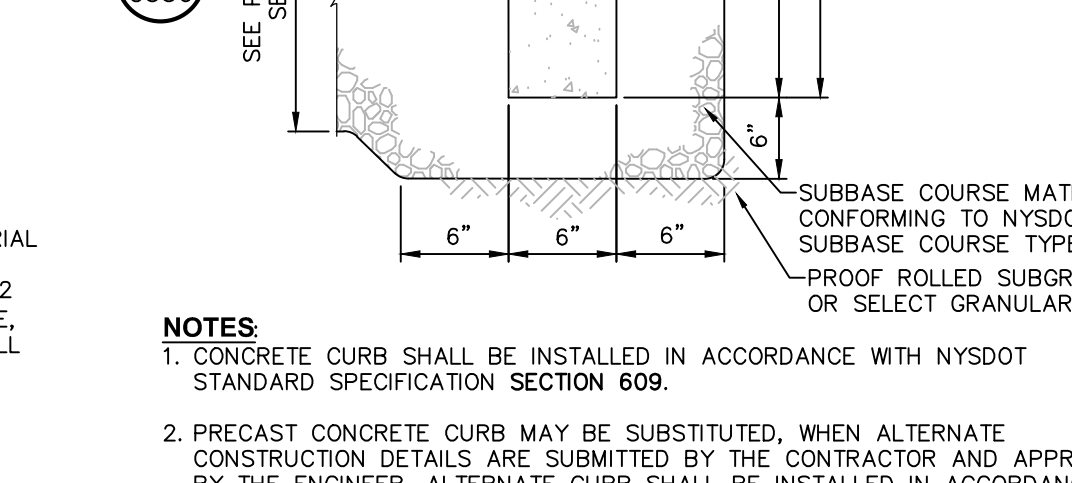
**CONTROL JOINT**

**NOTES:**  
1. CONCRETE CURB SHALL BE INSTALLED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 609.  
2. PRECAST CONCRETE CURB MAY BE SUBSTITUTED, WHEN ALTERNATE CONSTRUCTION DETAILS ARE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. ALTERNATE CURB SHALL BE INSTALLED IN ACCORDANCE WITH NYSDOT SPEC SECTION 609.

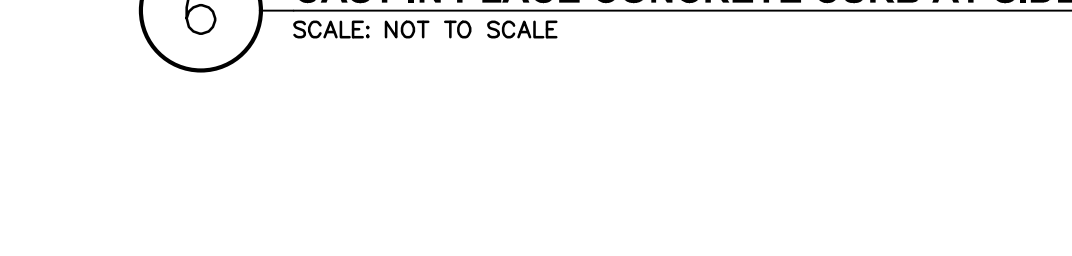
**10 PEDESTRIAN RAMP SECTION - DROP CURB**  
SCALE: NOT TO SCALE



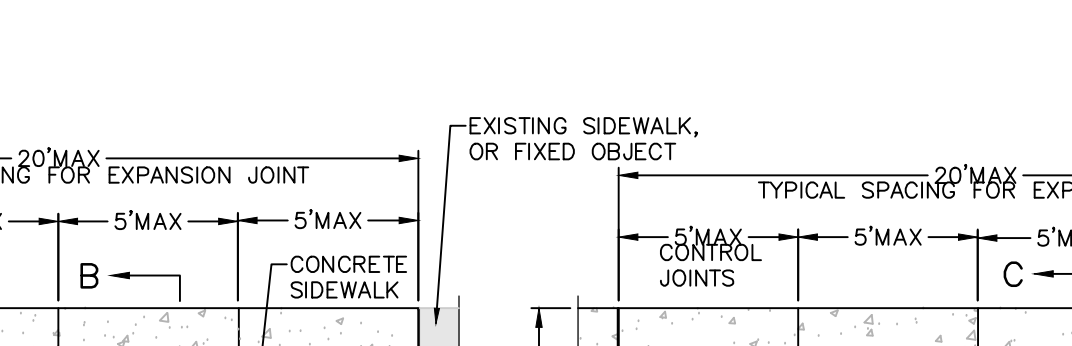
**6 CAST IN PLACE CONCRETE CURB AT SIDEWALK**  
SCALE: NOT TO SCALE



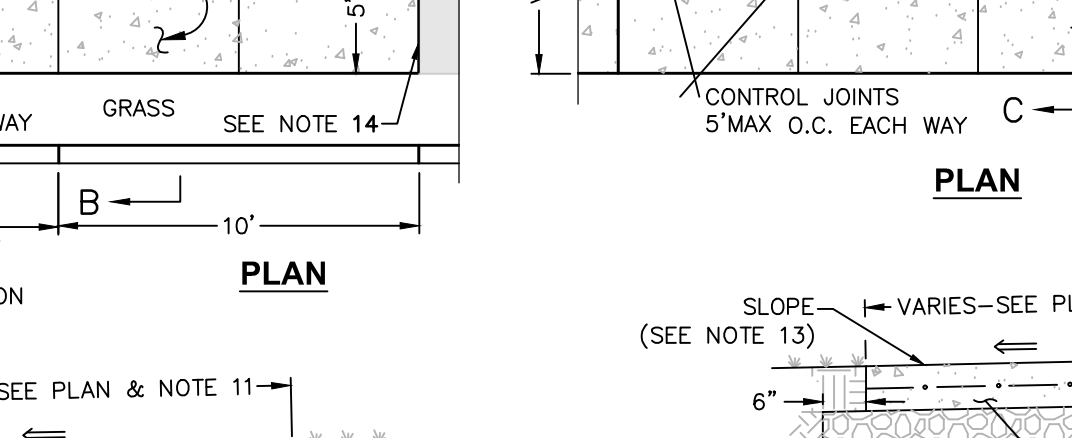
**5 CAST IN PLACE CONCRETE CURB**  
SCALE: NOT TO SCALE



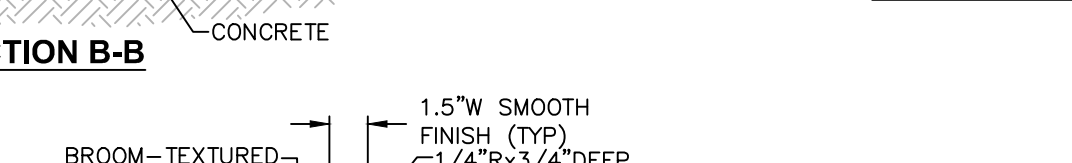
**4 TRENCH SURFACE RESTORATION IN ASPHALT PAVEMENT**  
SCALE: NOT TO SCALE



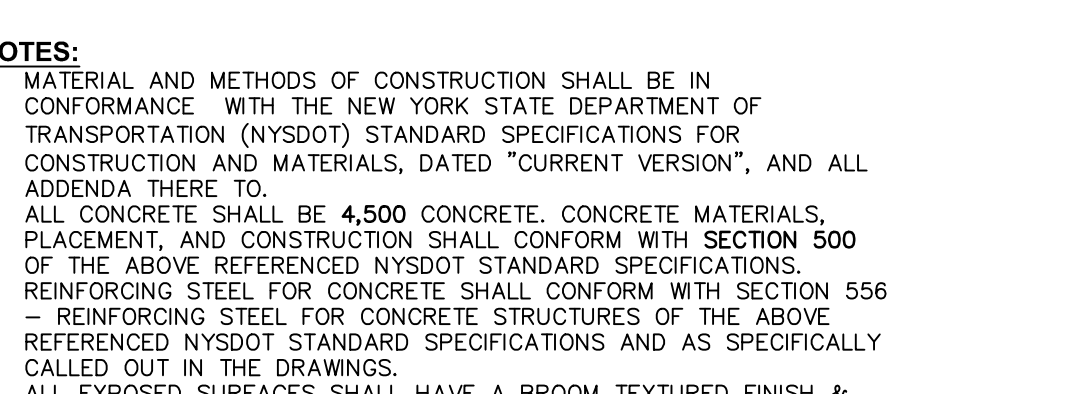
**8 DRIVEWAY RAMP WITH DROP CURB**  
SCALE: NOT TO SCALE



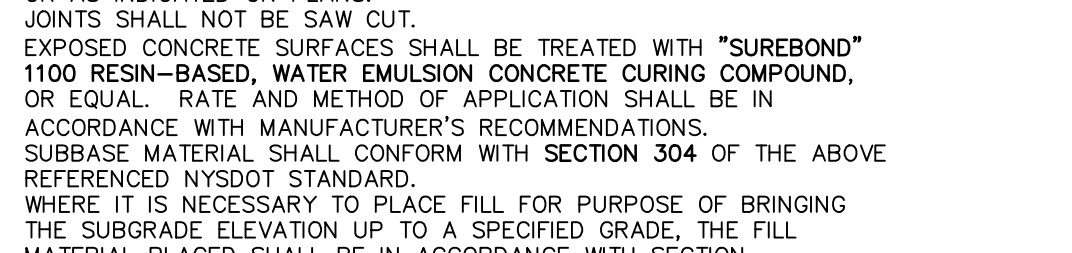
**CONCRETE DRIVEWAY APRON**



**EXPANSION JOINT**



**11 CONCRETE SIDEWALK DETAIL**  
SCALE: NOT TO SCALE



**CONTROL JOINT**

**NOTES:**  
1. MATERIAL AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED "CURRENT VERSION", AND ALL ADDENDA THERE TO.  
2. ALL CONCRETE SHALL BE 4,500 CONCRETE. CONCRETE MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SECTION 500 OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.  
3. REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH SECTION 556 - REINFORCING STEEL FOR CONCRETE STRUCTURES OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND AS SPECIFICALLY CALLED OUT IN THE DRAWINGS.  
4. ALL EXPOSED SURFACES SHALL HAVE A BROOM TEXTURED FINISH & TOOLED EDGES. TOOL SHALL PROVIDE MAX 1-1/2" WIDE SMOOTH TROWEL FINISH AT JOINT.  
5. EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20' ON CENTER, OR AS INDICATED ON PLANS.  
6. JOINTS SHALL NOT BE SAW CUT.  
7. EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH "SUREBOND" 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND, OR EQUAL RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.  
8. SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 OF THE ABOVE REFERENCED NYSDOT STANDARD.  
9. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN ACCORDANCE WITH SECTION 203 - EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.  
10. ALL WORK SHALL CONFORM WITH SECTION 608 - SIDEWALK, DRIVEWAYS, AND BICYCLE PATHS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.  
11. ALL WORK SHALL CONFORM WITH AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREET 2011, ICC A117.1 2009, OR LATEST EDITION.  
12. SIDEWALK WIDTH SHOWN ON THE PLANS IS TO BE MEASURED FROM THE BACK OF THE CURB.  
13. SIDEWALKS SHALL HAVE A CROSS SLOPE OF 1.5% MAX. UNLESS OTHERWISE NOTED ON PLAN.  
14. INSTALL EXPANSION JOINT WITH PREMOULDED RESILIENT JOINT FILLER & SEALANT AT ALL EXISTING SIDEWALKS, CURBS, FIXED OBJECTS, ETC., INCLUDING THOSE PLACED ON PREVIOUS DAYS.

**10 PEDESTRIAN RAMP SECTION - DROP CURB**  
SCALE: NOT TO SCALE



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

DATE: 08/29/23

DRAWING NUMBER:

**SITE DETAILS**

DRAWING NUMBER:

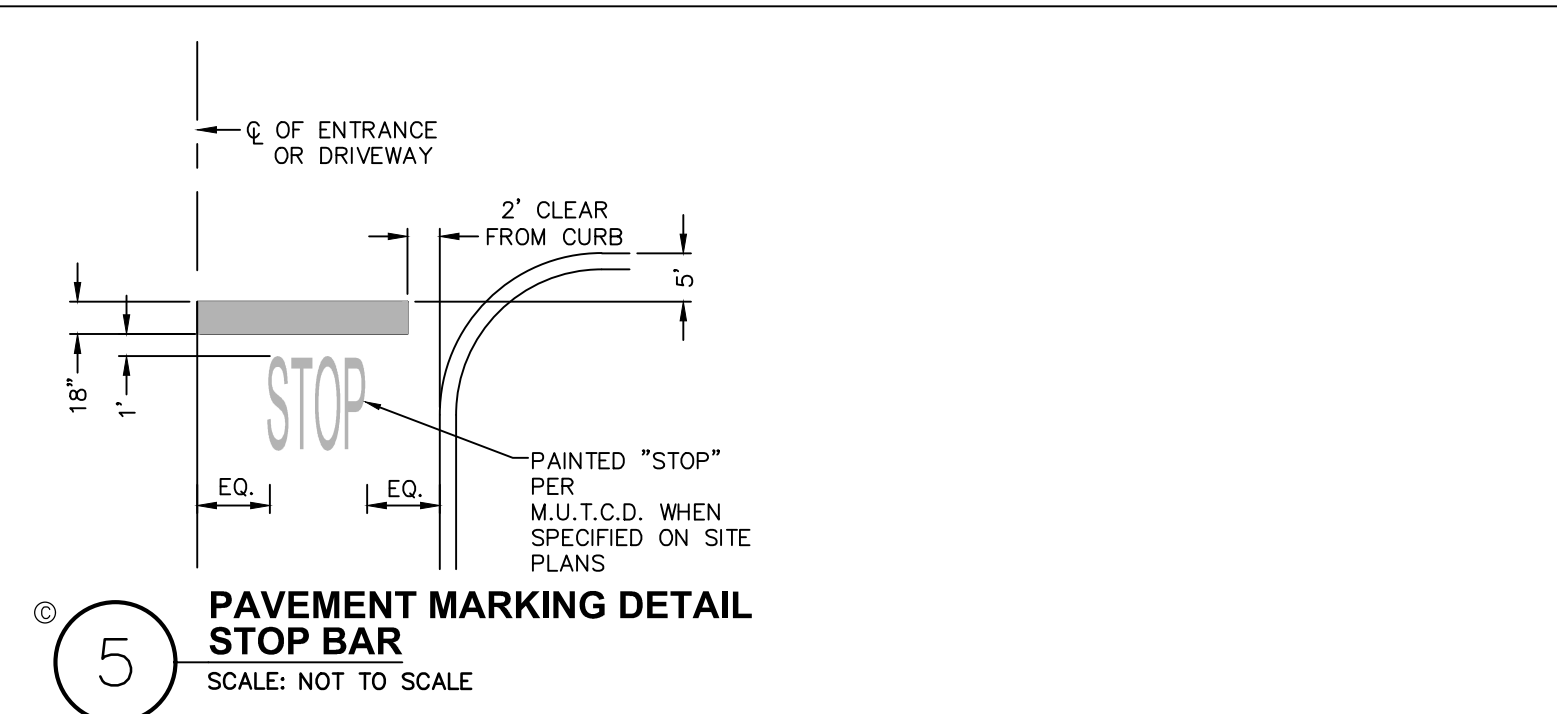
**C531**

MUTCD SIGN SCHEDULE						
SIGN NO.	SIGN FACE	MUTCD NUMBER	MIN SIZE	COLORS	LEGEND	MOUNTING
1	STOP	R1-1	30"x30"	RED	WHITE	3 (C531)
2	ALL WAY	R1-4	18"x6"	RED	WHITE	2 (C531)
3	ONE WAY	R4-7c	18"x24"	WHITE	BLACK	2 (C531)
4	ONE WAY	R6-1L	36"x12"	BLACK	WHITE	2 (C531)
5	ONE WAY	R6-1R	36"x12"	BLACK	WHITE	2 (C531)
6	PEDESTRIAN	W11-2	24"x24"	YELLOW/FG	BLACK	2 (C531)
7	BIKE	W16-7P	24"x12"	YELLOW/FG	BLACK	2 (C531)
8	SPEED LIMIT 30	R2-1	18"x24"	WHITE	BLACK	2 (C531)
9	DO NOT ENTER	R5-1	30"x30"	RED	WHITE	2 (C531)
10	RESERVED PARKING	NY R7-8D	12"x18"	WHITE/BLUE	GREEN/WHITE	2 (C531)
11	VAN ACCESSIBLE	R7-8P	12"x6"	WHITE	BLUE	2 (C531)
12	YIELD	R1-2	30"	WHITE/RED	RED	2 (C531)
13	NO PARKING ANY TIME	R7-1	12"x18"	WHITE	RED	2 (C531)
14	NO PARKING	R3-2	30"x30"	WHITE	BLACK/RED	2 (C531)
15	ELECTRIC VEHICLE CHARGING STATION	AS SHOWN	12"x18"	WHITE	GREEN	2 (C531)

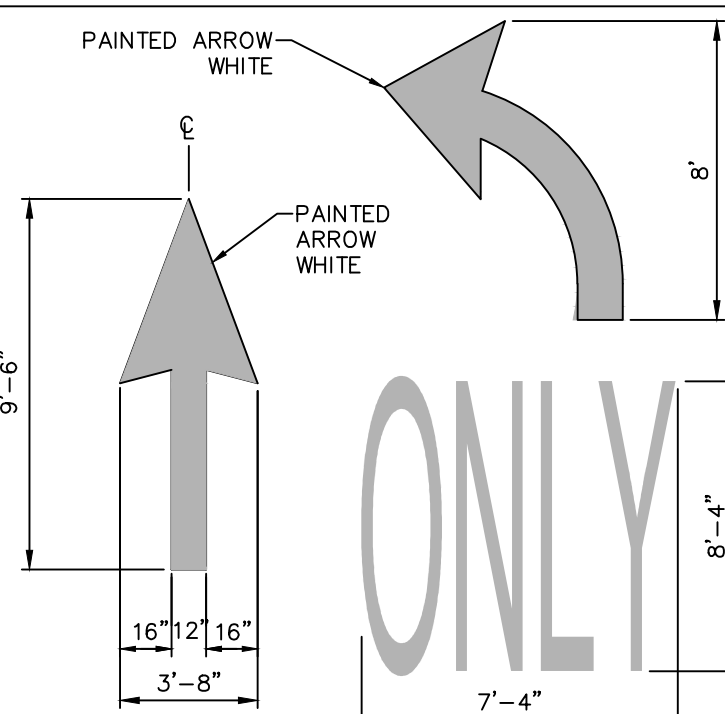
9 MUTCD SIGN SCHEDULE  
SCALE: NOT TO SCALE

**STRIPING NOTES:**  
1. ALL STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE NYS DOT STANDARD SPECIFICATIONS, SECTION 640 AND THE "NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" - 2009 EDITION AND THE "NYS SUPPLEMENT."  
2. STRIPE PAVEMENT AS INDICATED ON THE PLANS AND/OR IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.  
3. STRIPING WORK WILL BE REVIEWED AND ACCEPTED BY THE AUTHORITY HAVING JURISDICTION.  
4. COLOR: DRIVE LANE DIVIDERS - WHITE OR AOBE  
NO PARKING ZONE WARNINGS - WHITE OR AOBE  
PARKING DIVIDERS - WHITE OR AOBE  
WALKING LINES - WHITE OR AOBE  
ACCESSIBLE PARKING LINES & SYMBOL - BLUE

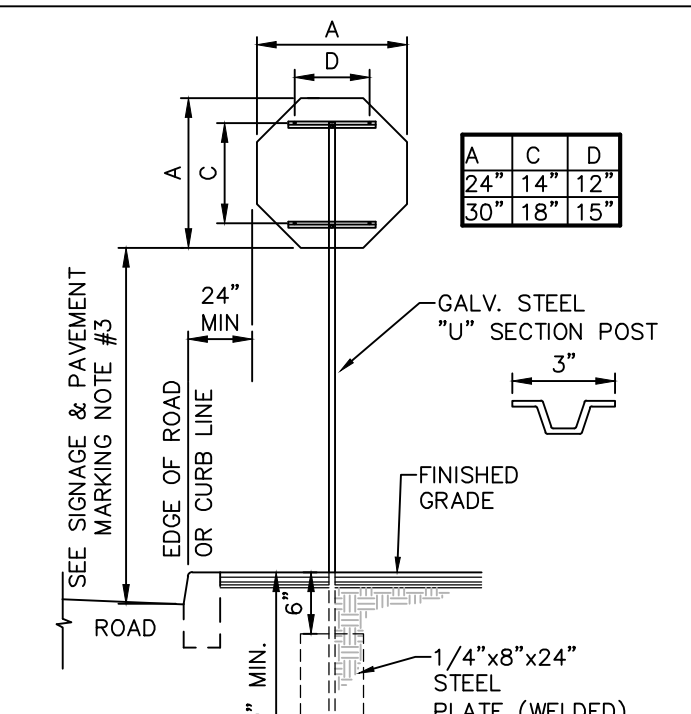
**SIGNAGE NOTES:**  
1. ALL SIGNS SHALL CONFORM TO THE LATEST EDITION OF THE NYS DOT STANDARD SPECIFICATIONS, SECTION 645 AND THE "NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" - 2009 EDITION AND THE "NYS SUPPLEMENT."  
2. SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN THE "NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" - 2009 EDITION AND THE "NYS SUPPLEMENT."  
3. SIGN POST SHALL BE IN ACCORDANCE W/ NYS DOT STANDARD SPECS SECTION 730.



