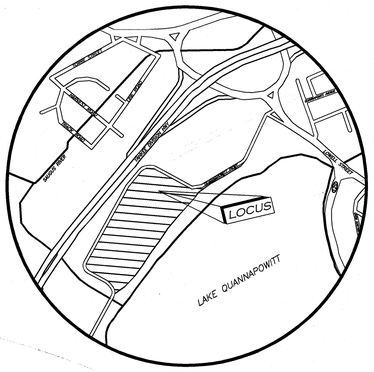
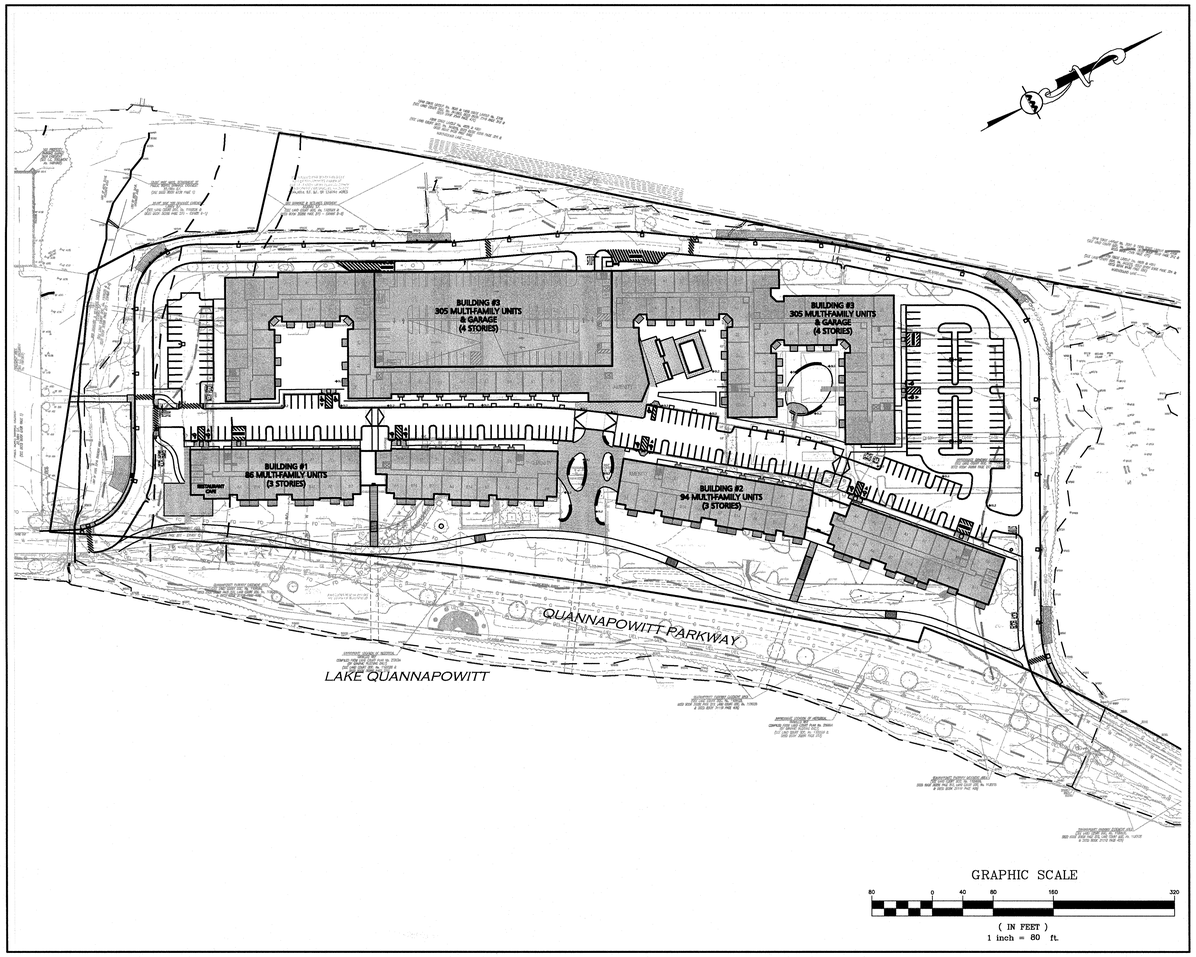


LOCUS MAP
NOT TO SCALE

SITE DEVELOPMENT PLANS FOR
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880



OWNER:
WATERSTONE PROPERTIES GROUP
117 KENDRICK STREET
NEEDHAM, MA 02494

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET, SUITE 402
BOSTON, MA 02116

SITE ENGINEERS:
ALLEN & MAJOR ASSOCIATES, INC.
100 COMMERCE WAY
WOBURN, MA 01888-0118

LAND SURVEYORS:
MERRILL
427 COLUMBIA ROAD
HANOVER, MA 02339
781.826.9200

LANDSCAPE ARCHITECTS:
COPLEY WOLFF DESIGN GROUP
10 POST OFFICE SQUARE, SUITE 1315
BOSTON, MA 02109

ARCHITECT:
CUBE 3 STUDIO
160 STATE STREET, FLOOR 6
BOSTON, MA 02109

TRAFFIC ENGINEERS:
VANASSE & ASSOCIATES, INC.
35 NEW ENGLAND BUSINESS CENTER DRIVE, SUITE 140
ANDOVER, MA 01810

LIST OF DRAWINGS

CIVIL

DRAWING TITLE	SHEET NO.	ISSUED	REVISED THRU
EXISTING CONDITIONS PLAN	SHEET 1	05-23-2019	-
EXISTING CONDITIONS PLAN	SHEET 2	05-23-2019	-
EXISTING CONDITIONS PLAN	SHEET 3	05-23-2019	-
EXISTING CONDITIONS PLAN	SHEET 4	05-23-2019	-
ABBREVIATIONS & NOTES	C-101A	03-16-2021	08-03-2021
CONTEXT PLAN	C-101B	03-16-2021	08-03-2021
EROSION CONTROL PLAN	C-102	03-16-2021	08-03-2021
SITE PREPARATION PLAN	C-103A/B	03-16-2021	08-03-2021
LAYOUT & MATERIALS PLAN	C-104A/B	03-16-2021	08-03-2021
GRADING & DRAINAGE PLAN	C-105A/B	03-16-2021	08-03-2021
UTILITY PLAN	C-106A/B	03-16-2021	08-03-2021
SITE LIGHTING PLAN	C-107A/B	03-16-2021	08-03-2021
FIRE TRUCK TURNING & HYDRANT LOCATION PLAN	C-108	03-16-2021	08-03-2021
AVERAGE GRADE PLAN	C-109A/B	03-16-2021	08-03-2021
DETAILS	C-501	03-16-2021	08-03-2021
DETAILS	C-502	03-16-2021	08-03-2021
DETAILS	C-503	03-16-2021	08-03-2021
DETAILS	C-504	03-16-2021	08-03-2021
DETAILS	C-505	03-16-2021	08-03-2021

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
8/31/21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

ISSUED TO ZONING BOARD OF APPEALS: MARCH 16, 2021
RE-ISSUED TO ZONING BOARD OF APPEALS: MARCH 31, 2021
ISSUED TO CONSERVATION COMMISSION: AUGUST 3, 2021

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - COVER.DWG

REVISIONS

1.	5/22/19	NEW WETLAND FLAGS

SHANE M. BRENNER No. 40917 REGISTERED PROFESSIONAL LAND SURVEYOR
COMMONWEALTH OF MASSACHUSETTS
5/23/19

DRAWN BY: VC/BKL

DESIGNED BY:

CHECKED BY: SMB

Merrill
Engineers and Land Surveyors
427 Columbia Road, Hanover, MA 02339
Telephone: 781-826-9200 Fax: 781-826-6665

EXISTING CONDITIONS PLAN

200 QUANNAPOWITT PARKWAY

WAKEFIELD, MASSACHUSETTS

APPLICANT
WATERSTONE PROPERTIES GROUP, INC.
322 RESERVOIR STREET
NEEDHAM, MA 02494

SEPTEMBER 10, 2018

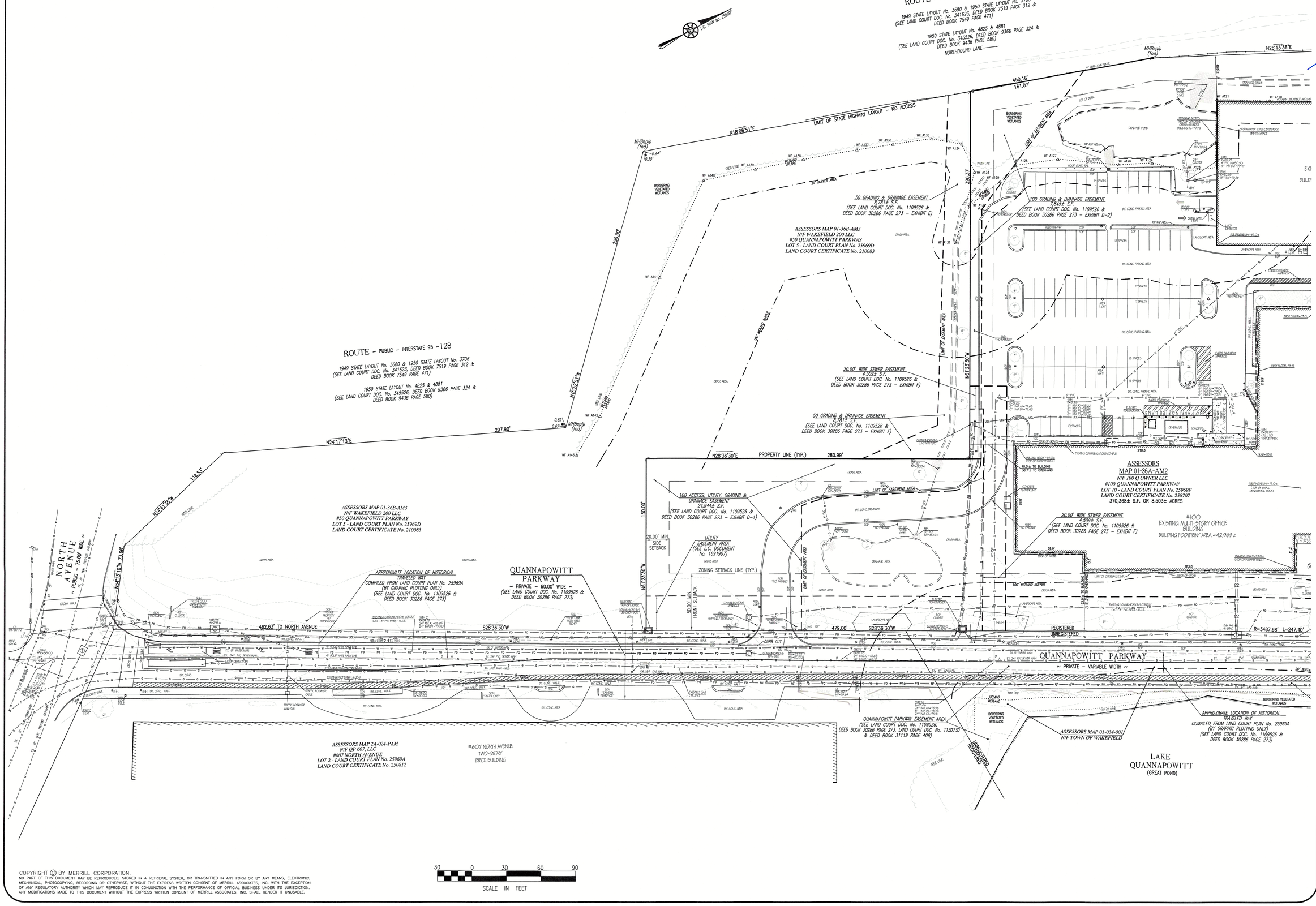
SCALE: AS-NOTED

JOB No. 10-055

LATEST REVISION:
MAY 22, 2019

EXISTING CONDITIONS PLAN

SHEET 1



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REVISIONS

1.	5/22/19	NEW WETLAND FLAGS

COMMONWEALTH OF MASSACHUSETTS
SHANE M. BRENNER
No. 45917
REGISTERED PROFESSIONAL ENGINEER
5/23/19

DRAWN BY: VC/BKL

DESIGNED BY:

CHECKED BY: SMB

Merrill
Engineers and Land Surveyors
427 Columbia Road, Hanover, MA 02339
Telephone: 781-826-9200 Fax: 781-826-6665

EXISTING CONDITIONS PLAN

200 QUANNAPOWITT PARKWAY
WAKEFIELD, MASSACHUSETTS

APPLICANT
WATERSTONE PROPERTIES GROUP, INC.
322 RESERVOIR STREET
NEEDHAM, MA 02494

SEPTEMBER 10, 2018

SCALE: AS-NOTED

JOB No. 10-055

LATEST REVISION:
MAY 22, 2019

EXISTING CONDITIONS PLAN

SHEET 2

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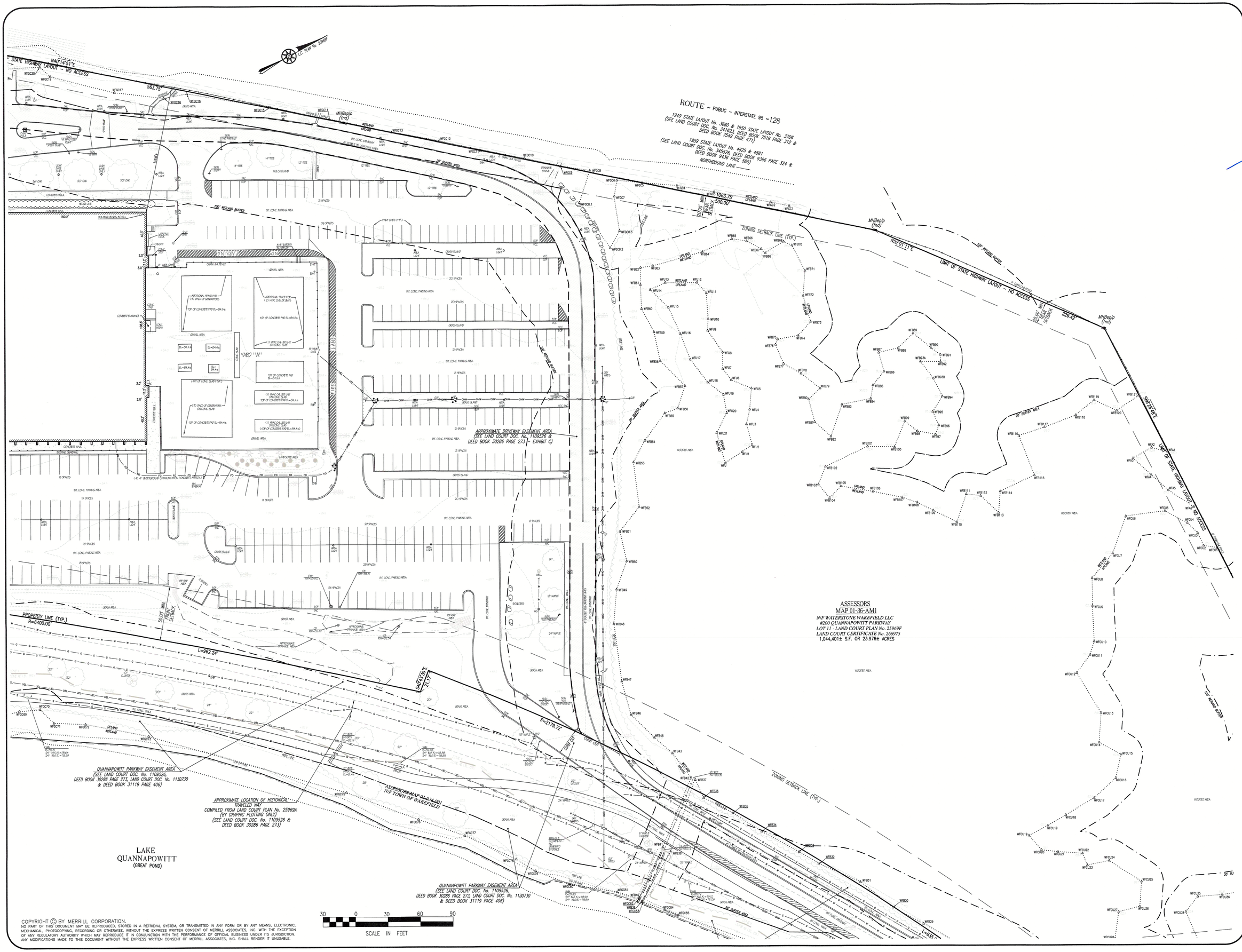
SCALE IN FEET



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REVISIONS

1.	5/22/19	NEW WETLAND FLAGS

COMMONWEALTH OF MASSACHUSETTS
SHANE M. BRENNER
No. 45917
REGISTERED PROFESSIONAL LAND SURVEYOR
5/22/19

DRAWN BY: VC/BKL

DESIGNED BY:

CHECKED BY: SMB

Merrill
Engineers and Land Surveyors
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Telephone: 781-826-9200 Fax: 781-826-6665

EXISTING CONDITIONS PLAN

200 QUANNAPOWITT PARKWAY
WAKEFIELD, MASSACHUSETTS

APPLICANT
WATERSTONE PROPERTIES GROUP, INC.
322 RESERVOIR STREET
NEEDHAM, MA 02494

SEPTEMBER 10, 2018

SCALE: AS-NOTED

JOB No. 10-055

LATEST REVISION:
MAY 22, 2019

EXISTING CONDITIONS PLAN

SHEET 3

ASSESSORS
MAP 01-36-AM1
N/F WATERSTONE WAKEFIELD LLC
#200 QUANNAPOWITT PARKWAY
LOT 11 - LAND COURT PLAN No. 25969F
LAND COURT CERTIFICATE No. 266973
1,044,401± S.F. OR 23.976± ACRES

ROUTE ~ PUBLIC ~ INTERSTATE 95 ~ I-128
1949 STATE LAYOUT No. 3690 & 1950 STATE LAYOUT No. 3706
(SEE LAND COURT DOC. No. 344823, DEED BOOK 7519 PAGE 312 & DEED BOOK 7599 PAGE 471)
1959 STATE LAYOUT No. 4825 & 4861
(SEE LAND COURT DOC. No. 345598, DEED BOOK 9366 PAGE 324 & DEED BOOK 9436 PAGE 560)

LAKE
QUANNAPOWITT
(GREAT POND)

QUANNAPOWITT PARKWAY EASEMENT AREA
(SEE LAND COURT DOC. No. 1109526,
DEED BOOK 30286 PAGE 273, LAND COURT DOC. No. 1130730
& DEED BOOK 31119 PAGE 406)

APPROXIMATE LOCATION OF HISTORICAL TRAVELED WAY
COMPILED FROM LAND COURT PLAN No. 25969A
(BY GRAPHIC PLOTTING ONLY)
(SEE LAND COURT DOC. No. 1109526 & DEED BOOK 30286 PAGE 273)

ASSESSORS MAP 01 004 010
TOWN OF WAKEFIELD D.P.W.
DEED BOOK 9436 PAGE 551

LOWELL STREET
~ PUBLIC ~ 1949 STATE HIGHWAY LAYOUT No. 3690 ~ VARIABLE WIDTH ~

QUANNAPOWITT ~ PRIVATE ~ VARIABLE WIDTH ~ PARKWAY

LEASE AREA TO THE TOWN OF WAKEFIELD (SEE LAND COURT DOC. No. 1109526 & DEED BOOK 30286 PAGE 273)

LIMIT OF STATE HIGHWAY LAYOUT ~ NO ACCESS

ZONING SETBACK LINE (TYP.)

50.00' MIN. FRONT SETBACK

100' WETLAND BUFFER

30' BUFFER AREA

LIMITED BUSINESS ~ LB

N52°01'11"E 228.42'

S68°20'48"E 336.84'

N56°12'23"E 314.01'

S56°12'23"W 1,061.13'

S23°26'19"W 512.23'

L=535.07'

MHBepb (fnd)

MHBmbe (fnd)

0.38'

0.10'

79.72'

SCALE IN FEET
30 0 30 60 90

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REVISIONS

1.	5/22/19	NEW WETLAND FLAGS

COMMONWEALTH OF MASSACHUSETTS
SHANE M. BRENNER
No. 49917
REGISTERED PROFESSIONAL LAND SURVEYOR
5/23/19

DRAWN BY: VC/BKL

DESIGNED BY:

CHECKED BY: SMB

Merrill Engineers and Land Surveyors
427 Columbia Road, Hanover, MA 02339
Telephone: 781-826-9200 Fax: 781-826-6665

EXISTING CONDITIONS PLAN

200 QUANNAPOWITT PARKWAY
WAKEFIELD, MASSACHUSETTS

APPLICANT
WATERSTONE PROPERTIES GROUP, INC.
322 RESERVOIR STREET
NEEDHAM, MA 02494

SEPTEMBER 10, 2018

SCALE: AS-NOTED

JOB No. 10-055

LATEST REVISION:
MAY 22, 2019

EXISTING CONDITIONS PLAN

SHEET 4

GENERAL NOTES:

1. THE EXISTING CONDITIONS PLAN WAS PREPARED BY MERRILL ENGINEERS & LAND SURVEYORS.
2. MAXIMUM CROSS SLOPE ON ALL WALKS IN 66:1 (1.5%) AND MAXIMUM LONGITUDINAL SLOPE IS 22.5:1 (4.5%) EXCEPT WHERE OTHERWISE INDICATED ON THE DRAWINGS.
3. THIS PROJECT WILL BE SERVED BY PUBLIC WATER AND SEWER, NATURAL GAS, TELEPHONE, CABLE AND ELECTRIC. ALL UTILITY LINES WILL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS AT NO ADDITIONAL COST.
5. ALL MAIN BUILDING ENTRANCES AND WALKS SHALL BE HANDICAP ACCESSIBLE PER FEDERAL ADA & MA AAB REGULATIONS.
6. ALL SITE WORK DONE FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE SITE PLANS AND SITE WORK SPECIFICATIONS FOR CONSTRUCTION.
7. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
8. ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A SURVEYOR REGISTERED IN THE STATE OF MASSACHUSETTS AT THE CONTRACTORS EXPENSE.
9. ALL DISTURBED AREAS SHALL BE MAINTAINED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, MA DEP, AND THE REQUIREMENTS OF THE WAKEFIELD CONSERVATION COMMISSION.
10. ALL APPLICABLE PERMITS AND AN APPROVED SET OF PLANS SHALL BE AVAILABLE AT THE CONSTRUCTION SITE.
11. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRECONSTRUCTION MEETING THE WITH THE APPROPRIATE TOWN DEPARTMENTS, THE APPROPRIATE UTILITY COMPANIES, THE OWNER AND OWNER'S REPRESENTATIVE. THE MEETING SHALL TAKE PLACE PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR MUST PROVIDE 48 HOURS NOTICE TO ALL ATTENDEES PRIOR TO THE START OF THE MEETING.
12. APPROPRIATE WARNING SIGNS, MARKERS, BARRICADES AND/OR FLAG MEN SHALL BE PROVIDED TO REGULATE TRAFFIC. CONSTRUCTION TRAFFIC CONTROLS SHALL BE IMPLEMENTED AND OPERATED ACCORDING TO THE MASS DEPARTMENT OF TRANSPORTATION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LOCAL AUTHORITY.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A MASSACHUSETTS PROFESSIONAL LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
14. ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
15. ALL BUILDING DIMENSIONS ARE MEASURED TO THE OUTSIDE FACE OF THE BUILDING.
16. ALL RADII ARE 3 FEET UNLESS OTHERWISE NOTED.
17. ALL PARKING LOT AND AISLE DIMENSIONS ARE TAKEN FROM THE FACE OF CURB AND INDICATE EDGE OF PAVEMENT.
18. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY PER ON SITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR REGULATORY AGENCIES HAVING JURISDICTION AT NO ADDITIONAL COST TO THE OWNER.
19. CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST.
20. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION FEES REQUIRED TO CARRY OUT THE WORK INCLUDING BUT NOT LIMITED TO DEMOLITION.
21. DISPOSAL OF ALL DEMOLISHED MATERIALS INCLUDING EXISTING MISC. CONSTRUCTION DEBRIS FILL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS AT NO ADDITIONAL COST.
22. ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER TREATMENT ARE TO RECEIVE SIX INCHES (6") MINIMUM OF TOPSOIL & SEED, AND BE MAINTAINED UNTIL ESTABLISHED & ACCEPTED. SEE LANDSCAPE PLAN.
23. EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF WAKEFIELD'S GOVERNING AUTHORITY'S SPECIFICATIONS AND SHALL BE APPROVED BY SUCH.
25. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO DETERMINE EXACT POINT OF SERVICE CONNECTION AT EXISTING UTILITY.
26. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR AT GROUNDBREAK.
27. PROPOSED GAS SERVICE LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM WITH THE GAS COMPANY THAT THE GAS LINE INSTALLATION SHALL BE BY THE LOCAL GAS COMPANY. THE CONTRACTOR SHALL GIVE THE GAS COMPANY ADVANCE NOTICE OF WHEN THE GAS LINE CAN BE INSTALLED.
28. PROPOSED ELECTRIC AND COMMUNICATIONS (TELEPHONE AND CABLE) SYSTEMS LOCATIONS ARE APPROXIMATE ONLY AND SHALL BE COORDINATED AND SCHEDULED WITH THE APPROPRIATE UTILITY COMPANY SERVICING THE PROJECT SITE.
29. CONTRACTOR IS RESPONSIBLE FOR DIGGING TEST HOLES AND VERIFYING ANY EXISTING UTILITY OR STRUCTURE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT BASED ON EXACT LOCATION OF EXISTING UTILITIES, THERE ARE NO CONFLICTS BETWEEN THEM AND THE PROPOSED UTILITIES.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

UTILITY NOTES:

1. THE LATEST STANDARDS OF THE TOWN OF WAKEFIELD SHALL BE FOLLOWED WHEN INSTALLING ANY SANITARY SEWER AND STORM DRAIN WORK. BOTH SEWER AND STORM DRAIN WORK WILL BE INSPECTED BY TOWN OF WAKEFIELD PERSONNEL AND ALL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE LATEST STANDARDS OF THE TOWN OF WAKEFIELD SHALL BE FOLLOWED WHEN INSTALLING ANY WATER LINE WORK. WATER LINE WORK WILL BE INSPECTED BY TOWN OF WAKEFIELD PERSONNEL AND ALL COSTS SHALL INCLUDE PRESSURE TESTING, DISINFECTING, AND FLUSHING OF LINES. INSPECTION COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND REMOVAL OF ALL NECESSARY DISINFECTING AND FLUSHING TAPS AS DIRECTED BY THE TOWN.
3. THE CONTRACTOR SHALL REFER TO ARCHITECTS & PLUMBING PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL ROOF DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELEPHONE, AND NATURAL GAS SERVICE. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND COORDINATE WITH THE PROPER AGENCY THE LOCATION AND SCHEDULING OF CONNECTIONS WITH THEIR FACILITIES.
4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.
5. ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ALL UTILITIES SCHEDULED FOR ABANDONMENT OR REMOVAL AND DISPOSAL MUST BE COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY OWNER. WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES, JUNCTION BOXES AND SIMILAR STRUCTURES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURE TO ALLOW DRAINAGE. BACKFILL AND COMPACT EXCAVATIONS RESULTING FROM REMOVAL OF UTILITY FACILITATES, AS REQUIRED TO RESTORE THE ORIGINAL GRADE.
6. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENTS OF NATURAL GAS, ELECTRIC, TELEPHONE AND ANY OTHER UTILITY BY THE UTILITY OWNER.
7. THE CONTRACTOR SHALL USE THE FOLLOWING PIPE MATERIALS:
   SEWER – PVC (POLYVINYL CHLORIDE), SDR 35
   DRAIN – HDPE (HIGH DENSITY CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INNER WALL), ASTM D2321 (UNLESS OTHERWISE SPECIFIED ON PLAN)
   – RCP CLASS IV (REINFORCED CONCRETE PIPE, WHERE SPECIFIED)
   WATER – C.L.D.I.
8. BEFORE WORK BEGINS ON THE SEWER OR STORM DRAIN, THE CONTRACTOR WILL COORDINATE WITH THE TOWN OF WAKEFIELD THE APPROPRIATE PERMIT FEE AND INSPECTION FEE.
9. ALL UTILITY CONNECTIONS THROUGH THE BUILDING WALL SHALL BE BY MEANS OF FLEXIBLE JOINTS.
10. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN WATER MAINS AND SANITARY SEWER MAINS AND/OR STORM DRAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
11. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
12. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITY'S INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
13. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
14. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 5'–0" COVER ON ALL WATERLINES AND A MAXIMUM OF 8'–0" COVER.
15. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE BETWEEN THE PIPES. WHERE THE WATERLINE IS LESS THE 18" VERTICAL CLEARANCE AND MEETING 10' HORIZONTAL CLEARANCE CANNOT BE MET, THE WATER MUST BE ENCASED IN CONCRETE TO MEET THE REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C–151) (CLASS 50).
16. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 3000 P.S.I.
17. DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING UTILITIES.
18. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER, SEWER, GAS AND ELECTRICAL AND TELECOMMUNICATIONS LINES.
19. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
20. ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL MEET OR EXCEED THE TOWN OF WAKEFIELD REQUIREMENTS.
21. SEWER PIPE BEDDING MATERIAL SHALL BE AS SPECIFIED ON THE DRAWINGS. IF LOCAL OR STATE AUTHORITIES REQUIRE DIFFERENT BEDDING OR BACKFILL MATERIAL, THEN THE MORE STRINGENT SHALL APPLY.