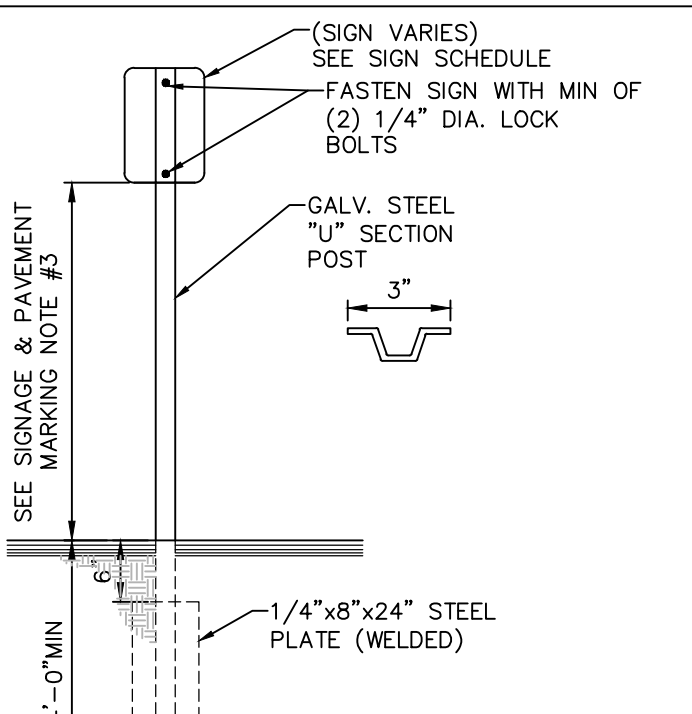
5 PAVEMENT MARKING DETAIL STOP BAR  
SCALE: NOT TO SCALE



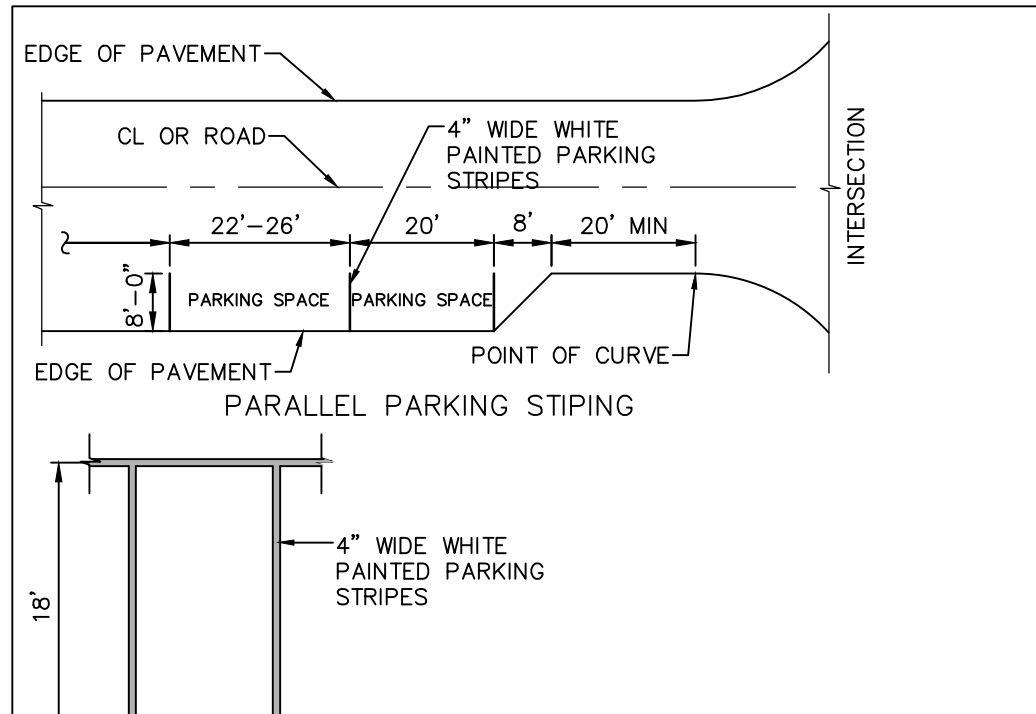
4 PAVEMENT MARKING DETAIL DIRECTIONAL ARROW  
SCALE: NOT TO SCALE



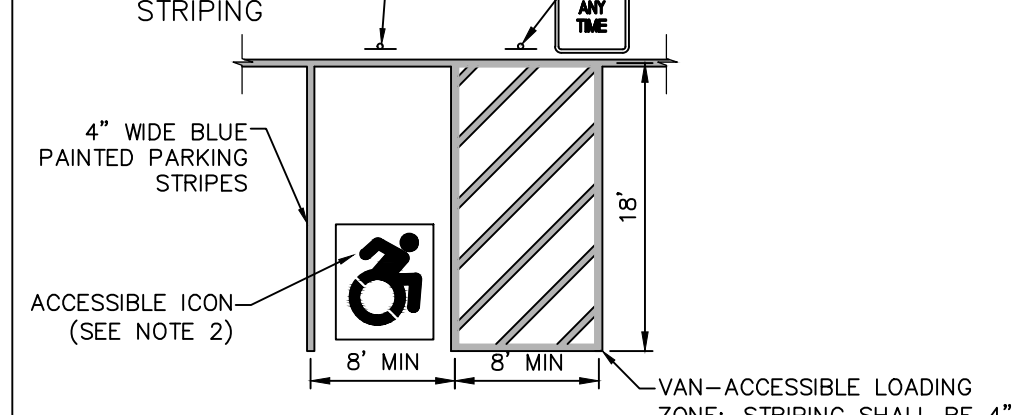
3 SINGLE POST STOP SIGN MOUNTING DETAIL  
SCALE: NOT TO SCALE



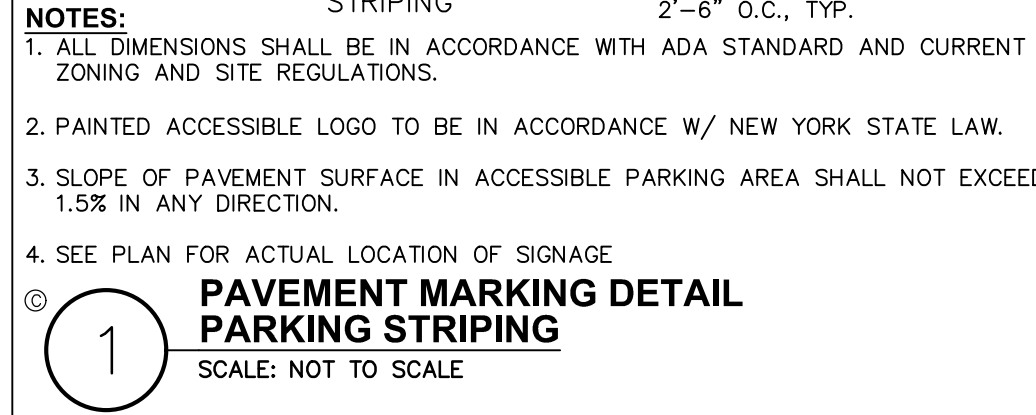
2 SINGLE POST SIGN MOUNTING DETAIL  
SCALE: NOT TO SCALE



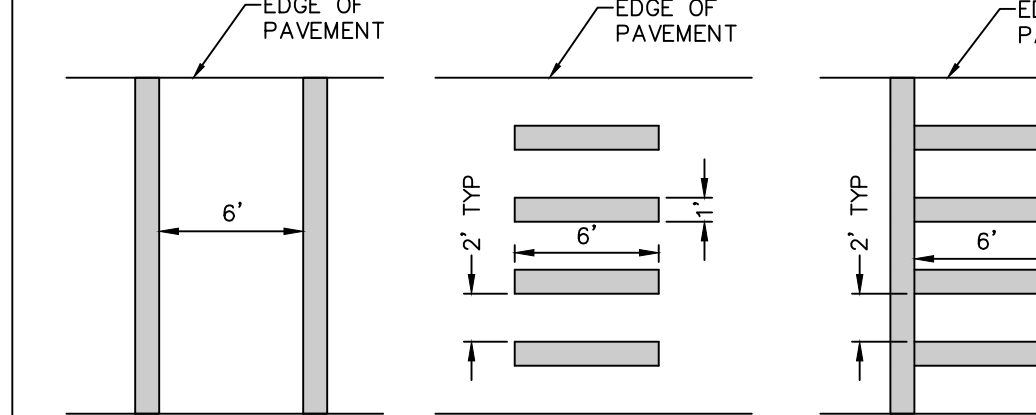
1 PAVEMENT MARKING DETAIL PARKING STRIPING  
SCALE: NOT TO SCALE



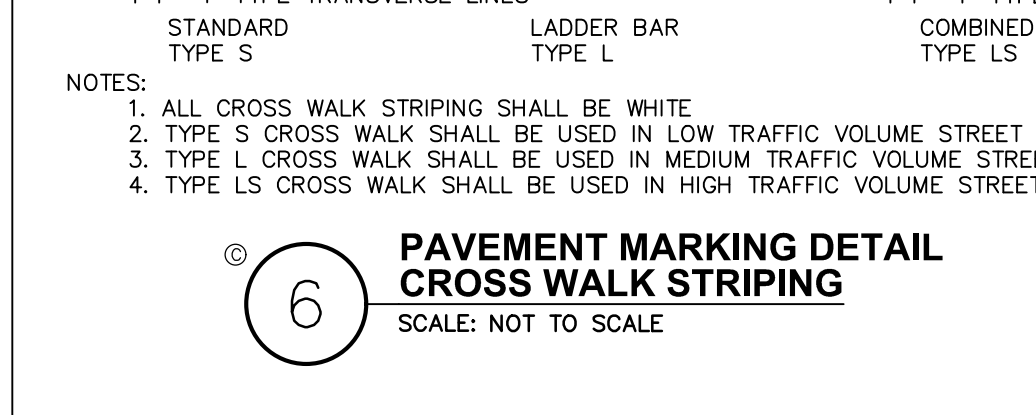
6 PAVEMENT MARKING DETAIL CROSS WALK STRIPING  
SCALE: NOT TO SCALE



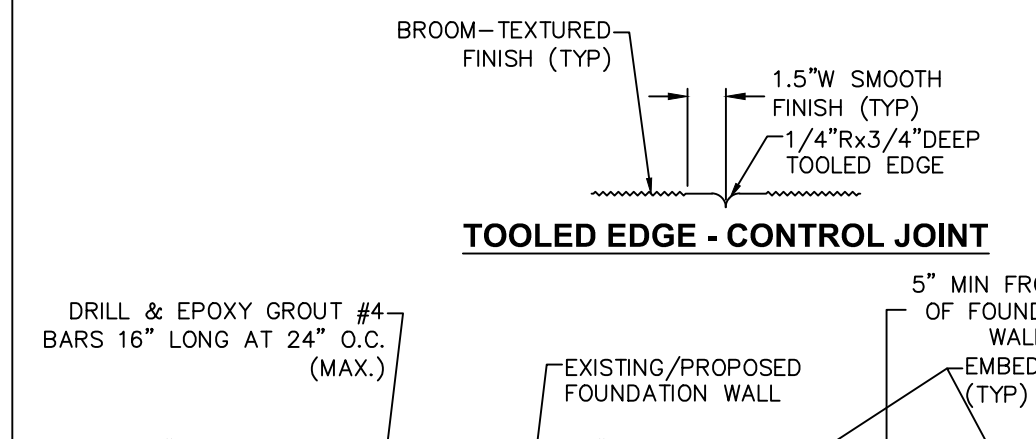
7 REMOVABLE PIPE BOLLARD DETAIL  
SCALE: NOT TO SCALE



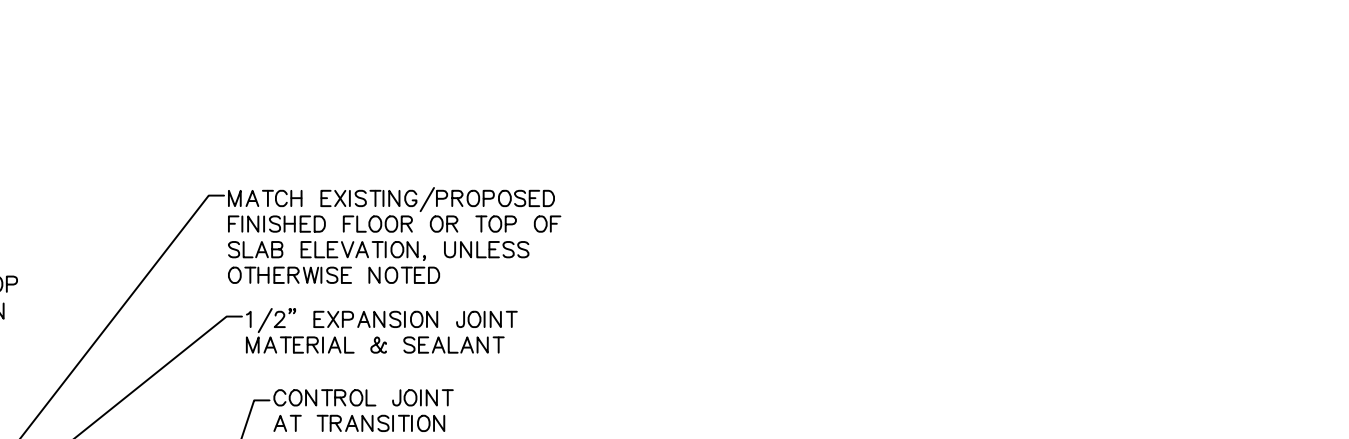
8 PAVEMENT MARKING DETAIL TYPICAL BIKE LANE STRIPING  
SCALE: NOT TO SCALE



9 PAVEMENT MARKING DETAIL TYPICAL ROAD STRIPING  
SCALE: NOT TO SCALE

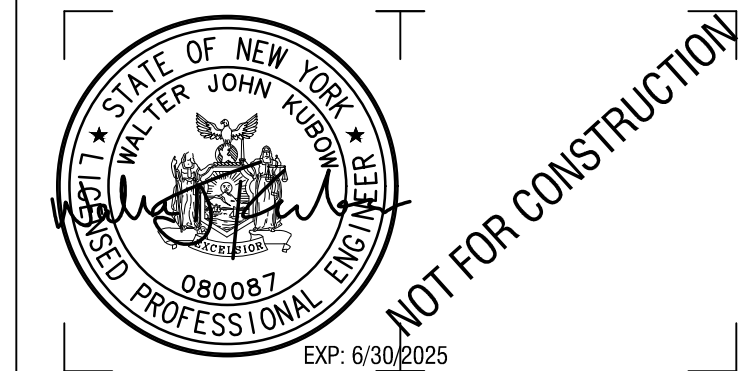


10 CONCRETE SIDEWALK AT BUILDING ENTRANCES  
SCALE: NOT TO SCALE



11 PRECAST CONCRETE WHEEL STOP  
SCALE: NOT TO SCALE

\\southlab\lab\Projects\Medical Resources\2222588.01 - iPak - P1\08\_Drawings\Civil\01\_C530\_2222588-01\_SITE DETAIL.dwg 8/29/2023 12:19:02 PM



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

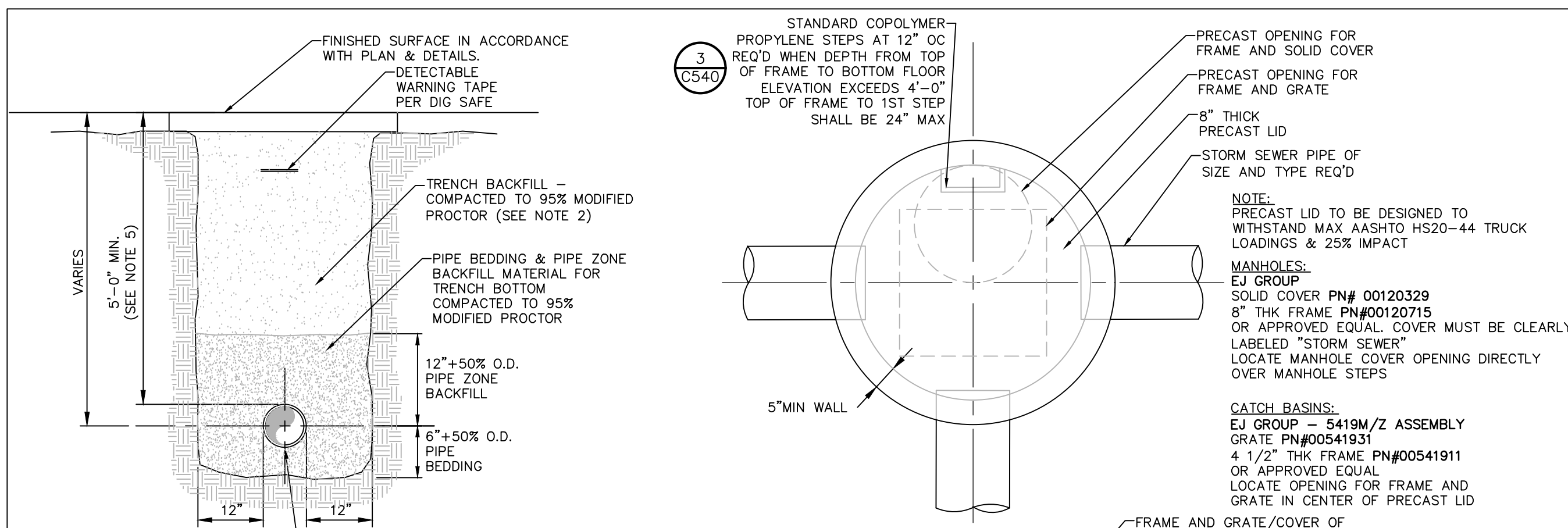
DATE: 08/29/23

DRAWING NAME:

**STORM SEWER DETAILS**

DRAWING NUMBER:

**C540**



PIPE TYPE & SIZE VARIES. SEE PLAN

**NOTES:**

1. PIPE BEDDING & PIPE ZONE BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND OR A MIXTURE OF CRUSHED STONE AND GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
3/4"	100%
NO. 40	0-70%
NO. 200	0-10%

2. TRENCH BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) OR PROCESSED GRAVEL, OR EXCAVATED MATERIAL FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. TRENCH BACKFILL GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
4"	100%
NO. 40	0-70%
NO. 200	0-10%

IN NON-TRAFFIC UNPAVED AREAS TRENCH BACKFILL CAN BE MATERIALS EXCAVATED FROM THE TRENCH AS APPROVED BY THE ENGINEER AND COMPACTED TO 90% MODIFIED PROCTOR.

3. INSTALL CONTINUOUS DETECTABLE MARKING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND PIPING. LOCATE TAPE 12" BELOW FINISHED GRADE, DIRECTLY OVER PIPING, EXCEPT 6" BELOW SUBGRADE UNDER PAVEMENTS & SLAB.

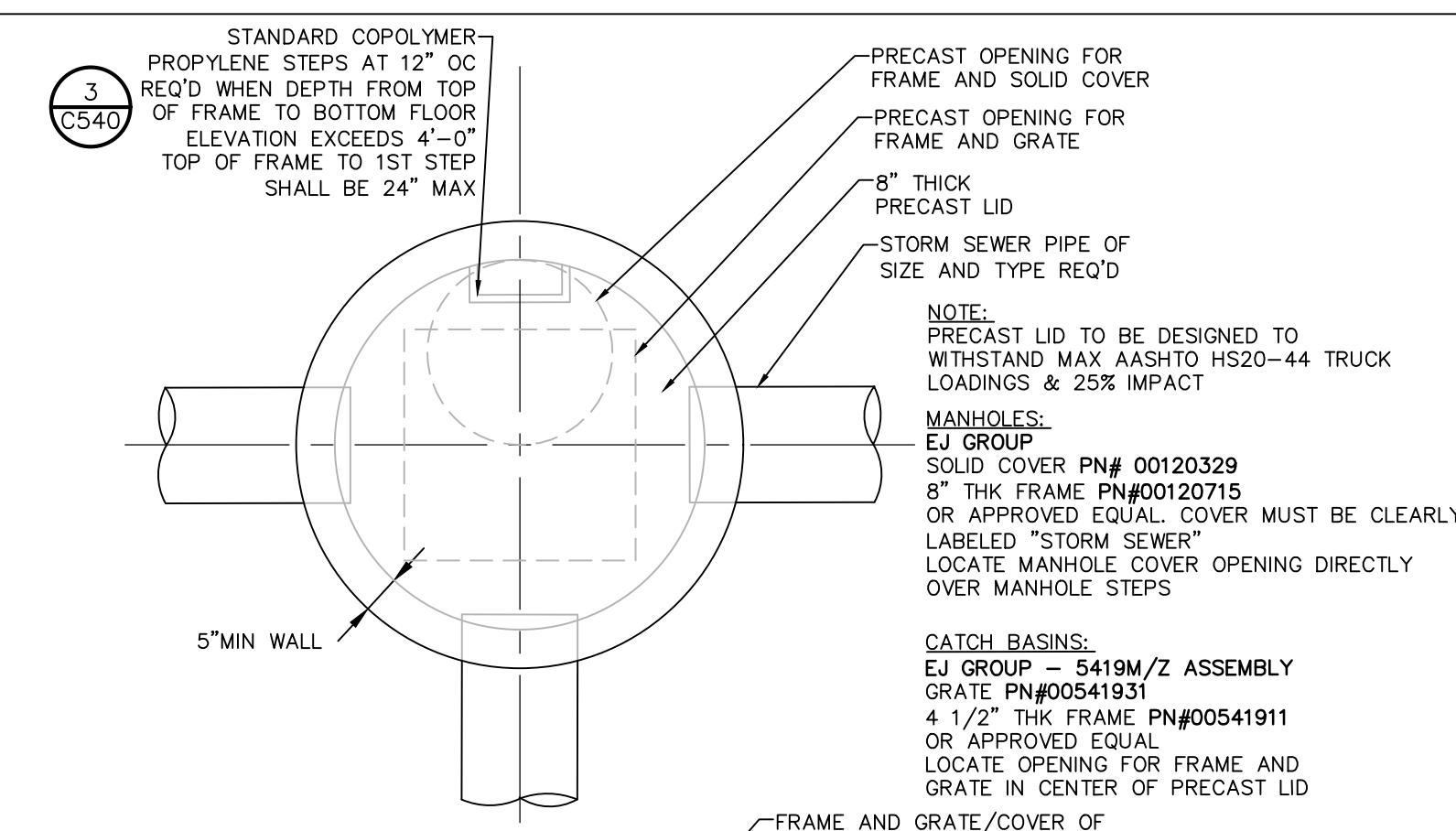
4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.

5. 5'-0" MIN COVER SHALL BE APPLIED TO WATER MAIN OR SANITARY SEWER FORCE MAINS ONLY.

**6. Dewatering:**

**7. TRENCH BOX:**

**1 PIPE TRENCH DETAIL (TYPICAL)**  
SCALE: NOT TO SCALE



**2 PRECAST CONCRETE CATCH BASIN/ MANHOLE DETAIL**  
SCALE: NOT TO SCALE

**NOTES:**

1. CATCH BASIN SHALL BE PRECAST CONCRETE. DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.

2. FRAME AND COVER SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING & 25% IMPACT.

3. CONCRETE CATCH BASIN LID CLEAR OPENING DIMENSION MUST MATCH FRAME AND GRATE CLEAR OPENING DIMENSION.

4. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE FLOOR OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.

5. BACKFILL USING TRENCH BACKFILL, COMPACTED IN 6" LIFTS.

6. SUMPS FOR CATCH BASINS SHALL BE 12" UNLESS OTHERWISE NOTED.

7. ECCENTRIC CONE TOP CAN BE USED FOR MANHOLES DEPTH GREATER THAN 7 FEET.

8. SEE CHART FOR REQUIRED MANHOLES / CATCH BASIN DIAMETERS.

9. ALL PRECAST CONSTRUCTION IN ACCORDANCE W/ASTM C478

**ACCEPTABLE MANHOLE STEPS**

MANUFACTURER	PATTERN NUMBER	A" STEP WIDTH	B" LEG LENGTH	C" RUNG CLEAR	D" EMBEDMENT	E" RUNG CLEAR
M.A. INDUSTRIES INC*	PS2-PF	14 3/4	9 1/4	13 3/4	3 3/8	5 7/8
M.A. INDUSTRIES INC*	PS2-PFS	14 3/4	8 1/4	13 3/4	3 3/8	4 7/8

\* OR EQUIVALENT  
MH STEP DESIGN AND INSTALLATION SHALL COMPLY WITH ALL OSHA REGULATIONS

**NOTES:**

1. PRECAST LID TO BE DESIGNED TO WITHSTAND MAX AASHTO HS20-44 TRUCK LOADINGS & 25% IMPACT

**MANHOLES:**  
EJ GROUP  
SOLID COVER PN# 00120329  
8" THK FRAME PN#00120715  
OR APPROVED EQUAL  
COVER MUST BE CLEARLY LABELED "STORM SEWER"  
LOCATE MANHOLE COVER OPENING DIRECTLY OVER MANHOLE STEPS

**CATCH BASINS:**  
EJ GROUP - 5419M/Z ASSEMBLY  
GRATE PN#00541931  
4 1/2" THK FRAME PN#00541911  
OR APPROVED EQUAL  
LOCATE OPENING FOR FRAME AND GRATE IN CENTER OF PRECAST LID

1/2" GRADE 60 STEEL REINFORCEMENT

NOTE: CAST IN PLACE OR PRESS FIT ACCEPTABLE

**3 COPOLYMER POLYPROPYLENE MH STEP**  
SCALE: NOT TO SCALE

**NOTES:**

INSIDE FACE OF STRUCTURE

NON-SHRINK CEMENT-GROUT (USE BONDING AGENT IF REQ'D)

2" MAX PROJECTION INTO MANHOLE AT PIPE SPRINGLINE

TOP OF BASE SLAB

4" MIN (8" MIN ADJACENT TO CURB) 12" MAX GRADE ADJUSTMENT RINGS

4'-0" DIA MIN UNLESS OTHERWISE NOTED 2" MAX

1'-0" MIN 5" MIN

5" MIN

BACKFILL STRUCTURE W/ TRENCH BACKFILL (C540)

6" NYSDOT #2 CRUSHED STONE BEDDING

**5 PIPE CONNECTION TO DRAINAGE STRUCTURE- CMP OR HDPE CEMENT GROUT SEAL JOINT**  
SCALE: NOT TO SCALE

**TYPICAL HDPE END SECTION**

PIPE DIA.	END SECTION DIMENSIONS			
	A	B	C	D
12"	42"	14"	34"	6"
15"	42"	17"	34"	6"
18"	59"	21"	48"	6"
24"	59"	27"	48"	6"
30"	82"	34"	58"	6"
36"	82"	41"	58"	6"

**4 TYPICAL END SECTION - HDPE**  
SCALE: NOT TO SCALE

**NOTES:**

1. SCOPE: THIS SPECIFICATION DESCRIBES 12- THROUGH 36-INCH ADS FLARED END SECTIONS FOR USE IN CULVERT AND DRAINAGE OUTLET APPLICATIONS. FEES LARGER THAN 36" SHALL USE CIRCULAR CORRUGATED METAL FLARED END SECTIONS.

2. REQUIREMENTS: THE INVERT OF THE PIPE AND THE END SECTION SHALL BE AT THE SAME ELEVATION. THE ADS FLARED END SECTION SHALL BE HIGH DENSITY POLYETHYLENE MEETING ASTM D3350 MINIMUM CELL CLASSIFICATION 213320C; CONTACT MANUFACTURER FOR ADDITIONAL CELL CLASSIFICATION INFORMATION. WHEN PROVIDED, THE METAL THREADED FASTENING ROD SHALL BE STAINLESS STEEL.

3. INSTALLATION: INSTALLATION SHALL BE IN ACCORDANCE WITH ADS INSTALLATION INSTRUCTIONS AND WITH THOSE ISSUED BY STATE OR LOCAL AUTHORITIES. CONTACT YOUR LOCAL ADS REPRESENTATIVE OR VISIT WWW.ADS-PIPE.COM FOR THE LATEST INSTALLATION INSTRUCTIONS.

4. PROVIDE TRASH RACK ONLY WHERE SPECIFIED ON SITE PLANS.

**6 48" ROUND STRUCTURE PLACEMENT AT CURB**  
SCALE: NOT TO SCALE

SLOPE & WARP PAVEMENT FROM CURB TO GRATE, TO PROVIDE POSITIVE DRAINAGE.

GUTTER LINE

6" MAX

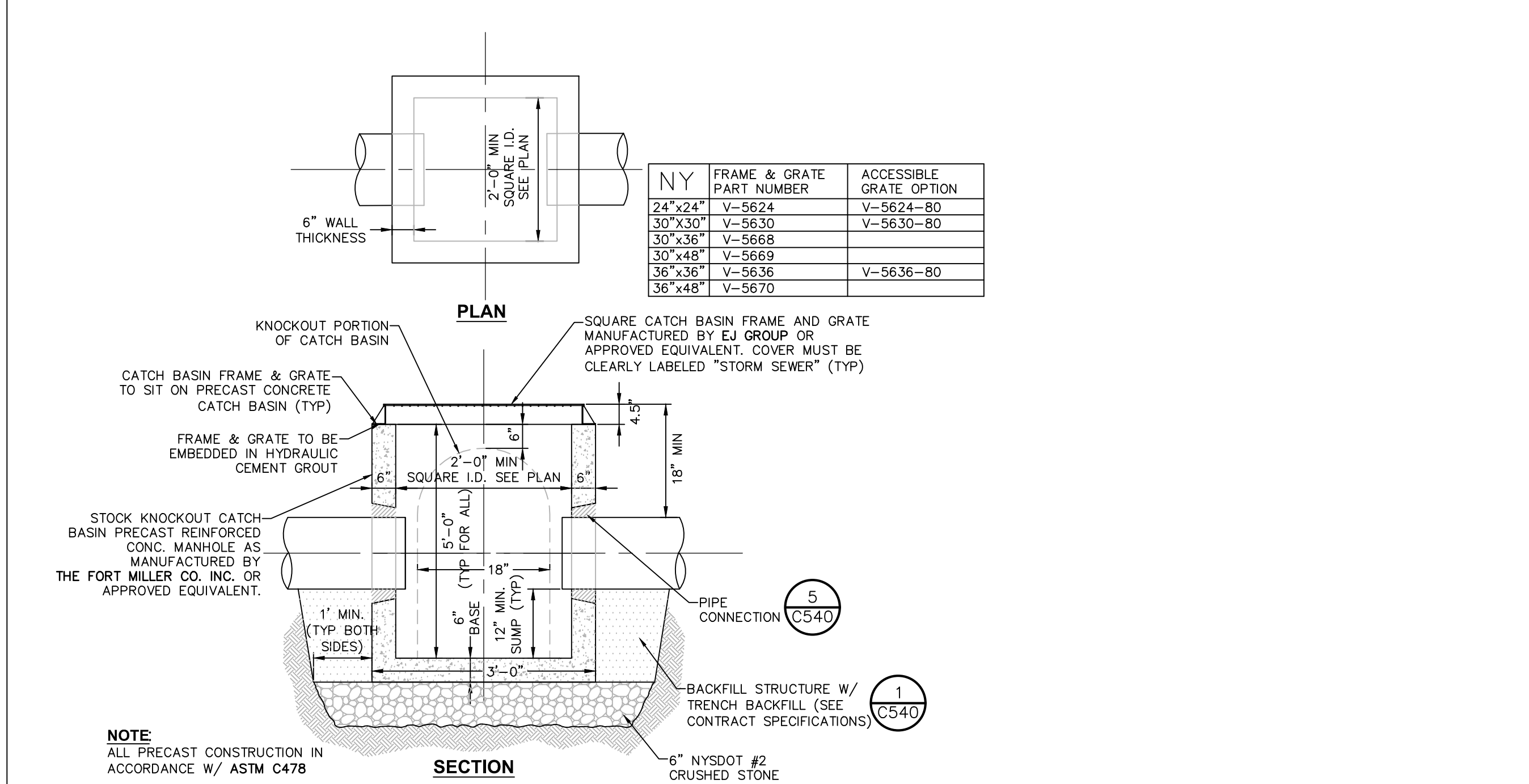
FINISHED GRADE

24" MAX

9"

CONCRETE STRUCTURE

**7 FRAME AND GRATE OF TYPE SPECIFIED**  
SCALE: NOT TO SCALE



**7 PRECAST CONCRETE SHALLOW CATCH BASIN DETAIL**  
SCALE: NOT TO SCALE

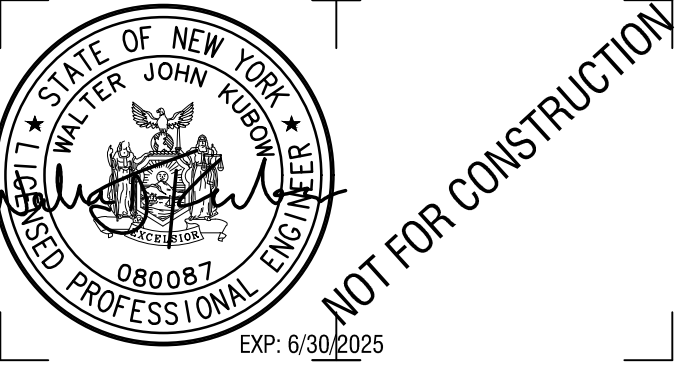
**NOTE:**

1. CATCH BASIN INLET BASINS SHALL BE PRECAST CONCRETE. DESIGNED FOR HS20-44 VEHICULAR LOADING + 25% IMPACT AS MANUFACTURED BY FORT MILLER OR APPROVED EQUAL.

2. CATCH BASIN SHALL NOT HAVE A DEPTH GREATER THAN 60" FROM FINISHED SURFACE.

3. BACKFILL USING TRENCH BACKFILL, COMPACTED IN 6" LIFTS.

4. MAX STORM SEWER PIPE FOR SHALLOW 2' CATCH BASIN IS 15"



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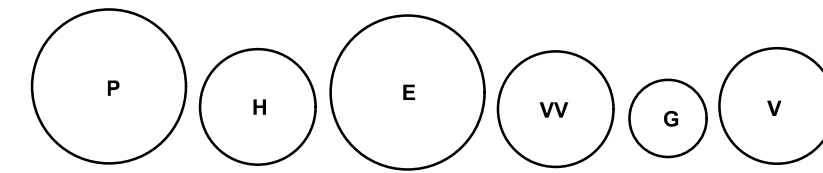
**STORM SEWER DETAILS**

DRAWING NUMBER:

**C541**

**NOTES:**

- RAIN GARDEN FACILITIES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH "THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL", CHAPTER 9, ALTERNATIVE STORMWATER MANAGEMENT PRACTICE.
- RAIN GARDEN MUST BE LOCATED AT LEAST 10' FROM ANY BUILDING FOUNDATION AND 25' FROM A WELL HEAD OR SEPTIC SYSTEM, BUT WITHIN APPROXIMATELY 30' OF A ROOF DOWNSPOUT OR IMPERVIOUS AREA. THEY SHOULD NOT BE LOCATED IN AREAS WITH HEAVY TREE COVER.
- GARDEN LOCATION SHOULD BE RELATIVELY FLAT, 3-4% PREFERRED AND NOT EXCEEDING 12%. A BERM SHOULD BE CONSTRUCTED ON THE DOWNHILL SIDE TO TRAP THE WATER IN THE GARDEN. TOP OF BERM SHOULD NOT BE HIGHER THAN THE UPHILL EDGE OF THE GARDEN OR GREATER THAN 12" HIGH. THE SOIL OF THE BERM SHOULD BE FIRMLY COMPACTED AND PLANTED WITH GRASS OR DENSE GROUNDCOVER.
- RUNOFF SHALL BE DIRECTED TO THE RAIN GARDEN AT A NON-EROSIVE RATE, THROUGH SHALLOW SWALES, CORRUGATED DRAIN PIPE, OR SHORT DISTANCES OF SHEET FLOW.
- SURFACE AREA SHOULD NOT EXCEED A LOADING RATIO OF 5:1 (DRAINAGE AREA TO INFILTRATION AREA, WHERE DRAINAGE AREA IS ASSUMED TO BE 100% IMPERVIOUS)
- A LENGTH TO WIDTH RATIO OF 2:1 IS RECOMMENDED, WITH THE LONG AXIS PERPENDICULAR TO THE SLOPE AND FLOW PATH.
- IDEAL SOIL COMPOSITION SHOULD CONSIST OF 50% SAND, 20-30% TOPSOIL WITH LESS THAN 5% CLAY CONTENT, AND 20-30% LEAF COMPOST. SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12", LOOSELY COMPACTED (TAMPED LIGHTLY WITH A SMALL DOZER OR BACKHOE BUCKET). THE SOIL SHALL HAVE A PERMEABILITY OF AT LEAST 0.5" PER HOUR.
- THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE, SHREDDED HARDWOOD MULCH.
- SOIL COMPOSITION:  
50% SAND  
20-30% TOPSOIL WITH LESS THAN 5% CLAY CONTENT  
20-30% LEAF COMPOST  
SOIL WILL BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. PLACE PLANTING SOIL IN 6" LIFTS, LOOSELY COMPACTED (TAMPED LIGHTLY WITH A SMALL DOZER OR BACKHOE BUCKET). THE SOIL SHALL HAVE A PERMEABILITY OF AT LEAST 0.5" PER HOUR.
- MULCH: SINGLE OR DOUBLE SHREDDED, WELL COMPOSTED, UNCOLORED HARDWOOD MULCH.