EROSION & SEDIMENTATION CONTROL NOTES:

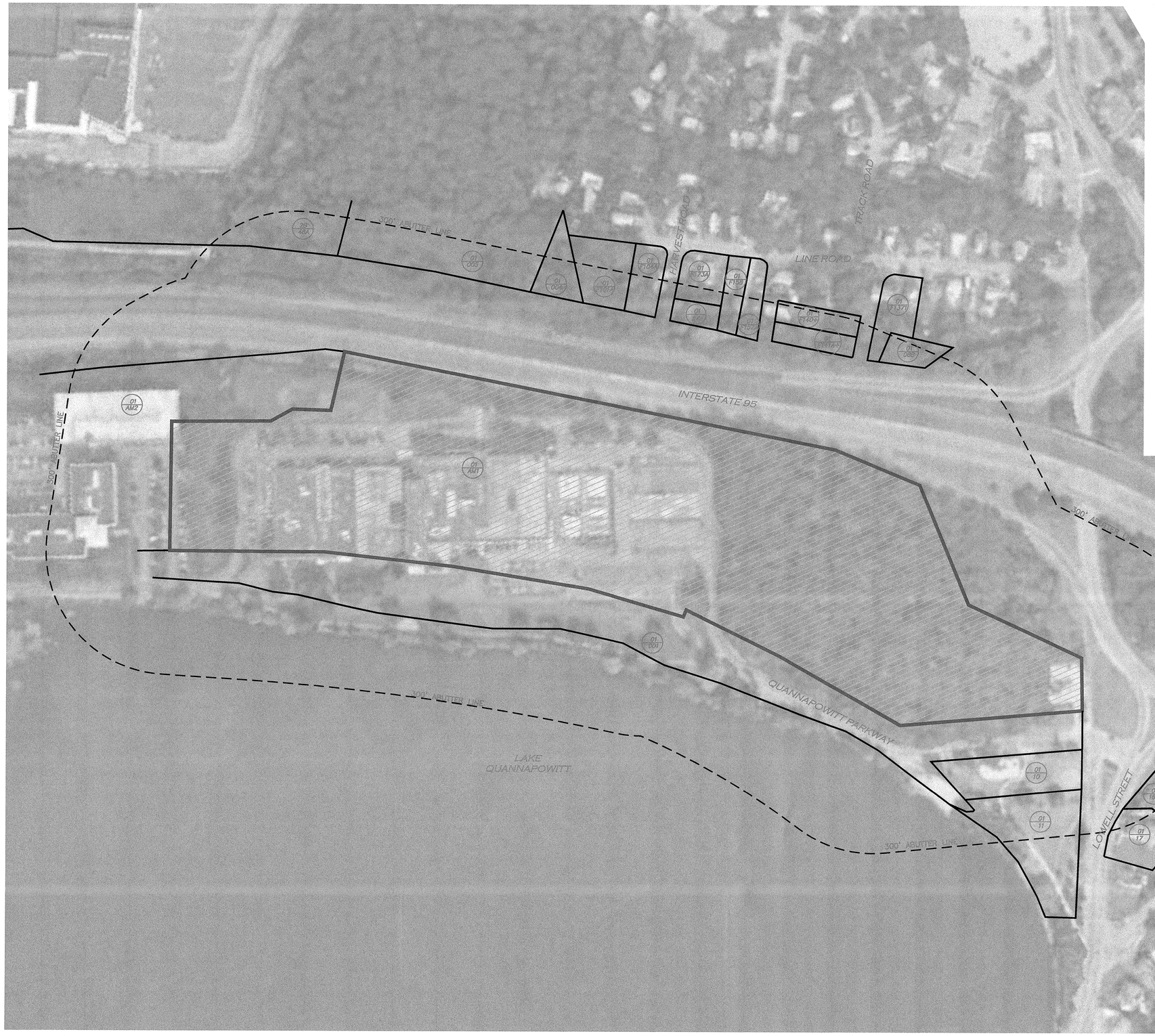
1. EROSION CONTROL SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS TO SILT CONTROLS SHOWN ON THE APPROVED PLANS AS A RESULT OF ACTUAL FIELD CONDITIONS OR CONSTRUCTION PRACTICES SHALL BE INSTALLED IN ACCORDANCE WITH B.M.P. (BEST MANAGEMENT PRACTICES) PER THE E.P.A. 2008 "CONSTRUCTION GENERAL PERMIT" MANUAL AND MASSACHUSETTS 2003 EROSION & SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, . ANY SUCH MODIFICATIONS FROM THE ABOVE MANUALS SHALL BE INSTALLED AS APPROVED BY THE ENGINEER.
2. AREAS OF EXPOSED SOIL UNDERGOING CONSTRUCTION THAT WILL NOT BE COVERED AND OR FINISHED GRADED SHALL BE STABILIZED AS SOON AS PRACTICABLE BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY (UNLESS TOWN HAS STRICTER REQUIREMENTS WHICH SHALL BE FOLLOWED) IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE EROSION CONTROL MESH, NETTING OR MULCH AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND SHOWN ON THE DESIGN PLANS. IF MULCH IS USED, STRAW MULCH SHALL BE APPLIED AT THE RATE OF 4 BALES PER 1,000 SQUARE FEET. APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE. MULCH SHALL BE KEPT MOIST TO AVOID LOSS DUE TO WIND. MULCH AND NETTING SHALL BE APPLIED IN THE BASE OF ALL GRASSED WATERWAYS AND IN VEGETATIVE SLOPES WHICH EXCEED 15% AND DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS.
3. IF DISTURBED AREAS DO NOT RECEIVE FINAL SEEDING BY OCTOBER 1ST OF THE CONSTRUCTION YEAR, THEN ALL DISTURBED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP AT THE RATE OF 3 LBS PER 1,000 SQUARE FEET. WINTER SEEDING SHALL BE COVERED WITH EROSION CONTROL MESH (MULCH AND NETTING). HEAVY GRADE MATS SHALL BE USED IN THE BASE OF ALL GRASSED WATERWAYS ON VEGETATED SLOPES IN EXCESS OF 15% AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS. MULCH AND NETTING SHALL ALSO BE PROVIDED FOR ADDITIONAL WINTER PROTECTION.
4. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3LBS PER 1,000 SQUARE FOOT AND MULCHED, AND REUSED AS REQUIRED. SILTATION FENCING SHALL BE PLACED DOWN GRADIENT FROM STOCKPILED LOAM. LOAM SHALL BE STOCKPILED AT LOCATIONS DESIGNATED BY THE OWNER AND ENGINEER.
5. ALL FILTER BARRIERS, SILT SACKS, AND EROSION CONTROL BERMS SHALL BE INSTALLED ACCORDING TO THE EROSION CONTROL PLAN. THESE SHALL BE MAINTAINED DURING DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER. ALL THE FILTER BARRIERS AND EROSION CONTROL BERMS SHALL BE INSPECTED AFTER ANY RAINFALL OR RUNOFF EVENT, MAINTAINED AND CLEANED UNTIL ALL AREAS HAVE AT LEAST 85–90% VIGOROUS PERENNIAL COVER OF GRASSES.
6. ADJACENT ROADS SHALL BE PERIODICALLY SWEPT OR WASHED TO AVOID TRACKING MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. A WATERING TRUCK WILL BE USED TO PERIODICALLY SPRINKLE CONSTRUCTION AREAS IN ORDER TO KEEP THE LEVEL OF DUST TO A MINIMUM DURING THE DRY MONTHS.
7. THE CONTRACTOR SHALL USE EXTREME CAUTION TO AVOID ALLOWING SEDIMENTS TO ENTER THE STORM DRAIN SYSTEM DURING CONSTRUCTION. CATCH BASIN INLETS SHALL BE PROTECTED DURING CONSTRUCTION BY THE USE OF STRAW BALE BARRIERS AROUND EACH INLET. SILT SACKS SHALL BE INSTALLED IN ALL EXISTING BASINS. INLET PROTECTION MAY BE REMOVED ONLY AFTER FINISHED AREAS ARE PAVED AND THE VEGETATED SLOPES ARE ESTABLISHED WITH AT LEAST 85–90% OF VIGOROUS PERENNIAL GROWTH.
8. AS APPLICABLE, EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISHED SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.
9. AT A MINIMUM, ALL STRAW BALE AND FILTER FABRIC SHALL REMAIN IN PLACE UNTIL SEEDINGS HAVE BECOME 85–90% ESTABLISHED. THE TOWN OF WAKEFIELD CONSERVATION COMMISSION MUST APPROVE THE REMOVAL OR RELOCATION OF ANY OF THE STRAW BALES AND FILTER FABRIC.
10. AT THE OWNER'S DISCRETION ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED TO MAINTAIN STABILITY OF EARTHWORKS AND FINISHED GRADED AREAS. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ADDITIONAL MEASURES AS SPECIFIED BY THE OWNER. THIS INCLUDES BUT IS NOT LIMITED TO REQUESTS BY MA DEP. THE ENGINEER AND THE MUNICIPALITY, AS AUTHORIZED BY THE OWNER. FAILURE TO COMPLY WITH THE OWNER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.
11. INSPECTIONS AND MONITORING MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE BY CONTRACTOR. WEEKLY INSPECTIONS SHALL BE HELD THROUGH THE DURATION OF CONSTRUCTION ACTIVITY. WEEKLY INSPECTION REPORTS SHALL BE MAINTAINED BY THE CONTRACTOR AND LOCATED IN THE CONTRACTORS FIELD OFFICE ONSITE. IN ADDITION TO THE NORMAL WEEKLY INSPECTIONS, THE CONTRACTOR SHALL PERFORM AN INSPECTION OF ALL EROSION CONTROL MEASURES AFTER EACH RAINFALL OR RUNOFF EVENT, KEEP APPROPRIATE REQUIRED RECORDS AND INSPECTION REPORTS, AND PERFORM THE NECESSARY REPAIRS. THE INSPECTIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE SITE'S DOWN STREAM DISCHARGE POINTS.
12. IF ANY EVIDENCE OF SEDIMENTATION IS OBSERVED AT THE STORMWATER MANAGEMENT AREA INLETS, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE A PLAN TO THE ENGINEER TO REMOVE ANY ACCUMULATED SEDIMENT IN THESE AREAS. THE CONTRACTOR SHALL ALSO IMMEDIATELY PROVIDE ADDITIONAL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES TO PREVENT FURTHER DEGRADATION OF THE AREA.
13. FOLLOWING THE TEMPORARY OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMI–MONTHLY TO ENSURE THE AREAS HAVE A MINIMUM OF 85–90% VEGETATED VIGOROUS GROWTH. RE–SEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.
14. CONTRACTOR & ALL SITE SUBCONTRACTORS SHALL BE FAMILIAR WITH & FOLLOW ALL APPROVED PERMITS AND CONDITIONS. CONTRACTOR SHALL MAINTAIN A COPY OF ALL APPROVED PERMITS ONSITE, INCLUDING THE ORDER OF CONDITIONS FROM THE WAKEFIELD CONSERVATION COMMISSION. ALL CONDITIONS & RECOMMENDATIONS WITHIN THE APPROVED PERMITS SHALL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
15. ALL EROSION MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE ADEQUATE TO MAINTAIN SEDIMENT ON SITE. ANY MODIFICATIONS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE TOWN OF WAKEFIELD.
16. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
17. TOP OF STOCKPILES SHALL BE COVERED IN SUCH MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.
18. ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER. NO AREA, SUBJECT TO EROSION SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR PERIODS LONGER THAN IS ABSOLUTELY NECESSARY TO CARRY OUT THAT PORTION OF THE CONSTRUCTION WORK OR SIX MONTHS AFTER SOIL HAS BEEN DISTURBED WHICHEVER IS LESS.
19. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED, CLEANED AND REPAIRED OR REPLACED AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION. IN ADDITION, INSPECTION SHALL TAKE PLACE WEEKLY AND BEFORE AND AFTER EACH RAINFALL EVENT.
20. ALL PROPOSED SLOPES EQUAL TO OR STEEPER THAN 3:1 SHALL BE STABILIZED WITH JUTE MESH AND PROTECTED FROM EROSION UNTIL WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
21. THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES ADDITIONAL HAYBALES AND EXTRA SILTATION FENCING FOR INSTALLATION AT THE DIRECTION OF THE ENGINEER OR THE TOWN ENGINEER TO MITIGATE ANY EMERGENCY CONDITION.

GRADING & DRAINAGE NOTES:

1. EXISTING PAVEMENT SHALL BE SAW–CUT AND PAVEMENT JOINT SHALL BE INSTALLED WHERE NECESSARY TO ENSURE A SMOOTH CONTINUOUS GRADE.
2. THE ARCHITECTURAL PLANS SHALL BE REFERRED TO IN ORDER TO DETERMINE THE EXACT LOCATIONS OF VESTIBULE, SLOPED PAVING, EXIT PORCHES, HANDICAPPED RAMPS, TRUCK DOCKS, DUMPSTER PADS, ROOF DRAIN LATERALS AND PRECISE BUILDING DIMENSIONS.
3. ALL GRADING OPERATIONS SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES.
4. IN LANDSCAPED AREAS THE TOP ELEVATION OF MANHOLES SHALL BE FLUSH WITH FINISH GRADE OF THE LOAM. IN PAVED AREAS THE TOP ELEVATIONS OF MANHOLES SHALL MATCH FINISH GRADE.
5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED AS SOON AS POSSIBLE UPON COMPLETION OF CONSTRUCTION WORK IN THE AREA. REFER TO EROSION CONTROL PLAN.
6. TEMPORARY STRAW BALE PROTECTION AND/OR SILT SACK SHALL BE INSTALLED AND MAINTAINED AT EXISTING DRAINAGE STRUCTURES DURING CONSTRUCTION, TO PRECLUDE SEDIMENT LADEN RUNOFF FROM ENTERING THE DRAINAGE SYSTEM.
7. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE.
8. ALL CATCH BASINS, MANHOLES, INFILTRATION SYSTEM, AND WATER QUALITY STRUCTURES TO BE CLEANED OUT PRIOR TO FINAL APPROVAL TO REMOVE ALL CONSTRUCTION SILT AND DEBRIS.
9. IF ANY EXISTING UTILITY STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER AT NO ADDITIONAL COST.
10. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
11. ALL STORM DRAIN MANHOLES SHALL HAVE TRAFFIC BEARING RING & COVERS & SHALL BE LABELED "DRAIN".
12. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
13. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
14. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE SIX INCHES (6") OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES EQUAL TO OR STEEPER THAN 3H:1V. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH LANDSCAPE & CIVIL SPECIFICATIONS & DRAWINGS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
15. ALL DRAINAGE SHALL CONFORM TO LOCAL REQUIREMENTS.

ABBREVIATIONS:

ABAN	ABANDON	L	LENGTH
ADJ	ADJUST	LB	LEACHING BASIN
		LP	LIGHT POLE
B	BORING		
BC	BOTTOM OF CURB	MAT	MATERIAL
BIT	BITUMINOUS	MAX	MAXIMUM
BCB	BITUMINOUS CONCRETE BERM	MH	MANHOLE
BLDG	BUILDING	MIN	MINIMUM
BM	BENCH MARK	MISC	MISCELLANEOUS
BOS	BOTTOM OF SLOPE	MTD	MOUNTED
BOW	BOTTOM OF WALL	MW	MONITORING WELL
BRK	BRICK		
BV&B	BUTTERFLY VALVE & BOX	N	NORTH
BVW	BORDERING VEGETATED WETLAND	NIC	NOT IN CONTRACT
		NO	NUMBER
CATV	CABLE TELEVISION	NTS	NOT TO SCALE
CB	CATCH BASIN		
CF	CUBIC FEET	OC	ON CENTER
CFS	CUBIC FEET PER SECOND	OD	OUTSIDE DIAMETER
CI	CAST IRON (PIPE)	OHW	OVERHEAD WIRE
CL	CENTERLINE	OVHD	OVERHEAD
CLDI	CEMENT LINED DUCTILE IRON (PIPE)	OW	OBSERVATION WELL
CM	CONSTRUCTION MANAGER		
CMP	CORRUGATED METAL PIPE	PC	POINT OF CURVATURE
CO	CLEAN OUT	PCC	POINT OF COMPOUND CURVATURE
CONC	CONCRETE	PI	POINT OF INTERSECTION
CONST	CONSTRUCTION	PKG	PARKING
CONT	CONTRACTOR	PL	PROPERTY LINE
CRD	COORDINATE	PLMB	PLUMBING
CPP	CORRUGATED POLYETHYLENE PIPE	POC	POINT ON CURVATURE
CUL	CULVERT	POT	POINT ON TANGENT
CY	CUBIC YARD	PRC	POINT OF REVERSE CURVATURE
		PROP, P	PROPOSED
DB	DISTRIBUTION BOX	PT	POINT (OR POINT OF TANGENT)
DBL	DOUBLE	PVC	POLYVINYL CHLORIDE (PIPE)
DEM	DEMOLISH	R&R	REMOVE & RESET/REPLACE
DET	DETENTION	R&S	REMOVE & STACK
DI	DUCTILE IRON (PIPE)	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	RD	ROAD (OR ROOF DRAIN)
DIM	DIMENSION	RED	REDUCER
DMH	DRAIN MANHOLE	RELOC	RELOCATE
DW	DOMESTIC WATER (OR DRY WELL)	REM	REMOVE
DWG	DRAWING	RET	RETAIN, RETAINING OR RETENTION
DYCL	DOUBLE YELLOW CENTERLINE	ROW	RIGHT OF WAY
		RR	RAILROAD
EHH	ELECTRIC HANDHOLE	RWL	RAIN WATER LEADER
EL	ELEVATION	RWY	ROADWAY
ELEC	ELECTRIC		
EMH	ELECTRIC MANHOLE	SD	SUBDRAIN
EOP	EDGE OF PAVEMENT	SF	SQUARE FEET
EOR	EDGE OF ROAD	SGC	SLOPED GRANITE CURB
EOW	EDGE OF WETLANDS	SMH	SEWER MANHOLE
ETC	ELECTRIC, TELEPHONE, CABLE	SP	STANDPIPE
EXIST	EXISTING	SPEC	SPECIFICATION
EXT	EXTERIOR	STA	STATION
		STC	STORMCEPTOR
FA	FIRE ALARM	STD	STANDARD
FCC	FLUSH CONCRETE CURB	STRTL	STRUCTURAL
FES	FL



LEGEND:

MAP/PARCEL — 12 / 243B4

84 TRACK ROAD AREA = 5,516± SF MAP 01, LOT 94	94	146 LOWELL STREET AREA = 19,128± SF MAP 01, LOT 17	17
38 LINE ROAD AREA = 14,869± SF MAP 01, LOT F173A	F173A	147 LOWELL STREET AREA = 40,899± SF MAP 01, LOT 11	11
36 LINE ROAD AREA = 10,666± SF MAP 01, LOT F158	F158	LOWELL STREET AREA = 36,739± SF MAP 01, LOT 10	10
2 HARVEST ROAD AREA = 10,774± SF MAP 01, LOT F157A	F157A	LINE ROAD AREA = 17,160± SF MAP 01, LOT F104A	F104A
1 HARVEST ROAD AREA = 11,188± SF MAP 01, LOT F140+	F140+	46 LINE ROAD AREA = ± SF MAP 01, LOT F101A	F101A
LINE ROAD AREA = 12,624± SF MAP 01, LOT F141A+	F141A+	LINE ROAD AREA = 13,700± SF MAP 01, LOT 004	004
18 LINE ROAD AREA = ± SF MAP 01, LOT F137J	F137J	LINE ROAD AREA = 87,120± SF MAP 01, LOT 005	005
LINE ROAD REAR AREA = 5,194± SF MAP 01, LOT 08B	08B	619 NORTH AVE AREA = 238,273± SF MAP 28, LOT 48A	48A
13 MAIN STREET AREA = 22,198± SF MAP 01, LOT 15C	15C	100 QUANNAPOWITT PKWY AREA = 370,391± SF MAP 01, LOT AM2	AM2
17 MAIN STREET AREA = 6,300± SF MAP 01, LOT 16	16	200–400 QUANNAPOWITT PKWY AREA = 1,044,394± SF MAP 01, LOT AM1	AM1
19 MAIN STREET AREA = 10520± SF MAP 01, LOT 16A	16A	QUANNAPOWITT PKWY AREA = 378,100± SF MAP 01, LOT 001	001

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

9/3/21

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=100'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
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DRAWING TITLE: CONTEXT PLAN

SHEET No. C-101B

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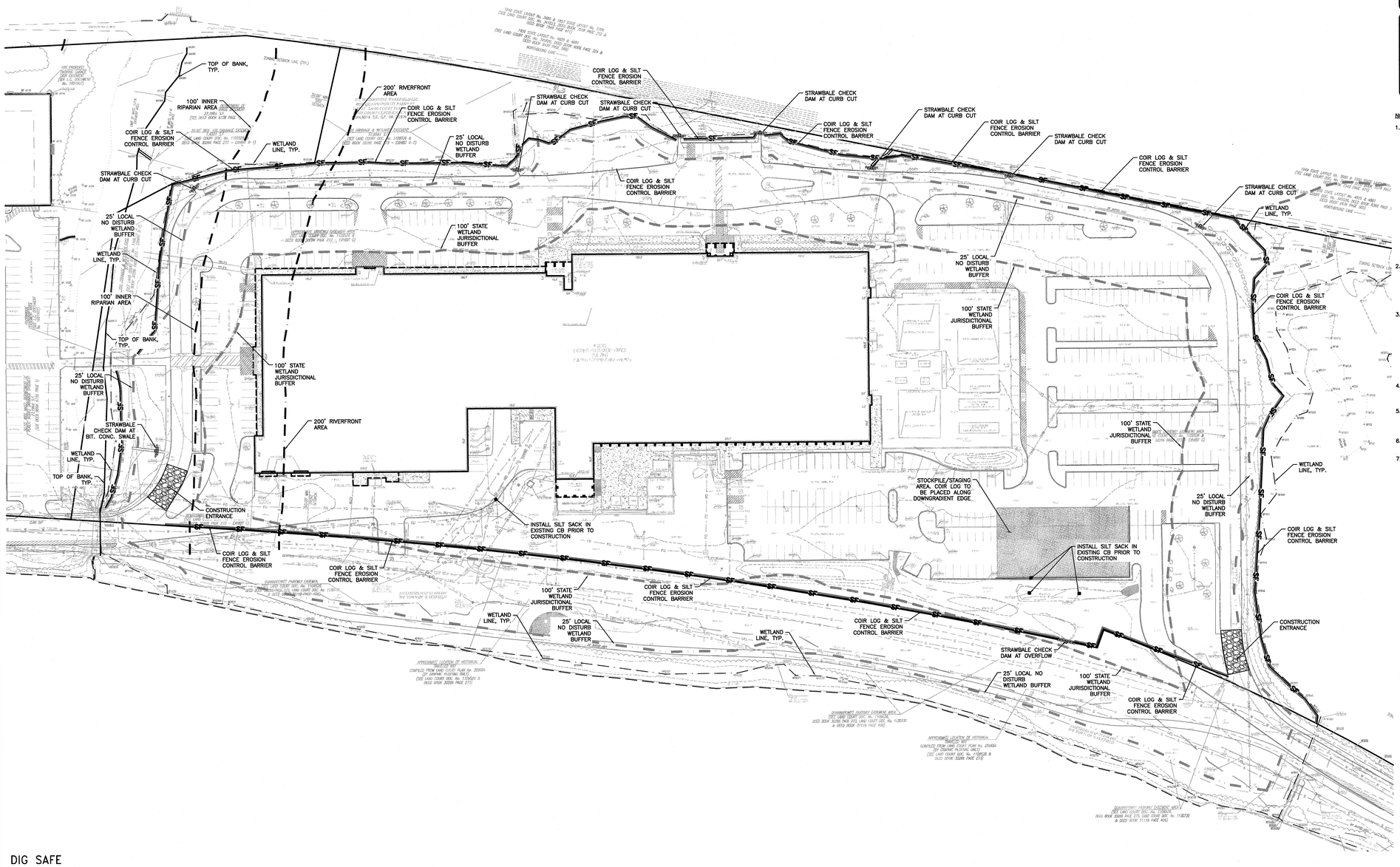

LEGEND:

- PROPERTY LINE
- SILT FENCE — SF
- 18" MULCH COIR LOG
- SILT SACK
- CONSTRUCTION ENTRANCE
- STOCKPILE/CONSTRUCTION STAGING AREA

NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
3. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED, THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
4. ALL EXISTING CURBING WITHIN PROPERTY SHALL BE REMOVED & REPLACED WITH 6" REVEAL. SEE LAYOUT & MATERIALS PLAN FOR MATERIAL.
5. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES. DIGSAFE: 1-888-344-7233.
6. SEE THE ABBREVIATIONS AND NOTES PLAN FOR GENERAL NOTES AND EROSION CONTROL NOTES.
7. IF DEWATERING IS NECESSARY IT SHALL ONLY BE COMPLETED AS FOLLOWS: THE DISCHARGE SHALL BE STOPPED IMMEDIATELY IF THE RECEIVING AREA SHOWS ANY SIGN OF INSTABILITY OR EROSION. ALL CHANNELS, SWALES, AND DITCHES DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE PRIOR TO DIRECTING DISCHARGE TO THEM. IF A CONSTRUCTION EQUIPMENT BUCKET IS USED, IT SHALL EMPTY THE MATERIAL TO A STABLE AREA. NO DEWATERING SHALL OCCUR DURING PERIODS OF INTENSE, HEAVY RAIN. FLOW TO THE SEDIMENT REMOVAL STRUCTURE SHALL NOT EXCEED THE STRUCTURE'S CAPACITY TO SETTLE AND FILTER FLOW OR ITS VOLUME CAPACITY. WHENEVER POSSIBLE, THE DISCHARGE FROM THE SEDIMENT REMOVAL STRUCTURE SHALL DRAIN TO A WELL-VEGETATED BUFFER BY SHEET FLOW WHILE MAXIMIZING THE DISTANCE TO THE NEAREST WATER RESOURCE AND MINIMIZING THE SLOPE OF THE BUFFER AREA. THERE SHALL BE NO DIRECT DISCHARGE TO EXISTING WETLANDS OR STREAMS. ALL DISCHARGE SHALL BE IN COMPLIANCE WITH STATE, LOCAL, AND FEDERAL REQUIREMENTS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - EROSION CONTROL PLAN.DWG

9/3/21

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=50'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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DRAWING TITLE:
EROSION CONTROL PLAN

SHEET No.
C-102

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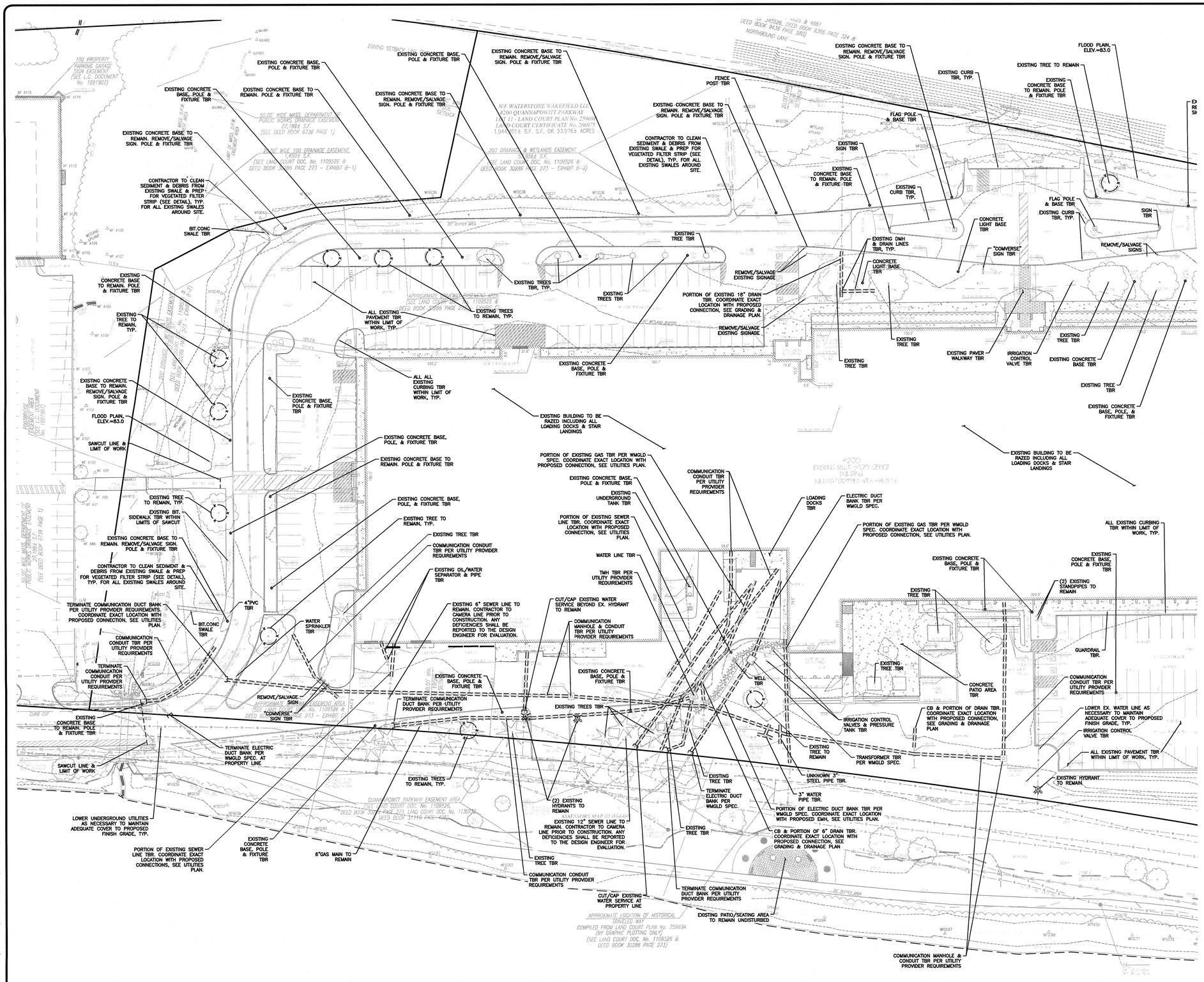
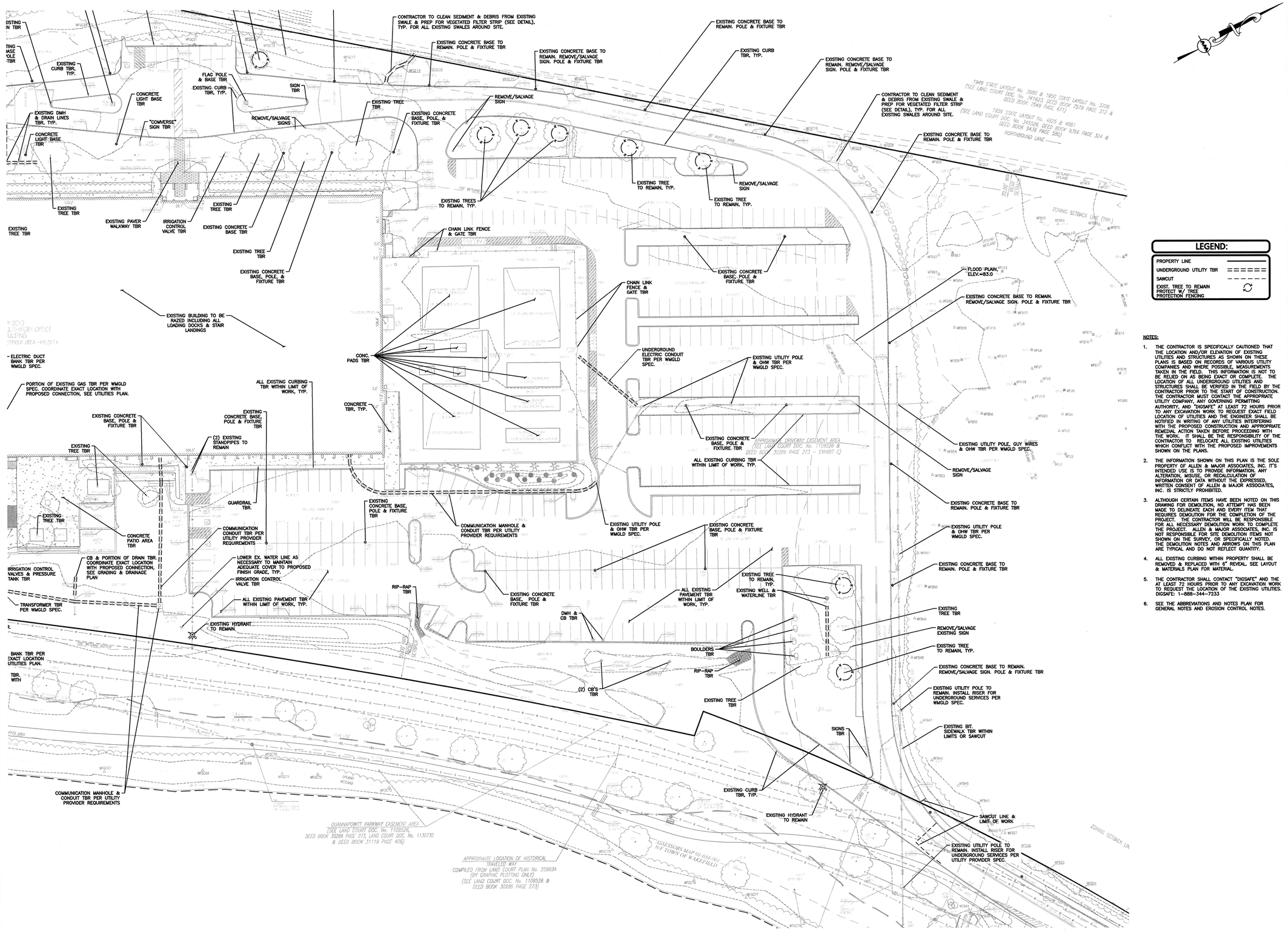
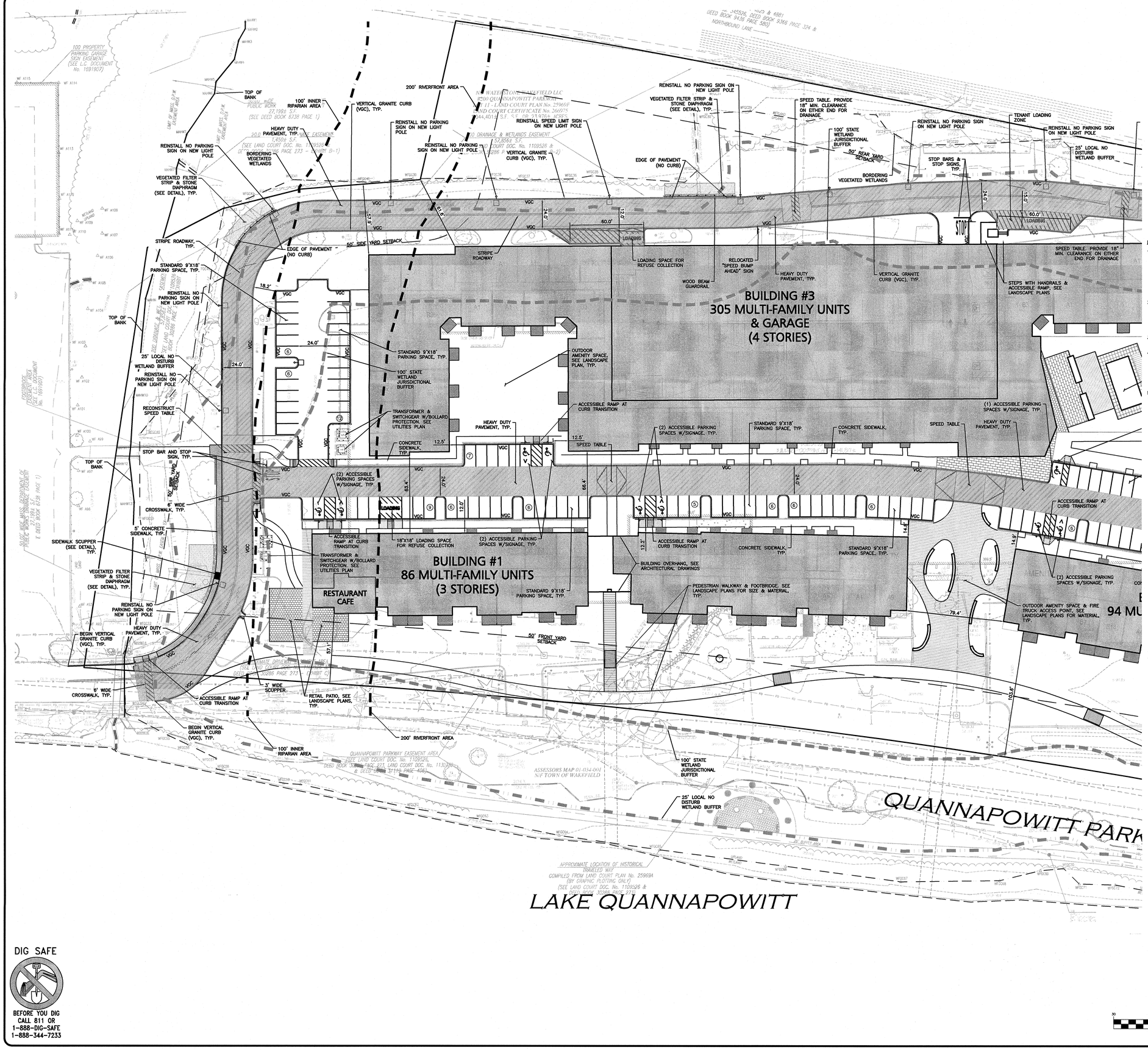

EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
CONTRACTOR TO CLEAN SEDIMENT & DEBRIS FROM EXISTING SWALE & PREP FOR VEGETATED FILTER STRIP (SEE DETAIL), TYP. FOR ALL EXISTING SWALES AROUND SITE.
BIT.CONC SWALE TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING TREE TO REMAIN, TYP.
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
FLOOD PLAIN, ELEV.=83.0
SAWCUT LINE & LIMIT OF WORK
EXISTING TREE TO REMAIN, TYP.
EXISTING BIT. SIDEWALK TBR WITHIN LIMITS OF SAWCUT
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
CONTRACTOR TO CLEAN SEDIMENT & DEBRIS FROM EXISTING SWALE & PREP FOR VEGETATED FILTER STRIP (SEE DETAIL), TYP. FOR ALL EXISTING SWALES AROUND SITE.
TERMINATE COMMUNICATION DUCT BANK PER UTILITY PROVIDER REQUIREMENTS. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE UTILITIES PLAN.
4"PVC TBR
BIT.CONC SWALE TBR
WATER SPRINKLER TBR
COMMUNICATION CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
TERMINATE COMMUNICATION CONDUIT PER UTILITY PROVIDER REQUIREMENTS
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
SAWCUT LINE & LIMIT OF WORK
LOWER UNDERGROUND UTILITIES AS NECESSARY TO MAINTAIN ADEQUATE COVER TO PROPOSED FINISH GRADE, TYP.
PORTION OF EXISTING SEWER LINE TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTIONS, SEE UTILITIES PLAN.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE, POLE, & FIXTURE TBR
EXISTING TREE TO REMAIN, TYP.
EXISTING TREE TBR
COMMUNICATION CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
EXISTING OIL/WATER SEPARATOR & PIPE TBR
EXISTING 6" SEWER LINE TO REMAIN. CONTRACTOR TO CAMERA LINE PRIOR TO CONSTRUCTION. ANY DEFICIENCIES SHALL BE REPORTED TO THE DESIGN ENGINEER FOR EVALUATION.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
REMOVE/SALVAGE SIGN
"CONVERSE" SIGN TBR
TERMINATE COMMUNICATION DUCT BANK PER UTILITY PROVIDER REQUIREMENTS
TERMINATE ELECTRIC DUCT BANK PER WMGLD SPEC. AT PROPERTY LINE
EXISTING TREES TO REMAIN, TYP.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
6"GAS MAIN TO REMAIN
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
ALL ALL EXISTING CURBING TBR WITHIN LIMIT OF WORK, TYP.
EXISTING BUILDING TO BE RAZED INCLUDING ALL LOADING DOCKS & STAIR LANDINGS
PORTION OF EXISTING GAS TBR PER WMGLD SPEC. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE UTILITIES PLAN.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING UNDERGROUND TANK TBR
PORTION OF EXISTING SEWER LINE TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE UTILITIES PLAN.
WATER LINE TBR
TMH TBR PER UTILITY PROVIDER REQUIREMENTS
CUT/CAP EXISTING WATER SERVICE BEYOND EX. HYDRANT TO REMAIN
COMMUNICATION MANHOLE & CONDUIT TBR PCR UTILITY PROVIDER REQUIREMENTS
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING TREES TBR
(2) EXISTING HYDRANTS TO REMAIN
EXISTING 12" SEWER LINE TO REMAIN. CONTRACTOR TO CAMERA LINE PRIOR TO CONSTRUCTION. ANY DEFICIENCIES SHALL BE REPORTED TO THE DESIGN ENGINEER FOR EVALUATION.
EXISTING TREE TBR
COMMUNICATION CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
CUT/CAP EXISTING WATER SERVICE AT PROPERTY LINE
TERMINATE COMMUNICATION DUCT BANK PER UTILITY PROVIDER REQUIREMENTS
EXISTING PATIO/SEATING AREA TO REMAIN UNDISTURBED
COMMUNICATION CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
LOADING DOCKS TBR
ELECTRIC DUCT BANK TBR PER WMGLD SPEC.
PORTION OF EXISTING GAS TBR PER WMGLD SPEC. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE UTILITIES PLAN.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING TREE TBR
WELL TBR
CONCRETE PATIO AREA TBR
IRRIGATION CONTROL VALVES & PRESSURE TANK TBR
CB & PORTION OF DRAIN TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE GRADING & DRAINAGE PLAN
EXISTING TREE TO REMAIN
TRANSFORMER TBR PER WMGLD SPEC.
UNKNOWN 3" STEEL PIPE TBR.
3" WATER PIPE TBR.
PORTION OF ELECTRIC DUCT BANK TBR PER WMGLD SPEC. COORDINATE EXACT LOCATION WITH PROPOSED EMH, SEE UTILITIES PLAN.
CB & PORTION OF 6" DRAIN TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE GRADING & DRAINAGE PLAN
COMMUNICATION MANHOLE & CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
ALL EXISTING CURBING TBR WITHIN LIMIT OF WORK, TYP.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
(2) EXISTING STANDPIPES TO REMAIN
GUARDRAIL TBR.
EXISTING TREE TBR
COMMUNICATION CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
LOWER EX. WATER LINE AS NECESSARY TO MAINTAIN ADEQUATE COVER TO PROPOSED FINISH GRADE, TYP.
IRRIGATION CONTROL VALVE TBR
ALL EXISTING PAVEMENT TBR WITHIN LIMIT OF WORK, TYP.
EXISTING HYDRANT TO REMAIN
EXISTING CONCRETE BASE TBR
EXISTING TREE TBR
EXISTING CONCRETE BASE, POLE, & FIXTURE TBR
EXISTING BUILDING TO BE RAZED INCLUDING ALL LOADING DOCKS & STAIR LANDINGS
EXISTING PAVER WALKWAY TBR
IRRIGATION CONTROL VALVE TBR
EXISTING TREE TBR
EXISTING TREE TBR
EXISTING CURB TBR, TYP.
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
FLOOD PLAIN, ELEV.=83.0
EXISTING TREE TO REMAIN
FLAG POLE & BASE TBR
EXISTING CURB TBR, TYP.
SIGN TBR
REMOVE/SALVAGE SIGNS
CONCRETE LIGHT BASE TBR
"CONVERSE" SIGN TBR
EXISTING DMH & DRAIN LINES TBR, TYP.
CONCRETE LIGHT BASE TBR
REMOVE/SALVAGE EXISTING SIGNAGE
REMOVE/SALVAGE EXISTING SIGNAGE
PORTION OF EXISTING 18" DRAIN TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE GRADING & DRAINAGE PLAN
EXISTING TREE TBR
EXISTING TREES TBR
EXISTING TREES TBR, TYP.
EXISTING TREES TO REMAIN, TYP.
ALL EXISTING PAVEMENT TBR WITHIN LIMIT OF WORK, TYP.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING TREE TBR
FENCE POST TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
CONTRACTOR TO CLEAN SEDIMENT & DEBRIS FROM EXISTING SWALE & PREP FOR VEGETATED FILTER STRIP (SEE DETAIL), TYP. FOR ALL EXISTING SWALES AROUND SITE.
EXISTING SIGN TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CURB TBR, TYP.
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
FLAG POLE & BASE TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING TREE TO REMAIN
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR


CONTRACTOR TO CLEAN SEDIMENT & DEBRIS FROM EXISTING SWALE & PREP FOR VEGETATED FILTER STRIP (SEE DETAIL), TYP. FOR ALL EXISTING SWALES AROUND SITE.
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
EXISTING CURB TBR, TYP.
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
CONTRACTOR TO CLEAN SEDIMENT & DEBRIS FROM EXISTING SWALE & PREP FOR VEGETATED FILTER STRIP (SEE DETAIL), TYP. FOR ALL EXISTING SWALES AROUND SITE.
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
1949 STATE LAYOUT No. 3980 & 1950 STATE LAYOUT No. 3706 (SEE LAND COURT DOC. No. 341624, DEED BOOK 7519 PAGE 312 & DEED BOOK 7949 PAGE 471)
1959 STATE LAYOUT No. 4825 & 4981 (SEE LAND COURT DOC. No. 345526, DEED BOOK 9366 PAGE 324 & DEED BOOK 9436 PAGE 580)
NORTHBOUND LANE
EXISTING CURB TBR, TYP.
FLAG POLE & BASE TBR
SIGN TBR
EXISTING TREE TBR
EXISTING CONCRETE BASE, POLE, & FIXTURE TBR
REMOVE/SALVAGE SIGN
REMOVE/SALVAGE SIGNS
CONCRETE LIGHT BASE TBR
"CONVERSE" SIGN TBR
EXISTING DMH & DRAIN LINES TBR, TYP.
CONCRETE LIGHT BASE TBR
EXISTING TREE TBR
EXISTING TREES TO REMAIN, TYP.
EXISTING TREE TO REMAIN, TYP.
REMOVE/SALVAGE SIGN
EXISTING TREE TO REMAIN, TYP.
EXISTING TREE TBR
EXISTING PAVER WALKWAY TBR
IRRIGATION CONTROL VALVE TBR
EXISTING CONCRETE BASE TBR
EXISTING TREE TBR
EXISTING CONCRETE BASE, POLE, & FIXTURE TBR
CHAIN LINK FENCE & GATE TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
ZONING SETBACK LINE (TYP.)
FLOOD PLAIN, ELEV.=83.0
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
EXISTING BUILDING TO BE RAZED INCLUDING ALL LOADING DOCKS & STAIR LANDINGS
#200 2-STORY OFFICE BUILDING GROSS FLOOR AREA = 141,917 ±
CHAIN LINK FENCE & GATE TBR
ELECTRIC DUCT BANK TBR PER WMGLD SPEC.
CONC. PADS TBR
UNDERGROUND ELECTRIC CONDUIT TBR PER WMGLD SPEC.
EXISTING UTILITY POLE & OHW TBR PER WMGLD SPEC.
PORTION OF EXISTING GAS TBR PER WMGLD SPEC. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE UTILITIES PLAN.
ALL EXISTING CURBING TBR WITHIN LIMIT OF WORK, TYP.
CONCRETE TBR, TYP.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
(2) EXISTING STANDPIPES TO REMAIN
EXISTING TREE TBR
APPROXIMATE DRIVEWAY EASEMENT AREA (SEE LAND COURT DOC. No. 1109536 & DEED BOOK 30286 PAGE 273 – EXHIBIT C)
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
ALL EXISTING CURBING TBR WITHIN LIMIT OF WORK, TYP.
EXISTING UTILITY POLE, GUY WIRES & OHW TBR PER WMGLD SPEC.
REMOVE/SALVAGE SIGN
GUARDRAIL TBR.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
COMMUNICATION MANHOLE & CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
EXISTING UTILITY POLE & OHW TBR PER WMGLD SPEC.
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING UTILITY POLE & OHW TBR PER WMGLD SPEC.
EXISTING CONCRETE BASE TO REMAIN. POLE & FIXTURE TBR
EXISTING TREE TBR
CONCRETE PATIO AREA TBR
CB & PORTION OF DRAIN TBR. COORDINATE EXACT LOCATION WITH PROPOSED CONNECTION, SEE GRADING & DRAINAGE PLAN
LOWER EX. WATER LINE AS NECESSARY TO MAINTAIN ADEQUATE COVER TO PROPOSED FINISH GRADE, TYP.
IRRIGATION CONTROL VALVES & PRESSURE TANK TBR
IRRIGATION CONTROL VALVE TBR
RIP-RAP TBR
EXISTING CONCRETE BASE, POLE & FIXTURE TBR
ALL EXISTING PAVEMENT TBR WITHIN LIMIT OF WORK, TYP.
ALL EXISTING PAVEMENT TBR WITHIN LIMIT OF WORK, TYP.
EXISTING TREE TO REMAIN, TYP.
EXISTING WELL & WATERLINE TBR
DMH & CB TBR
TRANSFORMER TBR PER WMGLD SPEC.
EXISTING HYDRANT TO REMAIN
EXISTING TREE TBR
REMOVE/SALVAGE EXISTING SIGN
EXISTING TREE TO REMAIN, TYP.
BOULDERS TBR
EXISTING CONCRETE BASE TO REMAIN. REMOVE/SALVAGE SIGN. POLE & FIXTURE TBR
RIP-RAP TBR
EXISTING UTILITY POLE TO REMAIN. INSTALL RISER FOR UNDERGROUND SERVICES PER WMGLD SPEC.
(2) CB'S TBR
EXISTING TREE TBR
EXISTING BIT. SIDEWALK TBR WITHIN LIMITS OF SAWCUT
SIGNS TBR
BANK TBR PER EXACT LOCATION UTILITIES PLAN.
TBR. WITH
EXISTING CURB TBR, TYP.
EXISTING HYDRANT TO REMAIN
SAWCUT LINE & LIMIT OF WORK
EXISTING UTILITY POLE TO REMAIN. INSTALL RISER FOR UNDERGROUND SERVICES PER UTILITY PROVIDER SPEC.
COMMUNICATION MANHOLE & CONDUIT TBR PER UTILITY PROVIDER REQUIREMENTS
QUANNAPOWITT PARKWAY EASEMENT AREA (SEE LAND COURT DOC. No. 1109536, DEED BOOK 30286 PAGE 273, LAND COURT DOC. No. 1130730 & DEED BOOK 31119 PAGE 406)
APPROXIMATE LOCATION OF HISTORICAL TRAVELED WAY COMPILED FROM LAND COURT PLAN No. 25969A (BY GRAPHIC PLOTTING ONLY) (SEE LAND COURT DOC. No. 1109526 & DEED BOOK 30286 PAGE 273)
ASSESSORS MAP 01-058-001 TOWN OF WAKEFIELD
ZONING SETBACK LIN
WETLAND
WETLAND AREA
WETLAND SHORE
WETLAND BUFFER
LIMIT OF WORK
WETLAND FLAG
WETLAND FLAG
WETLAND FLAG



LEGEND:

- PROPERTY LINE
- SIGN
- BOLLARD
- BUILDING
- BUILDING ARCHITECTURE
- BUILDING INTERIOR WALLS
- HEAVY DUTY PAVEMENT
- CURB
- PARKING STRIPING
- TRAFFIC ARROWS
- SETBACK LINE
- PARKING COUNT (10)

NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
3. SEE ARCHITECTURAL (ARCH.) PLANS FOR DETAILED BUILDING INFORMATION.
4. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.

   DIGSAFE: 1-800-344-7233
   WAKEFIELD DEPT. OF PUBLIC WORKS: 1-781-246-6301
5. RESTAURANT/CAFE SHOWN SUBJECT TO SPECIAL PERMIT; ABSENT THE ISSUANCE OF SUCH SPECIAL PERMIT, AREA TO BE USED AS ANCILLARY MEETING/AMENITY SPACE FOR RESIDENTS.