**RAIN GARDEN PLANT LIST**

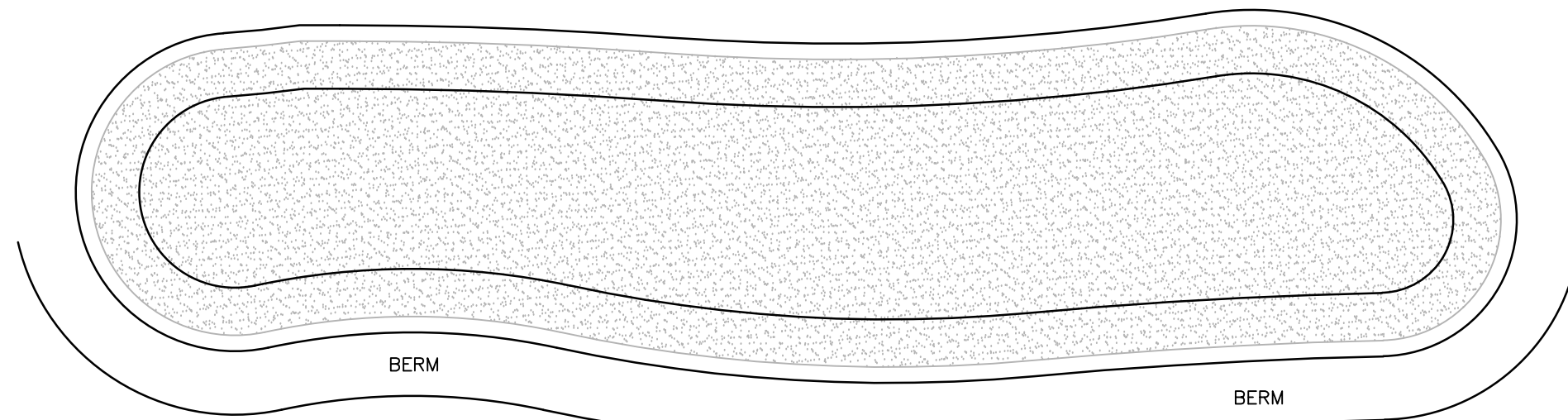
ABRV	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
E	X	EUPATORIUM FISTULOSUM	JOE PYE WEED	#1 CONT.	4'
G	X	GENTIANA CLAUSA	MEADOW BOTTLE GENTIAN	#1 CONT.	2'
H	X	HELIOPSIS HELIANTHOIDES	OX EYE SUNFLOWER	#1 CONT.	3'
P	X	PANICUM VIRGATUM	SWITCH GRASS	#1 CONT.	4'
V	X	VERNONIA GIGANTEA	IRONWEED	#1 CONT.	3'
VV	X	VERONICASTRUM VIRGINICUM	CULVER'S ROOT	#1 CONT.	3'

**NOTES:**

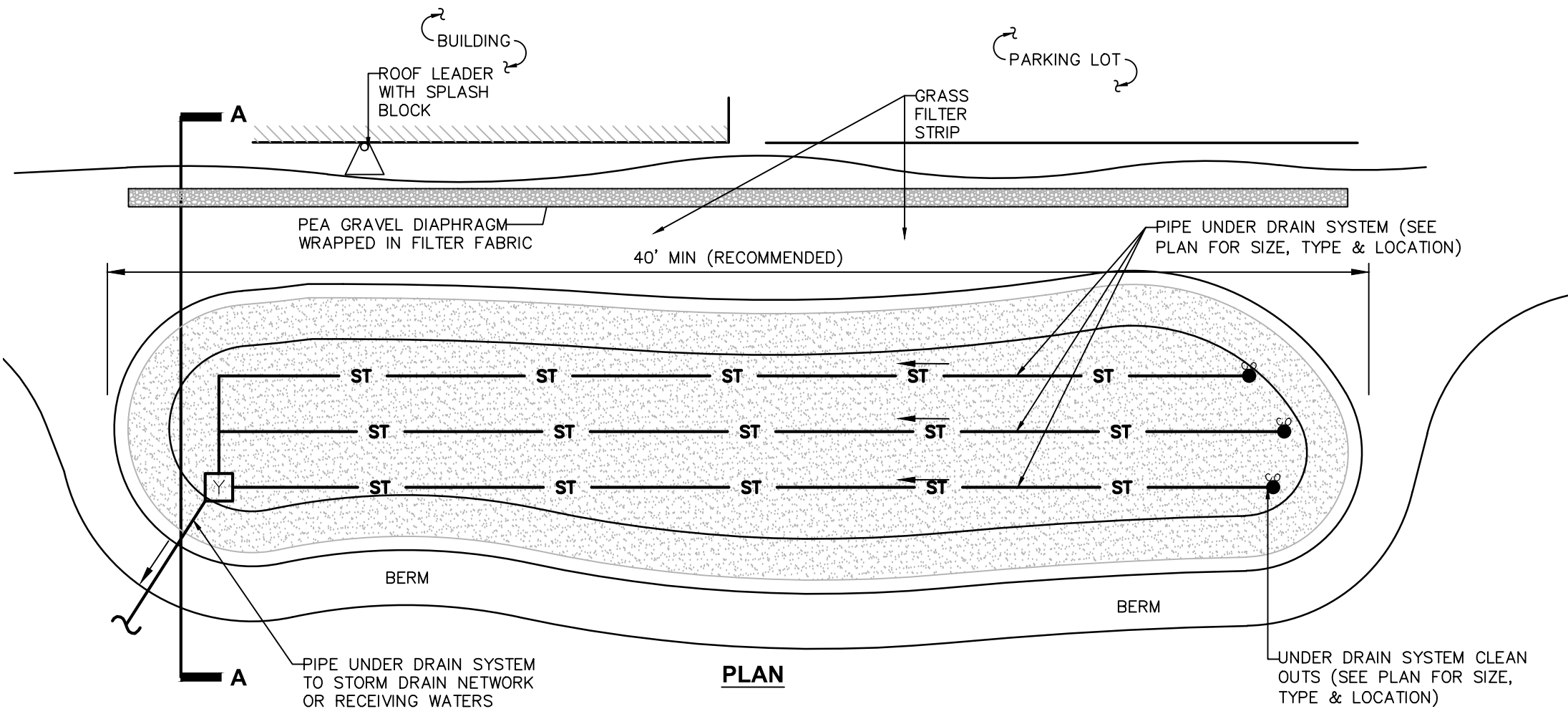
- BIORETENTION FACILITIES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH "THE NEW YORK STATE STORMWATER MANAGEMENT DESIGN MANUAL", CHAPTER 6.
- PLANTING SOIL SHALL BE TESTED & MEET THE FOLLOWING CRITERIA:  
PH RANGE: 5.2-7.0  
ORGANIC MATTER: 1.5-4%  
MAGNESIUM: 35 LB/AC  
PHOSPHOROUS P<sub>2</sub>O<sub>5</sub>: 75LB/AC  
POTASSIUM K<sub>2</sub>O: 85/AC  
SOLUBLE SALTS: NOT TO EXCEED 500PPM
- ROTOTILL 2-3" OF SAND BASE INTO THE BASE OF THE BIORETENTION FACILITY.
- BACK FILLING OF BIORETENTION FACILITY SHALL BE PLACED IN 12" LIFTS.
- MAIN COLLECTOR PIPE OF THE UNDER DRAIN SYSTEM SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS OR CLEAN OUT PIPES MUST BE PLACED EVERY 1000SF OF SURFACE AREA.
- BIORETENTION AREA MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

**MATERIALS SPECIFICATION FOR BIORETENTION**

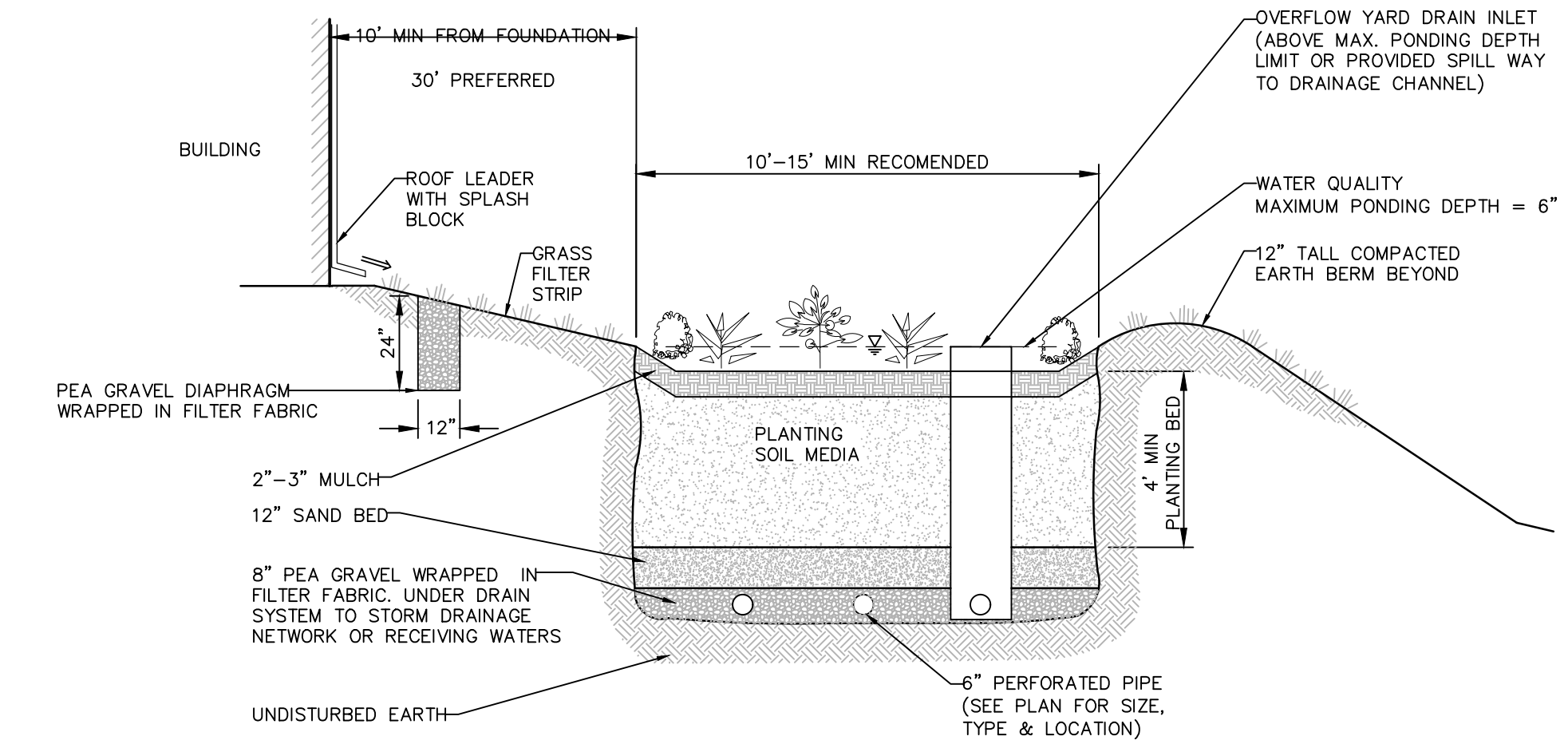
PARAMETERS	SPECIFICATIONS	SIZE	NOTES:
PLANTINGS	SEE YOUR LOCAL NRCS STANDARD SPECIFICATIONS GUIDANCE	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOILS [4" DEEP]	SAND 35-60% SILT 30.55% CLAY 10-25%	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM OR LOAM
MULCH	UN COLORED SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM
PEA GRAVEL DIAPHRAGM AND CURTAIN DRAIN	PEA GRAVEL: ASTM D 449 ORNAMENTAL STONE, WASHED COBBLES CLASS "C" APPARENT OPENING SIZE (ASTM D-4753) GRAB TENSILE STRENGTH (ASTM-D-4632) BURST STRENGTH (ASTM-D-4833)	PEA GRAVEL: NO. 6 STONE: 2"-5"	
GEOTEXTILE		N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	AASHTO M-43, NO. 67.	0.25" - 0.75"	3/8" PERF. @ 6" O.C., 4 HOLES PER ROW. MINIMUM OF 3" GRAVEL OVER PIPES: NOT NECESSARY
UNDERDRAIN PIPING	ASTM D 1785 OR AASHTO M-278	6" RIDGID SCHEDULE 40 PVC	3/8" PERF. @ 6" O.C., 4 HOLES PER ROW
POUR IN PLACE CONCRETE (IF REQUIRED)	SEE LOCAL DOT STANDARDS SPECS.; f'c=4500PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; RE-INFORCED TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST: ALL CONCRETE DESIGN (CAST IN PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEAL & APPROVED BY A LICENSE PROFESSIONAL STRUCTURAL ENGINEER.
SAND [12" DEEP]	AASHTO M-6 OR ASTM C-33	0.02" - 0.04"	SAND SUBSTITUTION SUCH AS DIABASE GRAYSTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTE ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND



**PLANTING PLAN**

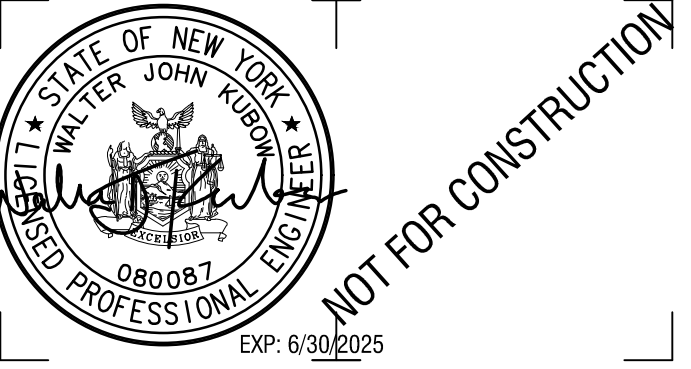


**PLAN**



**SECTION**

**1 TYPICAL BIORETENTION DETAIL**  
SCALE: NTS



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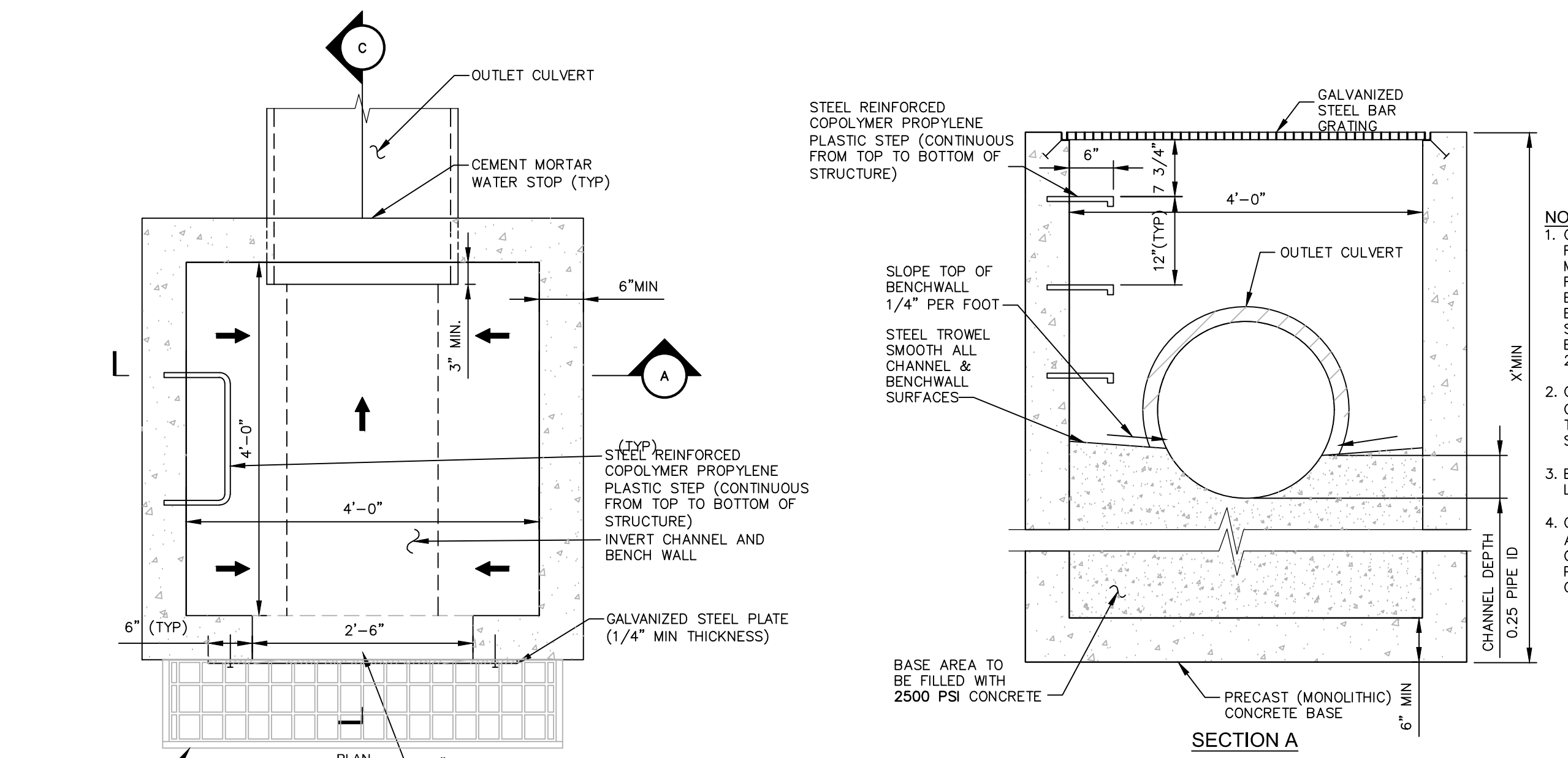
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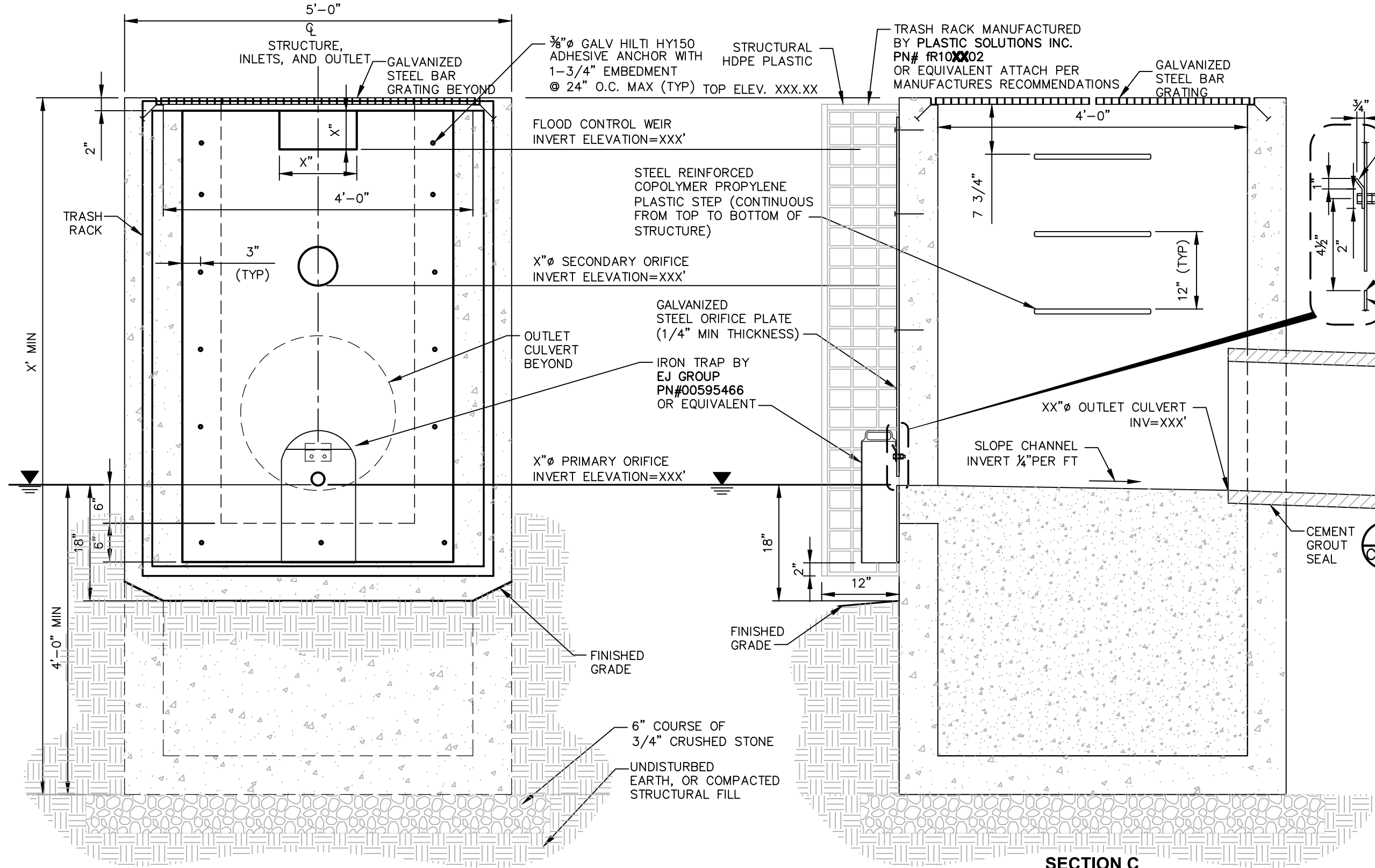
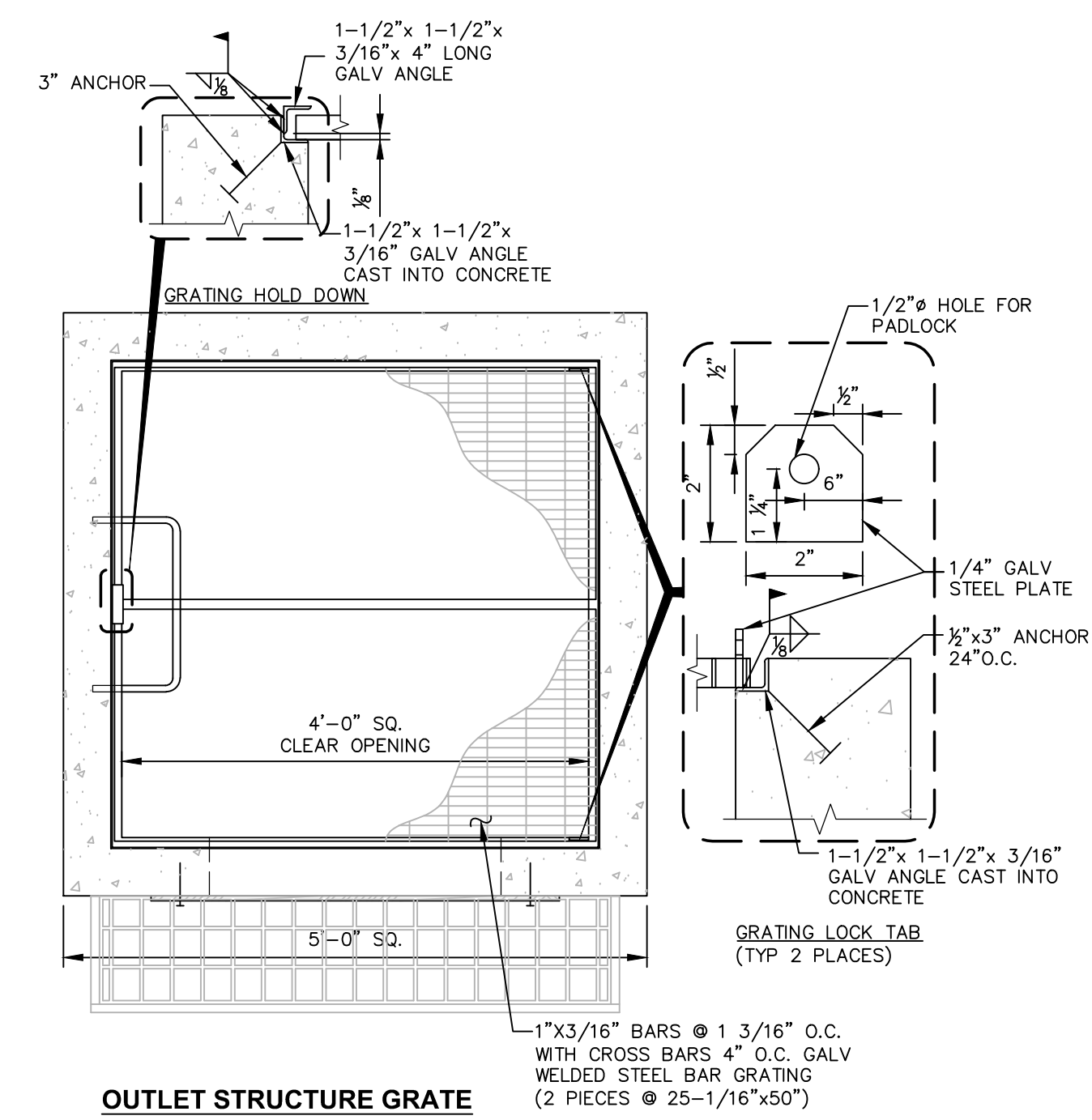
**STORM SEWER DETAILS**

DRAWING NUMBER:

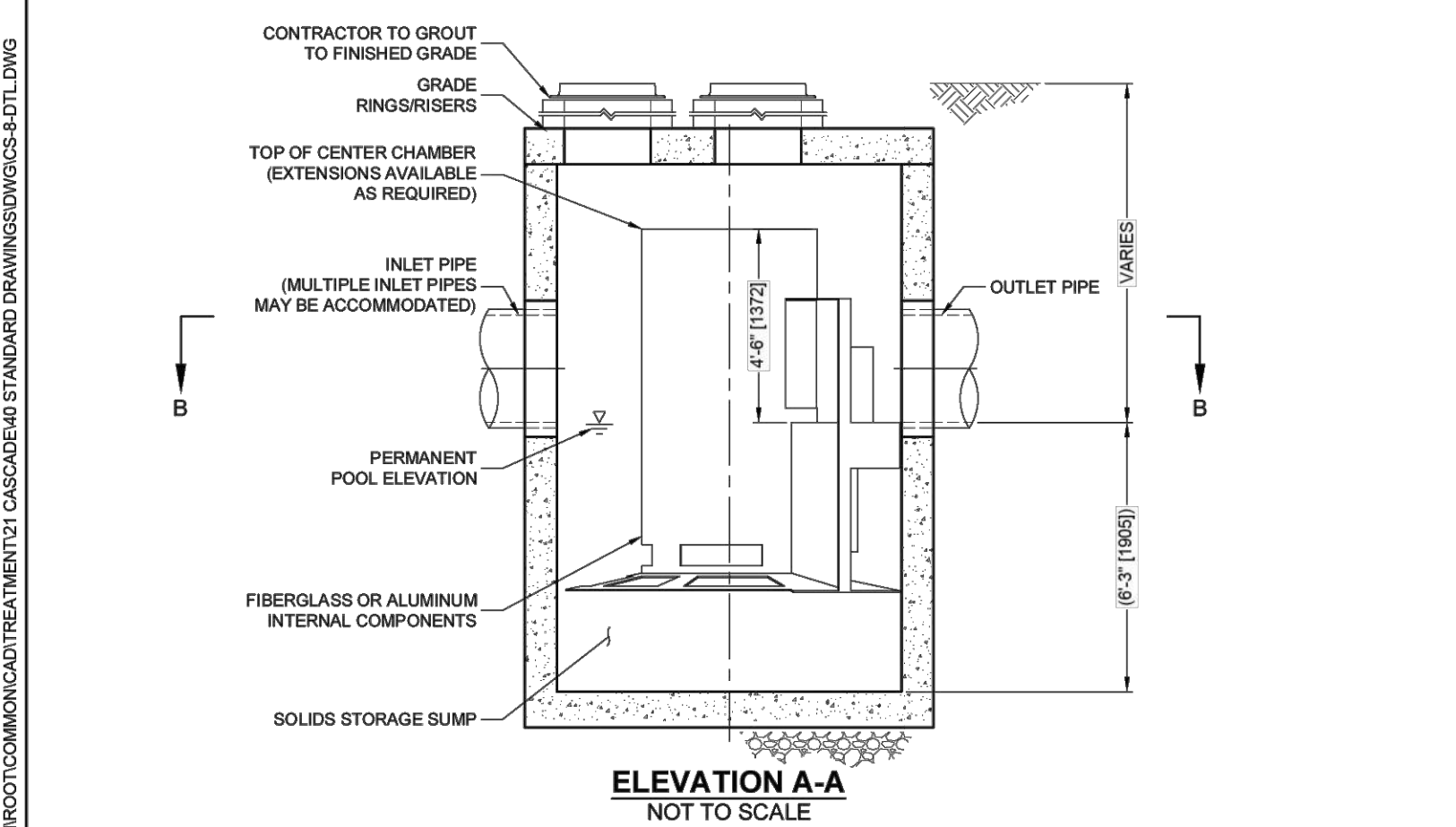
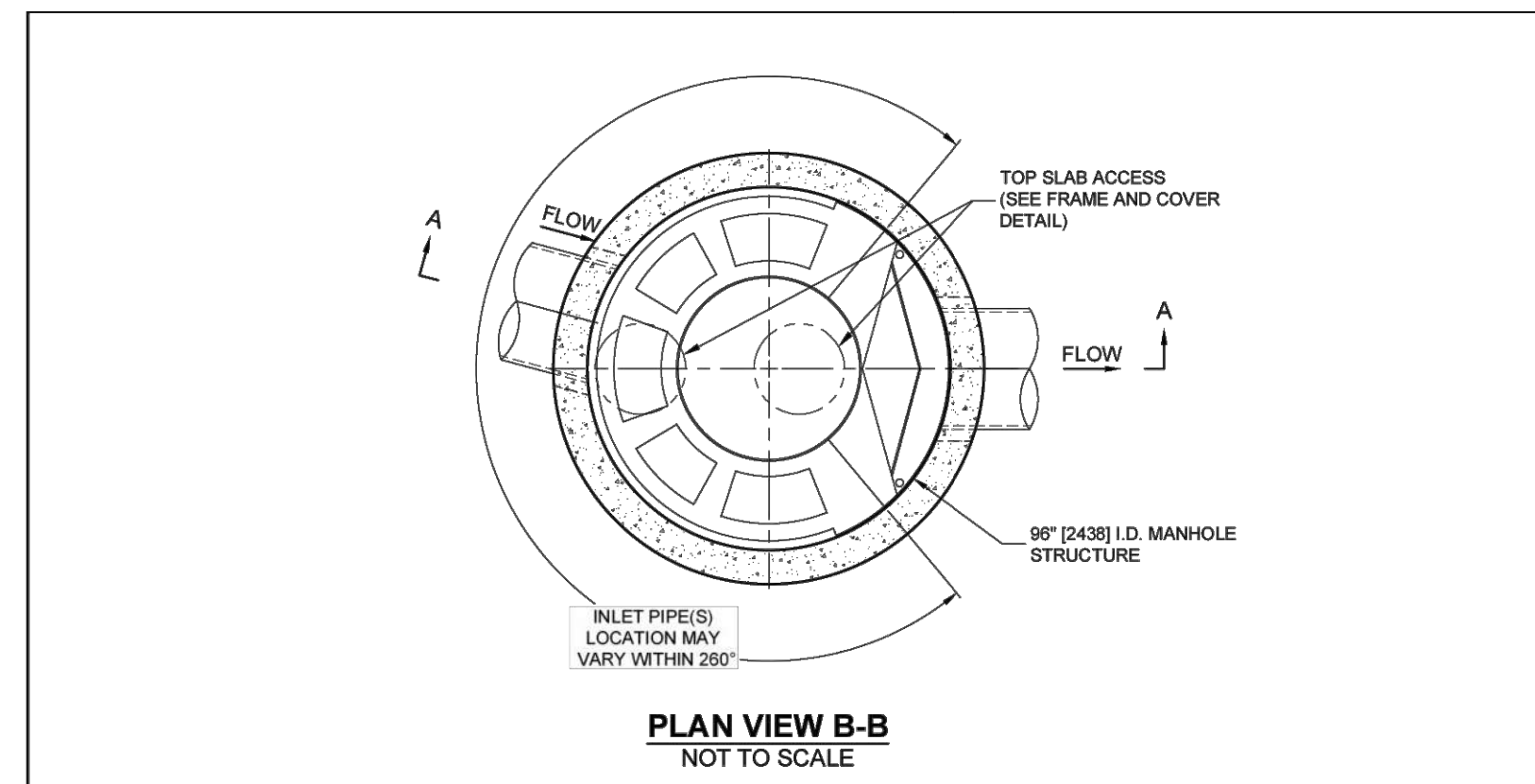
**C542**



- NOTES:**
1. OUTLET CONTROL STRUCTURE SHALL BE PRECAST REINFORCED CONCRETE AS MANUFACTURED BY FORT MILLER CO. OR APPROVED EQUIVALENT. REINFORCEMENT FOR OUTLET CONTROL STRUCTURE SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
  2. OUTLET CONTROL STRUCTURES HAVING A DEPTH GRATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
  3. BACKFILL USING EMBANKMENT FILL, COMPACTED IN 8" LIFTS.
  4. CONTRACTOR TO PROVIDE PADLOCKS & KEYS (KEYED ALIKE) FOR ALL STORM WATER MANAGEMENT BASIN OUTLET CONTROL STRUCTURES INSTALLED ON THIS PROJECT. CONTRACTOR MAY SUBMIT ALTERNATE CONFIGURATION FOR LOCKING GRATE.



**ELEVATION - ORIFICE PLATE**  
**1** OUTLET CONTROL STRUCTURE  
SCALE: 3/4" = 1'-0"



**CASCADE separator™**

**CASCADE SEPARATOR DESIGN NOTES**

THE STANDARD CS-8 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	WATER QUALITY FLOW RATE (cfs [L/s])	PEAK FLOW RATE (cfs [L/s])	RETURN PERIOD OF PEAK FLOW (yrs)	RIM ELEVATION

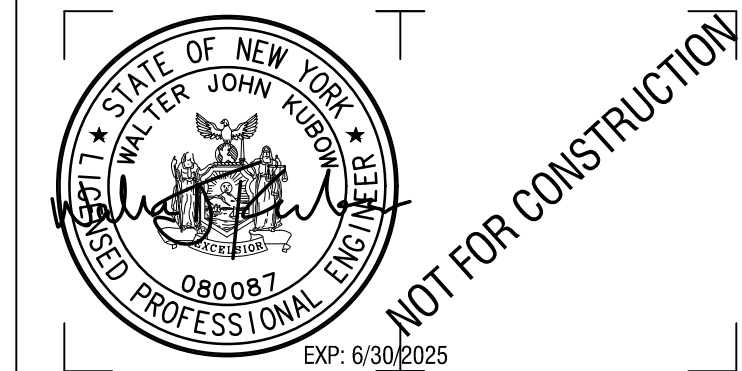
PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

- GENERAL NOTES**
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE
  2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://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. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO H200 LOAD RATING, ASSUMING EARTH COVER OF 0'-2" (610), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M308 AND BE CAST WITH THE CONTECH LOGO.
  5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm]
- INSTALLATION NOTES**
- A. ANY SUB-BASE, BACKFILL, DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
  - C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
  - D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
  - E. 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.



**2** CS-8 CASCADE SEPARATOR STANDARD DETAIL



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered, the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		
PROJECT NUMBER: 2222588.01		
DRAWN BY: DAS, HEB		REVIEWED BY: WJK
ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL		
DATE: 08/29/23		DRAWING NAME:

**EROSION & SEDIMENT CONTROL DETAILS**

DRAWING NUMBER:

**C550**

**TOPSOIL SPECIFICATIONS:**

1. EXISTING EXCESS TOPSOIL SHALL BE REMOVED AND STORED IN TOPSOIL STOCKPILES SUFFICIENTLY REMOVED FROM EXCAVATION OR DISTURBANCE TO AVOID MIXING. SILT FENCE SHALL BE INSTALLED AROUND TOPSOIL STOCKPILE AREAS.

**SITE PREPARATION:**

- COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED.
- SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%.
- REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

**TOPSOIL MATERIALS:**

- NEW TOPSOIL SHALL BE BETTER THAN OR EQUAL TO THE QUALITY OF THE EXISTING ADJACENT TOPSOIL. IT SHALL MEET THE FOLLOWING CRITERIA:
  - ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE AND OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL AND FREE OF DENSE MATERIAL, HARDPAN, CLAY, STONES, SOD OR OTHER OBJECTIONABLE MATERIAL.
  - CONTAINING NOT LESS THAN 5% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLING PASSING A 1/4" SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105°C.
  - CONTAINING A PH VALUE WITHIN THE RANGE OF 6.5 TO 7.5 ON THAT PORTION OF THE SAMPLE WHICH PASSES A 1/4" SIEVE.
  - SAMPLING THE FOLLOWING WASHED GRADATIONS:
 

SIEVE DESIGNATION	% PASSING
1"	100
1/4"	97-100
NO 200	20-60

**APPLICATION AND GRADING:**

- TOPSOIL SHALL BE DISTRIBUTED TO A UNIFORM DEPTH OF 4" OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTLY FROZEN, MUDDY, OR ON FROZEN SLOPES OR OVER ICE, SNOW, OR STANDING WATER.
- TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDDED, MULCHED AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.

**VEGETATIVE COVER SPECIFICATIONS:**

**TEMPORARY VEGETATIVE COVER (DURING CONSTRUCTION):**

- SITE PREPARATION (SAME AS PERMANENT VEGETATIVE COVER)
- SEEDING (APPLY AT RATE OF 3 TO 4 LBS PER 1000 SQ FT)
 

WEIGHT	SPECIES OR VARIETY	PURITY	GERMINATION
100%	ANNUAL RYEGRASS	98%	90%
- SEEDING (SAME AS PERMANENT VEGETATIVE COVER)

**PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION):**

- SITE PREPARATION
  - BRING AREA TO BE SEED TO REQUIRED GRADE. A MINIMUM OF 4" OF TOPSOIL IS REQUIRED.
  - PREPARE SEEDBED BY LOOSENING SOIL TO A DEPTH OF 4 INCHES.
  - REMOVE ALL STONES OVER 1 INCH IN DIAMETER, STICKS AND FOREIGN MATTER FROM THE SURFACE.
  - LIME TO PH OF 6.5.
  - FERTILIZER: USE 5-10-5 (NPK) OR EQUIVALENT, APPLY AT RATE OF 4 LBS/1000 SQ. FT.
  - INCORPORATE LIME AND FERTILIZER IN THE TOP 4 INCHES OF TOPSOIL.
  - SMOOTH AND FIRM THE SEEDBED.
- SEED MIXTURE FOR USE ON LAWN AREAS: PROVIDE FRESH, CLEAN, NEW-CROP SEED MIXED IN THE PROPORTIONS SPECIFIED FOR SPECIES AND VARIETY, AND CONFORMING TO FEDERAL AND STATE STANDARDS.
 

LAWN SEED MIX: (APPLY AT RATE OF 5 TO 6 LBS PER 1000 SQ FT)			
SUN AND PARTIAL SHADE:			
WEIGHT SPECIES OR VARIETY	MINIMUM %	PURITY	GERMINATION
50%	KENTUCKY BLUE GRASS*	95%	80%
20%	PERENNIAL RYE	98%	90%
30%	CREeping RED FESCUE	97%	85%
100%	CREeping RED FESCUE	97%	85%
*MINIMUM 2 (EQUAL PROPORTIONS) VARIETIES AS LISTED IN CORNELL RECOMMENDATIONS FOR TURFGRASS.			
SHADE:			
WEIGHT SPECIES OR VARIETY	MINIMUM %	PURITY	GERMINATION
25%	KENTUCKY BLUE GRASS**	95%	80%
20%	PERENNIAL RYE	98%	90%
5%	CREeping RED FESCUE	97%	85%
20%	CHEWINGS RED FESCUE	97%	85%
100%	CHEWINGS RED FESCUE	97%	85%
**SHADE TOLERANT VARIETY			
- SEEDING
  - APPLY SEED UNIFORMLY BY CYCLONE SEEDER CULTI-PACKER OR HYDRO-SEEDER AT RATE INDICATED.
  - ALL SEEDED AREAS SHALL BE PROTECTED FROM EROSION BY ONE OF THE FOLLOWING METHODS:
    - A UNIFORM BLANKET OF STRAW APPLIED AT A RATE OF 2 TONS /ACRE MIN., TO BE APPLIED ONCE SEEDING IS COMPLETE.
    - WOOD FIBER CELLULOSE APPLIED WITH SEED MIX BY HYDROSEEDER AT RATE OF 2,000 LBS/ACRE.
  - ALL SEEDED SLOPES 3:1 OR GREATER SHALL BE PROTECTED FROM EROSION WITH JUTE MESH OR APPROVED EQUAL.
  - IRRIGATE TO FULLY SATURATE SOIL LAYER, BUT NOT TO DISLODGE PLANTING SOIL.
  - UNLESS OTHERWISE DIRECTED IN WRITING, SEED FROM MARCH 15TH TO JUNE 15TH, AND FROM AUGUST 15TH TO OCTOBER 15TH.

**COMPACTION REQUIREMENTS:**

LOCATION	COMPACTION	TESTING FREQUENCY
PIPE TRENCH BACKFILL (IN PAVED AREAS)	95% ASTM D1557	1 SERIES OF TESTS FOR EACH 150 FT OR LESS OF TRENCH LENGTH. SERIES INCLUDE 3 COMPACTION TESTS SPREAD EVENLY ALONG TRENCH PROFILE.
PIPE TRENCH BACKFILL (IN UNPAVED AREAS)	90% ASTM D1557	1 SERIES OF TESTS FOR EACH 150 LF OR LESS OF TRENCH LENGTH. SERIES INCLUDE 3 COMPACTION TESTS SPREAD EVENLY ALONG TRENCH PROFILE.
PIPE BEDDING AND PIPE ZONE BACKFILL	95% ASTM D1557	1 TEST FOR EACH 150 FT OR LESS OF TRENCH LENGTH.
PAVEMENT SUBBASE AND LIFT OF SELECT GRANULAR FILL (FULL BETWEEN SHEET PILES)	95% ASTM D1557	1 TEST FOR EVERY 2,000 SQ FT, OF LIFT AREA BUT NO FEWER THAN TWO TESTS PER LIFT.

**MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:**

**PERMANENT AND TEMPORARY VEGETATION:**  
INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

**STABILIZED CONSTRUCTION ENTRANCE:**

INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. CHECK FOR MUD, SEDIMENT BUILD-UP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. WASH ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE PROJECT DRAWINGS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.

2. THE CONTRACTOR SHALL CLEAR AND GRUB THE AREA OF THE STORMWATER MANAGEMENT FACILITIES. THIS AREA SHALL NOT EXCEED FIVE (5) ACRES IN EXTENT WITHOUT TEMPORARY STABILIZATION.

3. THE STORMWATER DETENTION BASIN SHALL BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL THE OUTLET CONTROL STRUCTURES AND THE EARTHEN BERM. THE BASIN SHALL BE GRADED TO THE TOP OF THE AQUATIC BENCH AS INDICATED IN THE TYPICAL STORMWATER MANAGEMENT BASIN SECTION PRESENTED IN THE PROJECT DRAWINGS.

**SILT FENCE:**  
INSPECT FOR DAMAGE EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE FENCE. IF FENCE FABRIC TENS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

**SOIL STOCKPILE:**  
INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE OR HAY BALE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCK PILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.

**DUST CONTROL:**  
SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). TEMPORARY MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

**CHECK DAM:**  
INSPECT CHECK DAMS EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. IF SIGNIFICANT EROSION HAS OCCURRED BETWEEN STRUCTURES A LINDER OF STONE OR OTHER SUITABLE MATERIAL SHALL BE INSTALLED IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAM AS NEEDED TO ALLOW CHANNEL TO DRAIN. IF SIGNIFICANT FLOWS FROM CARRYING CAPACITY OF DAM, REPLACE STONES TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURES. REMOVE CHECK DAMS AS PER APPROVAL OF ENGINEER.

**EROSION CONTROL BLANKET:**  
INSPECT THE BLANKET EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. REPLACE WIRE STAPLES AS REQUIRED. REPAIR AND RESEED WHERE CRACKS AND DAMAGED VEGETATION IS EVIDENT. WHEN DAMAGED BEYOND REPAIR OR NO LONGER FUNCTIONING, THE BLANKET SHALL BE REPLACED.

**EARTH DIKE:**  
INSPECT ALL EARTH DIKES EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. ALL AREAS DAMAGED BY EROSION SHALL BE REPAIRED IMMEDIATELY.

**TEMPORARY SWALE:**  
INSPECT ALL EARTH SWALES EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. ALL AREAS DAMAGED BY EROSION SHALL BE REPAIRED IMMEDIATELY.

**SEDIMENT TRAP:**  
INSPECT ALL SEDIMENT TRAPS EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. REPAIRS SHALL BE MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 1/2 OF THE DESIGN DEPTH OF THE TRAP.

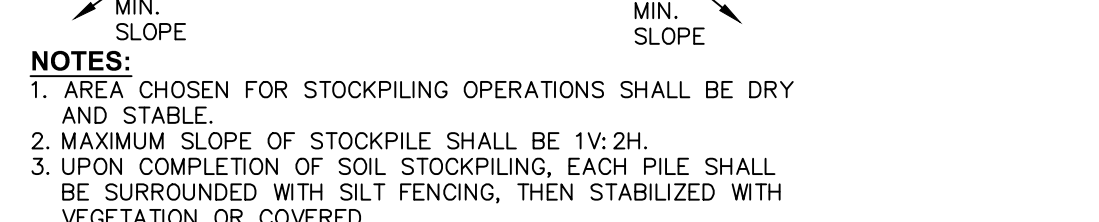
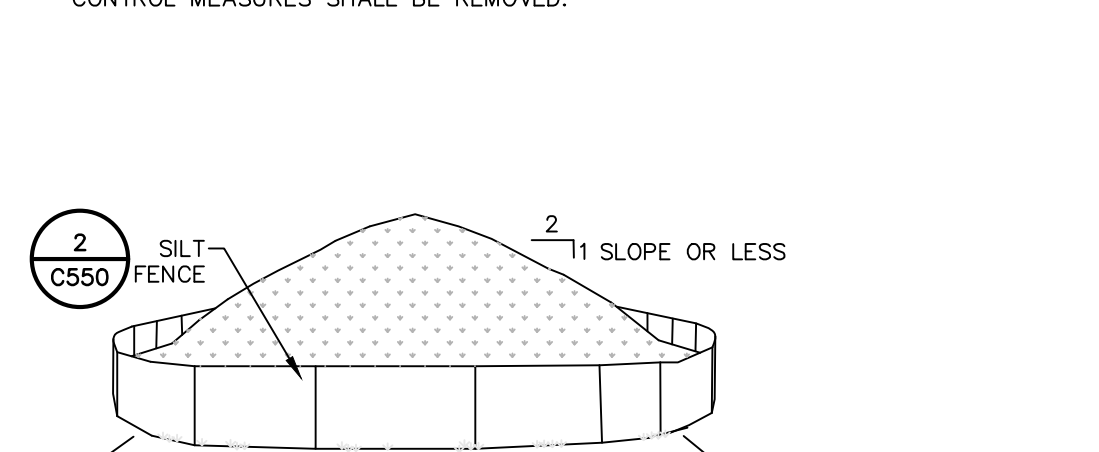
**STORM DRAIN INLET PROTECTION:**  
INSPECT ALL STORM DRAIN INLET PROTECTION DEVICES EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT FROM THE POOL AREA AS NECESSARY.

**DEWATERING PITS:**  
(IF REQUIRED)  
CLEAR INLET AND DISCHARGE PIPES OF OBSTRUCTIONS. IF A FILTER MATERIAL BECOMES CLOGGED WITH SEDIMENT, PIT SHALL BE DISMANTLED AND CONSTRUCT NEW PITS AS NEEDED.

**SNOW AND ICE CONTROL:**  
PARKING LOTS, ROADWAYS, AND DRIVEWAYS ADJACENT TO WATER QUALITY FILTERS SHALL NOT BE REMOVED DURING SNOW EVENTS DUE TO HIGH POTENTIAL FOR CLOGGING FROM SAND IN SURFACE WATER RUNOFF. USE SALT ONLY FOR SNOW AND ICE CONTROL.

**GENERAL EROSION AND SEDIMENT CONTROL NOTES:**

- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", NOVEMBER 2016.
- EXCESS SOIL TO BE STOCKPILED WITHIN THE LIMITS OF SITE DISTURBANCE IF NOT USED IMMEDIATELY FOR GRADING PURPOSES. INSTALL SILT FENCE AROUND SOIL STOCKPILES.
- APPLY SURFACE STABILIZATION AND RESTORATION MEASURES. AREAS UNDERGOING CLEARING AND GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS DELAYED, SUSPENDED, OR INCOMPLETE AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED. (SEE SPECIFICATIONS FOR TEMPORARY VEGETATIVE COVER). AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS COMPLETE AND WILL NOT BE REDISTURBED SHALL BE STABILIZED AND RESTORED WITH PERMANENT VEGETATIVE COVER AS SOON AS SITE AREAS ARE AVAILABLE AND WITHIN 14 DAYS AFTER WORK IS COMPLETE. (SEE SPECIFICATIONS FOR PERMANENT VEGETATIVE COVER). SEEDING FOR PERMANENT VEGETATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS. PROVIDE STABILIZATION WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER WORK IS COMPLETE. FOR SEEDING OUTSIDE PERMITTED SEEDING PERIODS.
- SEEDED AREAS TO BE MULCHED WITH STRAW OR HAY MULCH IN ACCORDANCE WITH VEGETATIVE COVER SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. THE CONTRACTOR IS TO SUPPLY ALL EQUIPMENT AND WATER.
- WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

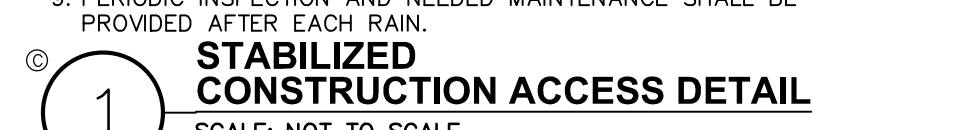
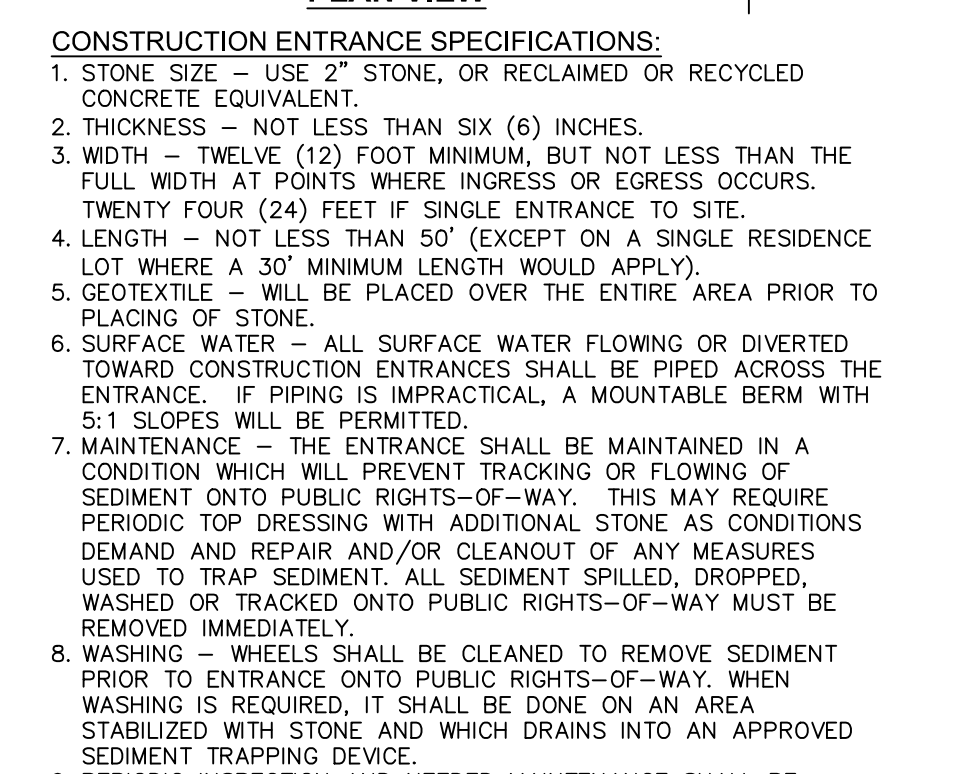
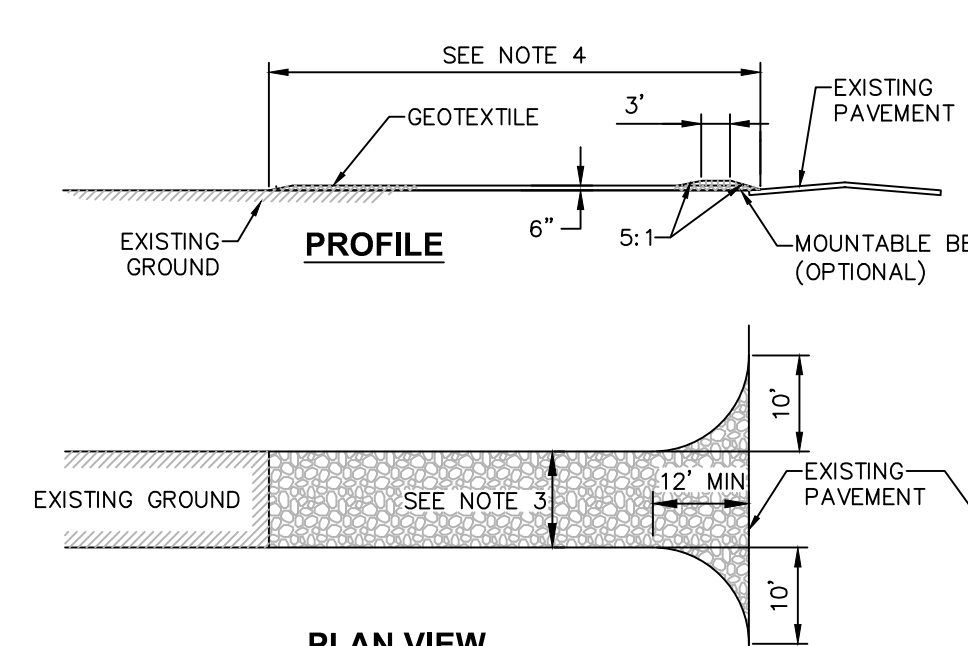
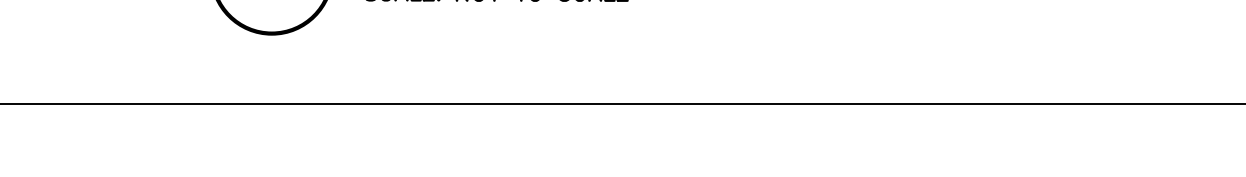
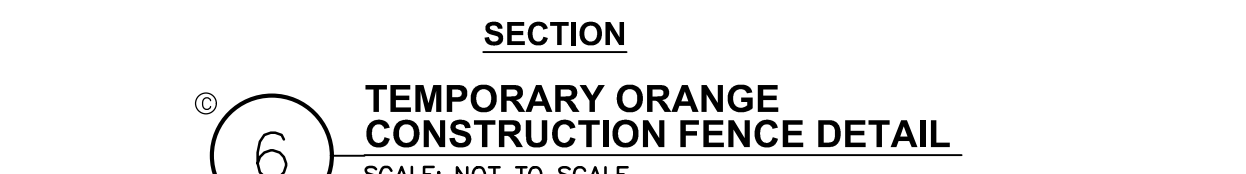
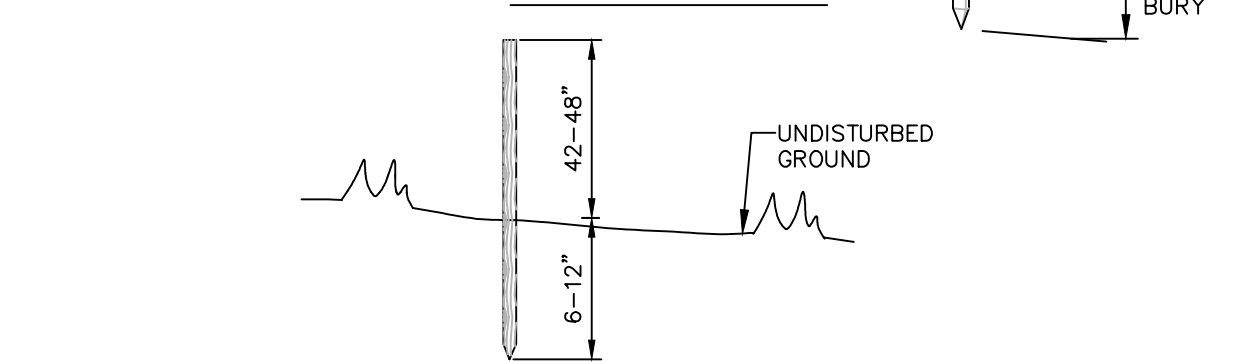
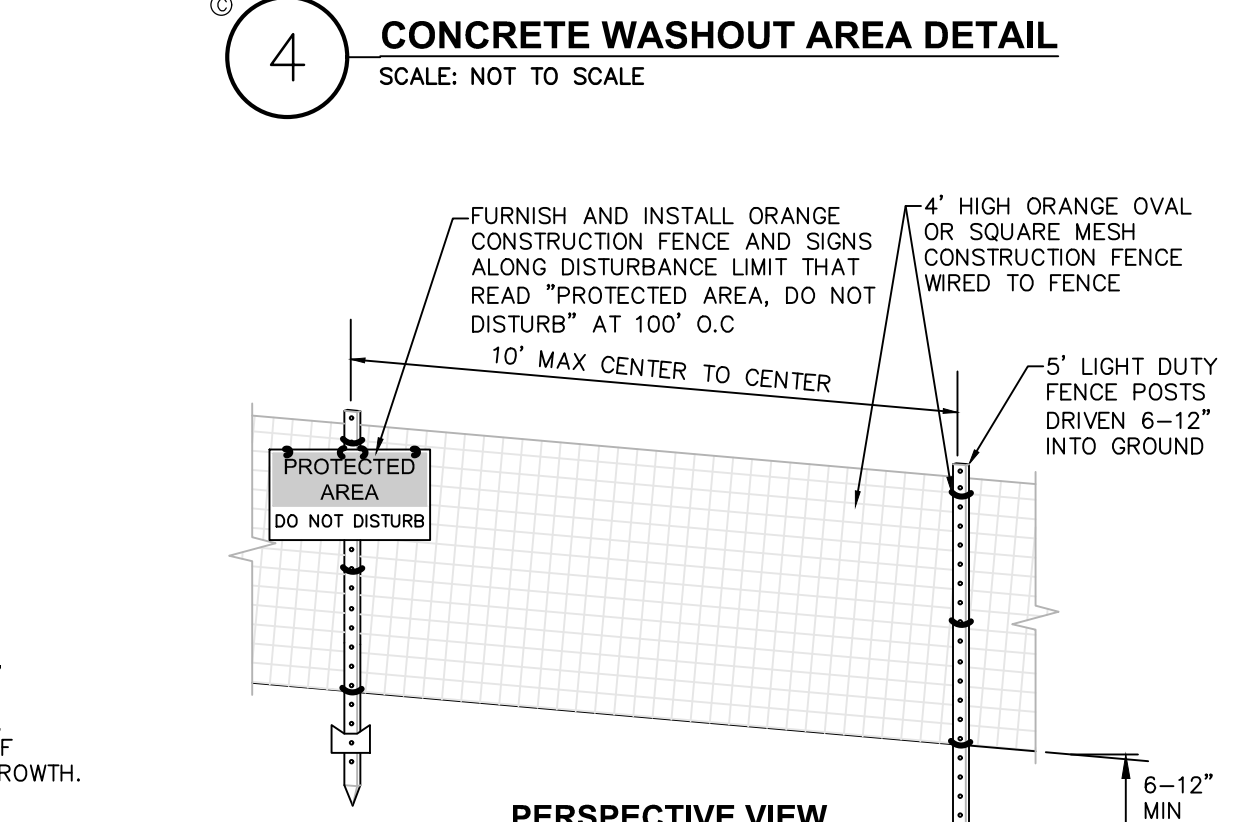
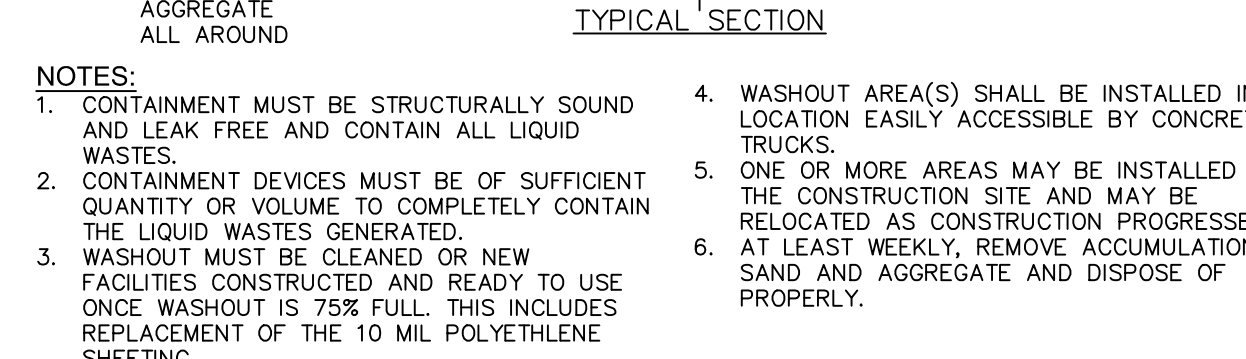
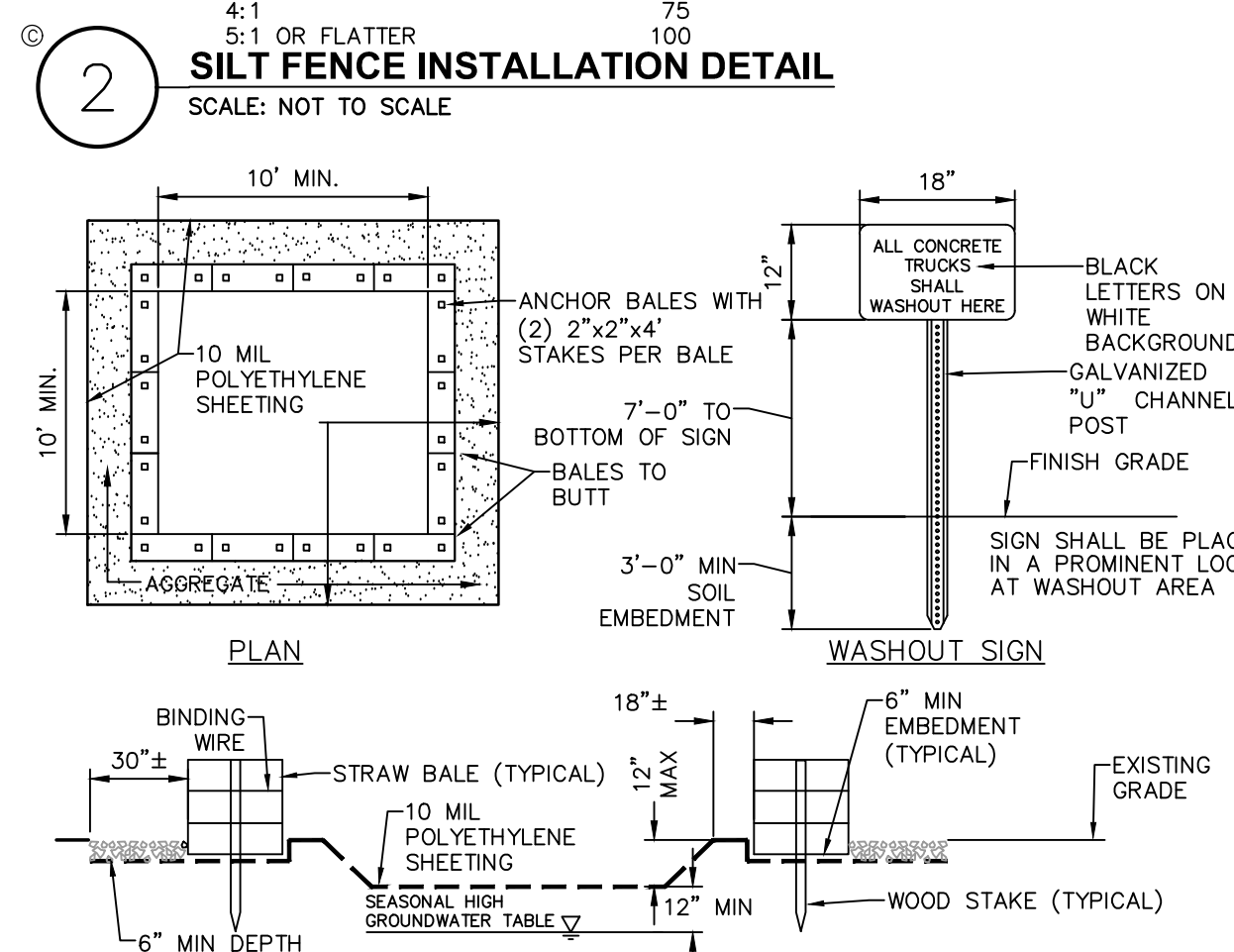
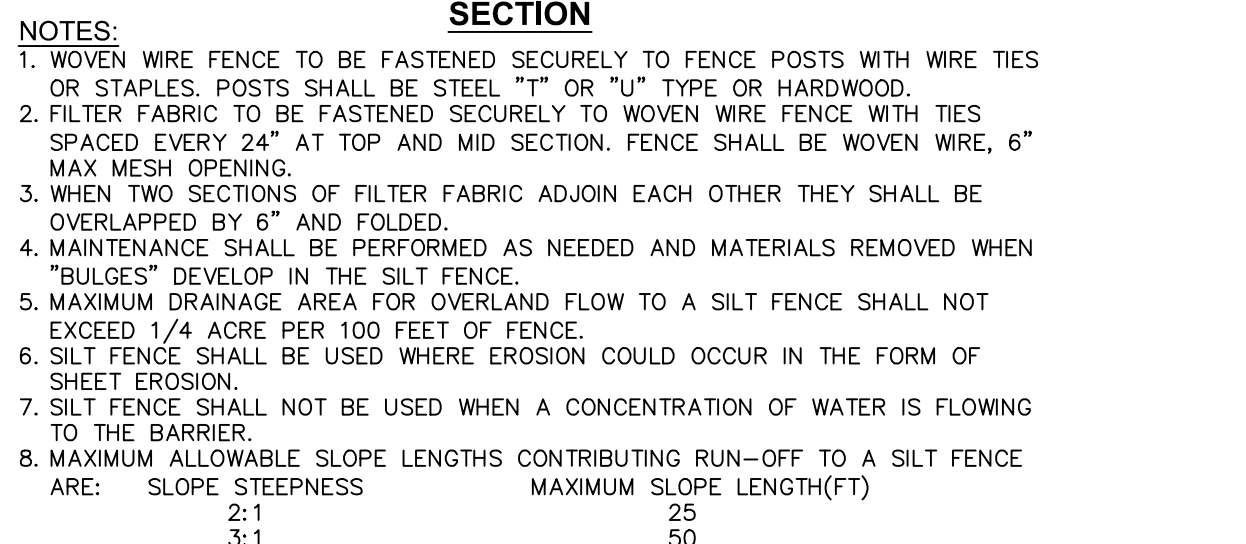
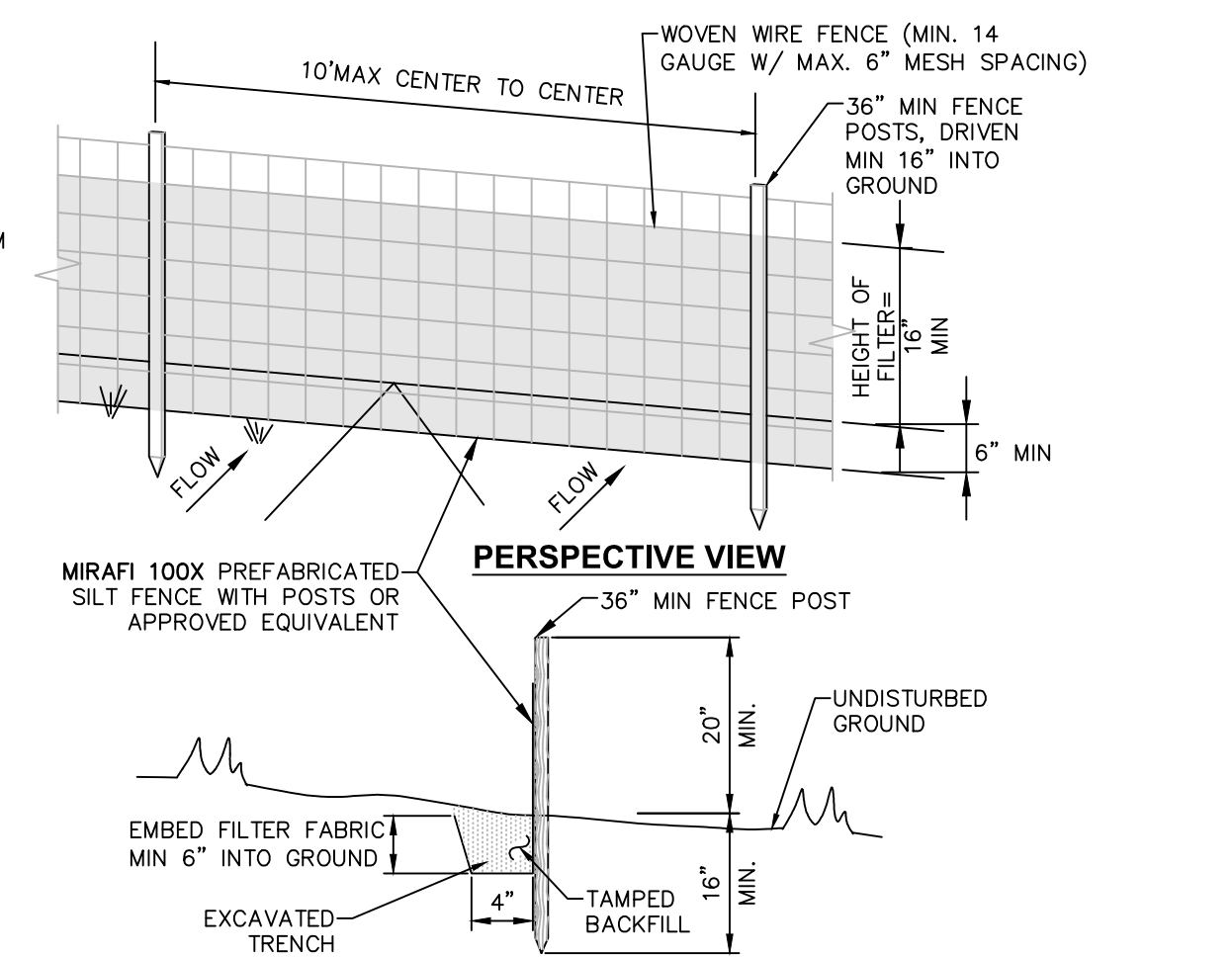