DIG SAFE
BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

9/9/21
COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: LAYOUT PLAN

SHEET No. C-104A

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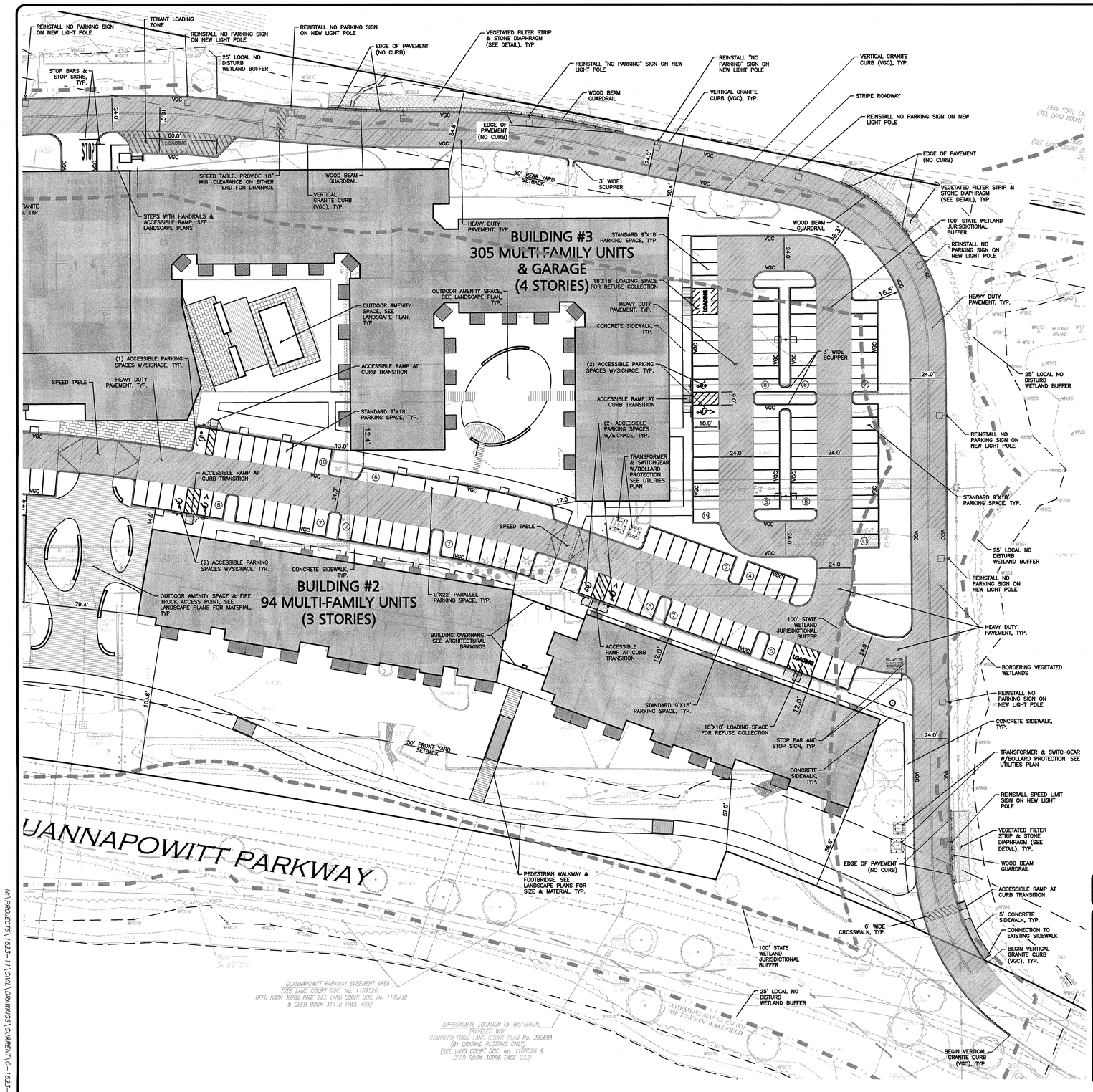

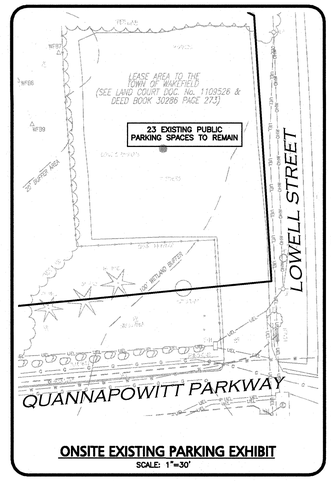

ONSITE EXISTING PARKING EXHIBIT
SCALE: 1"=30'

LEGEND:

- PROPERTY LINE
- SIGN
- BOLLARD
- BUILDING
- BUILDING ARCHITECTURE
- BUILDING INTERIOR WALLS
- HEAVY DUTY PAVEMENT
- CURB
- PARKING STRIPING
- TRAFFIC ARROWS
- SETBACK LINE
- PARKING COUNT (16)

NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
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   DIGSAFE: 1-800-344-7233
   WAKEFIELD DEPT. OF PUBLIC WORKS: 1-781-246-6301
5. RESTAURANT/CAFE SHOWN SUBJECT TO SPECIAL PERMIT; ABSENT THE ISSUANCE OF SUCH SPECIAL PERMIT, AREA TO BE USED AS ANCILLARY MEETING/AMENITY SPACE FOR RESIDENTS.

OFF-STREET PARKING SUMMARY

LAND USAGE – MULTI-FAMILY DWELLINGS OR ATTACHED DWELLINGS:
2 BEDROOMS OR FEWER – 1.5 PARKING SPACES REQUIRED PER UNIT
3 BEDROOMS OR MORE – 2.0 PARKING SPACES REQUIRED PER UNIT

LAND USAGE – EATING PLACES SERVING FOOD OR BEVERAGES:
1.0 PARKING SPACES REQUIRED PER 3 EMPLOYEES ON MAX. WORKING SHIFT, PLUS 1.0 PER 4 SEATS, PLUS 1.0 PER 100 S.F. OF FUNCTION ROOMS NOT DESIGNED FOR EATING

PROPOSED RESIDENTIAL USE:

465 PROPOSED STUDIO, 1 BEDROOM OR 2 BEDROOM UNITS

(465 UNITS)*(1.5 REQUIRED PARKING SPACES PER UNIT) = 698 SPACES

20 PROPOSED 3 BEDROOM UNITS

(20 UNITS)*(2.0 REQUIRED PARKING SPACES PER UNIT) = 40 SPACES

PROPOSED RESTAURANT USE:

(9 EMPLOYEES) / 3 PER SPACE + (24 SEATS) / 4 SEATS PER SPACE = 9 SPACES

TOTAL REQUIRED = 747 SPACES

ADA REQUIRED STANDARD HANDICAPPED & VAN ACCESSIBLE SPACES

TOTAL=(747 TOTAL STALLS PROPOSED) = 15 TOTAL SPACES

1 OUT OF EVERY 6 PROPOSED ADA ACCESSIBLE STALLS MUST BE VAN ACCESSIBLE = 3 SPACES

TOTAL PROVIDED = 24 (7 VAN)

SURFACE PARKING			STRUCTURED PARKING				
STANDARD 9'X18' SPACES	PARALLEL 9'X22' SPACES	ACCESSIBLE SPACES	STANDARD 9'X18' SPACES	ACCESSIBLE SPACES	TOTAL PROPOSED	TOTAL REQUIRED	EXISTING TO REMAIN
196	6	13 (6 VAN)	521	11 (1 VAN)	747	747	23

1. NO REQUIRED PARKING AREAS SHALL BE PLACED IN THE REQUIRED FRONT YARD AREA OF A MULIFAMILY DWELLING COMPLEX, EXCEPT SHORT-TERM OR VISITOR PARKING, WHICH SHALL NOT COVER MORE THAN 40% OF SUCH AREA.
2. THE SURFACED AREAS OF OFF-STREET PARKING AREAS SHALL BE SET BACK A MINIMUM OF 7.5' FROM ALL BUILDINGS.
3. NO OPEN PARKING OR DRIVEWAY SHALL BE CLOSER THAN 12 FEET TO A WALL CONTAINING WINDOWS TO HABITABLE ROOMS OF A DWELLING UNIT WHICH IS ON THE GROUND FLOOR OR BASEMENT FLOOR.
4. OPEN PARKING AREAS SHALL BE SEPARATED FROM THE STREET LINE BY A LANDSCAPED STRIP NOT LESS THAN 15' IN WIDTH, EXCEPT AT ENTRANCES AND EXITS.
5. AT LEAST 5% OF THE INTERIOR OF ANY PARKING LOT WITH 40 OR MORE PARKING SPACES SHALL BE LANDSCAPED, BUT PLANTING OR SCREENING ALONG THE PERIMETER SHALL NOT BE COUNTED AS PART OF THIS 5%. THERE SHALL BE A MINIMUM OF ONE SHADE TREE FOR EACH 2,000 S.F. OF PARKING AREA. SHADE TREE SIZE, SPECIES, AND LOCATION SHALL BE APPROVED BY THE TOWN ARBORIST.

DIMENSIONAL REGULATIONS: MULTIFAMILY DWELLINGS, MIXED USE DEVELOPMENT

UNDERLYING ZONING DISTRICT- LIMITED BUSINESS (LB)

USE: MID-RISE & GARDEN APARTMENT W/ RESTAURANT USE

ITEM	EXISTING	PROPOSED	REQUIRED/ALLOWED (SEC.190-32) MID-RISE APARTMENT	REQUIRED/ALLOWED (SEC.190-32) GARDEN APARTMENT	REQUIRED/ALLOWED (TABLE 2)
MINIMUM LOT AREA (S.F.)	23.97 AC. (1,044,397 S.F.)	23.97 AC. (1,044,397 S.F.)	4,000	4,000	40,000
FLOOR AREA RATIO (FAR)	0.21 (±224,067 S.F.)	0.48 (±499,349 S.F.)	N/A	N/A	1.25
DENSITY	N/A	1,044,397 S.F. =2,153 485 UNITS	1,200 S.F PER UNIT (870 UNITS)	1,200 S.F PER UNIT (870 UNITS)	N/A
FRONTAGE AND WIDTH (FT)	>180	>180	180	150	150
FRONT YARD SETBACK (FT)	>50	57.0	±50 (1)	±35 (1)	50
SIDE YARD SETBACK (FT)	>20	57.9	±50 (1)	±35 (1)	20
REAR YARD SETBACK (FT)	>20	54.8	±50 (1)	±35 (1)	20
DISTANCE BETWEEN BUILDINGS (FT)	>20	63.4	50 (2)	50 (2)	N/A
BUILDING HEIGHT (STORIES)	N/A	MID-RISE=4 GARDEN=3	5	3	N/A
BUILDING HEIGHT (FT)	±57.5	MID-RISE=±48.5 GARDEN=35.0	50	35	50
BUILDING COVERAGE (%)	14% (141,817 S.F.)	17% (181,526 S.F.)	35% (MAX.)	35% (MAX.)	40% (MAX.)
OPEN AREA (%)	60% (630,458 S.F.)	70% (728,736 S.F.)	30% (MIN.)	30% (MIN.)	30% (MIN.)

1. 30' OR HEIGHT OF BUILDING, WHICHEVER IS GREATER
2. 50' OR HEIGHT OF TALLER BUILDING, WHICHEVER IS GREATER

OPEN AREA: A YARD AREA WHICH IS UNBUILT UPON BUT WHICH MAY INCLUDE SIDEWALKS, SWIMMING POOLS, TERRACED AREAS, PATIOS, TENNIS COURTS, PLAY COURTS, PLAYGROUND FACILITIES OR SIMILAR FACILITIES AND IS NOT DEVOTED TO STREETS, DRIVEWAYS OR OFF-STREET PARKING OR LOADING AREAS.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

DIG SAFE
BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - LAYOUT & MATERIALS PLAN.DWG

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER
9/3/21

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
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WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: LAYOUT PLAN

SHEET No. C-104B

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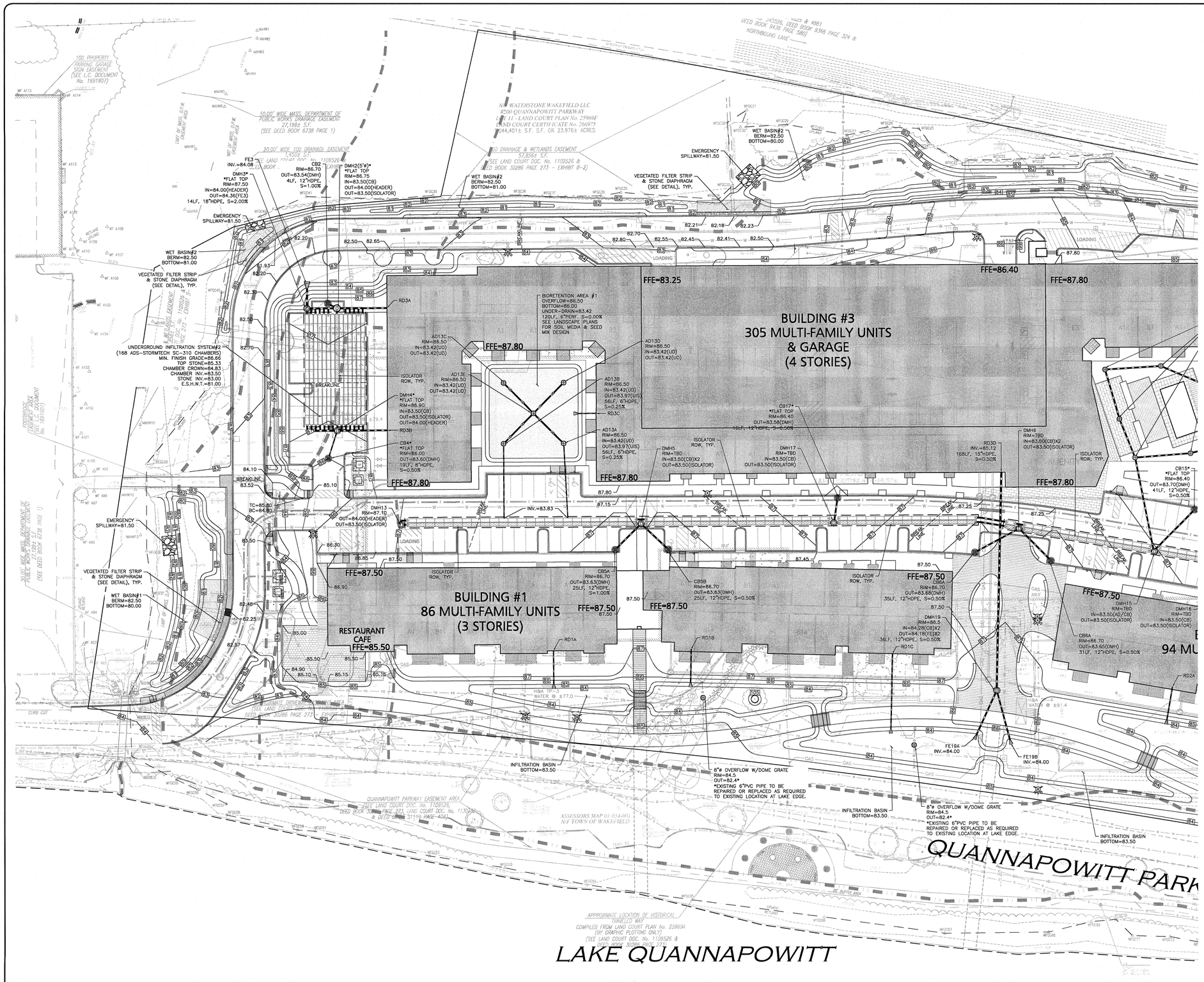
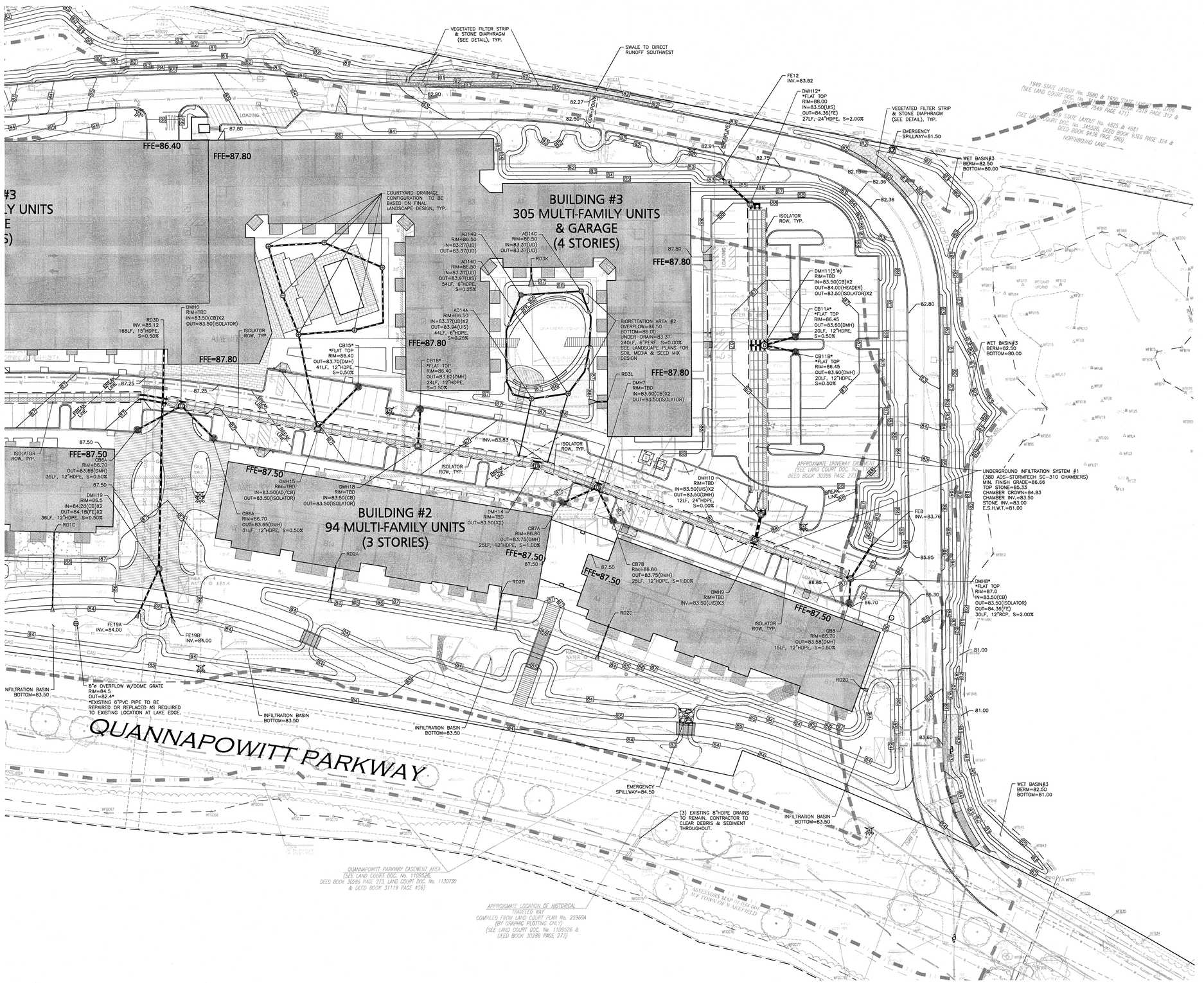

BUILDING #3
305 MULTI-FAMILY UNITS
& GARAGE
(4 STORIES)
FFE=83.25
FFE=86.40
FFE=87.80
BUILDING #1
86 MULTI-FAMILY UNITS
(3 STORIES)
FFE=87.50
RESTAURANT
CAFE
FFE=85.50
LAKE QUANNAPOWITT
QUANNAPOWITT PARKWAY
BIORETENTION AREA #1
OVERFLOW=86.50
BOTTOM=86.00
UNDER-DRAIN=83.42
120LF, 6"SCH. S=0.00%
SEE LANDSCAPE PLANS
FOR SOIL MEDIA & SEED
MIX DESIGN
UNDERGROUND INFILTRATION SYSTEM #2
(168 ADS-STORMTECH SC-310 CHAMBERS)
MIN. FINISH GRADE=86.66
TOP STONE=85.33
CHAMBER CROWN=84.83
CHAMBER INV.=83.50
STONE INV.=83.00
E.S.H.W.T.=81.00
WET BASIN #2
BERM=82.50
BOTTOM=81.00
WET BASIN #1
BERM=82.50
BOTTOM=80.00
VEGETATED FILTER STRIP
& STONE DIAPHRAGM
(SEE DETAIL), TYP.
EMERGENCY
SPILLWAY=81.50
INFILTRATION BASIN
BOTTOM=83.50
8"ø OVERFLOW W/DOME GRATE
RIM=84.5
OUT=82.4*
*EXISTING 6"PVC PIPE TO BE
REPAIRED OR REPLACED AS REQUIRED
TO EXISTING LOCATION AT LAKE EDGE.
ISOLATOR
ROW, TYP.
BREAKLINE
LOADING
CURB CUT
100' PROPERTY
PARKING GARAGE
SIGN EASEMENT
(SEE L.C. DOCUMENT
No. 1691907)
50.00' WIDE MASS. DEPARTMENT OF
PUBLIC WORKS DRAINAGE EASEMENT
27,199± S.F.
(SEE DEED BOOK 6738 PAGE 1)
20.00' WIDE 100 DRAINAGE EASEMENT
1,656 S.F.±
(SEE LAND COURT DOC. No. 1109526 &
DEED BOOK 30286 PAGE 273 - EXHIBIT B-2)
N/F WATERSTONE WAKEFIELD LLC
#200 QUANNAPOWITT PARKWAY
LOT 11 - LAND COURT PLAN No. 25969F
LAND COURT CERTIFICATE No. 266975
244,401± S.F. OR 23.976± ACRES
100 DRAINAGE & WETLANDS EASEMENT
53,856± S.F.
(SEE LAND COURT DOC. No. 1109526 &
DEED BOOK 30286 PAGE 273 - EXHIBIT B-2)
QUANNAPOWITT PARKWAY EASEMENT AREA
(SEE LAND COURT DOC. No. 1109526,
DEED BOOK 30286 PAGE 273, LAND COURT DOC. No. 1130255
& DEED BOOK 31116 PAGE 406)
ASSESSORS MAP 01-054-001
N/F TOWN OF WAKEFIELD
APPROXIMATE LOCATION OF HISTORICAL
TIDELESS WAY
COMPILED FROM LAND COURT PLAN No. 25969A
(BY GRAPHIC PLOTTING ONLY)
(SEE LAND COURT DOC. No. 1109526 &
DEED BOOK 30286 PAGE 273)
CB1
RIM=86.70
OUT=83.54(DMH)
4LF, 12"HDPE,
S=1.00%
DMH3*
*FLAT TOP
RIM=87.50
IN=84.00(HEADER)
OUT=84.36(FE3)
14LF, 18"HDPE, S=2.00%
FE3
INV.=84.08
DMH2(5'ø)*
*FLAT TOP
RIM=86.75
IN=83.50(CB)
OUT=84.00(HEADER)
OUT=83.50(SOLATOR)
RD3A
AD13C
RIM=86.50
IN=83.42(UD)
OUT=83.42(UD)
AD13E
RIM=86.50
IN=83.42(UD)
OUT=83.42(UD)
DMH4*
*FLAT TOP
RIM=86.90
IN=83.50(CB)
OUT=83.50(ISOLATOR)
OUT=84.00(HEADER)
RD3B
CB4*
*FLAT TOP
RIM=86.00
OUT=83.50(DMH)
19LF, 8"HDPE,
S=0.50%
AD13B
RIM=86.50
IN=83.42(UD)
OUT=83.97(UIS)
56LF, 6"HDPE,
S=0.25%
RD3C
AD13A
RIM=86.50
IN=83.40(UD)
OUT=83.97(UIS)
56LF, 6"HDPE,
S=0.25%
DMH5
RIM=TBD
IN=83.50(CB)X2
OUT=83.50(ISOLATOR)
CB17*
*FLAT TOP
RIM=86.40
OUT=83.58(DMH)
16LF, 12"HDPE, S=0.50%
DMH17
RIM=TBD
IN=83.50(CB)
OUT=83.50(ISOLATOR)
RD3D
INV.=85.12
16BLF, 15"HDPE,
S=0.50%
DMH6
RIM=TBD
IN=83.50(CB)X2
OUT=83.50(ISOLATOR)
CB15*
*FLAT TOP
RIM=86.40
OUT=83.70(DMH)
41LF, 12"HDPE,
S=0.50%
DMH13
RIM=87.10
OUT=84.00(HEADER)
OUT=83.50(SOLATOR)
CB5A
RIM=86.70
OUT=83.63(DMH)
25LF, 12"HDPE,
S=1.00%
CB5B
RIM=86.70
OUT=83.63(DMH)
25LF, 12"HDPE, S=0.50%
CB9A
RIM=86.70
OUT=83.68(DMH)
35LF, 12"HDPE, S=0.50%
DMH19
RIM=86.5
IN=84.28(CB)X2
OUT=84.18(FE)X2
36LF, 12"HDPE, S=0.50%
DMH15
RIM=TBD
IN=83.50(AD/CB)
OUT=83.50(ISOLATOR)
DMH16
RIM=TBD
IN=83.50(CB)
OUT=83.50(SOLATOR)
CB8A
RIM=86.70
OUT=83.65(DMH)
31LF, 12"HDPE, S=0.50%
RD1A
RD1B
RD1C
RD2A
FE19A
INV.=84.00
FE19B
INV.=84.00
H&A TP-3
WATER @ ±77.0
H&A TP-4
WATER @ ±81.4
INV.=83.83
INV.=87.25
87.80
87.15
87.45
87.50
86.30
86.85
86.90
85.00
85.10
85.15
84.90
85.10
85.50
84.10
83.52
83.50
82.48
82.25
82.57
82.20
82.30
82.50
82.70
82.65
82.55
82.45
82.41
82.50
82.21
82.18
82.23
82.80
87.80
84.93
TOP OF BRICK
BREAK LINE
BREAK LINE
BREAK LINE



LEGEND:

- DRAIN MANHOLE
- CATCH BASIN
- CATCH BASIN – DOUBLE GRATE
- FLARED END SECTION
- DRAIN LINE
- RIPRAP OUTFALL
- 1' CONTOUR (100)
- TOP OF BERM
- BIO/INFILTRATION BASIN
- INFILTRATION SYSTEM

NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL ELEVATIONS REFER TO NAVD '88.
3. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
4. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES. DIGSAFE: 1-888-344-7233

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

DIG SAFE
BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - GRADING & DRAINAGE.DWG

9/3/21
COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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1	3/31/2021	Re-Issued to ZBA

APPLICANT:
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185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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DRAWING TITLE: GRADING & DRAINAGE PLAN

SHEET No. C-105B

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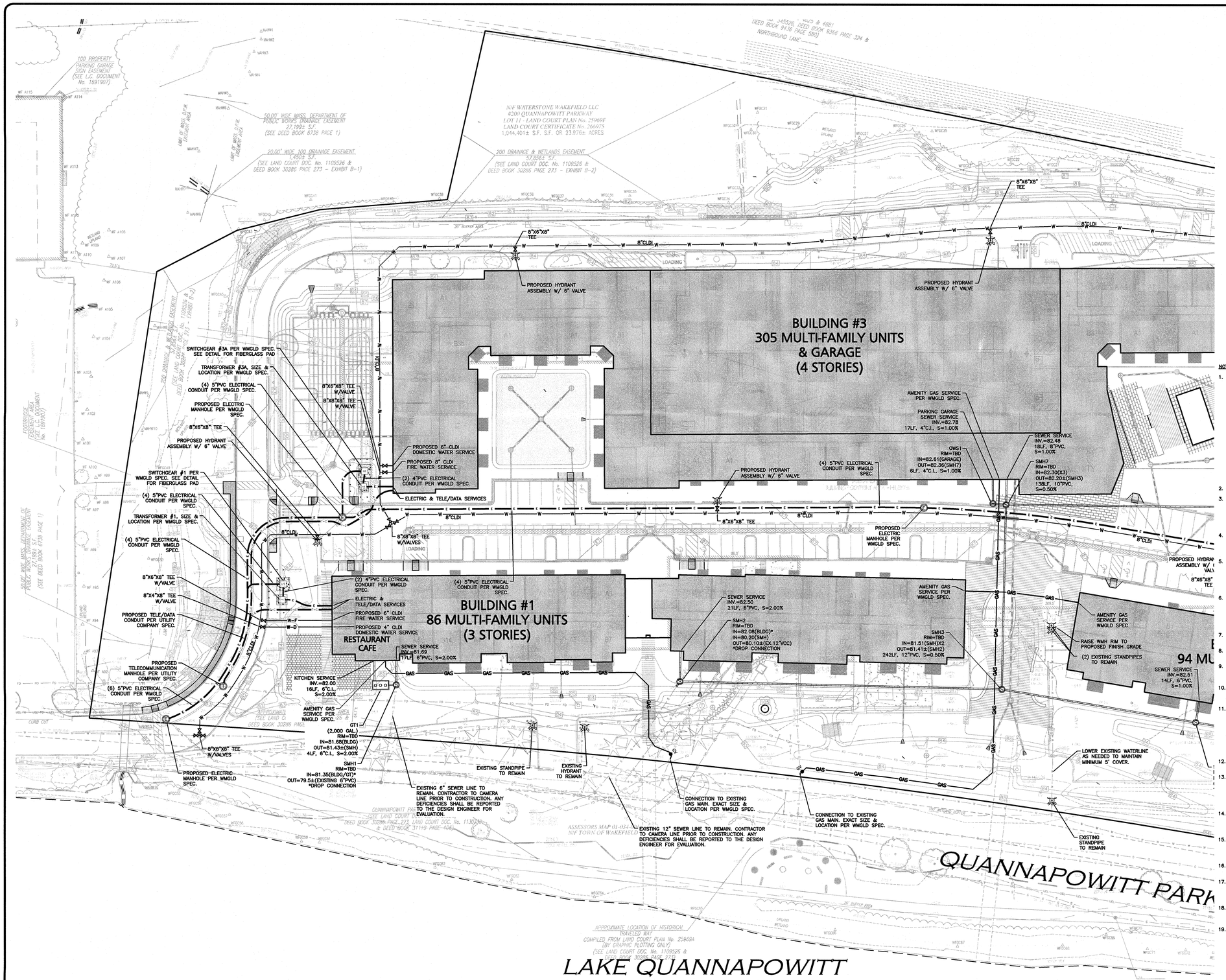

LEGEND:

SEWER MANHOLE	S
SEWER CLEANOUT	C
SEWER VENT	V
SEWER LINE	
CONCRETE PIPE ENCASEMENT	
WATER LINE	W
WATER (FIRE SERVICE)	W-F
WATER (DOMESTIC SERVICE)	W-D
WATER VALVE	WV
HYDRANT	
GAS LINE	GAS
GAS VALVE	GV
OIL WATER SEPARATOR	OWS
GREASE TRAP	GT
OVER HEAD WIRE	OHW
UTILITY POLE	
ELECTRIC MANHOLE/SPLICE BOX	E
ELECTRICAL CONDUIT	E
TELE/CABLE CONDUIT	T/C

NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL ELEVATIONS REFER TO NAVD '88.
3. THE EXISTING SEWER LATERAL SHALL BE INSPECTED BY CAMERA BOTH PRIOR TO CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETED TO VERIFY THE CONDITION. THE CONTRACTOR SHALL CAMERA THE ENTIRE LENGTH OF SEWER LINE ON THE PROPERTY AND PROVIDE VIDEOS TO CIVIL ENGINEER & OWNER.
4. THE SANITARY SEWER FLOW WITHIN THE MUNICIPAL TRUNKLINE SHALL NOT BE INTERRUPTED DURING ANY PART OF THE PROPOSED SITE WORK.
5. INVERT ELEVATION OF EXISTING SEWER LATERALS TO REMAIN AS OUTLETS AT PROPOSED SEWER MANHOLES ARE APPROXIMATE AND HAVE NOT BEEN CONFIRMED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ACTUAL INVERT ELEVATIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER FOR EVALUATION.
6. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
7. WATERMAIN PIPE TO BE CLASS 350 CEMENT LINED DUCTILE IRON WITH PUSH-ON JOINTS AND FIELD LOK GASKETS.
8. SHUT DOWN OF EXISTING WATER MAINS SHALL BE COORDINATED WITH THE TOWN OF WAKEFIELD DPW.
9. THERE SHALL BE A 4'-FOOT OFFSET FROM THE OUTSIDE OF A WATER OR SANITARY/SEWER MAIN AND ANY OTHER UNDERGROUND UTILITY.
10. CONTRACTOR SHALL NOTIFY ENGINEER AND THE WAKEFIELD DPW OF ANY UTILITY CONFLICTS WITH PROPOSED WATER MAIN LOCATION.
11. SPECIAL CONSIDERATION FOR SUPPORT OF EXCAVATION SHALL BE REQUIRED WHEN PASSING BELOW, OR DIRECTLY ADJACENT TO, EXISTING UTILITIES WHERE SUCH UTILITIES WILL POTENTIALLY BE ADVERSELY IMPACTED DURING EXCAVATION. SPECIAL SUPPORT OF EXCAVATION SHALL INCLUDE BUT IS NOT LIMITED TO STEEL SHEETING LEFT IN PLACE, SOLDIER PILES AND LAGGING LEFT IN PLACE, AND/OR AN EQUIVALENT SUPPORT OF EXCAVATION METHOD PRESENTED TO AND APPROVED BY THE ENGINEER AND WAKEFIELD DPW.
12. ALL UTILITY DISCONTINUANCES SHALL BE REMOVED FROM THE PUBLIC RIGHT-OF-WAY.
13. THE SITE CONTRACTOR SHALL INFORM THE TOWN OF WAKEFIELD ENGINEERING DEPARTMENT AND DEPARTMENT OF PUBLIC WORKS WHEN WATER AND SEWER WORK IS BEING CONDUCTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ANY REQUIRED INSPECTIONS OF THE WATER AND SEWER WORK PRIOR TO BACKFILL OF THE COMPONENTS.
14. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AN INTERIM AS-BUILT ONCE THE UNDERGROUND UTILITIES HAVE BEEN INSTALLED OR LOCATED AND ALSO A FINAL AS-BUILT ONCE THE SITE WORK IS COMPLETE.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING TEST PITS THROUGHOUT COURTYARD TO VERIFY THE LOCATION & ELEVATION OF ALL EXISTING UTILITIES THAT MAY CONFLICT WITH THE PROPOSED DESIGN.
16. SEE PLUMBING DRAWINGS FOR GAS, WATER AND SEWER ROUTING TO OUTDOOR FIXTURES.
17. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES. DIGSAFE: 1-888-344-7233
18. ALL PRIMARY AND SECONDARIES TO BE KEPT A MINIMUM OF 12-INCHES FROM THE TELECOMMUNICATIONS CONDUIT PER WMGLD REQUIREMENTS.
19. THE SITE ELECTRICAL AND TELE/DATA LAYOUT SHOW HEREON IS DIAGRAMMATIC AND SHOWN FOR COORDINATION PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE ELECTRICAL PROVIDER AND THE TELE/DATA PROVIDER TO DETERMINE THE EXACT CONFIGURATION OF THE IMPROVEMENTS.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - UTILITIES.DWG

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
9/3/21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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DRAWING TITLE:	SHEET No.
UTILITIES PLAN	C-106A

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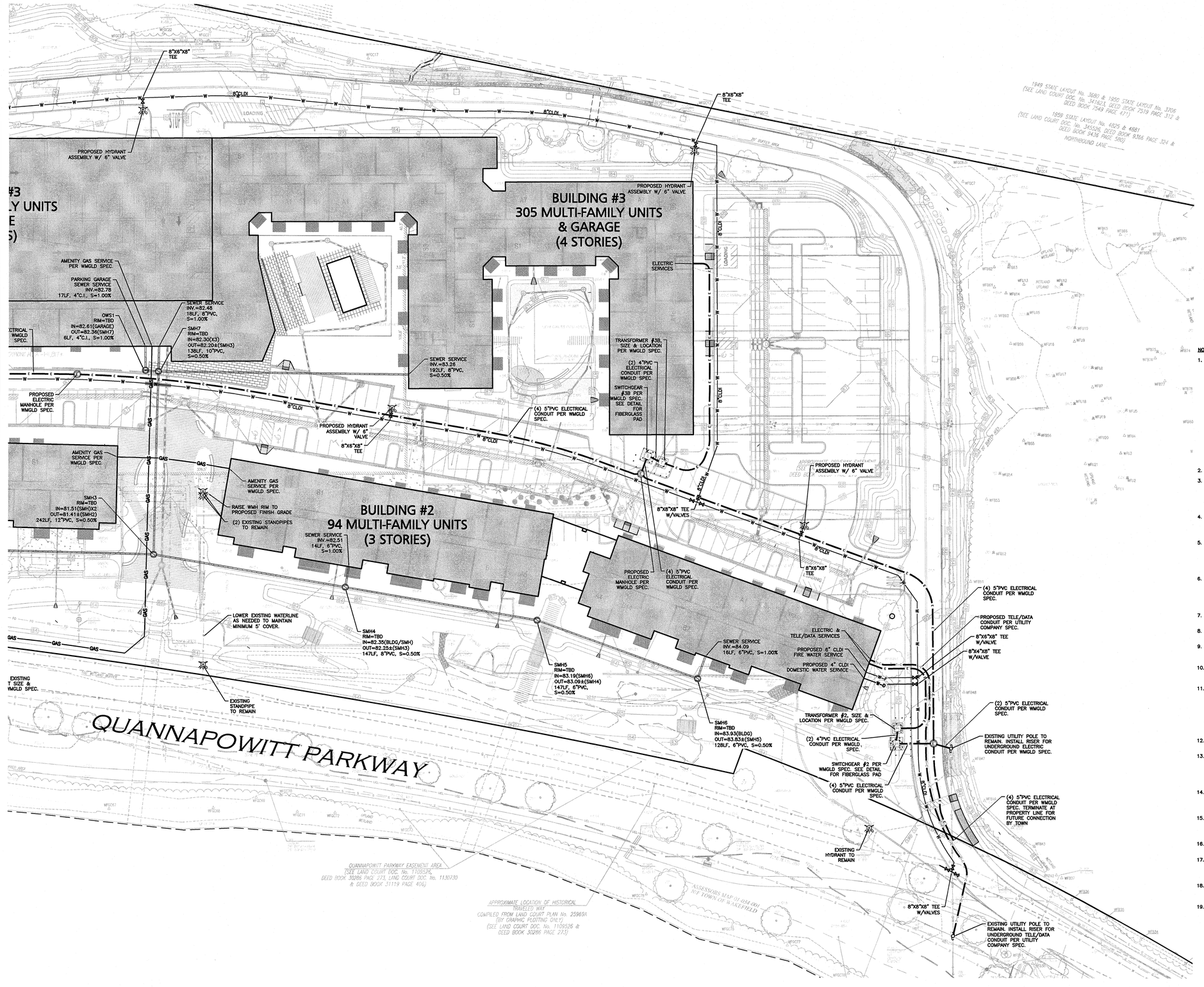

LEGEND:

SEWER MANHOLE	
SEWER CLEANOUT	
SEWER VENT	
SEWER LINE	
CONCRETE PIPE ENCASEMENT	
WATER LINE	W
WATER (FIRE SERVICE)	W-F
WATER (DOMESTIC SERVICE)	W-D
WATER VALVE	
HYDRANT	
GAS LINE	GAS
GAS VALVE	
OIL WATER SEPARATOR	
GREASE TRAP	
OVER HEAD WIRE	OHW
UTILITY POLE	
ELECTRIC MANHOLE/SPLICE BOX	
ELECTRICAL CONDUIT	E
TELE/CABLE CONDUIT	T/C

NOTES:

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2. ALL ELEVATIONS REFER TO NAVD '88.
3. THE EXISTING SEWER LATERAL SHALL BE INSPECTED BY CAMERA BOTH PRIOR TO CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETED TO VERIFY THE CONDITION. THE CONTRACTOR SHALL CAMERA THE ENTIRE LENGTH OF SEWER LINE ON THE PROPERTY AND PROVIDE VIDEOS TO CIVIL ENGINEER & OWNER.
4. THE SANITARY SEWER FLOW WITHIN THE MUNICIPAL TRUNKLINE SHALL NOT BE INTERRUPTED DURING ANY PART OF THE PROPOSED SITE WORK.
5. INVERT ELEVATION OF EXISTING SEWER LATERALS TO REMAIN AS OUTLETS AT PROPOSED SEWER MANHOLES ARE APPROXIMATE AND HAVE NOT BEEN CONFIRMED. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ACTUAL INVERT ELEVATIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE DESIGN ENGINEER FOR EVALUATION.
6. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
7. WATERMAIN PIPE TO BE CLASS 350 CEMENT LINED DUCTILE IRON WITH PUSH-ON JOINTS AND FIELD LOK GASKETS.
8. SHUT DOWN OF EXISTING WATER MAINS SHALL BE COORDINATED WITH THE TOWN OF WAKEFIELD DPW.
9. THERE SHALL BE A 4-FOOT OFFSET FROM THE OUTSIDE OF A WATER OR SANITARY/SEWER MAIN AND ANY OTHER UNDERGROUND UTILITY.
10. CONTRACTOR SHALL NOTIFY ENGINEER AND THE WAKEFIELD DPW OF ANY UTILITY CONFLICTS WITH PROPOSED WATER MAIN LOCATION.
11. SPECIAL CONSIDERATION FOR SUPPORT OF EXCAVATION SHALL BE REQUIRED WHEN PASSING BELOW, OR DIRECTLY ADJACENT TO, EXISTING UTILITIES WHERE SUCH UTILITIES WILL POTENTIALLY BE ADVERSELY IMPACTED DURING EXCAVATION. SPECIAL SUPPORT OF EXCAVATION SHALL INCLUDE BUT IS NOT LIMITED TO STEEL SHEETING LEFT IN PLACE, SOLDIER PILES AND LAGGING LEFT IN PLACE, AND/OR AN EQUIVALENT SUPPORT OF EXCAVATION METHOD PRESENTED TO AND APPROVED BY THE ENGINEER AND WAKEFIELD DPW.
12. ALL UTILITY DISCONTINUANCES SHALL BE REMOVED FROM THE PUBLIC RIGHT-OF-WAY.
13. THE SITE CONTRACTOR SHALL INFORM THE TOWN OF WAKEFIELD ENGINEERING DEPARTMENT AND DEPARTMENT OF PUBLIC WORKS WHEN WATER AND SEWER WORK IS BEING CONDUCTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ANY REQUIRED INSPECTIONS OF THE WATER AND SEWER WORK PRIOR TO BACKFILL OF THE COMPONENTS.
14. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AN INTERIM AS-BUILT ONCE THE UNDERGROUND UTILITIES HAVE BEEN INSTALLED OR LOCATED AND ALSO A FINAL AS-BUILT ONCE THE SITE WORK IS COMPLETE.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING TEST PITS THROUGHOUT COURTYARD TO VERIFY THE LOCATION & ELEVATION OF ALL EXISTING UTILITIES THAT MAY CONFLICT WITH THE PROPOSED DESIGN.
16. SEE PLUMBING DRAWINGS FOR GAS, WATER AND SEWER ROUTING TO OUTDOOR FIXTURES.
17. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES. DIGSAFE: 1-888-344-7233
18. ALL PRIMARY AND SECONDARIES TO BE KEPT A MINIMUM OF 12-INCHES FROM THE TELECOMMUNICATIONS CONDUIT PER WMGLD REQUIREMENTS.
19. THE SITE ELECTRICAL AND TELE/DATA LAYOUT SHOW HEREON IS DIAGRAMMATIC AND SHOWN FOR COORDINATION PURPOSES ONLY. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE ELECTRICAL PROVIDER AND THE TELE/DATA PROVIDER TO DETERMINE THE EXACT CONFIGURATION OF THE IMPROVEMENTS.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

DIG SAFE

BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - UTILITIES.DWG

COMMONWEALTH OF MASSACHUSETTS TIMOTHY J. WILLIAMS CIVIL No. 43119 REGISTERED PROFESSIONAL ENGINEER 8/3/21

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE: UTILITIES PLAN

SHEET No. C-106B

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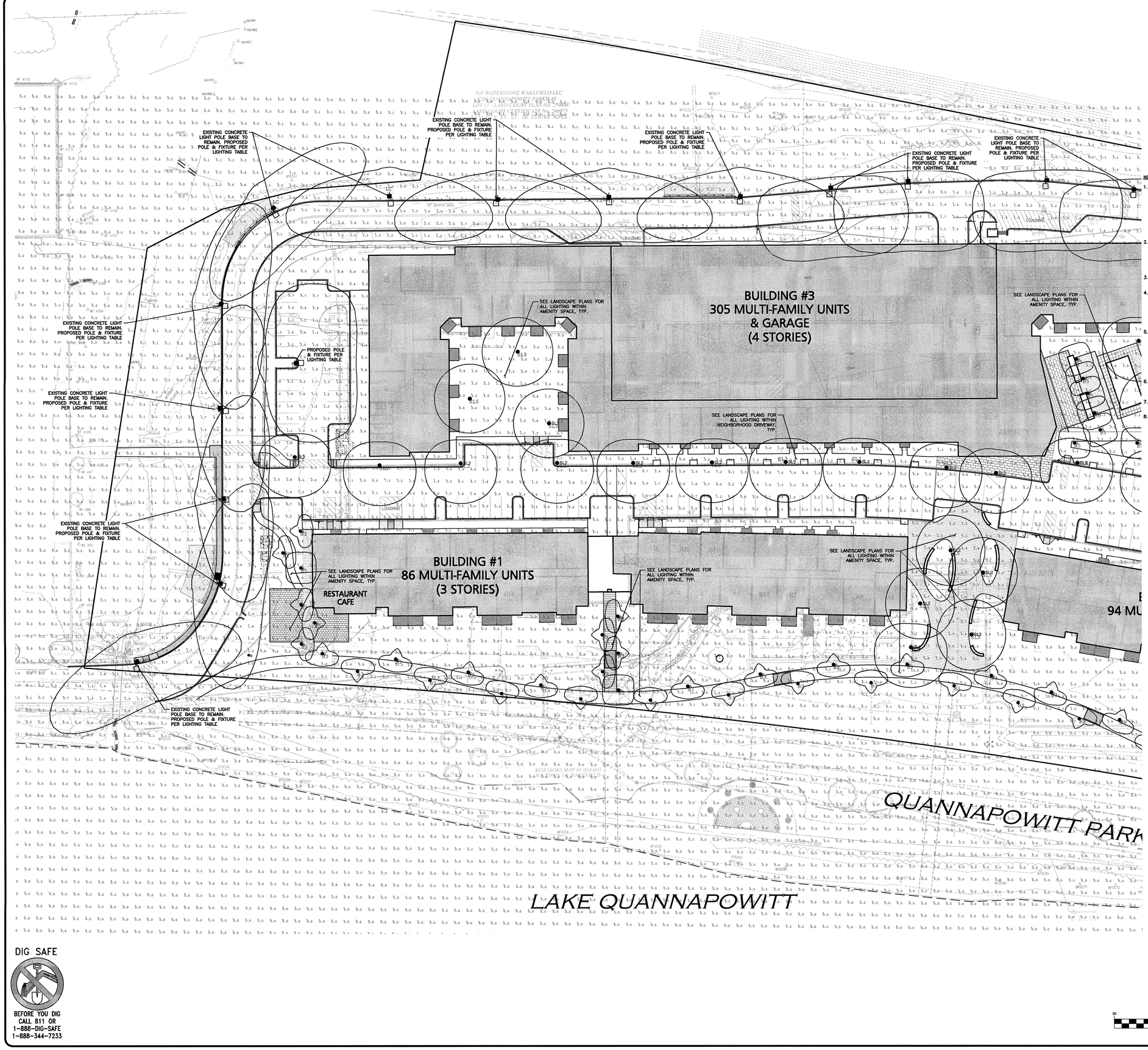

LEGEND:

PROPOSED LIGHTING	
EXISTING STREET LIGHTING	
PHOTOMETRICS	2.0 0.8

NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR IT'S REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
3. SEE ARCHITECTURAL (ARCH.) PLANS FOR DETAILED BUILDING INFORMATION.
4. THE CONTRACTOR SHALL CONTACT "DIGSAFE" AND THE TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE LOCATION OF THE EXISTING UTILITIES.

   DIGSAFE: 1-800-344-7233
   WAKEFIELD DEPT. OF PUBLIC WORKS: 1-781-246-6301
5. THIS LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS UTILIZING CURRENT INDUSTRY STANDARD LAMP RATINGS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS AND OTHER VARIABLE FIELD CONDITIONS.
6. WIRING SIZES AND QUANTITIES SHALL BE DETERMINED BY THE SITE ELECTRICAL CONTRACTOR AND COORDINATED WITH THE BUILDING ELECTRICAL CONTRACTOR.
7. ALL MOUNTING HEIGHTS WITHIN PARKWAY ARE TO BE 30' UNLESS OTHERWISE NOTED
8. LIGHTING LUMINAIRE SCHEDULE, LOCATIONS, NOTES, AND PHOTOMETRICS PROVIDED BY APEX LIGHTING SOLUTIONS, 20-30 BEAVER ROAD, WETHERSFIELD, CT 06109

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - LIGHTING PLAN.DWG

8/31/21

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No.43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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WOBURN MA 01888-0118
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FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:
SITE LIGHTING PLAN

SHEET No.
C-107A

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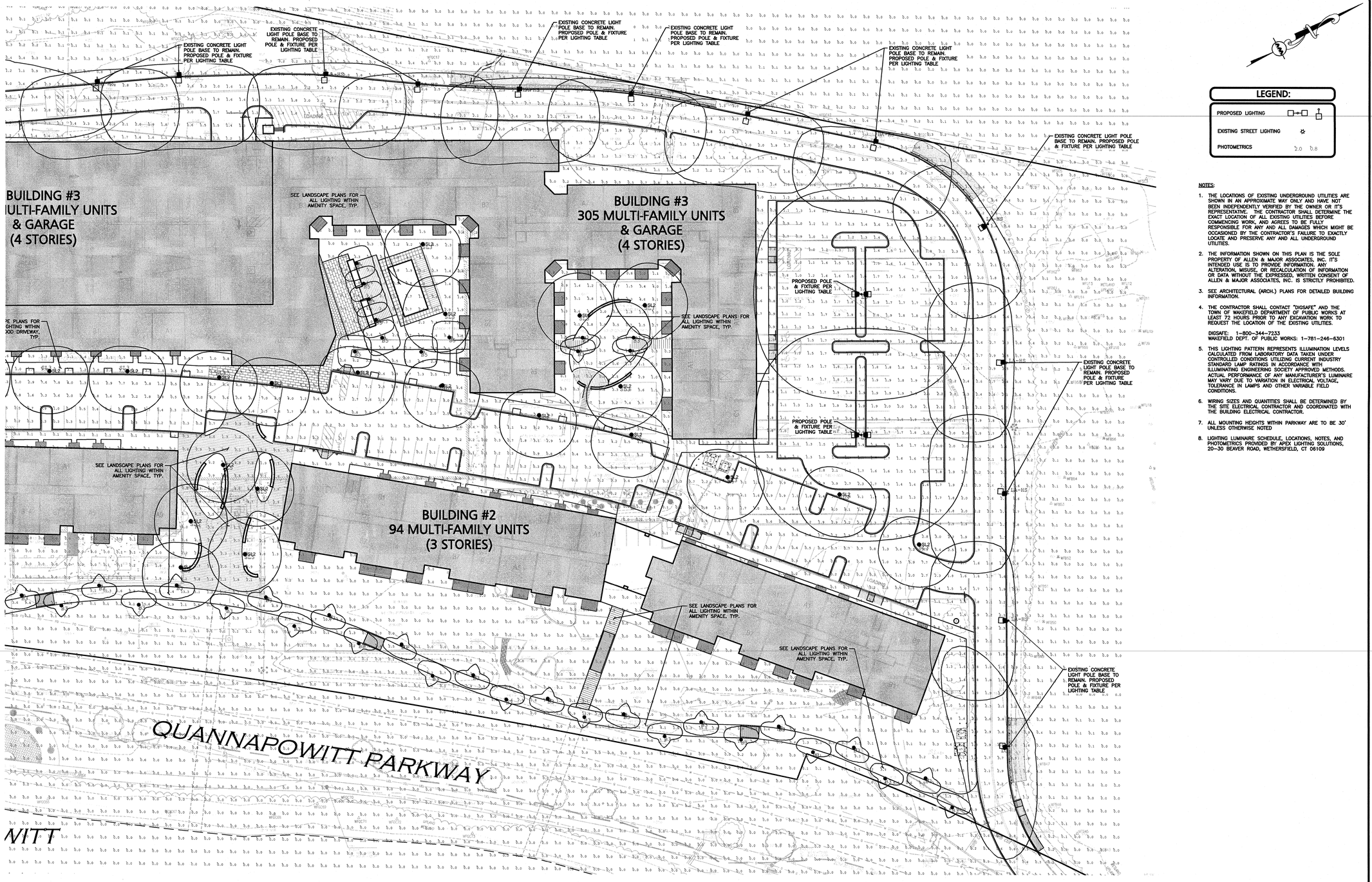
BUILDING #3
ULTI-FAMILY UNITS
& GARAGE
(4 STORIES)
BUILDING #3
305 MULTI-FAMILY UNITS
& GARAGE
(4 STORIES)
BUILDING #2
94 MULTI-FAMILY UNITS
(3 STORIES)
QUANNAPOWITT PARKWAY
NITT
EXISTING CONCRETE LIGHT POLE BASE TO REMAIN. PROPOSED POLE & FIXTURE PER LIGHTING TABLE
EXISTING CONCRETE LIGHT POLE BASE TO REMAIN. PROPOSED POLE & FIXTURE PER LIGHTING TABLE
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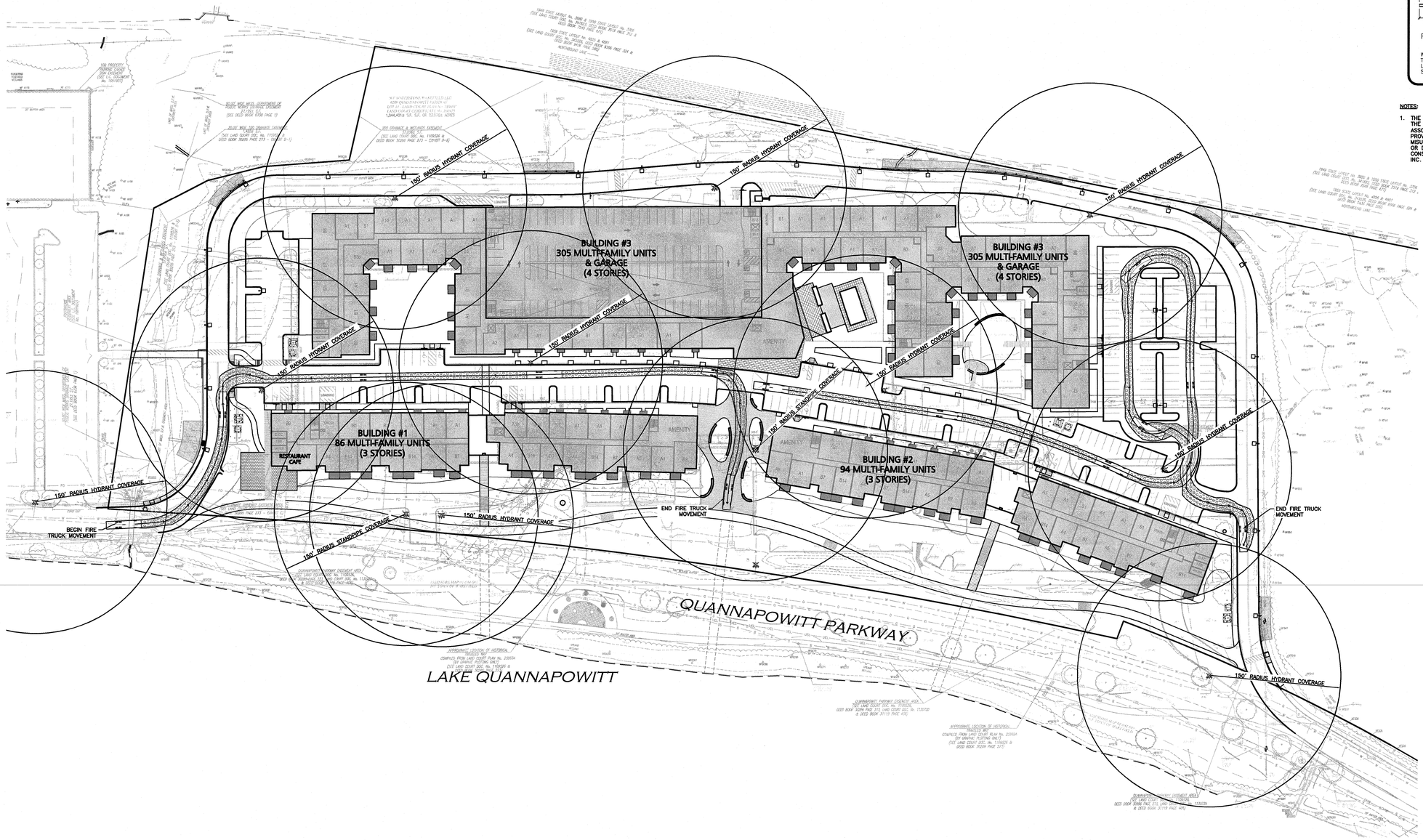
EXISTING CONCRETE LIGHT POLE BASE TO REMAIN. PROPOSED POLE & FIXTURE PER LIGHTING TABLE
SEE LANDSCAPE PLANS FOR ALL LIGHTING WITHIN AMENITY SPACE, TYP.