**CONSTRUCTION SEQUENCING NOTES:**

- PRIOR TO COMMENCING ANY CLEARING, GRUBBING, EARTHWORK ACTIVITIES, ETC. AT THE SITE, THE CONTRACTOR SHALL FLAG THE WORK LIMITS AND SHALL INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, STABILIZED CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE PROJECT DRAWINGS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.
- THE CONTRACTOR SHALL CLEAR AND GRUB THE AREA OF THE STORMWATER MANAGEMENT FACILITIES. THIS AREA SHALL NOT EXCEED FIVE (5) ACRES IN EXTENT WITHOUT TEMPORARY STABILIZATION.
- THE STORMWATER DETENTION BASIN SHALL BE UTILIZED AS A TEMPORARY SEDIMENT TRAP DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL THE OUTLET CONTROL STRUCTURES AND THE EARTHEN BERM. THE BASIN SHALL BE GRADED TO THE TOP OF THE AQUATIC BENCH AS INDICATED IN THE TYPICAL STORMWATER MANAGEMENT BASIN SECTION PRESENTED IN THE PROJECT DRAWINGS.
- PRIOR TO COMMENCING CLEARING, GRUBBING AND/OR EARTHWORK ACTIVITIES IN ANY OTHER AREA OF THE SITE, THE CONTRACTOR SHALL INSTALL INLET AND OUTLET PROTECTION MEASURES (RIPRAP OVERFLOW WEIR(S), CULVERT INLET/OUTLET PROTECTION, ETC.) AND SHALL STABILIZE THE AREAS DISTURBED DURING THE CONSTRUCTION OF THE SEDIMENT BASINS.
- THE CONTRACTOR SHALL INSTALL TEMPORARY DIVERSION MEASURES WITH ASSOCIATED STABILIZATION MEASURES (I.E., VEGETATIVE COVER, DRAINAGE DITCH SEDIMENT FILTERS, STORM DRAIN SEDIMENT FILTERS, ETC.) TO ASSURE THAT STORMWATER RUNOFF IS CONVEYED TO THE TEMPORARY SEDIMENT BASINS.
- TEMPORARY DIVERSION MEASURES SHALL BE LOCATED IN A MANNER THAT WILL ASSURE THAT THE AREA TRIBUTARY TO EACH DIVERSION DOES NOT EXCEED FIVE (5) ACRES. THESE TEMPORARY DIVERSION MEASURES SHALL BE INSPECTED DAILY AND REPAIRED/STABILIZED AS NECESSARY TO MINIMIZE EROSION.
- THE CONTRACTOR SHALL COMMENCE SITE CONSTRUCTION ACTIVITIES INCLUDING CLEARING & GRADING OF THE PROPOSED AREA OF DISTURBANCE AS REQUIRED.
- INSTALL PROTECTIVE MEASURES AT THE LOCATIONS OF ALL GRATE INLETS, CURB INLETS, AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES.
- CONSTRUCT ALL UTILITIES, CURB AND GUTTER, GUTTER INLETS, AREA INLETS, AND STORM SEWER MANHOLES, AS SHOWN ON THE PLANS. INLET PROTECTION MAY BE REMOVED TEMPORARILY FOR THIS CONSTRUCTION. PLACE REQUIRED RIP-RAP AT LOCATIONS SHOWN ON THE PLANS.
- FINALIZE PAVEMENT SUB-GRADE PREPARATION.
- REMOVE PROTECTIVE MEASURES AROUND INLETS AND MANHOLES NO MORE THAN 24 HOURS PRIOR TO PAVING STABILIZED BASE COURSE.
- INSTALL SUB-BASE MATERIAL AS REQUIRED FOR PAVEMENT.
- PRIOR TO FINALIZING CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITY, ALL CATCH BASINS AND DRAINAGE LINES SHALL BE CLEANED OF ALL SILT AND SEDIMENT.
- UPON COMPLETION OF SITE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL FINISH CONSTRUCTION OF THE STORMWATER MANAGEMENT FACILITY.
- REMOVE PROTECTIVE MEASURES (MULCH, SEEDING) FROM CARRYING CAPACITY OF DAM, REPLACE STONES AS NEEDED TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURES. REMOVE CHECK DAMS AS PER APPROVAL OF ENGINEER.
- THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY ESTABLISH PERMANENT VEGETATION ON THE AREAS DISTURBED DURING THEIR REMOVAL.

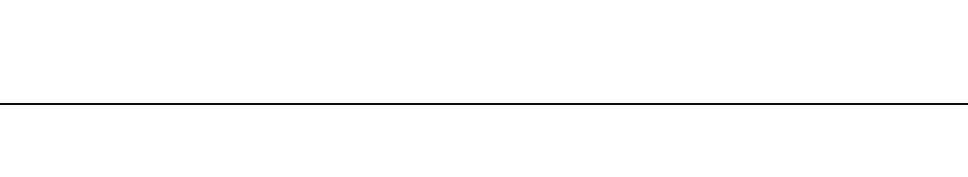
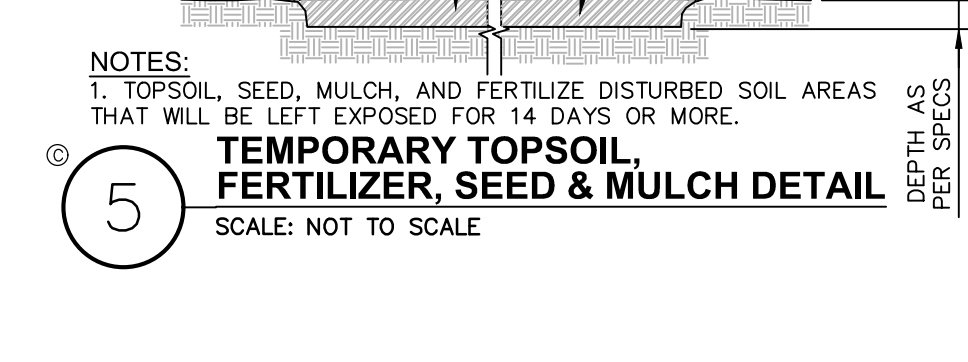
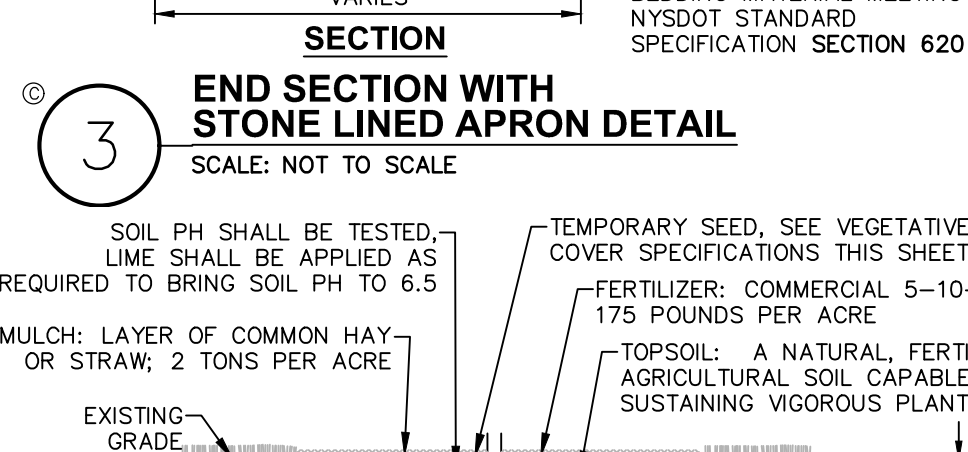
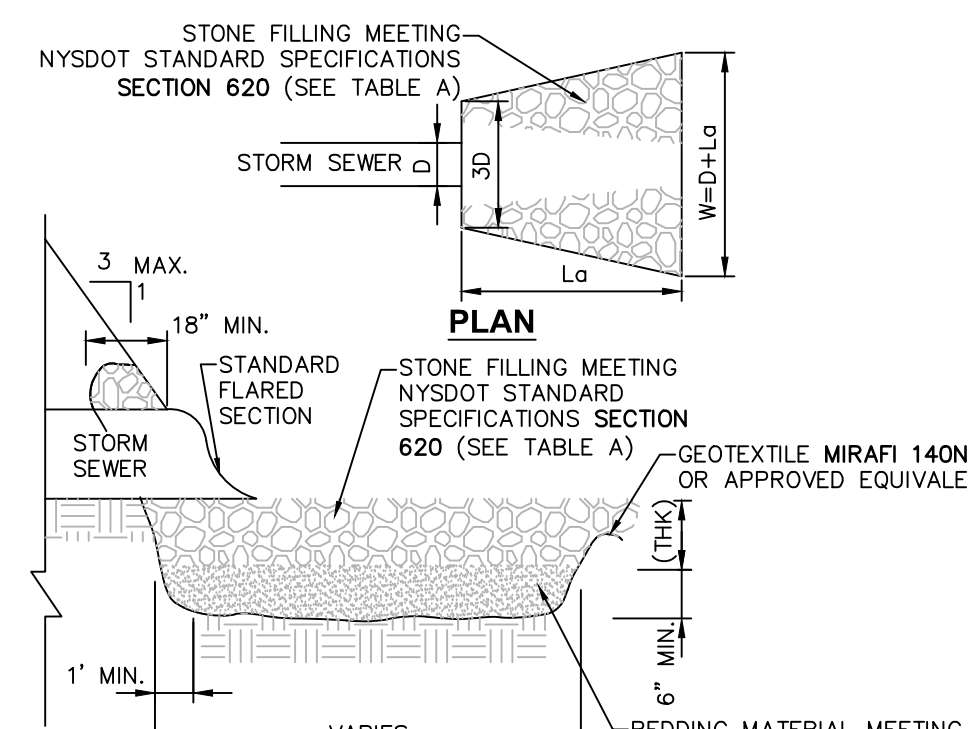
**EROSION AND SEDIMENT CONTROL MEASURES:**

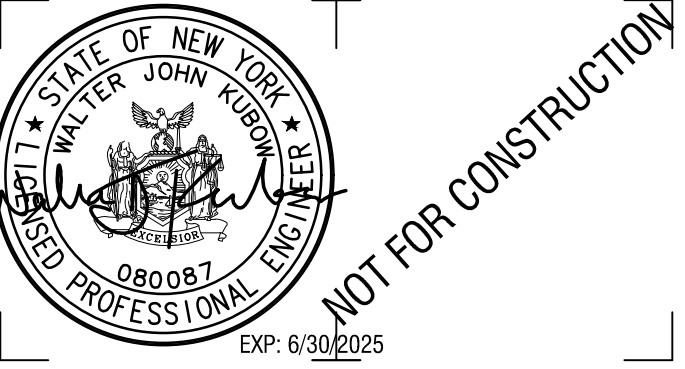
- DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
- AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
- SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
- PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.



**STONE APRON SIZING REQUIREMENT - TABLE "A"**  
SCALE: NOT TO SCALE

CULVERT DIA. (D)	CULVERT SLOPE, %	NYSDOT STANDARD STONE FILLING APRON MATERIAL	ø50	dMAX	MINIMUM APRON THICKNESS (IN)	MINIMUM APRON LENGTH (FT)	MINIMUM APRON LENGTH (LO)
12"	< 8	LIGHT	9"-12"	9"	18	10	10
18"	< 4	LIGHT	9"-12"	14"-18"	24	12	12
24"	< 3	MEDIUM	9"-12"	14"-18"	24	16	16
30"	< 1	MEDIUM	9"-12"	14"-18"	24	20	20
36"	< 2	MEDIUM	9"-12"	14"-18"	24	24	24
42"	< 1	MEDIUM	9"-12"	14"-18"	24	28	28
48"	< 1	MEDIUM	9"-12"	14"-18"	24	32	32





CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

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CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR:  
SITE PLAN & SUBDIVISION APPROVAL

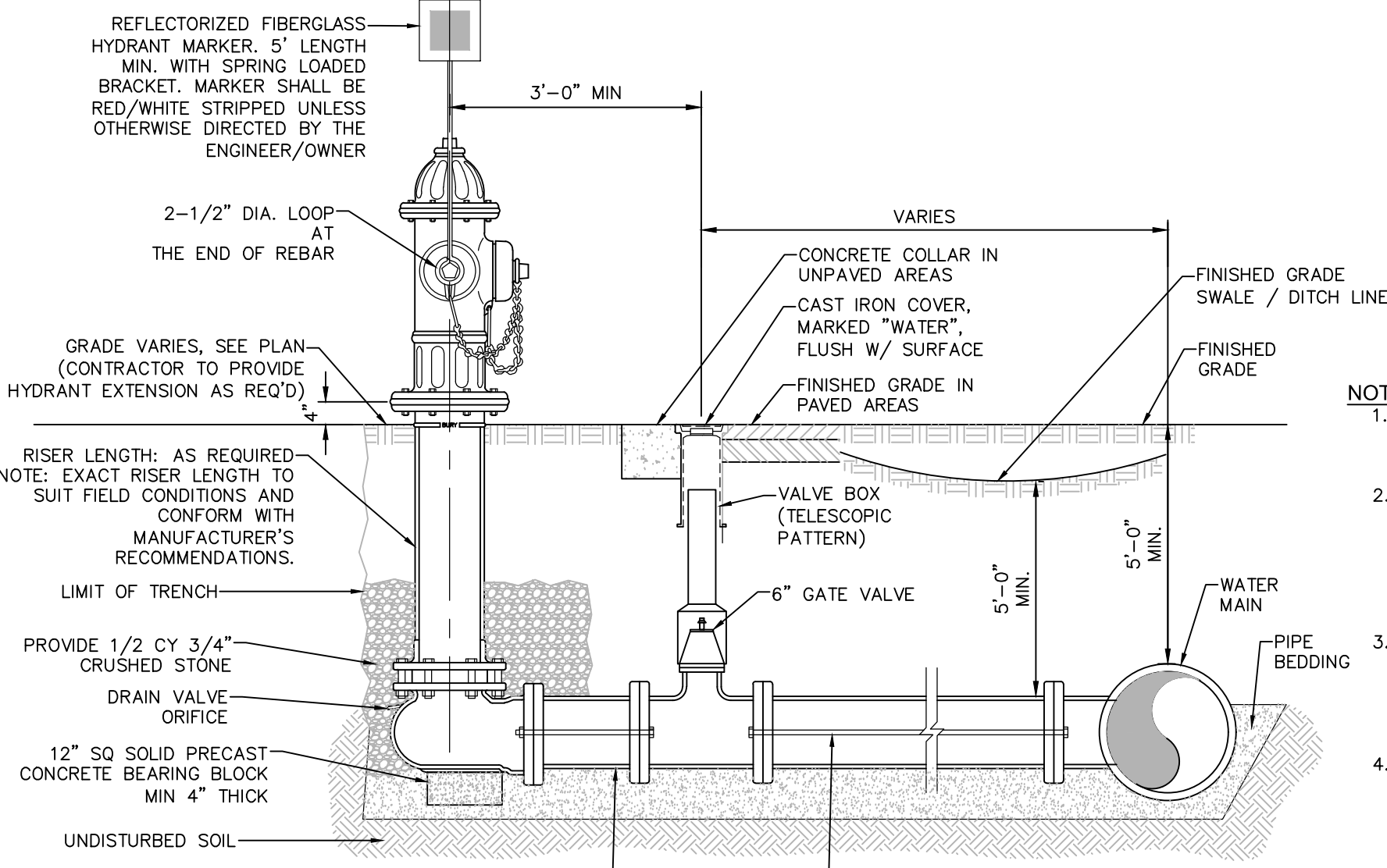
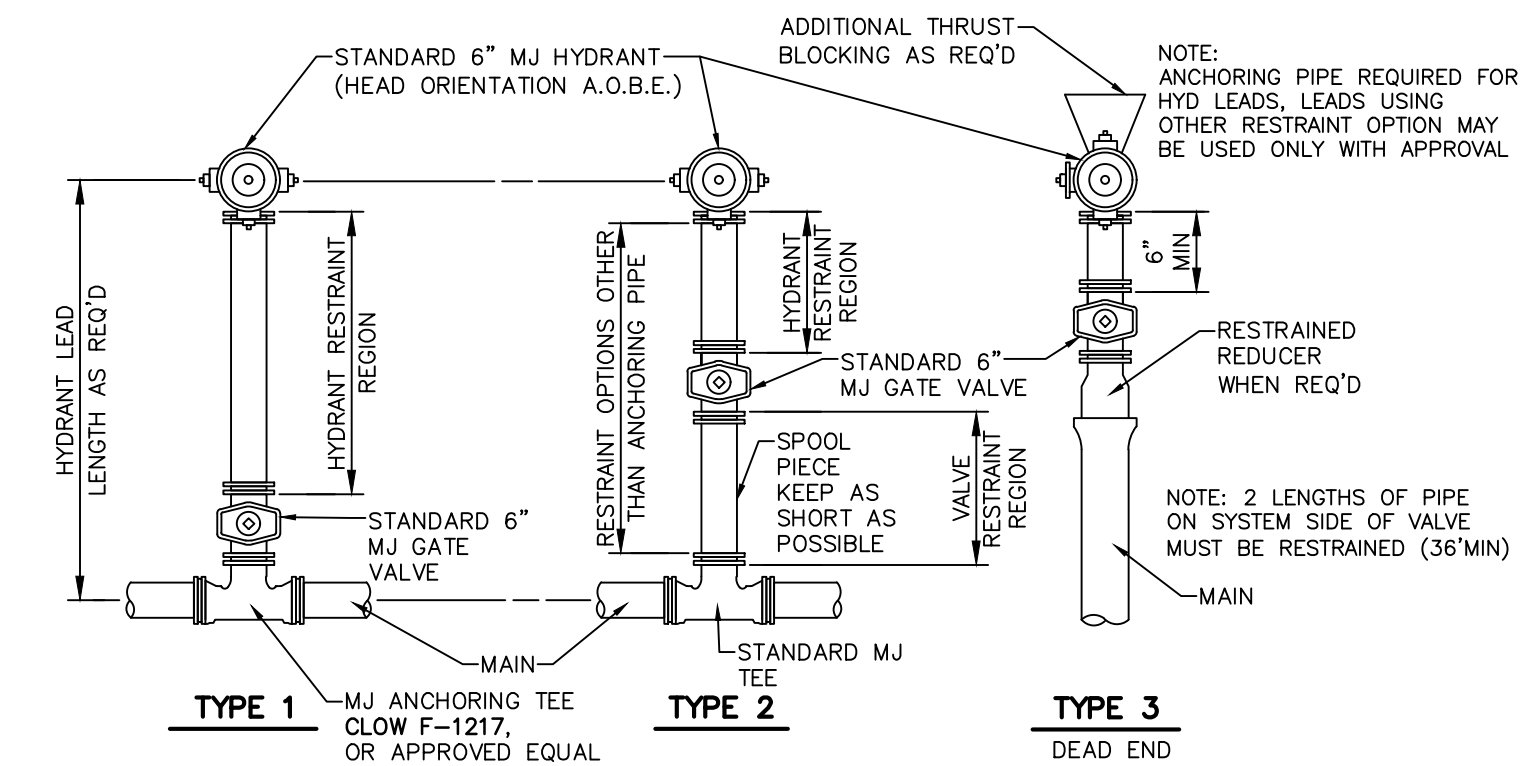
DATE: 08/29/23

DRAWING NAME:

**WATER SYSTEM DETAILS**

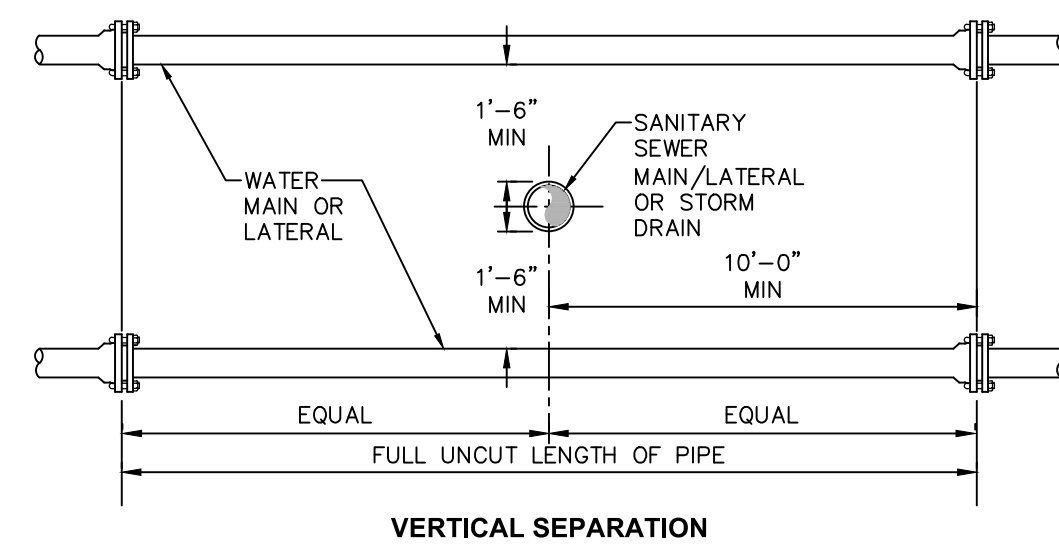
DRAWING NUMBER:

**C560**



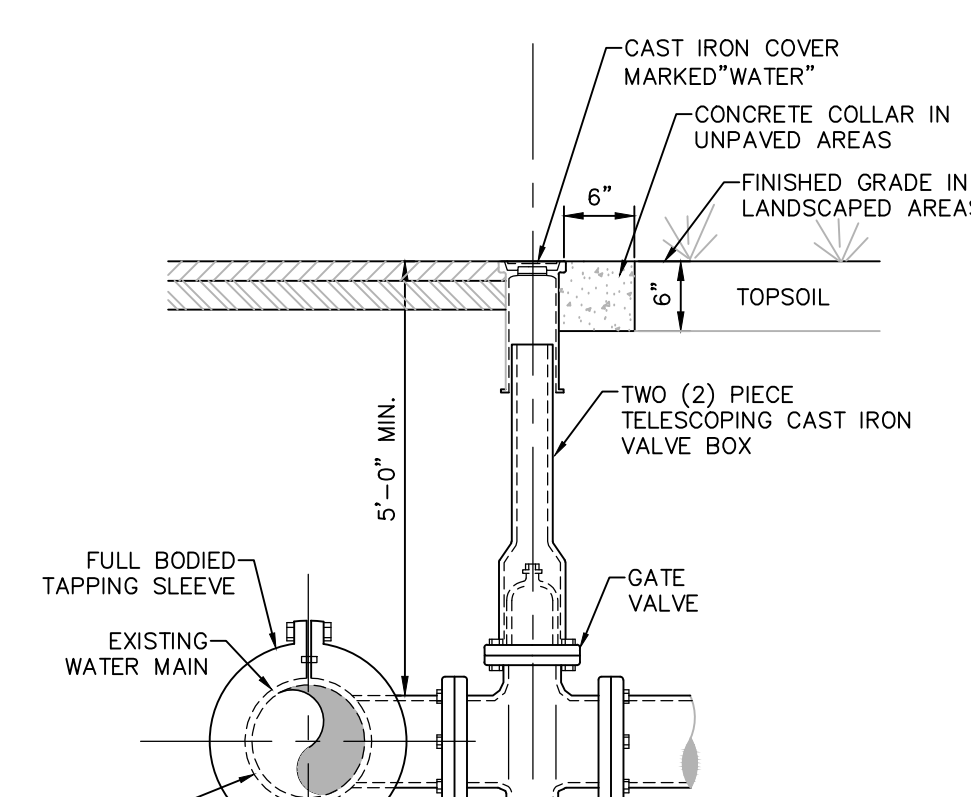
NOTE:  
1. HYDRANT SHALL MEET REQUIREMENTS OF AWWA C502.

**1 HYDRANT ASSEMBLY DETAIL**  
SCALE: NOT TO SCALE



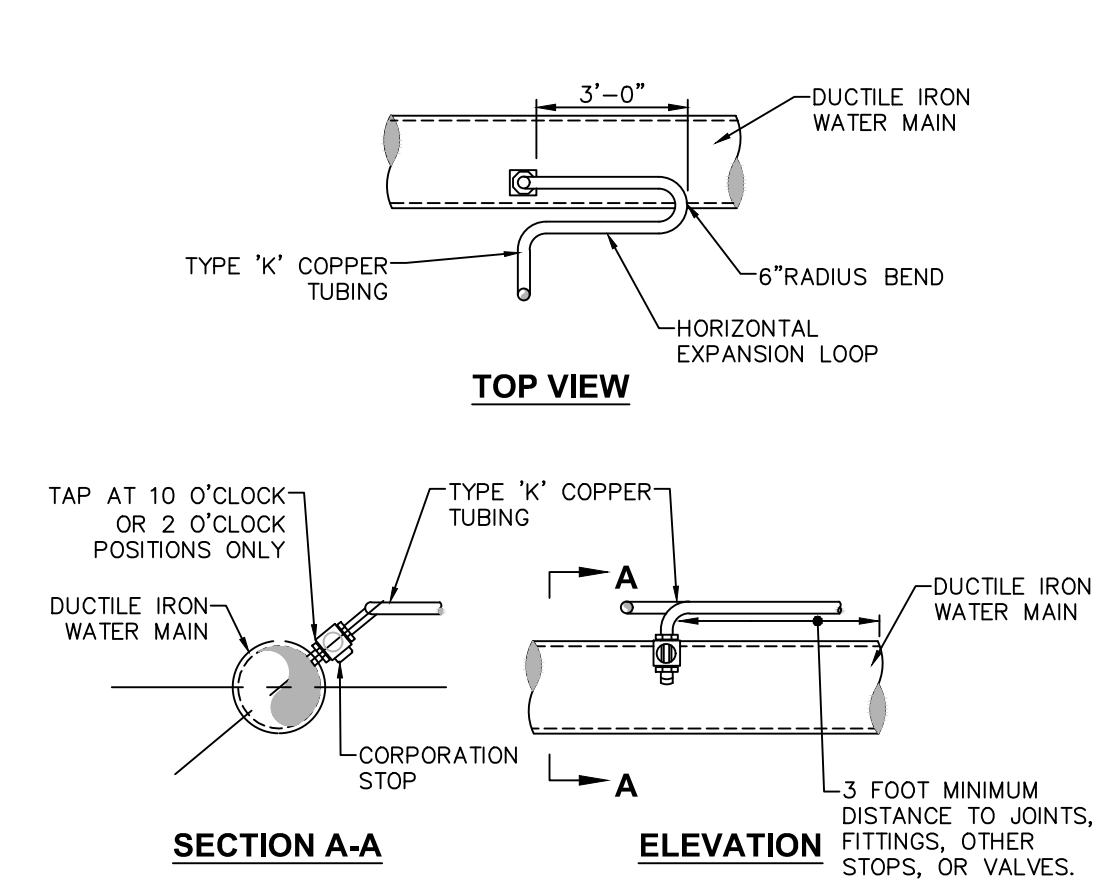
NOTES:  
1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE NYS HEALTH DEPARTMENT. OFFSETTING OF WATERLINE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.  
2. WHEN IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS INDICATED ABOVE, BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF MECHANICAL JOINT, DUCTILE IRON PIPE OR PVC WATER WORKS GRADE PRESSURE PIPE FOR 10' EACH SIDE OF CROSSING AND SHALL BE PRESSURE TESTED TO 150psi TO ASSURE WATER TIGHTNESS.