FIRE TRUCK

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

NOTES:

1. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

6/5/21

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=50'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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DRAWING TITLE:
FIRE TRUCK TURNING & HYDRANT LOCATION PLAN

SHEET No.
C-108

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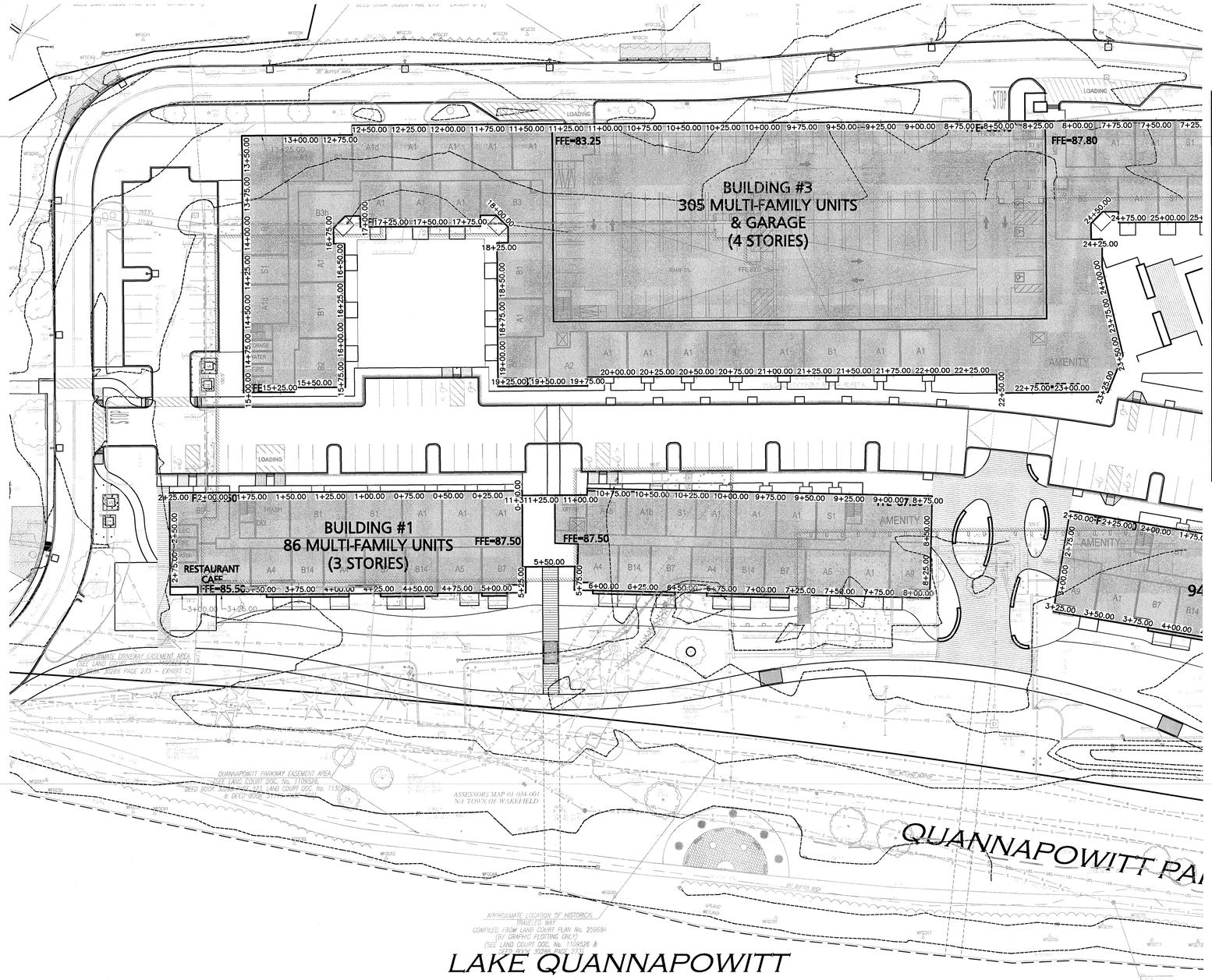
K:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - TRUCK TURNING PLAN.DWG



NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL ELEVATIONS REFER TO NAVD '88.
3. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
4. ALL EXISTING GRADES AT LOCATIONS WITHIN THE FOOTPRINT OF THE EXISTING BUILDING ASSUME AN ELEVATION 86.70 TO MATCH THE EXISTING FINISH FLOOR.

DIG SAFE

BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

Computation Sheet

Title *Grade Plane Summary Spreadsheet* — By ND
Project 200 Quinnapowitt Parkway, Wakefield, MA — Chk'd TJW
Date — Apprv'd TJW

Building #1

Station From	Elevation 1	Station To	Elevation 2	Length	Average Grade	Weighted Average Finish Grade
0+00.00	86.70	0+25.00	86.70	25.00	86.70	2167.50
0+25.00	86.70	0+50.00	86.70	25.00	86.70	2167.50
0+50.00	86.70	0+75.00	86.70	25.00	86.70	2167.50
0+75.00	86.70	1+00.00	86.70	25.00	86.70	2167.50
1+00.00	86.70	1+25.00	86.70	25.00	86.70	2167.50
1+25.00	86.70	1+50.00	86.70	25.00	86.70	2167.50
1+50.00	86.70	1+75.00	86.70	25.00	86.70	2167.50
1+75.00	86.70	2+00.00	84.75	25.00	85.73	2143.13
2+00.00	84.75	2+25.00	84.10	25.00	84.43	2110.63
2+25.00	84.10	2+50.00	84.10	25.00	84.10	2102.50
2+50.00	84.10	2+75.00	83.80	25.00	83.95	2098.75
2+75.00	83.80	3+00.00	84.30	25.00	84.05	2101.25
3+00.00	84.30	3+25.00	84.20	25.00	84.25	2106.25
3+25.00	84.20	3+50.00	84.20	25.00	84.20	2105.00
3+50.00	84.20	3+75.00	84.10	25.00	84.15	2103.75
3+75.00	84.10	4+00.00	84.20	25.00	84.15	2103.75
4+00.00	84.20	4+25.00	84.30	25.00	84.25	2106.25
4+25.00	84.30	4+50.00	84.40	25.00	84.35	2108.75
4+50.00	84.40	4+75.00	84.40	25.00	84.40	2110.00
4+75.00	84.40	5+00.00	84.40	25.00	84.40	2110.00
5+00.00	84.40	5+25.00	86.70	25.00	85.55	2138.75
5+25.00	86.70	5+50.00	86.70	25.00	86.70	2167.50
5+50.00	86.70	5+75.00	86.70	25.00	86.70	2167.50
5+75.00	86.70	6+00.00	83.90	25.00	85.30	2132.50
6+00.00	83.90	6+25.00	84.60	25.00	84.25	2106.25
6+25.00	84.60	6+50.00	85.90	25.00	85.25	2131.25
6+50.00	85.90	6+75.00	85.90	25.00	85.90	2147.50
6+75.00	85.90	7+00.00	86.70	25.00	86.30	2157.50
7+00.00	86.70	7+25.00	86.60	25.00	86.65	2166.25
7+25.00	86.60	7+50.00	86.10	25.00	86.35	2158.75
7+50.00	86.10	7+75.00	86.10	25.00	86.10	2152.50
7+75.00	86.10	8+00.00	86.70	25.00	86.40	2160.00
8+00.00	86.70	8+25.00	86.00	25.00	86.35	2158.75
8+25.00	86.00	8+50.00	86.70	25.00	86.35	2158.75
8+50.00	86.70	8+75.00	86.70	25.00	86.70	2167.50
8+75.00	86.70	9+00.00	86.70	25.00	86.70	2167.50
9+00.00	86.70	9+25.00	86.70	25.00	86.70	2167.50
9+25.00	86.70	9+50.00	86.70	25.00	86.70	2167.50
9+50.00	86.70	9+75.00	86.70	25.00	86.70	2167.50
9+75.00	86.70	10+00.00	86.70	25.00	86.70	2167.50
10+00.00	86.70	10+25.00	86.70	25.00	86.70	2167.50
10+25.00	86.70	10+50.00	86.70	25.00	86.70	2167.50
10+50.00	86.70	10+75.00	84.00	25.00	85.35	2133.75
10+75.00	84.00	11+00.00	83.80	25.00	83.90	2097.50
11+00.00	83.80	11+25.00	86.70	25.00	85.25	2131.25
11+25.00	86.70	11+37.04	86.70	12.04	86.70	1043.87
			Total	1,137.04		85.69

Allen & Major Associates, Inc. — Computation Sheet

Title *Grade Plane Summary Spreadsheet* — By ND
Project 200 Quinnapowitt Parkway, Wakefield, MA — Chk'd TJW
Date — Apprv'd TJW

Building #3

Station From	Elevation 1	Station To	Elevation 2	Length	Average Grade	Weighted Average Finish Grade
0+00.00	83.70	0+25.00	83.80	25.00	83.80	2095.00
0+25.00	83.80	0+50.00	83.80	25.00	83.85	2096.25
0+50.00	83.80	0+75.00	83.80	25.00	83.85	2096.25
0+75.00	83.90	1+00.00	83.90	25.00	83.90	2097.50
1+00.00	83.90	1+25.00	84.00	25.00	83.95	2098.75
1+25.00	84.00	1+50.00	83.60	25.00	83.80	2095.00
1+50.00	83.90	1+75.00	84.00	25.00	83.90	2097.50
1+75.00	84.00	2+00.00	84.00	25.00	84.00	2100.00
2+00.00	84.00	2+25.00	83.50	25.00	83.75	2093.75
2+25.00	83.50	2+50.00	83.50	25.00	83.50	2087.50
2+50.00	83.50	2+75.00	83.20	25.00	83.35	2083.75
2+75.00	83.20	3+00.00	83.20	25.00	83.20	2080.00
3+00.00	83.20	3+25.00	83.20	25.00	83.20	2080.00
3+25.00	83.20	3+50.00	83.00	25.00	83.10	2077.50
3+50.00	83.00	3+75.00	82.90	25.00	82.95	2073.75
3+75.00	82.90	4+00.00	82.90	25.00	82.90	2072.50
4+00.00	82.90	4+25.00	82.90	25.00	82.90	2072.50
4+25.00	82.90	4+50.00	83.00	25.00	82.95	2073.75
4+50.00	83.00	4+75.00	83.20	25.00	83.10	2077.50
4+75.00	83.20	5+00.00	83.40	25.00	83.30	2081.25
5+00.00	83.40	5+25.00	83.40	25.00	83.40	2085.00
5+25.00	83.40	5+50.00	83.40	25.00	83.40	2085.00
5+50.00	83.40	5+75.00	83.30	25.00	83.35	2083.75
5+75.00	83.30	6+00.00	83.50	25.00	83.40	2085.00
6+00.00	83.50	6+25.00	83.00	25.00	83.25	2081.25
6+25.00	83.00	6+50.00	83.70	25.00	83.35	2083.75
6+50.00	83.70	6+75.00	83.80	25.00	83.80	2095.00
6+75.00	83.80	7+00.00	84.00	25.00	83.95	2098.75
7+00.00	84.00	7+25.00	84.30	25.00	84.15	2103.75
7+25.00	84.30	7+50.00	84.80	25.00	84.55	2113.75
7+50.00	84.80	7+75.00	84.90	25.00	84.85	2121.25
7+75.00	84.90	8+00.00	84.90	25.00	84.90	2122.50
8+00.00	84.90	8+25.00	85.20	25.00	85.05	2126.25
8+25.00	85.20	8+50.00	85.40	25.00	85.30	2132.50
8+50.00	85.20	8+75.00	85.00	25.00	85.10	2127.50
8+75.00	85.00	9+00.00	84.70	25.00	84.85	2121.25
9+00.00	84.70	9+25.00	84.80	25.00	84.75	2118.75
9+25.00	84.80	9+50.00	84.80	25.00	84.80	2120.00
9+50.00	84.80	9+75.00	84.40	25.00	84.60	2115.00
9+75.00	84.40	10+00.00	83.80	25.00	84.10	2102.50
10+00.00	83.80	10+25.00	83.00	25.00	83.40	2085.00
10+25.00	83.00	10+50.00	82.80	25.00	82.90	2072.50
10+50.00	82.80	10+75.00	82.70	25.00	82.85	2071.25
10+75.00	82.70	11+00.00	83.00	25.00	82.85	2071.25
11+00.00	83.00	11+25.00	83.10	25.00	83.05	2076.25
11+25.00	83.10	11+50.00	83.20	25.00	83.15	2078.75
11+50.00	83.30	11+75.00	83.40	25.00	83.35	2083.75
11+75.00	83.40	12+00.00	83.50	25.00	83.45	2086.25
12+00.00	83.50	12+25.00	83.40	25.00	83.45	2086.25
12+25.00	83.40	12+50.00	83.60	25.00	83.50	2087.50
12+50.00	83.60	12+75.00	83.50	25.00	83.55	2088.75
12+75.00	83.50	13+00.00	83.40	25.00	83.45	2086.25
13+00.00	83.40	13+25.00	83.30	25.00	83.35	2083.75
13+25.00	83.30	13+50.00	83.50	25.00	83.40	2085.00
13+50.00	83.50	13+75.00	83.90	25.00	83.70	2092.50
13+75.00	83.90	14+00.00	85.00	25.00	84.45	2111.25
14+00.00	85.00	14+25.00	86.70	25.00	85.85	2146.25
14+25.00	86.70	14+50.00	86.70	25.00	86.70	2167.50
14+50.00	86.70	14+75.00	86.70	25.00	86.70	2167.50
14+75.00	86.70	15+00.00	86.70	25.00	86.70	2167.50
15+00.00	86.70	15+25.00	86.70	25.00	86.70	2167.50
15+25.00	86.70	15+50.00	86.70	25.00	86.70	2167.50
15+50.00	86.70	15+75.00	86.70	25.00	86.70	2167.50
15+75.00	86.70	16+00.00	86.70	25.00	86.70	2167.50
16+00.00	86.70	16+25.00	86.70	25.00	86.70	2167.50
16+25.00	86.70	16+50.00	86.70	25.00	86.70	2167.50
16+50.00	86.70	16+75.00	86.20	25.00	86.45	2161.25
16+75.00	86.20	17+00.00	85.20	25.00	85.70	2142.50
17+00.00	85.20	17+25.00	86.70	25.00	85.95	2148.75
17+25.00	86.12	17+50.00	85.20	25.00	86.45	2161.25
17+50.00	85.20	17+75.00	85.80	25.00	85.50	2150.00
17+75.00	85.80	18+00.00	84.80	25.00	85.30	2132.50
18+00.00	84.80	18+25.00	86.70	25.00	85.75	2143.75
18+25.00	86.70	18+50.00	86.70	25.00	86.70	2167.50
18+50.00	86.70	18+75.00	86.70	25.00	86.70	2167.50
18+75.00	86.70	19+00.00	86.70	25.00	86.70	2167.50
19+00.00	86.70	19+25.00	86.70	25.00	86.70	2167.50
19+25.00	86.70	19+50.00	86.70	25.00	86.70	2167.50
19+50.00	86.70	19+75.00	86.70	25.00	86.70	2167.50
19+75.00	86.70	20+00.00	86.70	25.00	86.70	2167.50
20+00.00	86.70	20+25.00	86.70	25.00	86.70	2167.50
20+25.00	86.70	20+50.00	86.70	25.00	86.70	2167.50
20+50.00	86.70	20+75.00	86.70	25.00	86.70	2167.50
20+75.00	86.70	21+00.00	86.70	25.00	86.70	2167.50
21+00.00	86.70	21+25.00	86.70	25.00	86.70	2167.50
21+25.00	86.70	21+50.00	86.70	25.00	86.70	2167.50
21+50.00	86.70	21+75.00	86.70	25.00	86.70	2167.50
21+75.00	86.70	22+00.00	86.70	25.00	86.70	2167.50
22+00.00	86.70	22+25.00	86.70	25.00	86.70	2167.50
22+25.00	86.70	22+50.00	86.70	25.00	86.70	2167.50
22+50.00	86.70	22+75.00	86.70	25.00	86.70	2167.50
22+75.00	86.70	23+00.00	86.70	25.00	86.70	2167.50
23+00.00	86.70	23+25.00	86.70	25.00	86.70	2167.50
23+25.00	86.70	23+50.00	86.70	25.00	86.70	2167.50
23+50.00	86.70	23+75.00	86.70	25.00	86.70	2167.50
23+75.00	86.70	24+00.00	86.70	25.00	86.70	2167.50
24+00.00	86.70	24+25.00	86.70	25.00	86.70	2167.50
24+25.00	86.70	24+50.00	86.70	25.00	86.70	2167.50
24+50.00	86.70	24+75.00	86.70	25.00	86.70	2167.50
24+75.00	86.70	25+00.00	86.70	25.00	86.70	2167.50
25+00.00	86.70	25+25.00	86.70	25.00	86.70	2167.50
25+25.00	86.70	25+50.00	86.70	25.00	86.70	2167.50
25+50.00	86.70	25+75.00	86.30	25.00	86.50	2163.75
25+75.00	86.70	26+00.00	83.80	25.00	85.30	2132.50
26+00.00	83.90	26+25.00	86.70	25.00	85.30	2132.50
26+25.00	86.70	26+50.00	84.80	25.00	85.75	2143.75
26+50.00	84.30	26+75.00	84.40	25.00	84.55	2138.75
26+75.00	84.40	27+00.00	84.60	25.00	84.50	2112.50
27+00.00	84.60	27+25.00	84.70	25.00	84.65	2116.25
27+25.00	84.70	27+50.00	84.00	25.00	84.35	2108.75
27+50.00	84.00	27+75.00	84.20	25.00	84.10	2102.50
27+75.00	84.20	28+00.00	84.20	25.00	84.20	2105.00
28+00.00	84.20	28+25.00	83.90	25.00	84.05	2101.25
28+25.00	83.80	28+50.00	84.50	25.00	84.15	2103.75
28+50.00	84.50	28+75.00	84.50	25.00	84.50	2112.50
28+75.00	84.50	29+00.00	84.00	25.00	84.25	2106.25
29+00.00	84.00	29+25.00	84.00	25.00	84.00	2100.00
29+25.00	84.00	29+50.00	83.90	25.00	83.95	2098.75
29+50.00	83.90	29+75.00	83.90	25.00	83.90	2097.50
29+75.00	83.90	30+00.00	83.70	25.00	83.80	2095.00
30+00.00	83.70	30+25.00	83.50	25.00	83.60	2090.00
30+25.00	84.30	30+35.88	83.70	10.85	84.00	912.24
			Total	3,035.80		84.91

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN, MA 01888-0118
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FAX: (781) 935-2896
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COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
3/31/21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

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DRAWING TITLE: AVERAGE GRADE PLAN

SHEET No. C-109A

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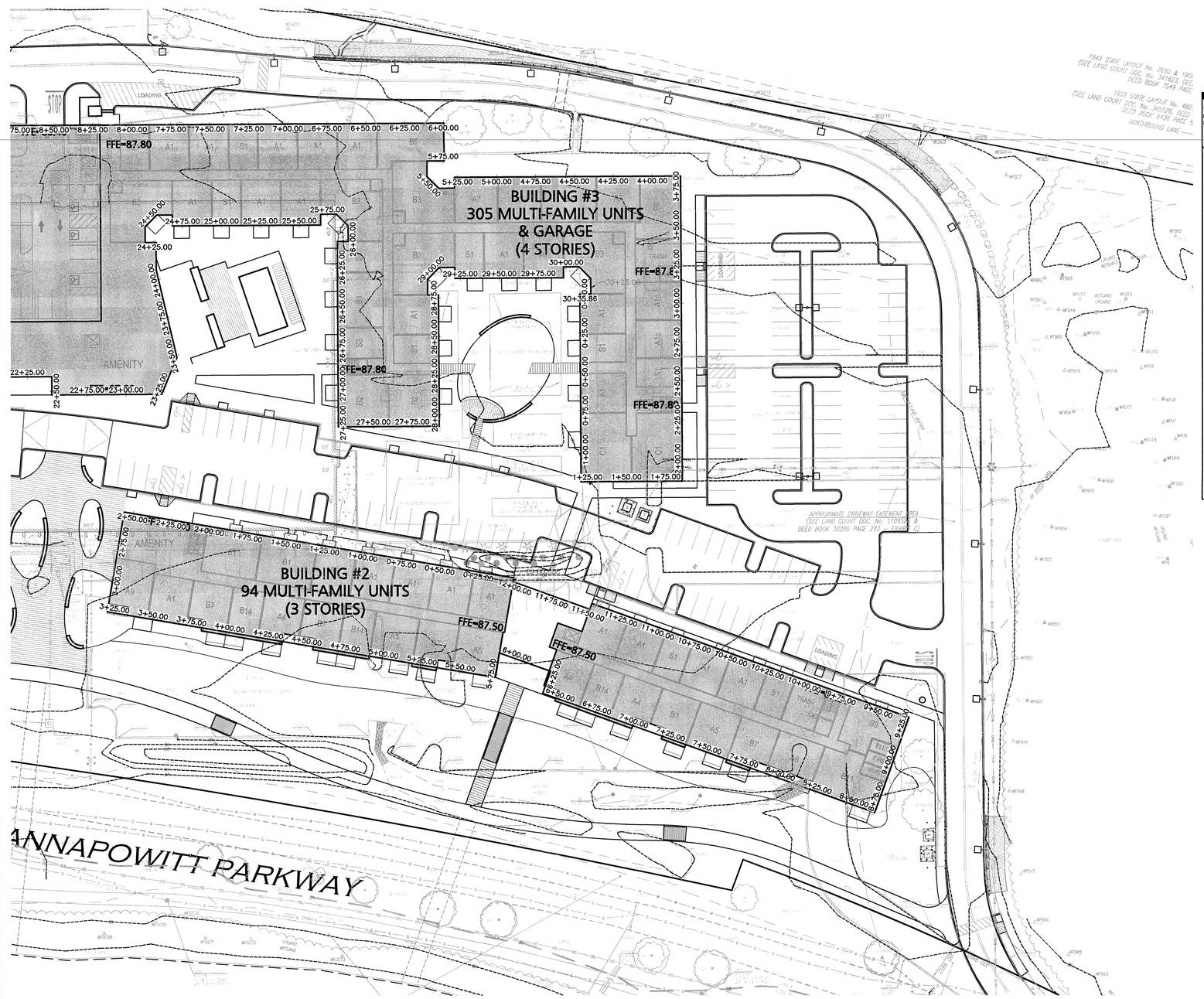

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BEFORE YOU DIG
CALL 811 OR
1-888-DIG-SAFE
1-888-344-7233

NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL ELEVATIONS REFER TO NAVD '88.
3. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. IT'S INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
4. ALL EXISTING GRADES AT LOCATIONS WITHIN THE FOOTPRINT OF THE EXISTING BUILDING ASSUME AN ELEVATION 86.70 TO MATCH THE EXISTING FINISH FLOOR.

Computation Sheet

Title: ***Grade Plane Summary Spreadsheet*** — By: ND
Project: 200 Quinnapowitt Parkway, Wakefield, MA — Chk'd: TJW
Date — Appr'd: TJW

Building #2

Station From	Elevation 1	Station To	Elevation 2	Length	Average Grade	Weighted Average Finish Grade
Existing Grade						
Height of Building - The vertical distance of the highest point of the roof above the average finished grade of the ground immediately adjoining the building, as computed before the building is actually erected.						
0+00.00	85.00	0+25.00	86.00	25.00	85.50	2137.50
0+25.00	86.00	0+50.00	84.50	25.00	85.25	2133.25
0+50.00	84.50	0+75.00	84.50	25.00	84.50	2112.50
0+75.00	84.50	1+00.00	85.00	25.00	84.75	2118.75
1+00.00	85.00	1+25.00	85.00	25.00	85.00	2125.00
1+25.00	85.00	1+50.00	85.10	25.00	85.05	2126.25
1+50.00	85.10	1+75.00	85.50	25.00	85.30	2132.50
1+75.00	85.50	2+00.00	86.70	25.00	86.10	2152.50
2+00.00	86.70	2+25.00	86.70	25.00	86.70	2167.50
2+25.00	86.70	2+50.00	86.70	25.00	86.70	2167.50
2+50.00	86.70	2+75.00	85.70	25.00	86.20	2155.00
2+75.00	85.70	3+00.00	85.20	25.00	85.45	2136.25
3+00.00	85.20	3+25.00	85.00	25.00	85.10	2127.50
3+25.00	85.00	3+50.00	84.80	25.00	84.90	2122.50
3+50.00	84.80	3+75.00	84.50	25.00	84.65	2116.25
3+75.00	84.50	4+00.00	84.20	25.00	84.35	2108.75
4+00.00	84.20	4+25.00	84.10	25.00	84.15	2103.75
4+25.00	84.10	4+50.00	83.90	25.00	84.00	2100.00
4+50.00	83.90	4+75.00	83.80	25.00	83.85	2096.25
4+75.00	83.80	5+00.00	84.50	25.00	84.15	2103.75
5+00.00	84.50	5+25.00	84.20	25.00	84.35	2108.75
5+25.00	84.20	5+50.00	84.20	25.00	84.20	2105.00
5+50.00	84.20	5+75.00	83.90	25.00	84.05	2101.25
5+75.00	83.90	6+00.00	84.10	25.00	84.00	2100.00
6+00.00	84.10	6+25.00	83.90	25.00	84.00	2100.00
6+25.00	83.90	6+50.00	83.90	25.00	83.90	2097.50
6+50.00	83.90	6+75.00	83.90	25.00	83.90	2097.50
6+75.00	83.90	7+00.00	83.90	25.00	83.90	2097.50
7+00.00	83.90	7+25.00	83.90	25.00	83.90	2097.50
7+25.00	83.90	7+50.00	83.90	25.00	83.90	2097.50
7+50.00	83.90	7+75.00	83.90	25.00	83.90	2097.50
7+75.00	83.90	8+00.00	84.00	25.00	83.95	2098.75
8+00.00	84.00	8+25.00	83.50	25.00	83.75	2093.75
8+25.00	83.50	8+50.00	84.10	25.00	83.80	2095.00
8+50.00	84.10	8+75.00	84.10	25.00	84.10	2102.50
8+75.00	84.10	9+00.00	84.00	25.00	84.05	2101.25
9+00.00	84.00	9+25.00	84.50	25.00	84.25	2106.25
9+25.00	84.50	9+50.00	84.50	25.00	84.50	2112.50
9+50.00	84.50	9+75.00	84.00	25.00	84.25	2106.25
9+75.00	84.00	10+00.00	83.90	25.00	83.95	2098.75
10+00.00	83.90	10+25.00	83.90	25.00	83.90	2097.50
10+25.00	83.90	10+50.00	83.90	25.00	83.90	2097.50
10+50.00	83.90	10+75.00	84.20	25.00	84.05	2101.25
10+75.00	84.20	11+00.00	84.20	25.00	84.20	2105.00
11+00.00	84.20	11+25.00	84.20	25.00	84.20	2105.00
11+25.00	84.20	11+50.00	84.40	25.00	84.30	2107.50
11+50.00	84.40	11+75.00	84.50	25.00	84.45	2111.25
11+75.00	84.50	12+00.00	85.00	25.00	84.75	2118.75
12+00.00	84.50	12+02.38	85.00	2.38	84.75	201.71
			Total	1,202.38		84.50

Allen & Major Associates, Inc.

Computation Sheet

Title: ***Grade Plane Summary Spreadsheet*** — By: ND
Project: 200 Quinnapowitt Parkway, Wakefield, MA — Chk'd: TJW
Date — Appr'd: TJW

Building #3

Station From	Elevation 1	Station To	Elevation 2	Length	Average Grade	Weighted Average Finish Grade
Existing Grade						
Height of Building - The vertical distance of the highest point of the roof above the average finished grade of the ground immediately adjoining the building, as computed before the building is actually erected.						
0+00.00	83.70	0+25.00	83.90	25.00	83.80	2095.00
0+25.00	83.80	0+50.00	83.80	25.00	83.85	2096.25
0+50.00	83.80	0+75.00	83.90	25.00	83.85	2096.25
0+75.00	83.90	1+00.00	83.90	25.00	83.90	2097.50
1+00.00	83.90	1+25.00	84.00	25.00	83.95	2098.75
1+25.00	84.00	1+50.00	83.80	25.00	83.90	2097.50
1+50.00	83.80	1+75.00	84.00	25.00	83.90	2097.50
1+75.00	84.00	2+00.00	84.00	25.00	84.00	2100.00
2+00.00	84.00	2+25.00	83.50	25.00	83.75	2093.75
2+25.00	83.50	2+50.00	83.60	25.00	83.55	2088.75
2+50.00	83.60	2+75.00	83.20	25.00	83.40	2085.00
2+75.00	83.20	3+00.00	83.20	25.00	83.20	2080.00
3+00.00	83.20	3+25.00	83.00	25.00	83.10	2077.50
3+25.00	83.00	3+50.00	82.90	25.00	82.95	2073.75
3+50.00	83.00	3+75.00	82.90	25.00	82.95	2073.75
3+75.00	82.90	4+00.00	82.90	25.00	82.90	2072.50
4+00.00	82.90	4+25.00	82.90	25.00	82.90	2072.50
4+25.00	82.90	4+50.00	83.00	25.00	82.95	2073.75
4+50.00	83.00	4+75.00	83.20	25.00	83.10	2077.50
4+75.00	83.20	5+00.00	83.30	25.00	83.25	2081.25
5+00.00	83.30	5+25.00	83.40	25.00	83.35	2083.75
5+25.00	83.40	5+50.00	83.40	25.00	83.40	2085.00
5+50.00	83.40	5+75.00	83.30	25.00	83.35	2083.75
5+75.00	83.30	6+00.00	83.50	25.00	83.40	2085.00
6+00.00	83.50	6+25.00	83.00	25.00	83.25	2081.25
6+25.00	83.00	6+50.00	83.70	25.00	83.35	2083.75
6+50.00	83.70	6+75.00	83.90	25.00	83.80	2095.00
6+75.00	83.90	7+00.00	84.00	25.00	83.95	2098.75
7+00.00	84.00	7+25.00	84.30	25.00	84.15	2103.75
7+25.00	84.30	7+50.00	84.80	25.00	84.55	2113.75
7+50.00	84.80	7+75.00	84.90	25.00	84.85	2121.25
7+75.00	84.90	8+00.00	84.90	25.00	84.90	2122.50
8+00.00	84.90	8+25.00	85.20	25.00	85.05	2126.25
8+25.00	85.20	8+50.00	85.00	25.00	85.10	2127.50
8+50.00	85.00	8+75.00	85.00	25.00	85.00	2125.00
8+75.00	85.00	9+00.00	84.70	25.00	84.85	2121.25
9+00.00	84.70	9+25.00	84.80	25.00	84.75	2118.75
9+25.00	84.80	9+50.00	84.80	25.00	84.80	2120.00
9+50.00	84.80	9+75.00	84.40	25.00	84.60	2113.00
9+75.00	84.40	10+00.00	83.80	25.00	84.10	2102.50
10+00.00	83.80	10+25.00	83.00	25.00	83.40	2085.00
10+25.00	83.00	10+50.00	82.80	25.00	82.90	2072.50
10+50.00	82.80	10+75.00	82.70	25.00	82.65	2066.25
10+75.00	82.70	11+00.00	83.00	25.00	82.85	2071.25
11+00.00	83.00	11+25.00	83.10	25.00	83.05	2076.25
11+25.00	83.10	11+50.00	83.30	25.00	83.20	2080.00
11+50.00	83.30	11+75.00	83.40	25.00	83.35	2083.75
11+75.00	83.40	12+00.00	83.50	25.00	83.45	2086.25
12+00.00	83.50	12+25.00	83.40	25.00	83.45	2086.25
12+25.00	83.40	12+50.00	83.60	25.00	83.50	2087.50
12+50.00	83.60	12+75.00	83.50	25.00	83.55	2088.75
12+75.00	83.50	13+00.00	83.40	25.00	83.45	2086.25
13+00.00	83.40	13+25.00	83.30	25.00	83.35	2083.75
13+25.00	83.30	13+50.00	83.50	25.00	83.40	2085.00
13+50.00	83.50	13+75.00	83.80	25.00	83.70	2092.50
13+75.00	83.60	14+00.00	85.00	25.00	84.45	2111.25
14+00.00	85.00	14+25.00	86.10	25.00	85.65	2141.25
14+25.00	86.70	14+50.00	86.70	25.00	86.70	2167.50
14+50.00	86.70	14+75.00	86.70	25.00	86.70	2167.50
14+75.00	86.70	15+00.00	86.70	25.00	86.70	2167.50
15+00.00	86.70	15+25.00	86.70	25.00	86.70	2167.50
15+25.00	86.70	15+50.00	86.70	25.00	86.70	2167.50
15+50.00	86.70	15+75.00	86.70	25.00	86.70	2167.50
15+75.00	86.70	16+00.00	86.70	25.00	86.70	2167.50
16+00.00	86.70	16+25.00	86.70	25.00	86.70	2167.50
16+25.00	86.70	16+50.00	86.70	25.00	86.70	2167.50
16+50.00	86.70	16+75.00	86.30	25.00	86.45	2161.25
16+75.00	86.20	17+00.00	85.20	25.00	85.70	2142.50
17+00.00	85.20	17+25.00	86.70	25.00	85.95	2148.75
17+25.00	86.70	17+50.00	86.20	25.00	86.45	2161.25
17+50.00	86.20	17+75.00	85.80	25.00	86.00	2150.00
17+75.00	85.80	18+00.00	84.80	25.00	85.30	2132.50
18+00.00	84.80	18+25.00	86.70	25.00	85.75	2143.75
18+25.00	86.70	18+50.00	86.70	25.00	86.70	2167.50
18+50.00	86.70	18+75.00	86.70	25.00	86.70	2167.50
18+75.00	86.70	19+00.00	86.70	25.00	86.70	2167.50
19+00.00	86.70	19+25.00	86.70	25.00	86.70	2167.50
19+25.00	86.70	19+50.00	86.70	25.00	86.70	2167.50
19+50.00	86.70	19+75.00	86.70	25.00	86.70	2167.50
19+75.00	86.70	20+00.00	86.70	25.00	86.70	2167.50
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21+75.00	86.70	22+00.00	86.70	25.00	86.70	2167.50
22+00.00	86.70	22+25.00	86.70	25.00	86.70	2167.50
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22+50.00	86.70	22+75.00	86.70	25.00	86.70	2167.50
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23+50.00	86.70	23+75.00	86.70	25.00	86.70	2167.50
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24+00.00	86.70	24+25.00	86.70	25.00	86.70	2167.50
24+25.00	86.70	24+50.00	86.70	25.00	86.70	2167.50
24+50.00	86.70	24+75.00	86.70	25.00	86.70	2167.50
24+75.00	86.70	25+00.00	86.70	25.00	86.70	2167.50
25+00.00	86.70	25+25.00	86.70	25.00	86.70	2167.50
25+25.00	86.70	25+50.00	86.70	25.00	86.70	2167.50
25+50.00	86.70	25+75.00	86.70	25.00	86.70	2167.50
25+75.00	86.70	26+00.00	83.90	25.00	85.30	2132.50
26+00.00	83.90	26+25.00	86.70	25.00	85.30	2132.50
26+25.00	86.70	26+50.00	84.30	25.00	85.50	2137.50
26+50.00	84.30	26+75.00	84.40	25.00	84.35	2108.75
26+75.00	84.40	27+00.00	84.60	25.00	84.50	2112.50
27+00.00	84.60	27+25.00	84.70	25.00	84.65	2116.25
27+25.00	84.70	27+50.00	84.00	25.00	84.35	2108.75
27+50.00	84.00	27+75.00	84.20	25.00	84.10	2102.50
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28+50.00	84.50	28+75.00	84.50	25.00	84.50	2112.50
28+75.00	84.50	29+00.00	84.00	25.00	84.25	2106.25
29+00.00	84.00	29+25.00	84.00	25.00	84.00	2100.00
29+25.00	84.00	29+50.00	83.90	25.00	83.95	2098.75
29+50.00	83.90	29+75.00	83.90	25.00	83.90	2097.50
29+75.00	83.90	30+00.00	83.70	25.00	83.80	2095.00
30+00.00	83.70	30+25.00	83.50	25.00	83.60	2090.00
30+25.00	84.30	30+36.86	83.70	10.85	84.00	912.24
			Total	3,036.86		84.91

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
9/3/21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	1"=30'	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
www.allenmajor.com
100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
FAX: (781) 935-2896
WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:
AVERAGE GRADE PLAN

SHEET No.
C-109B

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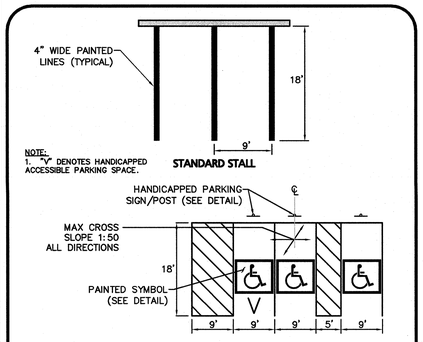
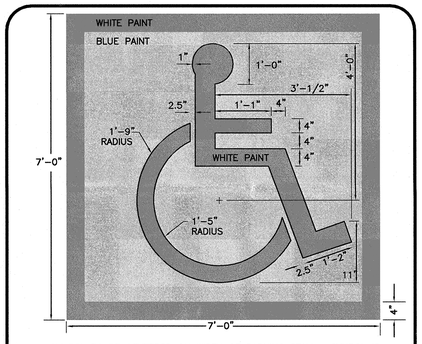
N:\PROJECTS\1623-11\CIVIL\DRAWINGS\[CURRENT] C-1623-11 - AVERAGE GRADE.DWG



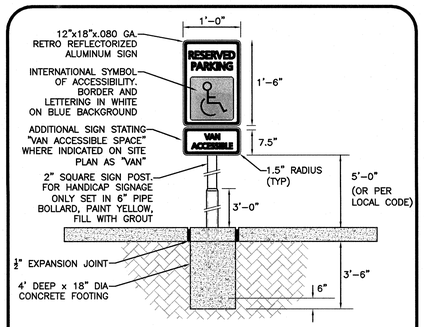
STANDARD AND VAN ACCESSIBLE HANDICAPPED PARKING SPACE

HANDICAP AND STANDARD PARKING STRIPING — NOT TO SCALE — 1



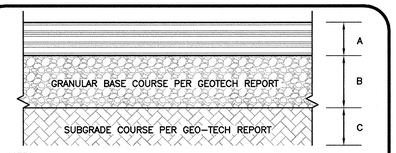
SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND. USE WHITE ON BLUE (COLOR #105090 IN FEDERAL STANDARD 5952) DOUBLE COAT.

ACCESSIBLE PARKING STALL PAVEMENT MARKING — NOT TO SCALE — 2



NOTES:
1. SPECIFIC CODE SHALL BE REFERENCED FOR LOCAL AND STATE REQUIREMENTS.
2. PROVIDE (1) SIGN PER HANDICAP SPACE. SEE SITE PLAN FOR EXACT LOCATION.
3. EXPANSION JOINT MATERIAL NOT REQUIRED WITH FLEXIBLE PAVEMENT.

ADA ACCESSIBLE PARKING / TRAFFIC CONTROL SIGNAGE — NOT TO SCALE — 3



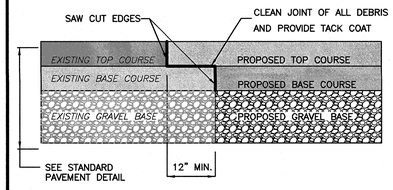
NOTES:
1. SURFACE COURSE, BASE, AND SUBGRADE SHALL BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS FOR LOCAL SOILS OR DRAINAGE CONDITIONS AND/OR METHODS.
2. SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY (AS DETERMINED BY ASTM D1557).
3. COORDINATE PAVEMENT DETAIL WITH GEOTECHNICAL ENGINEER.

STANDARD DUTY PAVING
A= 1.5" ASPHALT CONCRETE – SURFACE COURSE (M.3.11.0, TABLE A, TOP COURSE)
1.5" ASPHALT CONCRETE – BINDER COURSE (M.3.11.0, TABLE A, BINDER COURSE)
B= 4" BASE COURSE (MHD 2.01.7)
C= 12" SUBBASE COURSE (MHD 1.03.0, TYPE B)

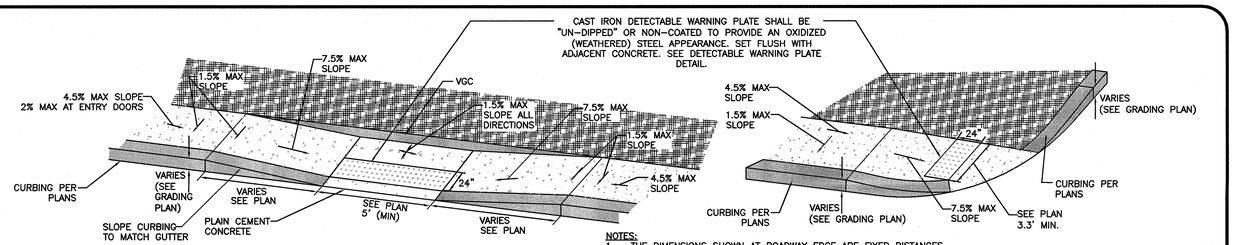
HEAVY DUTY PAVING
A= 2" ASPHALT CONCRETE – SURFACE COURSE (M.3.11.0, TABLE A, TOP COURSE)
2" ASPHALT CONCRETE – BINDER COURSE (M.3.11.0, TABLE A, BINDER COURSE)
B= 6" BASE COURSE (MHD 2.01.7)
C= 15" SUBBASE COURSE (MHD 1.03.0, TYPE B)

STANDARD/HEAVY DUTY BITUMINOUS PAVEMENT — 4

NOTE:
TACK COAT – PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.

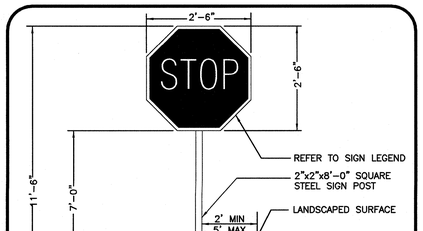


PAVEMENT KEY CUT DETAIL — NOT TO SCALE — 5

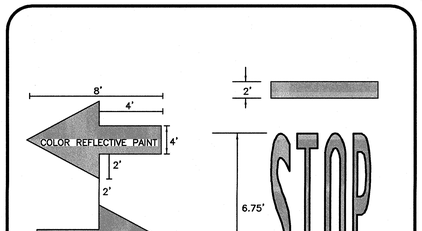


NOTES:
1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE THE SAME AS ADJACENT SIDEWALK; I.E. DEPTH OF SURFACE AND FOUNDATION.
3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
4. IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
5. THE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE. CONSULT CIVIL ENGINEER PRIOR TO MAKING ANY MODIFICATIONS.

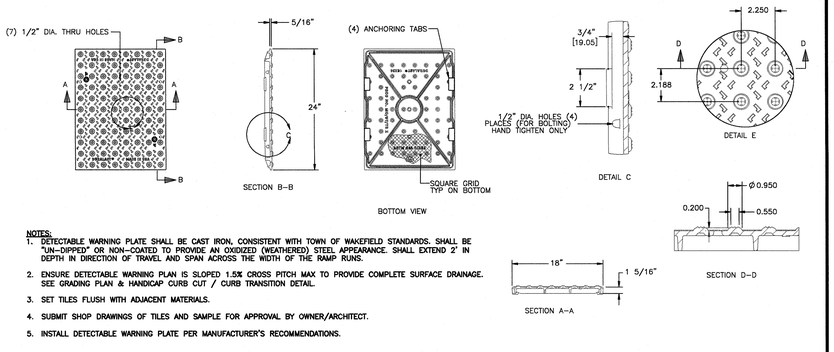
HANDICAP CURB CUT & CURB TRANSITION — NOT TO SCALE — 6



STOP SIGN DETAIL — NOT TO SCALE — 7

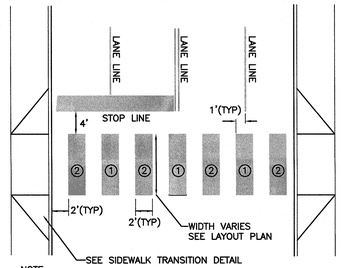


WHITE THERMOPLASTIC LETTERING AND ARROWS — NOT TO SCALE — 8



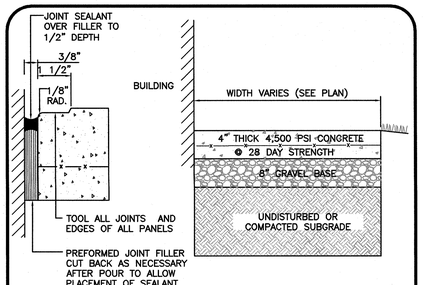
NOTES:
1. DETECTABLE WARNING PLATE SHALL BE CAST IRON, CONSISTENT WITH TOWN OF WAKEFIELD STANDARDS. SHALL BE "UN-DIPPED" OR NON-COATED TO PROVIDE AN OXIDIZED (WEATHERED) STEEL APPEARANCE. SHALL EXTEND 2' IN DEPTH IN DIRECTION OF TRAVEL AND SPAN ACROSS THE WIDTH OF THE RAMP RUNS.
2. ENSURE DETECTABLE WARNING PLAN IS SLOPED 1.5% CROSS PITCH MAX TO PROVIDE COMPLETE SURFACE DRAINAGE. SEE GRADING PLAN & HANDICAP CURB CUT / CURB TRANSITION DETAIL.
3. SET TILES FLUSH WITH ADJACENT MATERIALS.
4. SUBMIT SHOP DRAWINGS OF TILES AND SAMPLE FOR APPROVAL BY OWNER/ARCHITECT.
5. INSTALL DETECTABLE WARNING PLATE PER MANUFACTURER'S RECOMMENDATIONS.

DETECTABLE WARNING PAVERS — NOT TO SCALE — 9



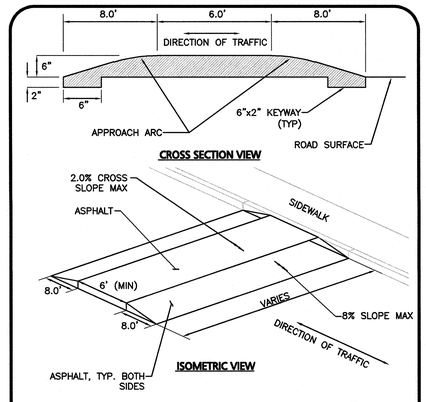
NOTE:
① LANE LINE STRIP: THIS IS LOCATED IN THE LINE WITH EACH LANE LINE AND HALF THE STRIP ON EACH SIDE.
② MID LINE STRIP: THIS IS LOCATED MIDWAY BETWEEN EACH LANE LINE STRIP.

PAINTED CROSSWAK STRIPING — NOT TO SCALE — 10



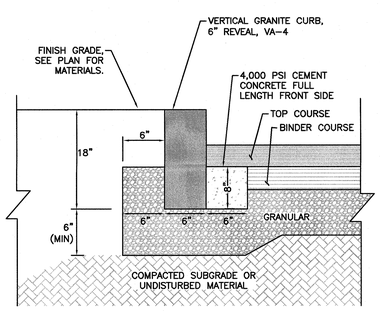
NOTES:
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER
2. TOOLED JOINT 6" FROM FACE OF CURB
3. SEE PLAN FOR ELEVATIONS AT CURB
4. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.

CONCRETE SIDEWALK DETAIL — NOT TO SCALE — 11

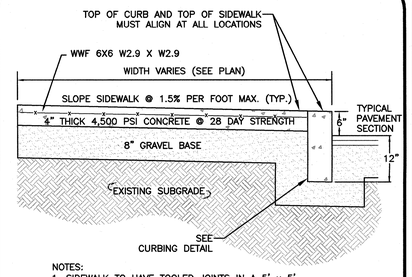


RAISED BIT. CONCRETE SPEED RAMP — NOT TO SCALE — 12

NOT USED — NOT TO SCALE — 13

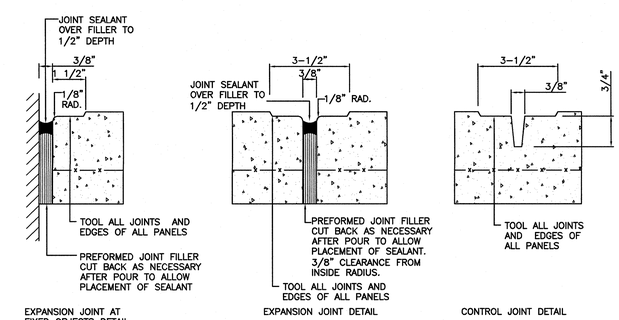


VERTICAL GRANITE CURB — NOT TO SCALE — 14



NOTES:
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER
2. TOOLED JOINT 6" FROM FACE OF CURB
3. SEE PLAN FOR ELEVATIONS AT CURB
4. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL SLOPE TO BE 4.5% MAX, TYP.

CONCRETE SIDEWALK DETAIL — NOT TO SCALE — 15



NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN. 15' O.C. MIN.
2. PROVIDE CONTROL JOINTS AT 5' O.C. UNLESS SHOWN OTHERWISE.
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO DIRECTION OF TRAVEL.
4. CEMENT CONCRETE SHALL BE 4,500 PSI AIR ENTRAINED.
5. REFER TO LANDSCAPING PLANS FOR ADDITIONAL JOINTS.
6. JOINT FILLERS SHALL BE RESILIENT PREMOLDED BITUMINOUS IMPREGNATED FIBERBOARD. SUBMIT SHOP DRAWINGS.
7. JOINT SEALANTS SHALL BE NON-PRIMING POURABLE SELF-LEVELING TYPE. SUBMIT SHOP DRAWINGS.
8. ALL CURBS TO HAVE 3/4" EXPANSION JOINTS AT MAXIMUM 100 FEET WITH DOWELS AND CONTROL JOINTS AT MAXIMUM 15 FEET

CONCRETE SIDEWALK JOINTS — NOT TO SCALE — 16

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - DETAILS.DWG

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
9/3/21

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	N.T.S.	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
civil engineering ◆ land surveying
environmental consulting ◆ landscape architecture
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100 COMMERCE WAY
WOBURN MA 01888-0118
TEL: (781) 935-6889
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DRAWING TITLE: DETAILS

SHEET No. C-501

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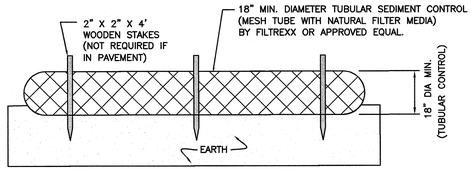
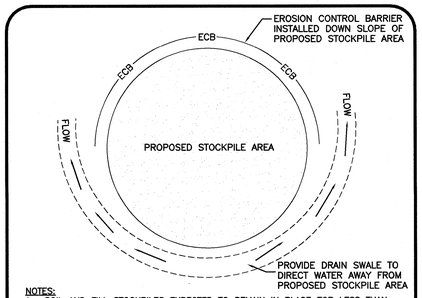


SECTION

NOTES:

1. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
2. DIG TRENCH AND PLACE TUBULAR SEDIMENT CONTROLS. INSTALL WOODEN STAKES THROUGH COIR LOG MESH AND INTO EARTH EVERY 5' O.C. TIE ADJACENT LOGS TOGETHER WITH BIODEGRADABLE TWINE AND OVERLAP LOGS A MINIMUM OF 12".
3. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR SEDIMENT CONTROLS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
4. WHERE THE TUBULAR SEDIMENT CONTROLS REQUIRE REPAIR OR SEDIMENT, IT WILL BE ROUTINELY COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
5. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE , OR IF MORE FREQUENTLY AS DIRECTED BY THE ENGINEER.