**2 SANITARY/STORM SEWER AND WATERMAIN SEPARATION DETAIL**  
SCALE: NOT TO SCALE



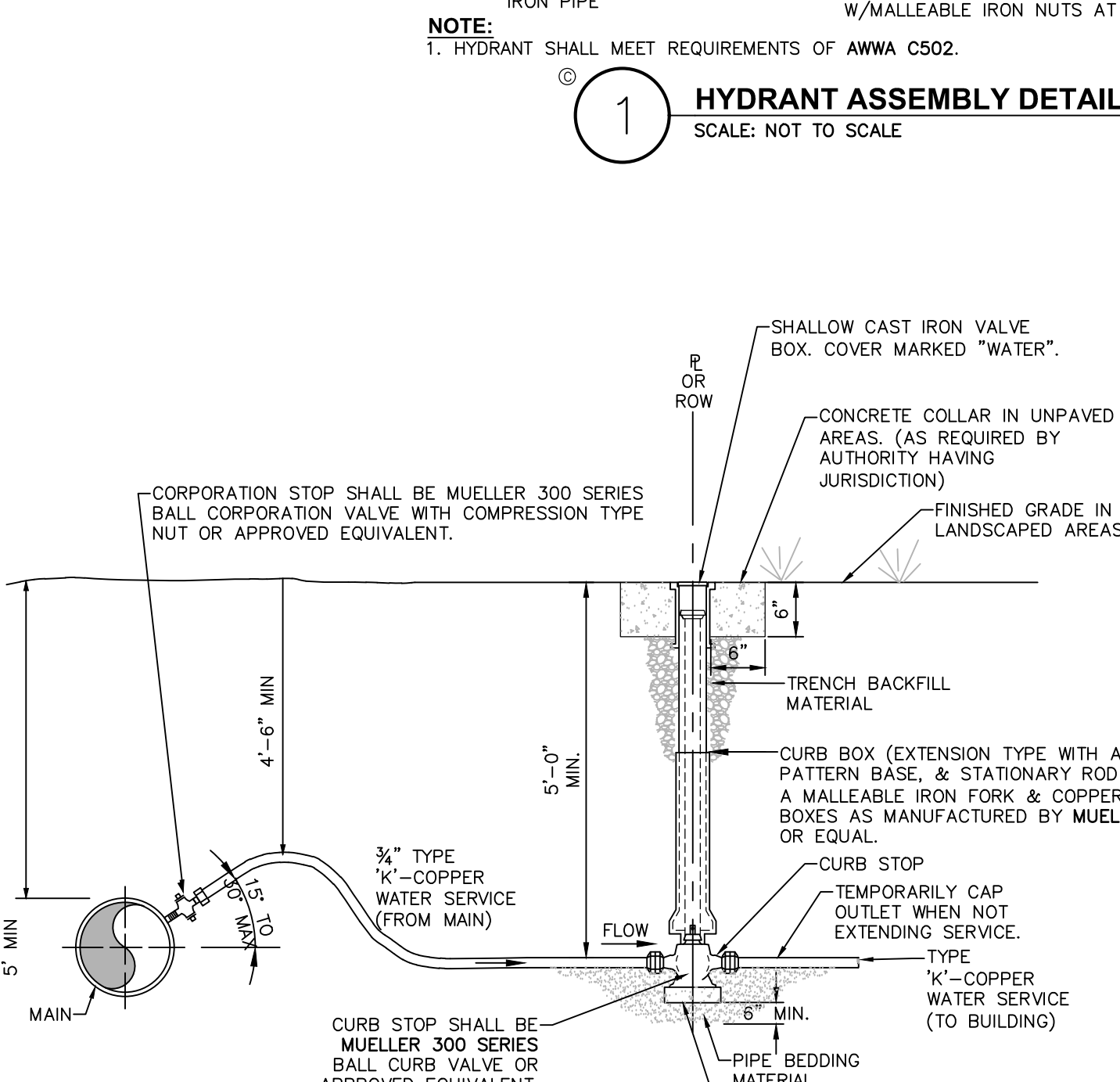
NOTES:  
1. WET TAP OF PUBLIC WATER MAIN SHALL BE PERFORMED UNDER THE SUPERVISION OF THE ENGINEER, AND THE AUTHORITY HAVING JURISDICTION.  
2. TAPPING SLEEVE AND VALVE SUPPORT SHALL BE COORDINATED WITH THE ENGINEER TO SUIT FIELD CONDITIONS.  
3. MINIMUM DISTANCE TO JOINTS, FITTINGS, OR OTHER WET TAPS OR STOPS SHALL BE 3 FEET.  
4. VALVE OPERATING DIRECTION SHALL BE COUNTERCLOCKWISE TO OPEN (TURNING LEFT).  
5. TAPPING SLEEVE SHALL BE SELECTED TO FIT EXISTING PIPE MATERIAL (C.I., D.I., A.C.) AND OUTSIDE DIAMETERS.  
6. THRUST BLOCK IS REQUIRED WHERE THE BRANCH OF THE TAPPING SLEEVE DOES NOT HAVE RESTRAINED JOINT.  
7. TAPPING SLEEVE, VALVE & VALVE BOX SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS & AS MANUFACTURED BY (MUELLER, CLOW OR WATEROUS) OR APPROVED EQUIVALENT.

**3 TAPPING SLEEVE AND VALVE DETAIL**  
SCALE: NOT TO SCALE



NOTES:  
1. SERVICE SADDLES ARE REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 1" DIAM. WHEN INSTALLED ON D.I.P. WATERMAINS SMALLER THAN 14" DIAM.  
2. SERVICE SADDLES SHALL BE DOUBLE STRAP BRONZE, NYLON COATED OR STAINLESS STEEL WITH RUBBER GASKETS, RATED AT 250 PSI AND CONFORMING WITH ANSI/AWWA C-800 STANDARDS.  
3. TAPPING SLEEVE SHALL BE SELECTED TO FIT EXISTING PIPE MATERIAL (C.I., D.I., A.C.) AND OUTSIDE DIAMETERS.  
4. THRUST BLOCK IS REQUIRED WHERE THE BRANCH OF THE TAPPING SLEEVE DOES NOT HAVE RESTRAINED JOINT.  
5. TAPPING SLEEVE, VALVE & VALVE BOX SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS & AS MANUFACTURED BY (MUELLER, CLOW OR WATEROUS) OR APPROVED EQUIVALENT.

**4 CONNECTION DETAIL TYPICAL WATER SERVICE - 1" MAX**  
SCALE: NOT TO SCALE

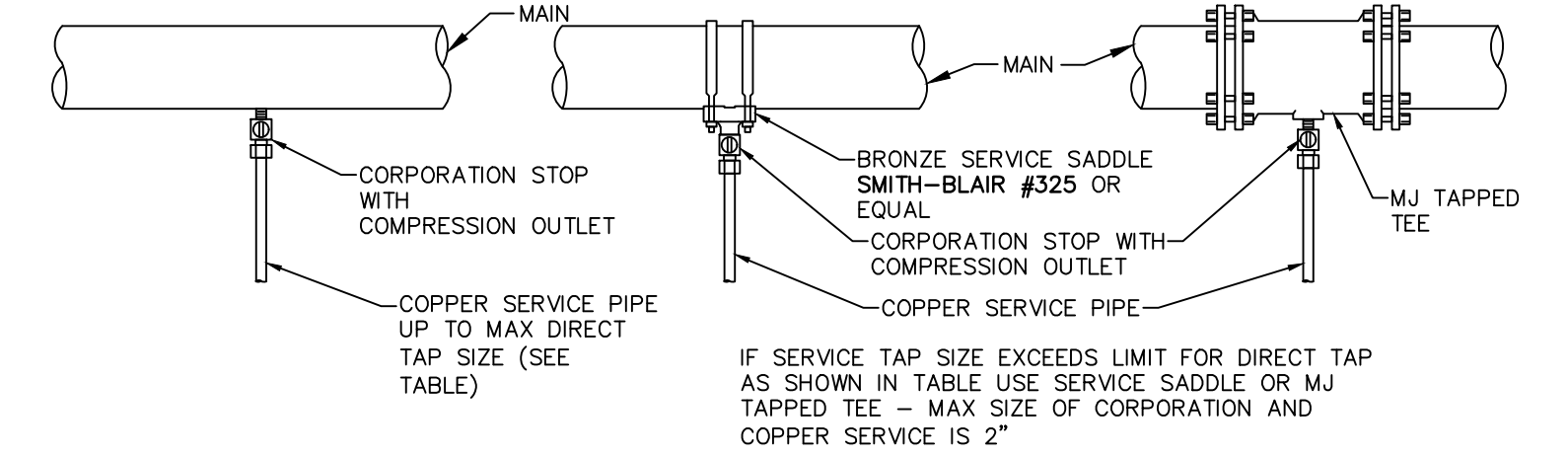


NOTE:  
1. MINIMUM DISTANCE TO JOINTS, FITTINGS OR OTHER WET TAPS OR STOPS SHALL BE MAINTAINED IN ACCORDANCE WITH REGULATORY AGENCY.

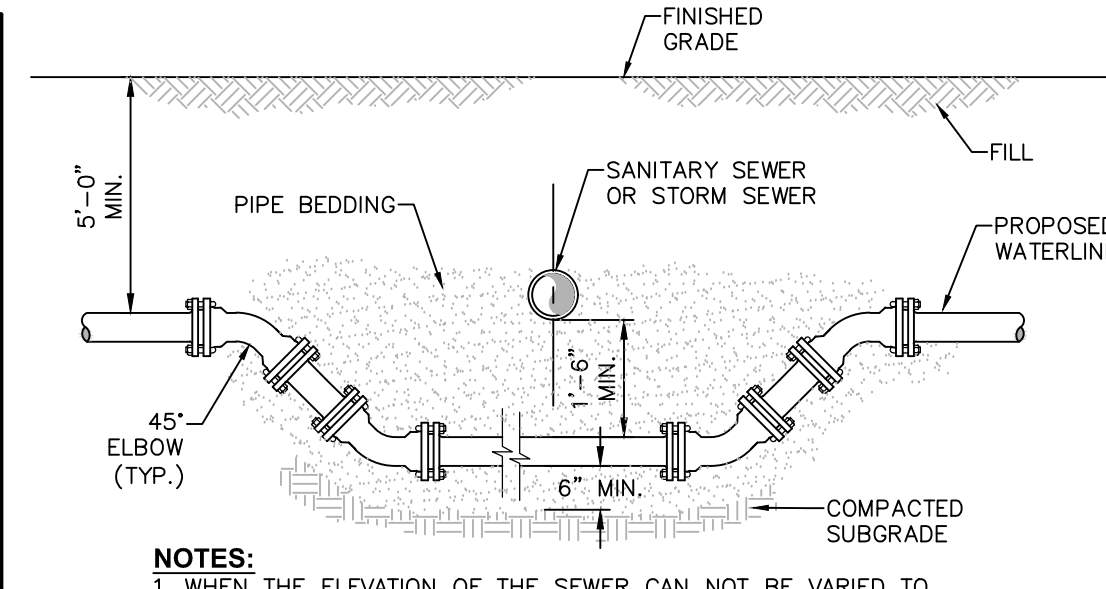
**5 COPPER WATER SERVICE**  
SCALE: NOT TO SCALE

PIPE SIZE (INCHES)	THICKNESS CLASS	WALL THICKNESS (INCHES)	MAX TAP SIZE INCHES
4"	52	0.29	3/4
6"	52	0.31	1
8"	52	0.33	1 1/4
10"	52	0.35	1 1/2
12"	52	0.37	2
14"	52	0.39	2
16"	52	0.40	2
18"	52	0.41	2
20"	52	0.42	2
24"	52	0.44	2

PIPE SIZE (INCHES)	PRESSURE CLASS	WALL THICKNESS (INCHES)	MAX TAP SIZE INCHES
4"	350	0.25	3/4
6"	350	0.25	1
8"	350	0.25	1
10"	350	0.26	1
12"	350	0.28	1 1/4
14"	350	0.31	1 1/2
16"	350	0.34	2
18"	350	0.36	2
20"	350	0.38	2
24"	350	0.43	2



**6 TYPICAL COPPER WATER SERVICE TAPS**  
SCALE: NOT TO SCALE



NOTES:  
1. WHEN THE ELEVATION OF THE SEWER CAN NOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS REQUIRED SEPARATION.  
2. WHEN IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS INDICATED ABOVE, BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF MECHANICAL JOINT DUCTILE IRON PIPE OR PVC WATER WORKS GRADE PRESSURE PIPE FOR 10' EACH SIDE OF CROSSING AND SHALL BE PRESSURE TESTED TO 150psi TO ASSURE WATER TIGHTNESS.

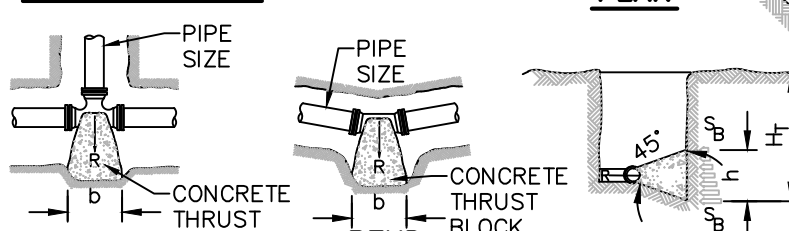
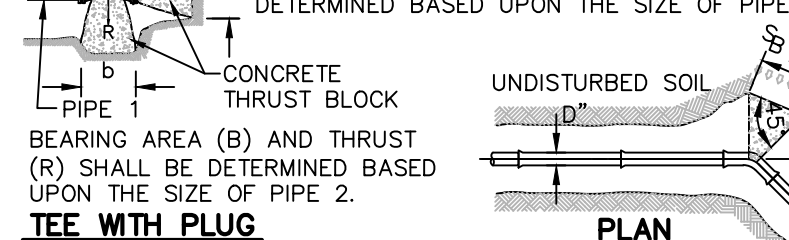
**7 WATERLINE OFFSET DETAIL**  
SCALE: NOT TO SCALE



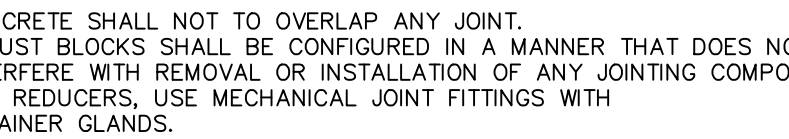
REQUIRED BEARING AREAS -B (SQFT) FOR BEARING BLOCKS*					
PIPE SIZE (INCHES)	TEE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4	2.0	2.8	1.5	0.8	0.4
6	4.2	5.9	3.2	1.6	0.8
8	7.2	10.1	5.5	2.8	1.4
10	10.9	15.4	8.3	4.2	2.1
12	15.4	21.8	11.8	6.0	3.0
14	20.6	29.1	15.8	8.0	4.0
16	26.8	37.9	20.5	10.4	5.2
18	33.6	47.5	25.7	13.1	6.6
20	41.2	58.2	31.5	16.1	8.1
24	58.8	83.1	45.0	22.9	11.5
30	90.5	128.0	69.2	35.3	17.7
36	129.6	183.3	99.1	50.5	25.4

\*FACTOR OF SAFETY=1.5 SOIL BEARING OF 3,000 PSF 225 PSI DESIGN PRESSURE

BEARING AREA (B) = bxb  
PRESSURE BEARING PRESSURE



NOTES:  
1. CONCRETE SHALL NOT TO OVERLAP ANY JOINT.  
2. THRUST BLOCKS SHALL BE CONFIGURED IN A MANNER THAT DOES NOT INTERFERE WITH INSTALLATION OF ANY JOINING COMPONENTS.  
3. FOR REDUCERS, USE MECHANICAL JOINT FITTINGS WITH RETAINER GLANDS.  
4. BEARING SURFACE SHALL, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE THAT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.  
5. BLOCK HEIGHT (h) SHALL BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (HT), BUT NOT LESS THAN THE PIPE DIAMETER (D).  
6. BLOCK HEIGHT (h) SHALL BE ESTABLISHED SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.  
7. VALUES FOR TEES APPLY TO TEES, END PLUGS, CAPS, AND TAPPING SLEEVES.  
8. REQUIRED BEARING AREAS ARE DEVELOPED TO RESIST THRUSTS RESULTING FROM 150 PSI WORKING PRESSURE PLUS 50%(75 PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE.  
REQUIRED BEARING AREAS ARE BASED UPON AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 POUNDS PER SQUARE FOOT, IN RESPONSE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS REQUIRED MAY BE MODIFIED BY THE ENGINEER.



9. IN MUCK, PEAT, OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES OR TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS; ALL AS REQUIRED BY THE ENGINEER.  
10. CONCRETE THRUST BLOCK SHALL BE USED ONLY AS ALLOWED BY THE PROJECT PLANS AND/OR SPECIFICATION. (IF RESTRAINED JOINT PIPE IS TO BE USED SEE SCHEDULE OF JOINT RESTRAINED PIPE.)

### 1 CONCRETE THRUST BLOCK DETAILS

SCALE: NOT TO SCALE

### CONCRETE THRUST BLOCK DETAILS - (TO ONLY BE USED AS REQUIRED, SEE WATER MAIN NOTES 5)

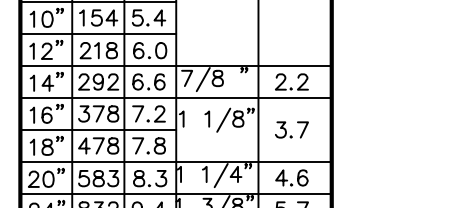
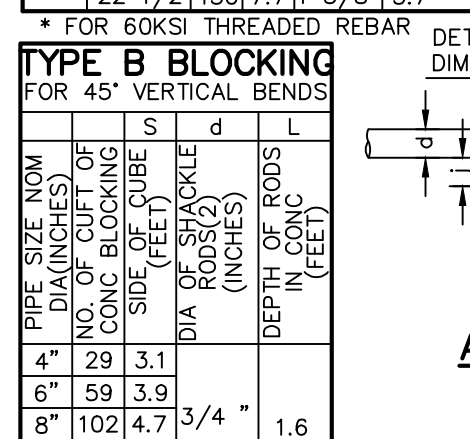
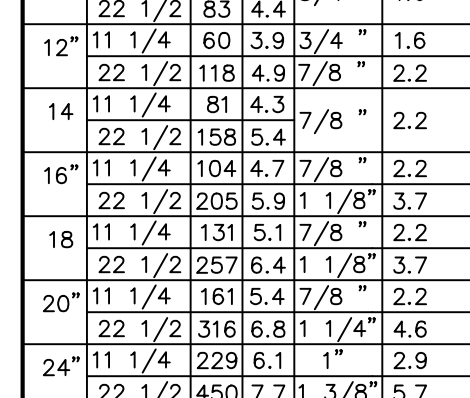
SOIL	BEARING STRENGTH Sp (LB/SQ FT)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000

### 2 GRAVITY THRUST BLOCK DETAILS

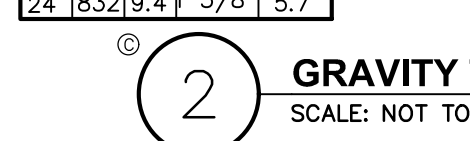
SCALE: NOT TO SCALE

TYPE A BLOCKING FOR 11 1/4" - 22 1/2" VERT BENDS					
PIPE SIZE (INCHES)	VB	S	d	L	R
4"	11 1/4	8	2.0	3/4	1.6
6"	11 1/4	16	2.5	3/4	1.6
8"	11 1/4	28	3.0	3/4	1.6
10"	11 1/4	42	3.5	3/4	1.6
12"	11 1/4	60	3.9	3/4	1.6
14"	11 1/4	81	4.3	7/8	2.2
16"	11 1/4	104	4.7	7/8	2.2
18"	11 1/4	131	5.1	7/8	2.2
20"	11 1/4	161	5.4	7/8	2.2
24"	11 1/4	229	6.1	1"	2.9
30"	11 1/4	312	6.8	1 1/4	4.6
36"	11 1/4	450	7.7	1 3/8	5.7

\* FOR 60KSI THREADED REBAR



PIPE SIZE (INCHES)	NO. OF CLIPS OF CONCRETE BLOCKING	NO. OF TURNBUCKLES	NO. OF SHACKLE RODS (2)	DEPTH OF ROD OR RODS (FEET)	L
4"	29	3.1	3/4"	1.6	
6"	59	3.9	3/4"	1.6	
8"	102	4.7	3/4"	1.6	
10"	154	5.4	3/4"	1.6	
12"	218	6.0	7/8"	2.2	
14"	292	6.6	7/8"	2.2	
16"	378	7.2	1 1/8"	3.7	
18"	478	7.8	1 1/8"	3.7	
20"	583	8.3	1 1/4"	4.6	
24"	832	9.4	1 3/8"	5.7	



### 3 JOINT RESTRAINT SCHEDULE AND NOTES

SCALE: NOT TO SCALE

### RESTRAINED JOINT DETAILS

### 4 RESTRAINED JOINT PIPE DIAGRAMS

SCALE: NOT TO SCALE

### 5 RESTRAINED JOINT THRUST RESTRAINT DETAIL

SCALE: NOT TO SCALE

### 6 JOINT RESTRAINT OPTIONS

SCALE: NOT TO SCALE

### 7 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 8 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 9 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 10 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 11 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 12 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 13 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 14 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 15 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 16 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 17 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 18 RESTRAINED END CAP

SCALE: NOT TO SCALE

### 19 RESTRAINED END CAP

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### 20 RESTRAINED END CAP

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### 21 RESTRAINED END CAP

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### 22 RESTRAINED END CAP

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### 23 RESTRAINED END CAP

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### 24 RESTRAINED END CAP

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### 25 RESTRAINED END CAP

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### 26 RESTRAINED END CAP

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### 27 RESTRAINED END CAP

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### 28 RESTRAINED END CAP

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### 30 RESTRAINED END CAP

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### 31 RESTRAINED END CAP

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### 32 RESTRAINED END CAP

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### 33 RESTRAINED END CAP

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### 35 RESTRAINED END CAP

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### 38 RESTRAINED END CAP

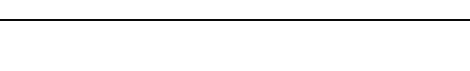
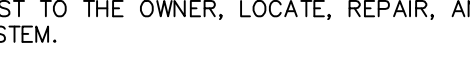
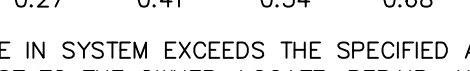
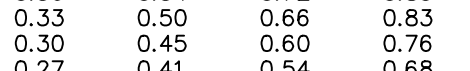
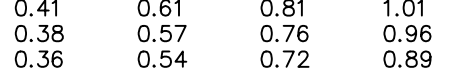
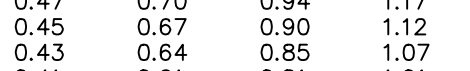
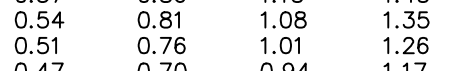
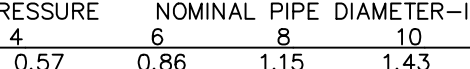
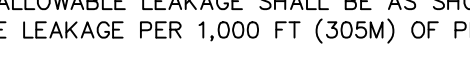
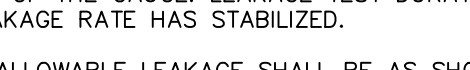
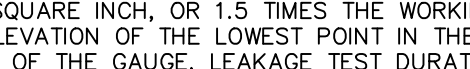
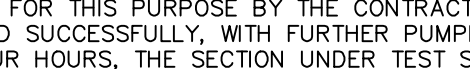
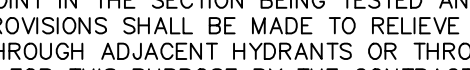
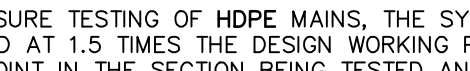
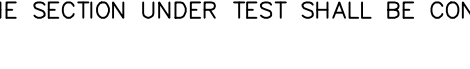
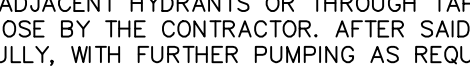
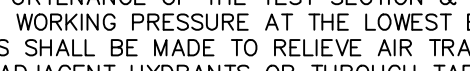
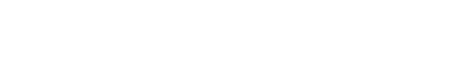
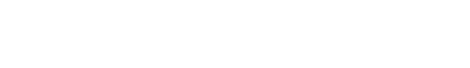
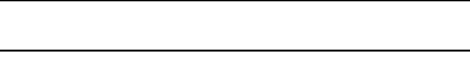
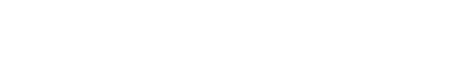
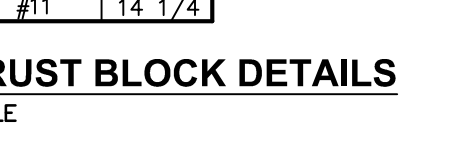
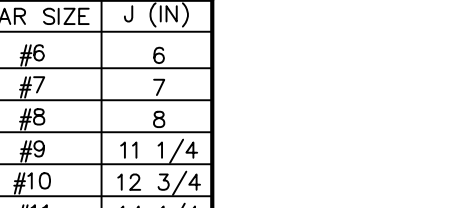
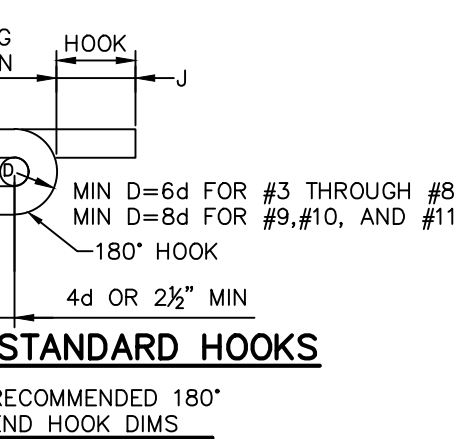
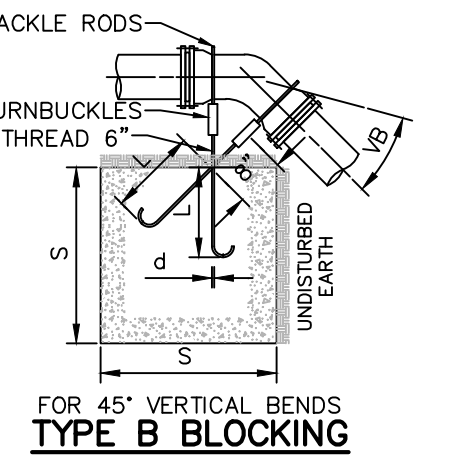
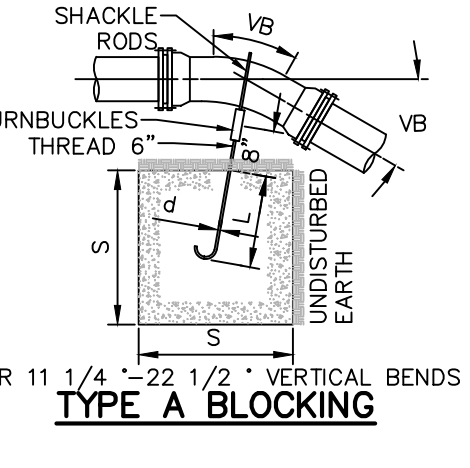
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### 39 RESTRAINED END CAP

SCALE: NOT TO SCALE

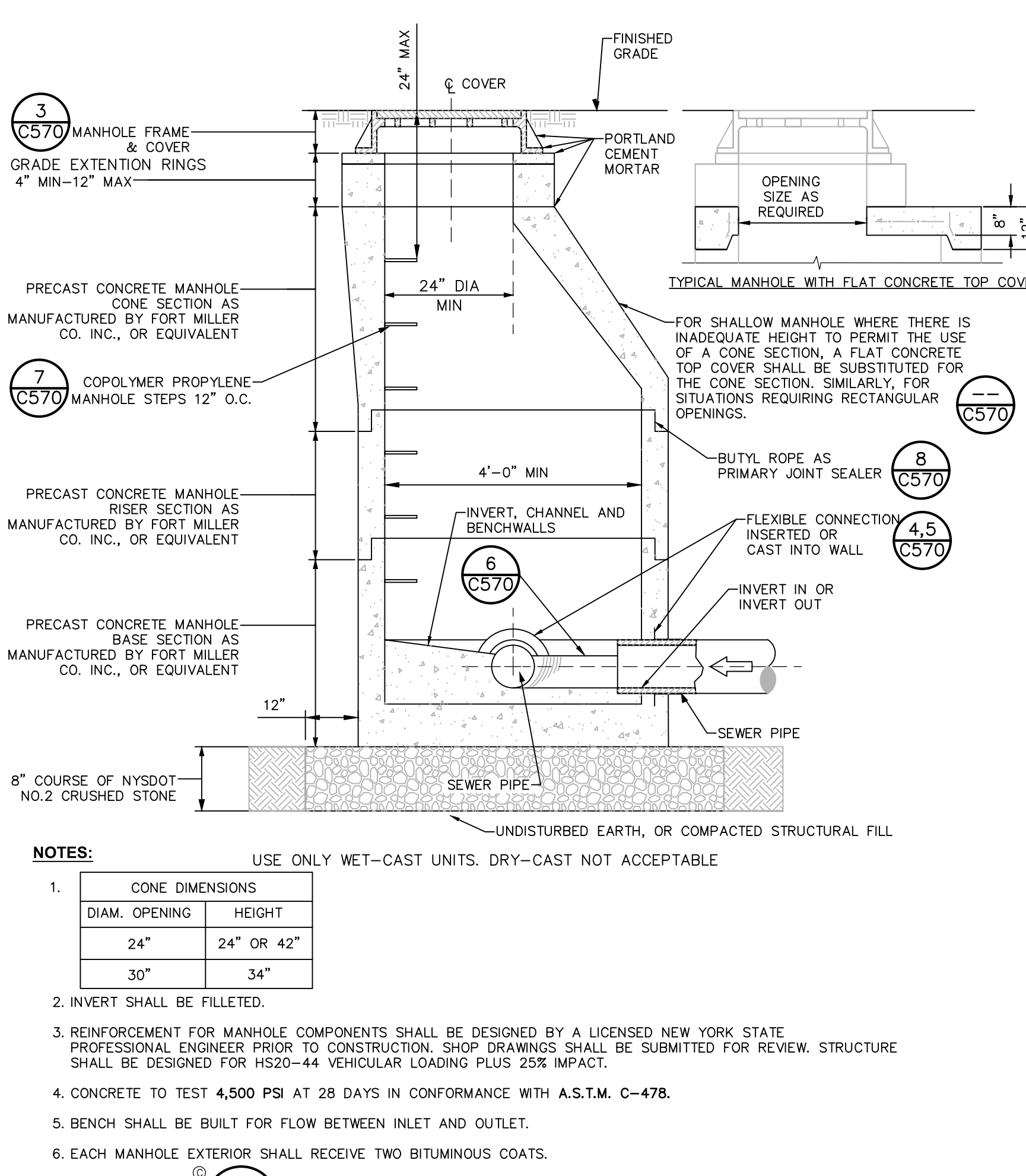
### 40 RESTRAINED END CAP

SCALE: NOT TO SCALE



SCHEDULE OF JOINT RESTRAINT--(PVC OR POLYWRAPPED DIP) (LENGTH OF PIPE EACH SIDE OF FITTING TO BE RESTRAINED IN FEET "L")																
PIPE SIZE (INCHES)	FITTING TYPE						REDUCER									
	90°	45°	22 1/2°	11 1/4°	TEE	VALVE	END	24"	18"	16"	14"	12"	10"	8"	6"	4"
30"	241	100	48	24	202	206	206	72	130	145	159					
24"	196	82	39	20	163	166	166		72	91	108	123	136			
18"	149	62	30	15	122	125	125			26	49	68	85	99		
16"	134	56	27	14	109	112	112				26	49	67	82	95	
14"	118	49	24	12	95	98	98				26	47	64	79	89	
12"	102	43	21	11	82	85	85				25	45	62	74	84	
10"	86	36	17	9	68	71	71				25	44	58			
8"	71	30	15	7	56	59	59				25	43	54			
6"	54	22	11	6	41	44	44				25	43	53			
4"	38	16	8	4	28	31	31				25	43	53			

NOTES:  
1. THE LENGTH OF PIPE REQUIRING RESTRAINT IS BASED UPON THE FOLLOWING ASSUMPTIONS:  
A. BEDDING TYPE 2 - FLAT BOTTOM TRENCH, BACKFILL LIGHT



**NOTES:** USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE.

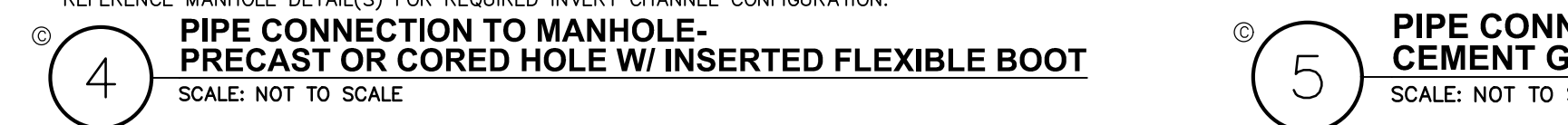
CONE DIMENSIONS	
DIAM. OPENING	HEIGHT
24"	24" OR 42"
30"	34"

- INVERT SHALL BE FILLETED.
- REINFORCEMENT FOR MANHOLE COMPONENTS SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
- CONCRETE TO TEST 4,500 PSI AT 28 DAYS IN CONFORMANCE WITH A.S.T.M. C-478.
- BENCH SHALL BE BUILT FOR FLOW BETWEEN INLET AND OUTLET.
- EACH MANHOLE EXTERIOR SHALL RECEIVE TWO BITUMINOUS COATS.

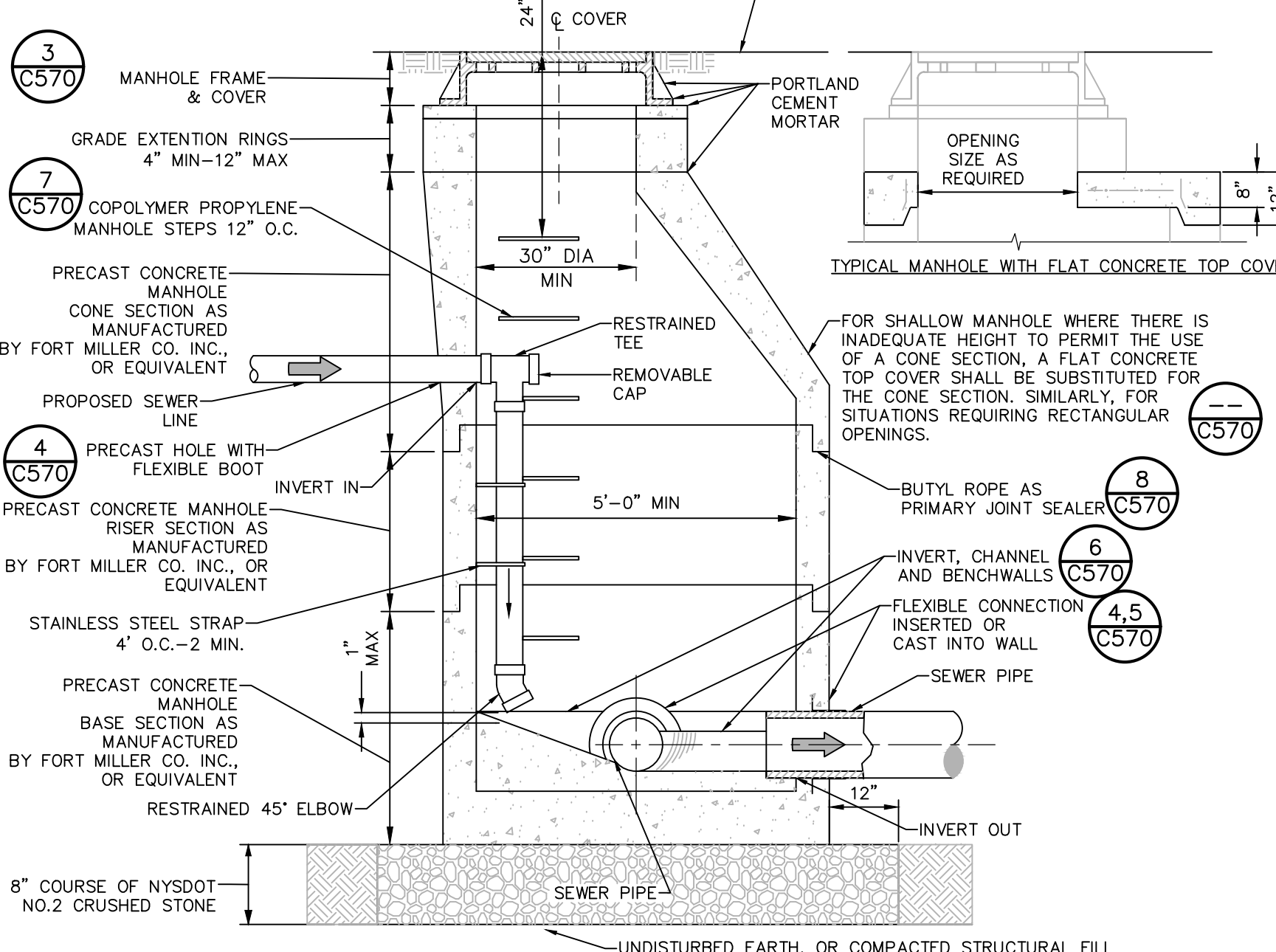
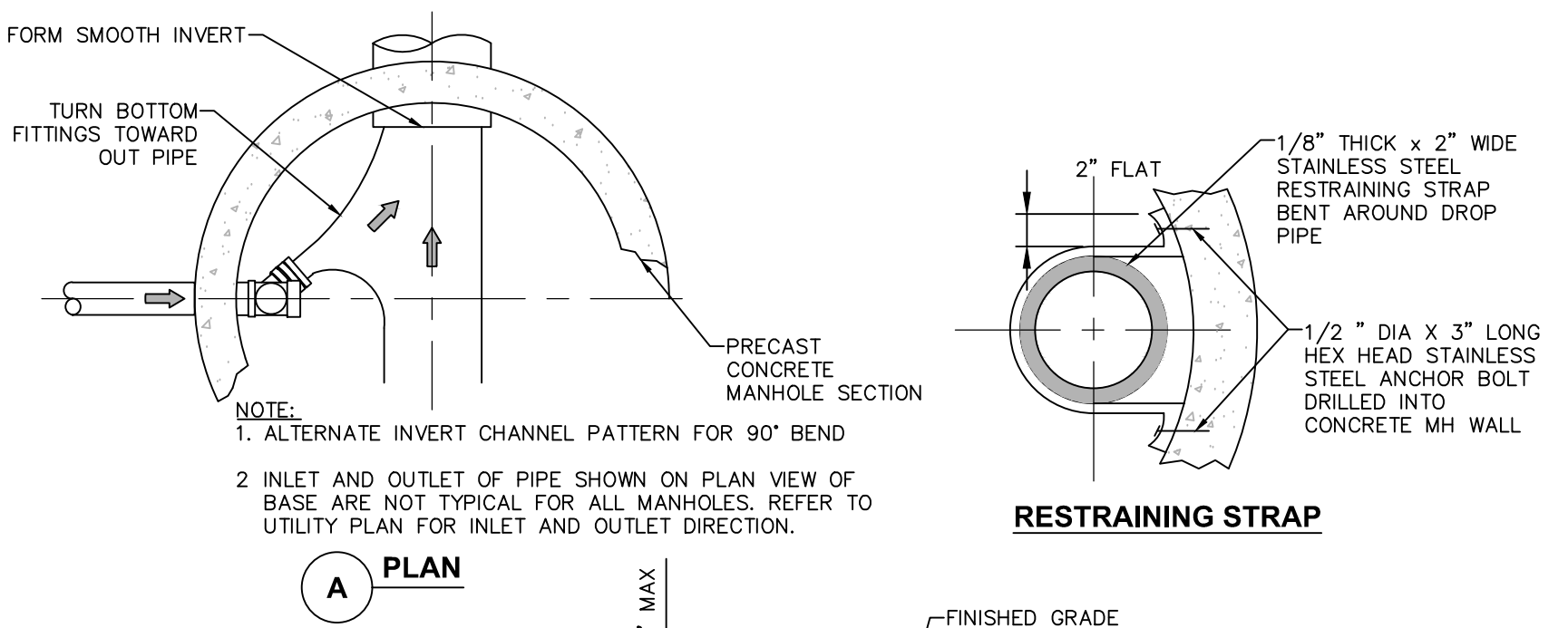
**MANHOLES AND OTHER BELOW GRADE STRUCTURES:**

- STRUCTURAL DESIGN FOR MANHOLES AND OTHER BELOW-GRADE PRECAST CONCRETE STRUCTURES:
  - NON-TRAFFIC LOADS: BELOW GRADE PRECAST CONCRETE STRUCTURES SHALL BE DESIGNED TO WITHSTAND LOADS IMPOSED BY STRUCTURE WEIGHT, EARTH COVER, LATERAL PRESSURE FROM EARTH AND GROUND WATER, AND LIVE LOADS SUCH AS PEDESTRIAN TRAFFIC OR MACHINERY ON OR ABOVE THE STRUCTURE; AND
  - TRAFFIC LOADS: BELOW GRADE PRECAST CONCRETE STRUCTURES SHALL BE DESIGNED TO ALSO WITHSTAND TRAFFIC LOADS CREATED BY AN HS20-44 TRUCK PLUS 25% IMPACT AS DEFINED IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) DESIGN STANDARDS.
- MATERIAL WHICH SHALL BE UTILIZED IN THE CONSTRUCTION OF PRECAST CONCRETE STRUCTURES:
 

CEMENT: ASTM C-150, TYPES I, II, III, IV, V  
 SAND: NYSDOT STD. SPEC. SECTION NO. 703-0 CONCRETE SAND  
 STONE: NYSDOT STD. SPEC. SECTION NO. 703-02 COARSE AGGREGATE  
 STEEL BAR REINFORCEMENT: ASTM A615, GRADE 60  
 WIRE MESH REINFORCEMENT: ASTM A185 PLAIN  
 CONCRETE STRENGTH (28 DAY): 4,500 PSI (F°)  
 ENTRAINED AIR: 5% MIN.
- ALL CASTINGS (FRAMES AND COVERS, FRAMES AND GRATES, ETC.) FOR USE IN CONJUNCTION WITH MANHOLES AND OTHER BELOW GRADE STRUCTURES SHALL BE MANUFACTURED FROM GRAY IRON OR DUCTILE IRON. GRAY IRON SHALL CONFORM WITH ASTM A 48, CLASS 30B AND DUCTILE IRON SHALL CONFORM WITH ASTM A 536 AND BE OF A GRADE APPROPRIATE TO ITS INTENDED USE.
- ALL CASTINGS (FRAMES AND COVERS, FRAMES AND GRATES, ETC.) FOR USE IN CONJUNCTION WITH MANHOLES AND OTHER BELOW GRADE STRUCTURES SHALL BE DESIGNED TO WITHSTAND ASHTO HS 20-44 HIGHWAY LOADING PLUS 25% IMPACT.
- ALL ASTM REFERENCES SHALL BE FOR THE LATEST ACTIVE STANDARD.



**3** **PRECAST CONCRETE MANHOLE**  
SCALE: NOT TO SCALE

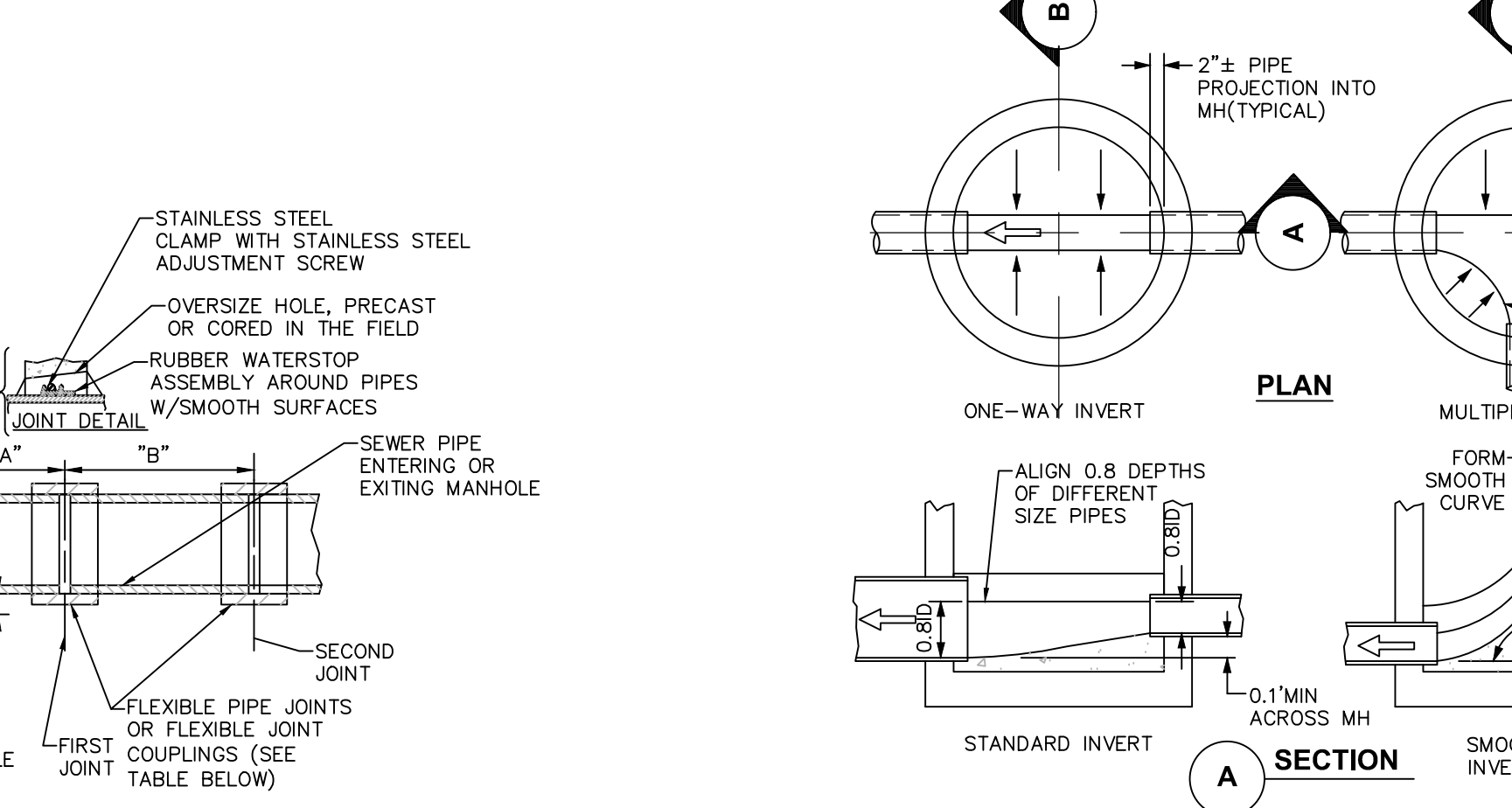


**NOTES:** USE ONLY WET-CAST UNITS. DRY-CAST NOT ACCEPTABLE.

CONE DIMENSIONS	
DIAM. OPENING	HEIGHT
30"	34"

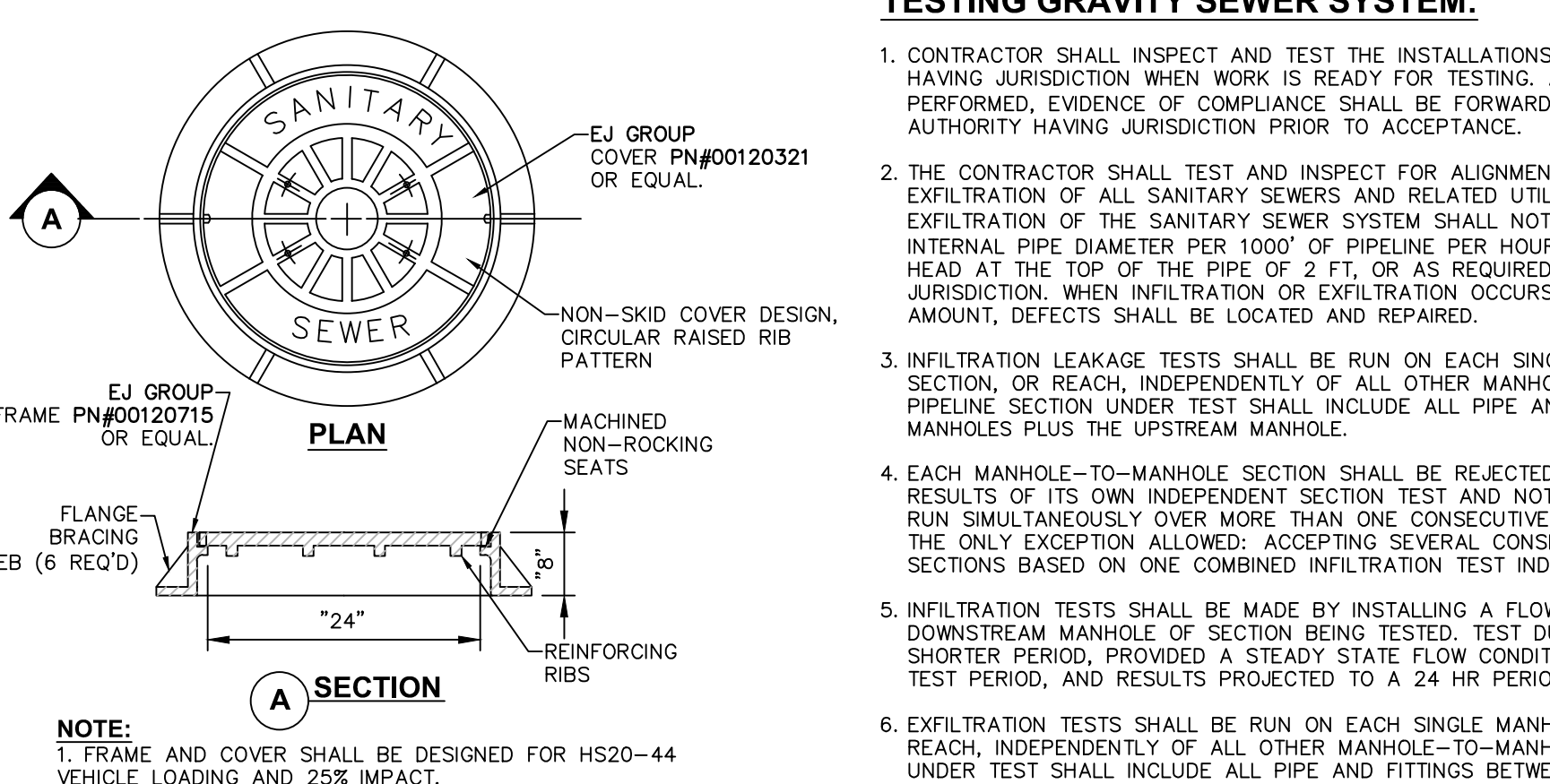
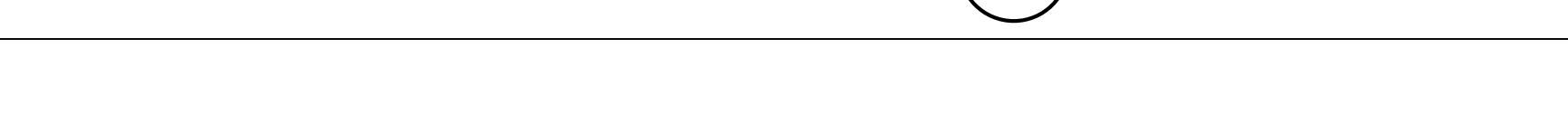
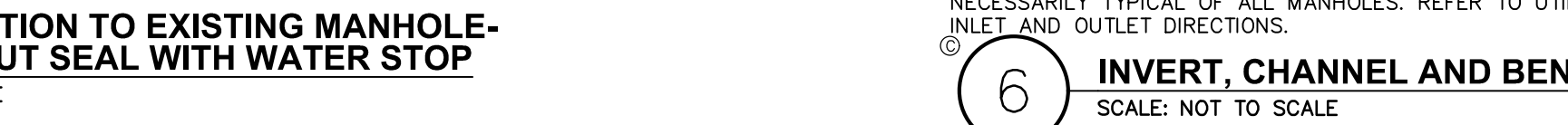
- INVERT SHALL BE FILLETED.
- REINFORCEMENT FOR MANHOLE COMPONENTS SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
- CONCRETE TO TEST 4,500 PSI AT 28 DAYS IN CONFORMANCE WITH A.S.T.M. C-478.
- BENCH SHALL BE BUILT FOR FLOW BETWEEN INLET AND OUTLET.
- EACH MANHOLE EXTERIOR SHALL RECEIVE TWO BITUMINOUS COATS.

**2** **PRECAST CONCRETE DROP MANHOLE-FORCE MAIN**  
SCALE: NOT TO SCALE

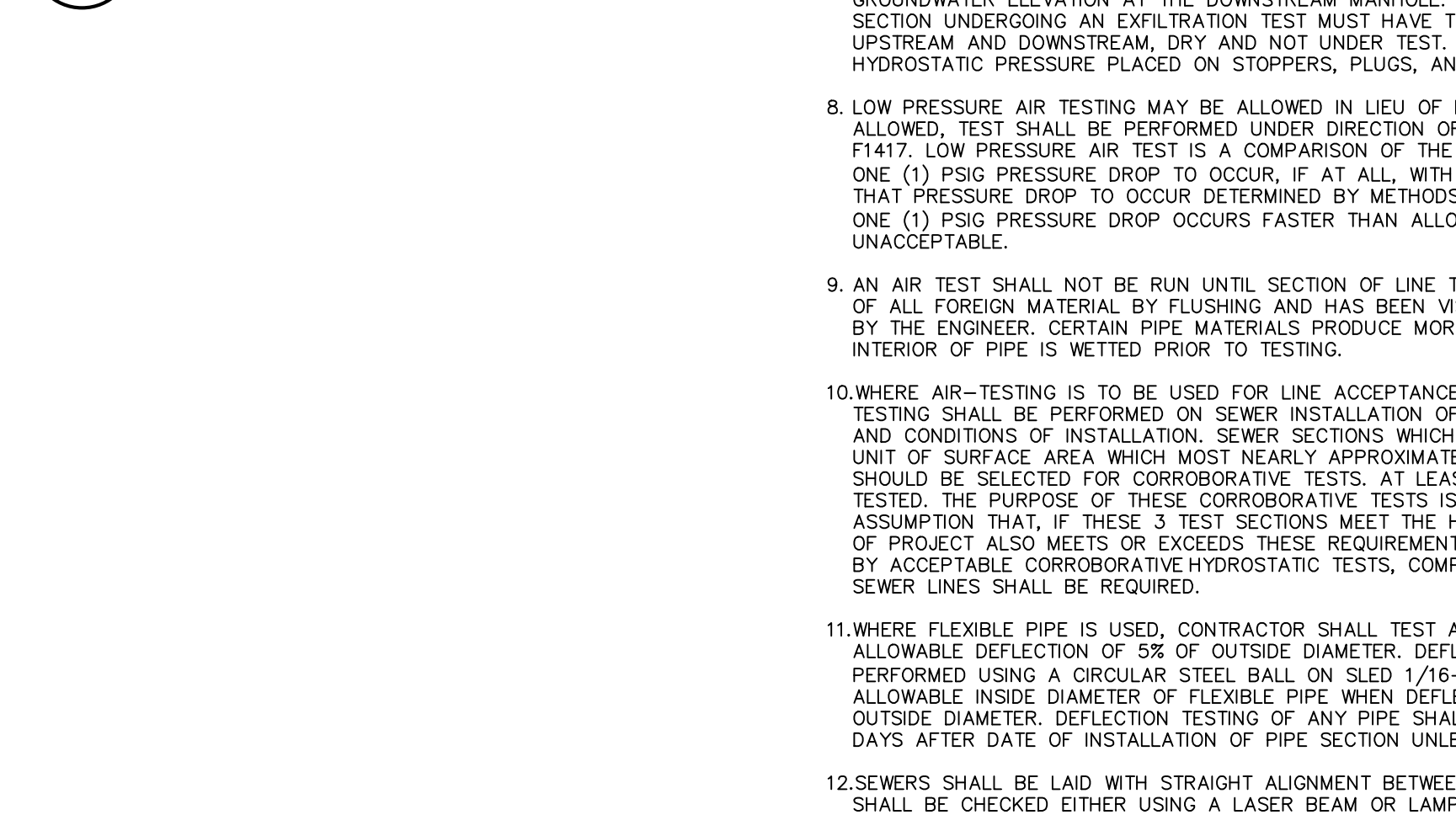


**5** **PIPE CONNECTION TO EXISTING MANHOLE- CEMENT GROUT SEAL WITH WATER STOP**  
SCALE: NOT TO SCALE

SEWER PIPE TYPE	FLEXIBLE JOINT TYPE IN & OUT	"A" DISTANCE (FEET)	"B" DISTANCE (FEET)	MH WATER STOP REQD
DUCTILE IRON	STD RUBBER GASKET PIPE JOINT ONLY	10' MAX	NO LIMIT	YES
PVC	SPECIAL FLEXIBLE JOINT COUPLING	1' MAX	3' MAX	YES

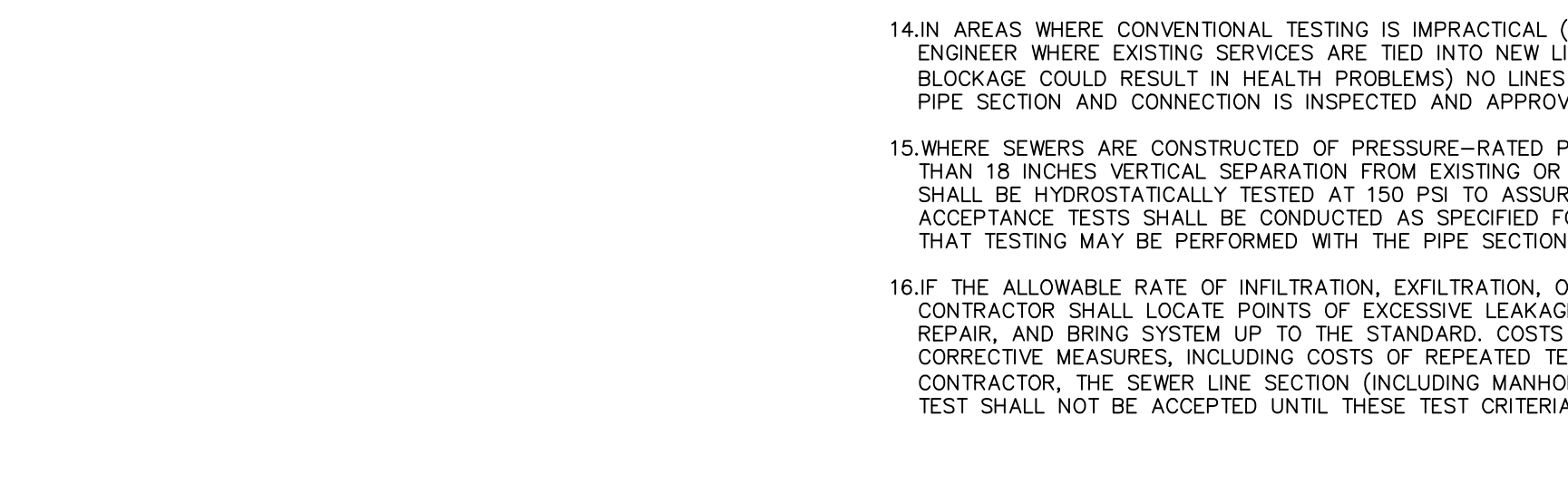


**NOTE:** 1. FRAME AND COVER SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING AND 25% IMPACT.  
**3** **HEAVY DUTY STANDARD CAST IRON MH COVER**  
SCALE: NOT TO SCALE



**4** **PIPE CONNECTION TO MANHOLE- PRECAST OR CORED HOLE W/ INSERTED FLEXIBLE BOOT**  
SCALE: NOT TO SCALE

SEWER PIPE TYPE	FLEXIBLE JOINT TYPE IN & OUT	"A" DISTANCE (FEET)
DUCTILE IRON	STD RUBBER GASKET PIPE JOINT ONLY	10' MAX
PVC	STD RUBBER GASKET PIPE JOINT ONLY	3' MAX



**ACCEPTABLE MANHOLE STEPS**

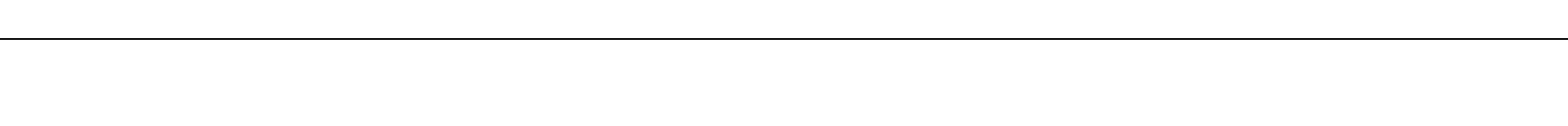
MANUFACTURER	PATTERN NUMBER	"A" STEP WIDTH	"B" LEG LENGTH	"C" RING CLEAR	"D" EMBEDMENT	"E" RING CLEAR
M.A. INDUSTRIES INC*	PS2-PF	14 3/4	9 1/4	13 3/4	3 3/8	5 7/8
M.A. INDUSTRIES INC*	PS2-PFS	14 3/4	8 1/4	13 3/4	3 3/8	4 7/8

**FORCE MAIN TESTING:**

- THE COMPLETE SEWAGE FORCE MAIN INCLUDING VALVES, FITTINGS CONNECTIONS TO PUMPS AND OTHER PIPELINE SYSTEMS SHALL BE TESTED FOR LEAKAGE.
- THE SYSTEM SHALL BE PRESSURIZED TO 1.5 TIMES THE PIPE WORKING PRESSURE AT THE LOWEST POINT OF THE MAIN OR 100 PSI, WHICHEVER IS GREATER. AFTER THIS PRESSURE, 45 PSI, HAS BEEN MAINTAINED SUCCESSFULLY FOR ONE HOUR, THE LEAKAGE TEST SHALL BE PERFORMED FOR A PERIOD OF NO LESS THAN 2 HOURS. HYDROSTATIC TESTS SHALL BE PERFORMED AND SUCCESSFUL TEST RESULTS DERIVED IN ACCORDANCE WITH AWWA C 600-05, SECTION 5. IN NO CASE SHALL THE TEST PRESSURE EXCEED THE DESIGN PRESSURE LIMITS FOR ANY PIPE, THRUST RESTRAINT, FITTINGS, VALVES OR OTHER APPURTENANCE OF THE TEST SECTION.
- IF THE LEAKAGE IN THE SYSTEM EXCEEDS THE SPECIFIED AMOUNT, MAKE ANY REPAIRS OR REPLACEMENTS NECESSARY TO REDUCE THE LEAKAGE TO THE REQUIRED LIMITS AND REPEAT THE SYSTEM.

THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE AS SHOWN IN THE FOLLOWING TABLE. LEAKAGE IN GALLONS PER HOUR 1000 FT OF PIPELINE (GPH).

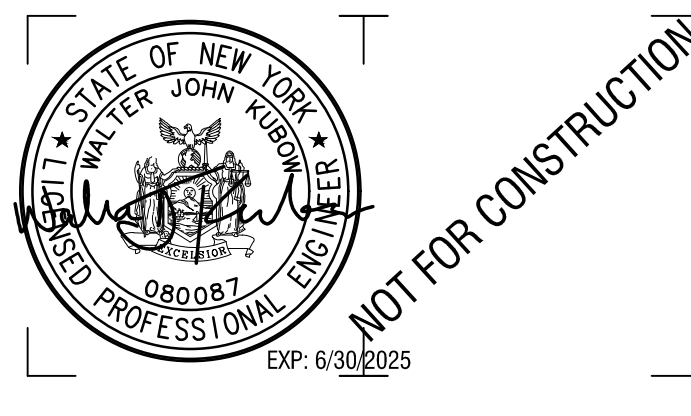
AVG. TEST PRESSURE (PSI)	NOMINAL PIPE DIAMETER-IN.
450	0.29 0.57 0.86
400	0.27 0.54 0.81
350	0.26 0.51 0.76
300	0.24 0.47 0.70
275	0.23 0.45 0.67
250	0.22 0.43 0.64
225	0.21 0.41 0.61
200	0.19 0.38 0.57
175	0.18 0.36 0.54
150	0.17 0.33 0.50
125	0.15 0.30 0.45
100	0.14 0.27 0.41



**TESTING GRAVITY SEWER SYSTEM:**

- CONTRACTOR SHALL INSPECT AND TEST THE INSTALLATIONS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION WHEN WORK IS READY FOR TESTING. AFTER ALL TESTS HAVE BEEN PERFORMED, EVIDENCE OF COMPLIANCE SHALL BE FORWARDED TO OWNER/ENGINEER AND THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE.
- THE CONTRACTOR SHALL TEST AND INSPECT FOR ALIGNMENT AND INFILTRATION AND EXFILTRATION OF ALL SANITARY SEWERS AND RELATED UTILITY STRUCTURES. INFILTRATION OR EXFILTRATION OF THE SANITARY SEWER SYSTEM SHALL NOT EXCEED 0.80 GAL/INCH OF INTERNAL PIPE DIAMETER PER 1000' OF PIPELINE PER HOUR WITH A MINIMUM HYDROSTATIC HEAD AT THE TOP OF THE PIPE OF 2 FT, OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. WHEN INFILTRATION OR EXFILTRATION OCCURS IN EXCESS OF ALLOWABLE AMOUNT, DEFECTS SHALL BE LOCATED AND REPAIRED.
- INFILTRATION LEAKAGE TESTS SHALL BE RUN ON EACH SINGLE MANHOLE-TO-MANHOLE SECTION, OR REACH, INDEPENDENTLY OF ALL OTHER MANHOLE-TO-MANHOLE SECTIONS. A PIPELINE SECTION UNDER TEST SHALL INCLUDE ALL PIPE AND FITTINGS BETWEEN THE TWO MANHOLES PLUS THE UPSTREAM MANHOLE.
- EACH MANHOLE-TO-MANHOLE SECTION SHALL BE REJECTED OR ACCEPTED BASED ONLY ON RESULTS OF ITS OWN INDEPENDENT SECTION TEST AND NOT ON RESULTS OF ANY ONE TEST RUN SIMULTANEOUSLY OVER MORE THAN ONE CONSECUTIVE MANHOLE-TO-MANHOLE SECTION. THE ONLY EXCEPTION ALLOWED: ACCEPTING SEVERAL CONSECUTIVE MANHOLE-TO-MANHOLE SECTIONS BASED ON ONE COMBINED INFILTRATION TEST INDICATING ZERO INFILTRATION.
- INFILTRATION TESTS SHALL BE MADE BY INSTALLING A FLOW MEASURING DEVICE IN THE DOWNSTREAM MANHOLE OF SECTION BEING TESTED. TEST DURATION SHALL BE 24 HRS. OR FOR SHORTER PERIOD, PROVIDED A STEADY STATE FLOW CONDITION HAS BEEN ACHIEVED IN THE TEST PERIOD, AND RESULTS PROJECTED TO A 24 HR PERIOD.
- EXFILTRATION TESTS SHALL BE RUN ON EACH SINGLE MANHOLE-TO-MANHOLE SECTION, OR REACH, INDEPENDENTLY OF ALL OTHER MANHOLE-TO-MANHOLE SECTIONS. A PIPELINE SECTION UNDER TEST SHALL INCLUDE ALL PIPE AND FITTINGS BETWEEN THE TWO MAN-HOLES PLUS THE UPSTREAM MANHOLE.
- EXFILTRATION TESTS SHALL BE MADE BY MEASURING THE DROP IN WATER ELEVATION IN THE UPSTREAM MANHOLE 24 HRS AFTER INITIAL WATER LEVEL IS RECORDED. INITIAL WATER LEVEL IN UPSTREAM MANHOLE SHALL BE 2 FEET HIGHER THAN EITHER THE TOP OF PIPE OR GROUNDWATER ELEVATION AT THE DOWNSTREAM MANHOLE. ANY MANHOLE-TO-MANHOLE SECTION UNDERGOING AN EXFILTRATION TEST MUST HAVE THE NEXT ADJACENT SECTIONS, BOTH UPSTREAM AND DOWNSTREAM, DRY AND NOT UNDER TEST. THIS PROCEDURE MINIMIZES HYDROSTATIC PRESSURE PLACED ON STOPPERS, PLUGS, AND END CAPS.
- LOW PRESSURE AIR TESTING MAY BE ALLOWED IN LIEU OF EXFILTRATION TESTS ONLY WHEN SO ALLOWED. TEST SHALL BE PERFORMED UNDER DIRECTION OF ENGINEER ACCORDING TO ASTM F1417. LOW PRESSURE AIR TEST IS A COMPARISON OF THE MEASURED TIME NECESSARY FOR ONE (1) PSIG PRESSURE DROP TO OCCUR, IF AT ALL, WITH MINIMUM ALLOWABLE TIME FOR THAT PRESSURE DROP TO OCCUR DETERMINED BY METHODS INDICATED IN ASTM F1417. IF THE ONE (1) PSIG PRESSURE DROP OCCURS FASTER THAN ALLOWABLE TIME, SECTION IS UNACCEPTABLE.
- AN AIR TEST SHALL NOT BE RUN UNTIL SECTION OF LINE TO BE TESTED HAS BEEN CLEANED OF ALL FOREIGN MATERIAL BY FLUSHING AND HAS BEEN VISUALLY INSPECTED AND APPROVED BY THE ENGINEER. CERTAIN PIPE MATERIALS PRODUCE MORE CONSISTENT RESULTS WHEN INTERIOR OF PIPE IS WETTED PRIOR TO TESTING.
- WHERE AIR-TESTING IS TO BE USED FOR LINE ACCEPTANCE, CORROBORATIVE HYDROSTATIC TESTING SHALL BE PERFORMED ON SEWER INSTALLATION OF THE SAME PIPE SIZE, MATERIAL, AND CONDITIONS OF INSTALLATION. SEWER SECTIONS WHICH INDICATE RATES OF AIR LOSS PER UNIT OF SURFACE AREA WHICH MOST NEARLY APPROXIMATE RATE FOR PIPELINE ACCEPTANCE SHOULD BE SELECTED FOR CORROBORATIVE TESTS. AT LEAST 3 SECTIONS ARE TO BE SO TESTED. THE PURPOSE OF THESE CORROBORATIVE TESTS IS TO PERMIT A REASONABLE ASSUMPTION THAT, IF THESE 3 TEST SECTIONS MEET THE HYDROSTATIC TEST, THE BALANCE OF PROJECT ALSO MEETS OR EXCEEDS THESE REQUIREMENTS. IF AIR TEST IS NOT SUPPORTED BY ACCEPTABLE CORROBORATIVE HYDROSTATIC TESTS, COMPLETE HYDRO-STATIC TESTING OF SEWER LINES SHALL BE REQUIRED.
- WHERE FLEXIBLE PIPE IS USED, CONTRACTOR SHALL TEST ALL MAINLINE PIPE FOR MAXIMUM ALLOWABLE DEFLECTION OF 5% OF OUTSIDE DIAMETER. DEFLECTION TESTS SHALL BE PERFORMED USING A CIRCULAR STEEL RING SMALLER THAN ALLOWABLE INSIDE DIAMETER OF FLEXIBLE PIPE WHEN DEFLECTED A MAXIMUM OF 5% OF OUTSIDE DIAMETER. DEFLECTION TESTING OF ANY PIPE SHALL BE DONE NO SOONER THAN 30 DAYS AFTER DATE OF INSTALLATION OF PIPE SECTION UNLESS WRITTEN EXCEPTION.
- SEWERS SHALL BE LAID WITH STRAIGHT ALIGNMENT BETWEEN MANHOLES. STRAIGHT ALIGNMENT SHALL BE CHECKED EITHER USING A LASER BEAM OR LAMPING. TESTING SHALL COMPLY WITH REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- MANHOLES, WHICH CANNOT BE PROPERLY AIR TESTED, SHOULD BE VISUALLY INSPECTED AND LEAKAGE TESTED USING INTERNAL OR EXTERNAL HYDROSTATIC PRESSURE. LEAKAGE TESTING SHALL COMPLY WITH REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- IN AREAS WHERE CONVENTIONAL TESTING IS IMPRACTICAL (I.E. AREAS DESIGNATED BY ENGINEER WHERE EXISTING SERVICES ARE TIED INTO NEW LINE IMMEDIATELY AND ANY BLOCKAGE COULD RESULT IN HEALTH PROBLEMS) NO LINES SHALL BE BACKFILLED UNTIL EACH PIPE SECTION AND CONNECTION IS INSPECTED AND APPROVED.
- WHERE SEWERS ARE CONSTRUCTED OF PRESSURE-RATED PIPE AND INSTALLED WITH LESS THAN 18 INCHES VERTICAL SEPARATION FROM EXISTING OR PROPOSED WATER MAINS, SEWERS SHALL BE HYDROSTATICALLY TESTED AT 150 PSI TO ASSURE WATER TIGHTNESS. HYDROSTATIC ACCEPTANCE TESTS SHALL BE CONDUCTED AS SPECIFIED FOR TESTING WATER MAINS, EXCEPT THAT TESTING MAY BE PERFORMED WITH THE PIPE SECTION PARTIALLY BACK-FILLED.
- IF THE ALLOWABLE RATE OF INFILTRATION, EXFILTRATION, OR AIR LEAKAGE IS EXCEEDED, THE CONTRACTOR SHALL LOCATE POINTS OF EXCESSIVE LEAKAGE AND SHALL PROMPTLY CORRECT, REPAIR, AND BRING SYSTEM UP TO THE STANDARD. COSTS OF ALL SUCH REPAIRS AND CORRECTIVE MEASURES, INCLUDING COSTS OF REPEATED TESTS, SHALL BE BORN BY CONTRACTOR. THE SEWER LINE SECTION (INCLUDING MANHOLES AND BUILDING SERVICES) UNDER TEST SHALL NOT BE ACCEPTED UNTIL THESE TEST CRITERIA ARE MET.

4 British American Boulevard  
Latham, NY 12110  
518-439-8235  
labellappc.com



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

It is a violation of New York Education Law Art. 145 Sec. 7209 & Art. 147 Sec. 7307, for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way. If an item bearing the seal of an architect, engineer, or land surveyor is altered; the altering architect, engineer, or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

CLIENT NAME:

**iPARK 87, LLC**  
485 WEST PUTNAM AVENUE  
GREENWICH, CT 06830

PROJECT NAME:

**iPARK 87 - EAST CAMPUS**  
300 ENTERPRISE DRIVE  
ULSTER, NY 12401

NO.	DATE	DESCRIPTION
Revisions		

PROJECT NUMBER: 2222588.01

DRAWN BY: DAS, HEB

REVIEWED BY: WJK

ISSUED FOR: SITE PLAN & SUBDIVISION APPROVAL

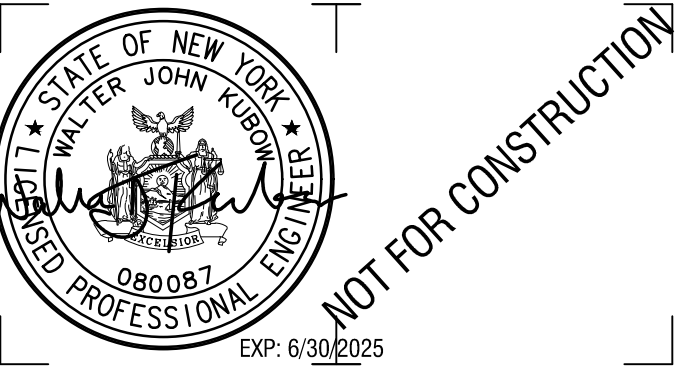
DATE: 08/29/23

DRAWING NAME:

**SANITARY SEWER SYSTEM DETAIL**

DRAWING NUMBER:

**C570**



CERTIFICATE OF AUTHORIZATION NUMBER:  
PROFESSIONAL ENGINEERING: 018281  
LAND SURVEYING: 017976  
GEOLOGICAL: 018750

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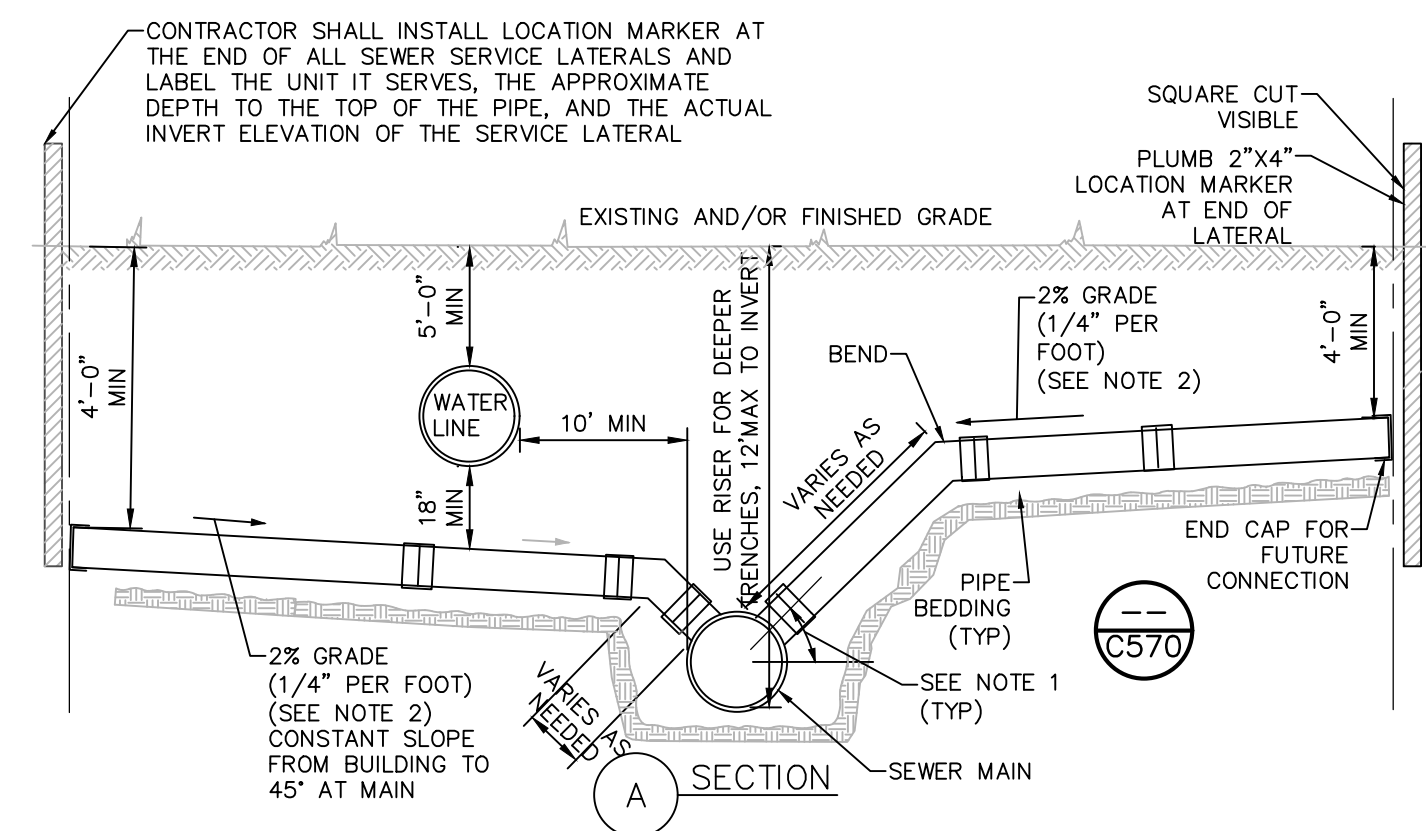
DATE: 08/29/23

DRAWING NAME:

**SANITARY SEWER  
SYSTEM DETAIL**

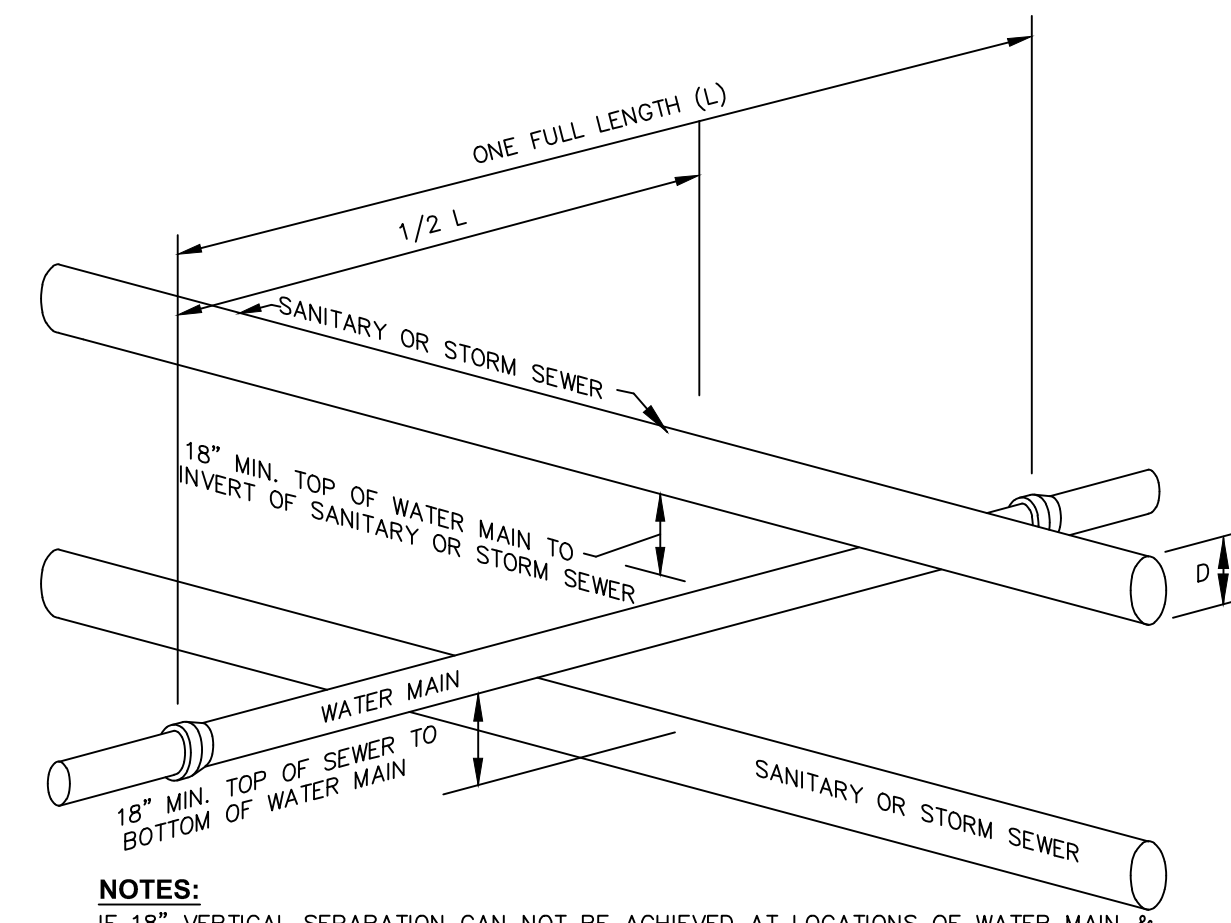
DRAWING NUMBER:

**C571**



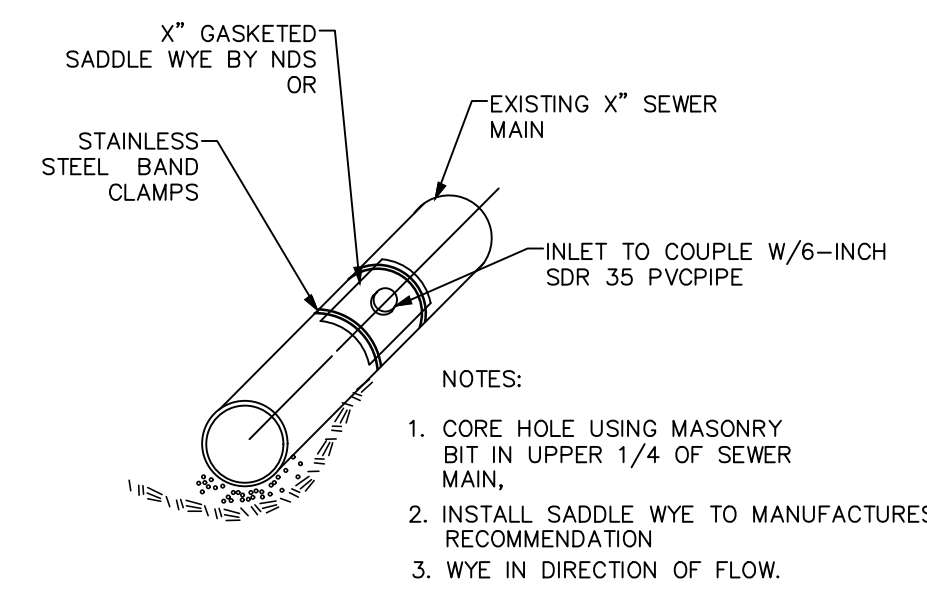
**NOTES:**  
1. OPTIMUM ANGLE IS 45°. THE ENGINEER MAY CALL FOR OTHER ANGLES TO SUIT JOB CONDITIONS.  
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE SEWER LATERAL AS CONFIGURED AT THE SLOPE SPECIFIED, AND FOR ESTABLISHING THE ELEVATION AT THE TERMINATION POINT OF THE LATERAL, IF EXISTING UTILITIES OR OTHER FEATURES PREVENT INSTALLATION IN THAT MANNER. THE ENGINEER SHALL BE CONSULTED PRIOR TO INSTALLATION.

**1 STANDARD SEWER SERVICE CONNECTION PLAN**  
SCALE: NOT TO SCALE

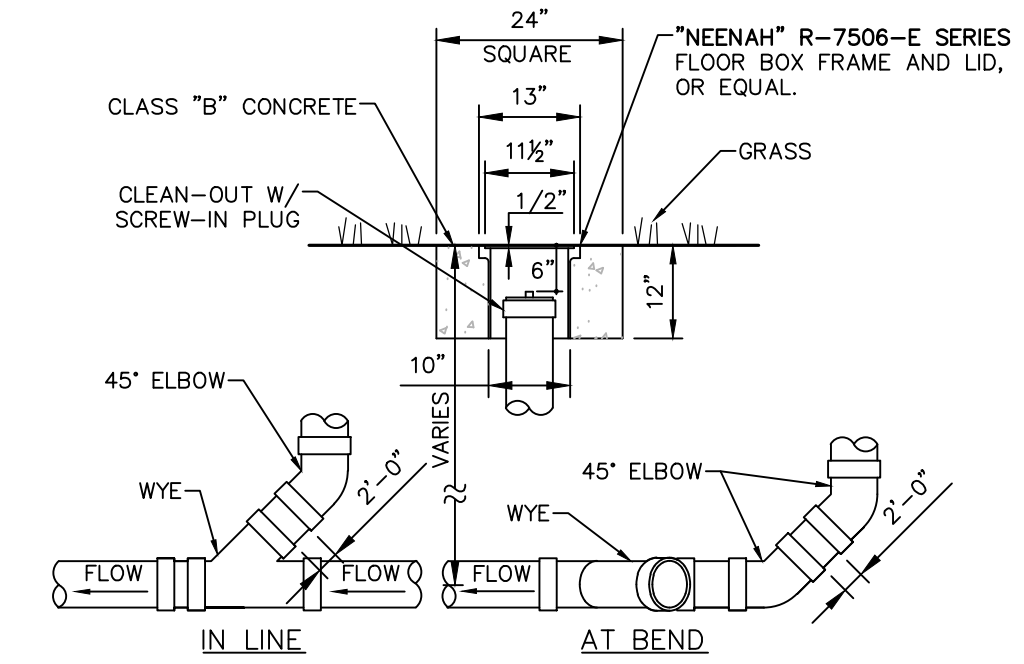


**NOTES:**  
IF 18" VERTICAL SEPARATION CAN NOT BE ACHIEVED AT LOCATIONS OF WATER MAIN & SEWER CROSSINGS, CONTRACTOR SHALL CONSTRUCT EITHER OF THE FOLLOWING OPTIONS:  
1. CONSTRUCT SEWER OF PVC WATERWORKS GRADE PRESSURE PIPE MATERIAL 10' ON EACH SIDE OF THE WATER MAIN AND TEST TO 150PSI TO ASSURE TIGHTNESS.  
2. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATER TIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING. THE CARRIER PIPE SHALL BE OF MATERIAL APPROVED FOR THE USE IN WATER MAIN CONSTRUCTION.

**2 SECTION WATER/SEWER SEPARATION REQUIREMENTS**  
SCALE: NOT TO SCALE

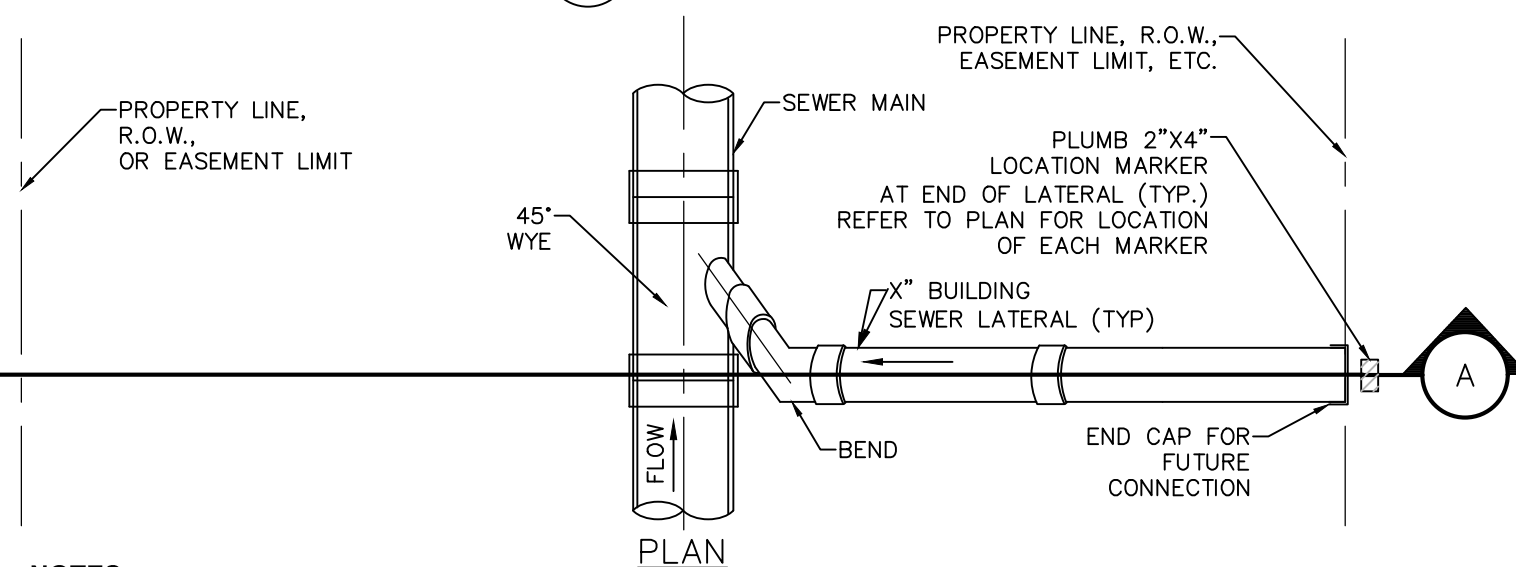


**3 FLEXIBLE SADDLE WYE**  
SCALE: NOT TO SCALE



**NOTES:**  
1. SEWER PIPE FITTINGS TO BE ASTM D-3033 OR D-3034 SDR-35.  
2. TO BE USED FOR GRAVITY PORTION OF SANITARY SYSTEM AS WELL AS THE STORM ROOF DRAINAGE SYSTEM.

**4 CLEAN OUT - NON TRAFFIC AREAS**  
SCALE: NOT TO SCALE



**NOTES:**  
1. PIPE AND FITTINGS TO MATCH SERVICE LINE PER PLAN.  
2. TO BE USED FOR GRAVITY PORTION OF SANITARY SYSTEM AS WELL AS THE STORM DRAINAGE SYSTEM.

**5 CLEAN OUT - TRAFFIC AREAS**  
SCALE: NOT TO SCALE