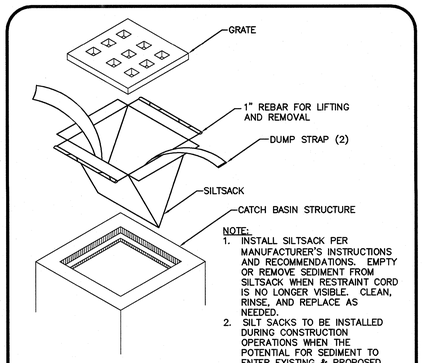
COIR LOG DETAIL — NOT TO SCALE — 1



NOTES:

1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH STRAW AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

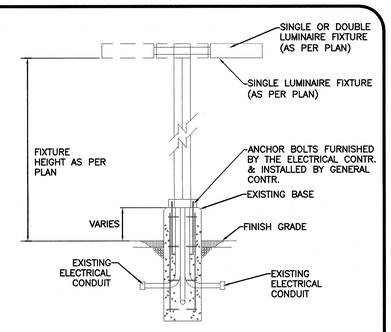
STOCKPILE PROTECTION — NOT TO SCALE — 2



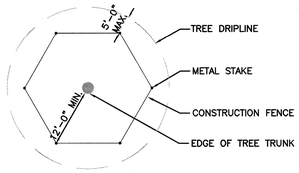
NOTE:

1. INSTALL SILTSACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. EMPTY OR REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.
2. SILT SACKS TO BE INSTALLED DURING CONSTRUCTION OPERATIONS WHEN THE POTENTIAL FOR SEDIMENT TO ENTER EXISTING & PROPOSED BASINS EXISTS.

SILTSACK INLET DETAIL — NOT TO SCALE — 3

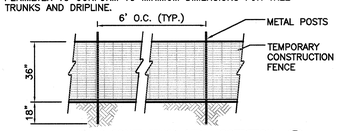


MOUNTED LIGHT POLE (EXISTING BASE) DETAIL — NOT TO SCALE — 4

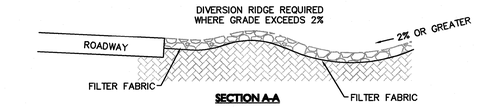


NOTE:

1. CONSTRUCTION FENCE TO BE "VISUAL BARRIER FENCE" AS MANUFACTURED BY EXXON CHEMICAL COMPANY ATLANTA, GA; "KONTROL SAFETY FENCE" AS MANUFACTURED BY MIRAFI, CHARLOTTE, N.C. OR APPROVED EQUAL.
2. IF GROUPS OF TREES ARE TO BE PROTECTED, EXTEND FENCE AROUND PERIMETER TO CONFORM TO MINIMUM DIMENSIONS FOR TREE TRUNKS AND DRIPLINE.



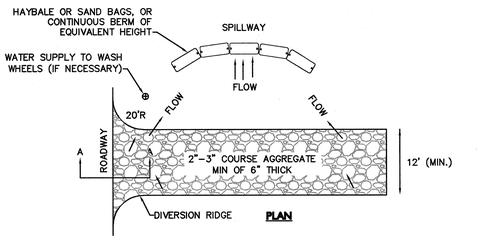
TEMP. CONST. FENCE / TREE PROTECTION — NOT TO SCALE — 5



SECTION A-A

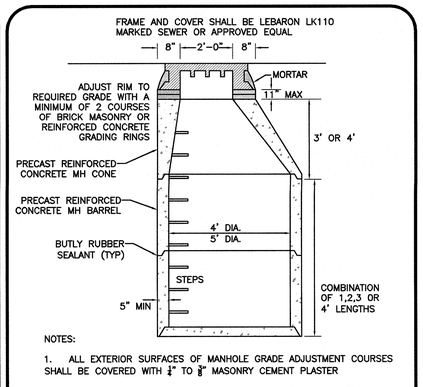
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTERING THE PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. USE SANDBAGS, HAYBALES, OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.



PLAN

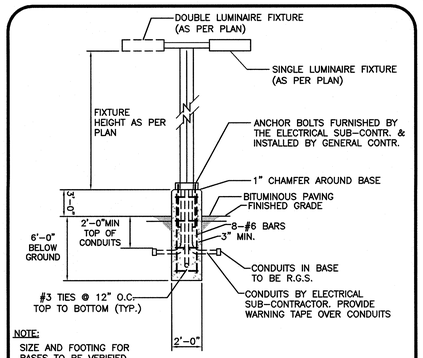
TEMPORARY CONSTRUCTION ENTRANCE/EXIT — NOT TO SCALE — 6



NOTES:

1. ALL EXTERIOR SURFACES OF MANHOLE GRADE ADJUSTMENT COURSES SHALL BE COVERED WITH ½" TO ⅝" MASONRY CEMENT PLASTER

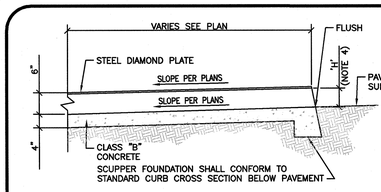
PRECAST CONCRETE SEWER MANHOLE — NOT TO SCALE — 7



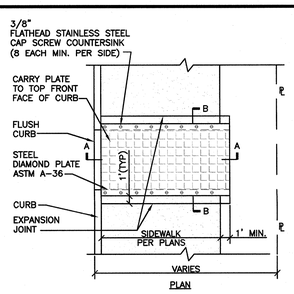
NOTE:

SIZE AND FOOTING FOR BASES TO BE VERIFIED BY STRUCTURAL ENGINEER.

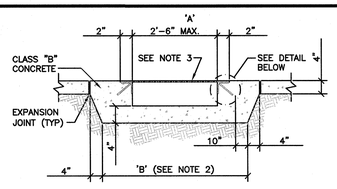
MOUNTED LIGHT POLE (NEW BASE) DETAIL — NOT TO SCALE — 8



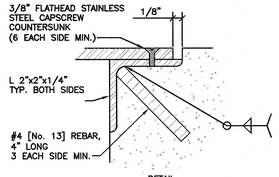
SECTION A-A



PLAN



SECTION B-B



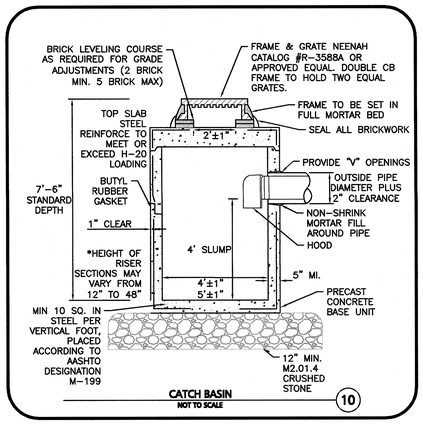
DETAIL

NOTES:

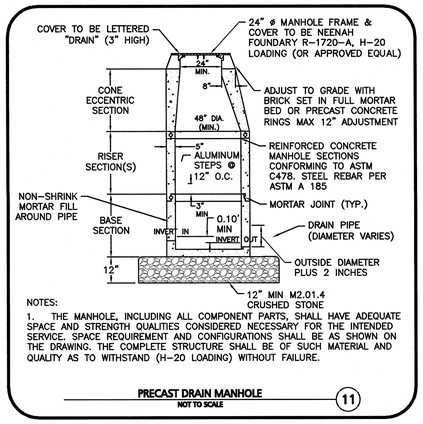
1. (———) INDICATES DIRECTION OF FLOW.
2. DIMENSION 'B' EQUALS 'A'+1'.
3. 1/2" THICK STEEL DIAMOND PLATE ASTM A-36. STEEL DIAMOND PLATE SHALL BE GIVEN TWO COATS OF HIGH PERFORMANCE NON-SLIP EPOXY PAINT. EXPOSED METAL SHALL BE PAINTED WITH TWO COATS OF SSPC PAINT NO. 5 OR APPROVED EQUAL.
4. 'h' EQUALS CURB FACE HEIGHT. DIMENSION NOTED ON PLANS.
5. FOR CURB AND GUTTER, USE 2' TRANSITIONS TO VERTICAL CURB.
6. FOR MULTIPLE SCUPPERS PROVIDE 4" BETWEEN ADJACENT PANELS OF STEEL DIAMOND PLATE.
7. STEEL DIAMOND PLATE SHALL BE DELIVERED AS ONE PIECE, CONFORMING TO THE REQUIRED SCUPPER DIMENSIONS. PLATES SHALL NOT BE SPLICED.

***OR APPROVED EQUAL**

SIDEWALK SCUPPER* — NOT TO SCALE — 9



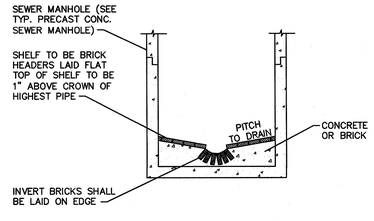
CATCH BASIN — NOT TO SCALE — 10



NOTES:

1. THE MANHOLE, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE AND STRENGTH QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENT AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND (H-20 LOADING) WITHOUT FAILURE.

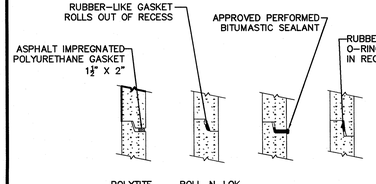
PRECAST DRAIN MANHOLE — NOT TO SCALE — 11



NOTES:

1. INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
2. MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CETER LINE OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF CEMENT CONCRETE OR BRICK IN MORTAR.

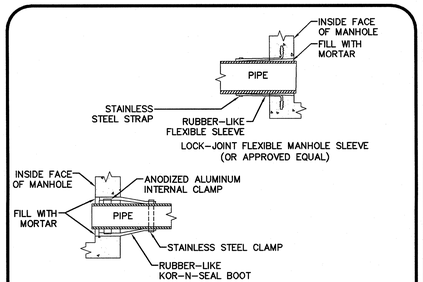
TYPICAL BRICK INVERT SECTION FOR SEWER MANHOLES — NOT TO SCALE — 12



NOTES:

1. HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
2. ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.

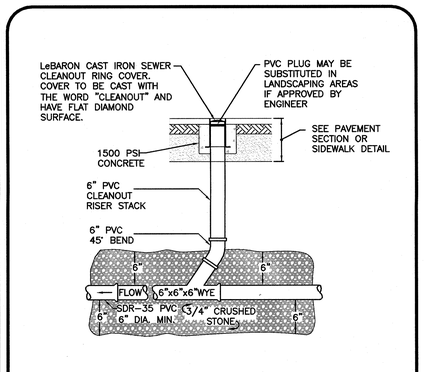
SEWER MANHOLE JOINTING METHODS — NOT TO SCALE — 13



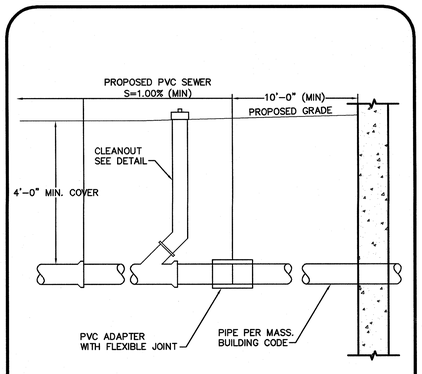
NOTES:

1. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATER TIGHTNESS UPON ELASTOMETRIC SEALANT
2. NON-SHRINKING MORTAR SHALL ONLY BE USED WHERE SPECIFICALLY APPROVED BY THE ENGINEER.

PIPE CONNECTIONS TO SEWER MANHOLE — NOT TO SCALE — 14



SEWER CLEAN OUT DETAIL — NOT TO SCALE — 15



BUILDING SEWER SERVICE — NOT TO SCALE — 16

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - DETAILS.DWG

COMMONWEALTH OF MASSACHUSETTS — TIMOTHY J. WILLIAMS — CIVIL — No. 45119 — REGISTERED PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:

CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:

200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	N.T.S.	DWG. NAME: C-1623-11.dwg	
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting ◆ landscape architecture
www.allenmajor.com
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WOBURN, MA ◆ LAKEVILLE, MA ◆ MANCHESTER, NH

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DRAWING TITLE:	SHEET No.
DETAILS	C-502

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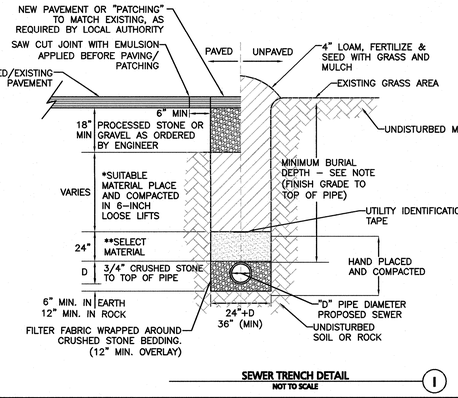
NOTES:

1. MINIMUM BURIAL DEPTH (FINISH GRADE TO TOP OF PIPE)
   GRAVITY PIPE – SEE PLAN OR PROFILE
   PRESSURE PIPE UNDER PAVING – 4'
   PRESSURE PIPE BENEATH UNPAVED – 3'
2. WHERE BACKFILL IS DESIGNATED AS COMPACTED, THIS MEANS 90 TO 95% STANDARD PROCTOR. AASHTO T–99. ALL FILL PLACED BELOW PIPES AND STRUCTURES MUST MEET THIS REQUIREMENT.
3. INSTALL CLAY DAMS AROUND THE PIPE AT 50' INTERVALS TO PREVENT LANDFILL GAS MIGRATION. SEE TETRATECH DETAIL 20 ON SHEET CA–9.
4. TRENCHES WITHIN PUBLIC RIGHT OF WAY MAY REQUIRE FLOWABLE FILL. VERIFY WITH MUNICIPAL ENGINEER.
5. WHERE WASTE FILLS ARE ENCOUNTERED AT SUBGRADE LEVEL FOR NEW UTILITIES, THE FILL SHOULD BE OVER–EXCAVATED, THE SUBGRADE SHOULD BE RE–COMPACTED, AND BACKFILL CONSISTING OF PIPE BEDDING MATERIAL, CRUSHED STONE OR OTHER SUITABLE GRANULAR FILL SHOULD BE PLACED TO A SUFFICIENT DEPTH TO CREATE A FIRM AND STABLE SUBGRADE (TYPICALLY 12 TO 18 INCHES OVER–EXCAVATION).



SEWER TRENCH DETAIL (1)
NOT TO SCALE

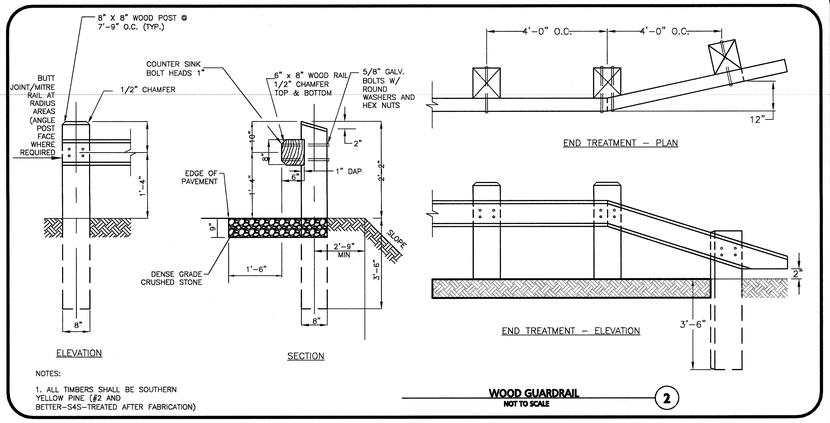
CONDITION & PIPE	**SELECT MATERIAL	LINING MATERIAL
DUCTILE IRON "ORDINARY SOIL"	TYPE I, II, OR III	SAND OR TYPE III
RCP "ORDINARY SOIL"	TYPE II OR III	SAND OR TYPE III
ALL PIPE OVER BEDROCK OR LEDGE	TYPE II OR III	SAND OR TYPE III
DUCTILE IRON IN CLAY OR MUCK	TYPE II OR III	SAND
RCP IN CLAY	TYPE II OR III	SAND
ALL PLASTICS	TYPE III	SAND OR TYPE III

* SUITABLE MATERIAL SHALL CONTAIN NO STONE GREATER THAN 4" IN DIAMETER, NO FROZEN LUMPS, AND SMALL AMOUNTS OF CLAY OR ORGANIC MATERIAL. ALL MATERIAL TO BE PLACED IN MAX 12" LIFTS AND COMPACTED BEFORE PLACING NEXT LIFT.

**TYPE I MATERIAL SHALL BE EITHER GRAVEL OR EXCAVATED MATERIAL CONTAINING NO STONES GREATER THAN 1.5" DIAMETER, NO FROZEN LUMPS, CLAY OR ORGANIC MATERIAL.

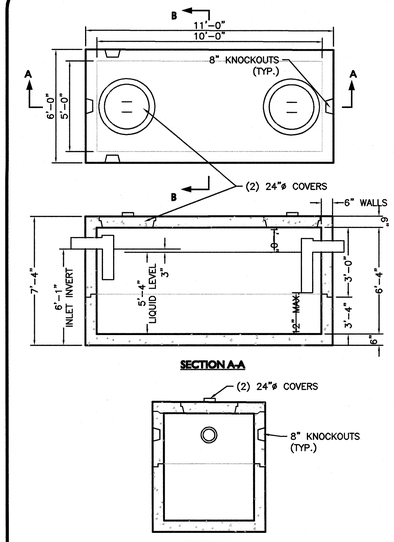
**TYPE II MATERIAL SHALL BE CLEAN, HARD, CRUSHED OR NATURAL STONE WITH A GRADATION BY WEIGHT OF 100% PASSING A 1.5" SQUARE OPENING, NOT MORE THAN 25% PASSING A ¾" OPENING, AND NOT MORE THAN 5% PASSING A ¼" SQUARE OPENING.

**TYPE III MATERIAL SHALL BE CLEAN, HARD, CRUSHED STONE FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 3/4" SQUARE OPENING, AND 0 TO 5% PASSING A ¼" SQUARE OPENING.



NOTES:
1. ALL TIMBERS SHALL BE SOUTHERN YELLOW PINE (#2 AND BETTER–S4S–TREATED AFTER FABRICATION)

WOOD GUARDRAIL (2)
NOT TO SCALE



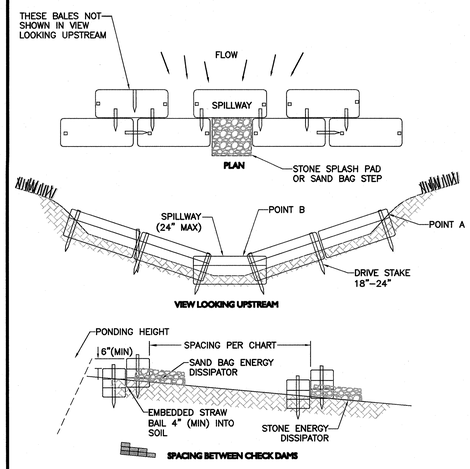
SECTION A-A

SECTION B-B

MANUFACTURER'S NOTES:
1. CONCRETE: 5,000 PSI MINIMUM STRENGTH @ 28 DAYS.
2. STEEL REINFORCING–ASTM A–615, GRADE 60.
3. COVER TO STEEL–1" MINIMUM.
4. TANKS ARE DESIGNED TO MEET ASTM C858 AND ACI 318 WITH ASSHTO HS–20 LOADING.
5. EARTH COVER: 0 TO 5 FEET MAX.
6. CONSTRUCTION JOINT SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVLENT.
7. APPROX. WEIGHTS: TOP SLAB = 2.3 TONS; BOTTON SECTION = 8.5 TONS.

ADDITIONAL NOTES:
1. ALL PIPE GOING TO, WITHIN, AND TO 10 FEET BEYOND THE CONCRETE STRUCTURE, INCLUDING THE 4" VENT PIPE, SHALL BE THE RESPONSIBILITY OF THE PLUMBING PROFESSIONAL.
2. ALL PIPE, INCLUDING THE 4" VENT PIPE TO THE ROOF, SHALL BE CAST IRON.
3. THE PLUMBING PROFESSIONAL SHOULD COORDINATE INSTALLATION OF THE TANK, ACCESS MANHOLES, AND DETAILS OF EXCAVATION, BACKFILLING, AND WATERPROOFING WITH THE CIVIL ENGINEER.
4. ADJUST TO GRADE WITH MINIMUM 12" OF CONCRETE BRICK AND MORTAR (RED BRICK SHALL NOT BE USED).
5. BUTYL RUBBER JOINT SEALANT SHALL BE USED AT ALL JOINTS.

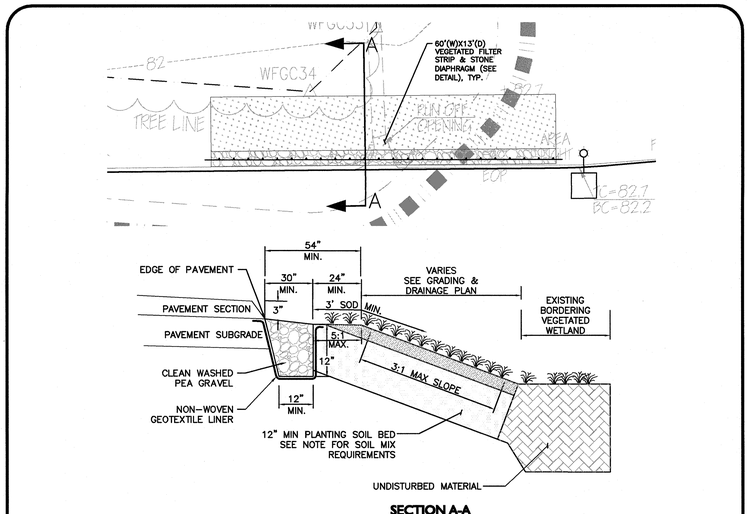
2,000 GALLON PRECAST CONCRETE GREASE TRAP (3)
NOT TO SCALE



GRADE %	SPACING (FT)
0–2	250
3–5	200–135
6–10	100–80
11–15	80–60
16–20	60–45

NOTE:
1. HAYBALE CHECK DAM TO BE USED WHERE DRAINAGE AREA IS LESS THAN ¼ ACRE. (TO BE FIELD COORDINATED)
2. EMBED BALES 4" INTO THE SOIL AND KEY BALES INTO THE CHANNEL BANKS.
3. POINT "A" MUST BE HIGHER THAN POINT "B" (SPILLWAY HEIGHT).
4. PLACE BALES PERPENDICULAR TO THE FLOW WITH ENDS TIGHTLY ABUTTING.
5. SPILLWAY HEIGHT SHALL NOT EXCEED 24".
6. INSPECT AFTER EACH SIGNIFICANT STORM, MAINTAIN AND REPAIR PROMPTLY.
7. DO NOT PLACE IN FLOWING STREAMS.

STRAWBALE CHECK DAM (4)
NOT TO SCALE



SECTION A-A

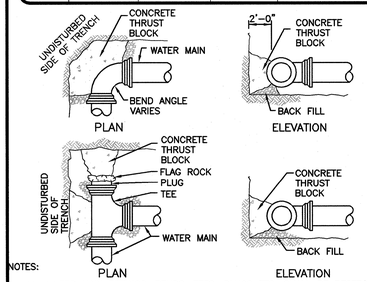
SOIL MIX REQUIREMENTS:

1. THE SOIL MIX SHALL BE FROM OFFSITE SOURCES AND SHOULD BE A MIXTURE OF SAND COMPOST AND SOIL. DO NOT REUSE EXISTING TOPSOILS. SOIL SHALL CONTAIN:
   – 20–30% SAND (CONSTRUCTION SAND)
   – 30–40% TOPSOIL
   – 20–30% COMPOST (AGED LEAF MULCH AND ORGANIC MATTER AS AVAILABLE FROM NEWLAND FARMS, 145 NEWLAND STREET NORTON, MA 508–285–3169).
   – 5% CLAY (MAX.)
2. THE SOIL MIX MUST BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN 1/2 INCHES.
3. SOIL pH SHOULD GENERALLY BE BETWEEN 5.5–7.0, A RANGE THAT IS OPTIMAL FOR MICROBIAL ACTIVITY AND ADSORPTION OF NITROGEN, PHOSPHORUS, AND OTHER POLLUTANTS.
4. USE SOIL WITH 7% TO 10% ORGANIC CONTENT OF TOTAL DRY WEIGHT.
5. THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM TEXTURE, PER USDA TEXTURE TRIANGLE. SOILS SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOILS. THE SOILS SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH AND MATCH THE PARTICLE DISTRIBUTION AND ORGANIC CONTENT REQUIREMENTS BELOW. TOPSOIL SHALL BE FREE OF ANY OBJECTS GREATER THAN ½" INCH IN DIAMETER INCLUDING STONES, EARTH CLODS, OR STICKS. IT SHALL CONTAIN NO STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR SHALL CONTAIN TOXIC SUBSTANCES.
6. THE COMPOST SHALL BE A HUMUS RICH TYPE DERIVED FROM THE DECOMPOSITION OF LEAVES AND YARD WASTES. THE COMPOST SHALL NOT CONTAIN BIOSOLIDS/MIXED MUNICIPAL COMPOST/ANIMAL MANURE COMPONENT.

STONE DIAPHRAGM & VEGETATED FILTER STRIP AT EXISTING SWALES (5)
NOT TO SCALE

MINIMUM THRUST BLOCK BEARING AREAS

PIPE DIAMETER	90° BEND (SQ. FT.)	45° BEND (SQ. FT.)	22.5° BEND (SQ. FT.)	TEES, PLUGS, CAPS & HYDRANTS (SQ.FT.)
6"	5	3	3	4
8"	9	6	3	9
10"	13	7	4	12
12"	20	10	5	16



NOTES:
1. ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS ETC. SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
2. ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
3. SIZE OF CONCRETE THRUST BLOCKS SHALL BE AS NOTED ABOVE.
4. MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 3,000 P.S.I.
5. KEEP CONCRETE CLEAR OF MECHANICAL JOINTS.
6. THE BELOW PREDICATED ON A WATER PRESSURE OF 225 PSI AND A SOIL RESISTANCE OF 2000 PSF (TILL). FOR OTHER SOILS THE VALUES IN THE ABOVE TABLE SHALL BE MULTIPLIED BY:
   SOFT CLAY 4
   SAND 2
   SAND & GRAVEL 1.33
   SHALE 0.4
7. ALL CAST–IN–PLACE THRUST BLOCKS SHALL BE FORMED UP WITH PLYWOOD SO THAT CONCRETE IS NOT CAST AROUND FITTINGS OR MECHANICAL JOINTS.

THRUST BLOCKS (6)
SCALE: N.T.S.

NOTES:
1. ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS ETC. SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
2. ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
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   SOFT CLAY 4
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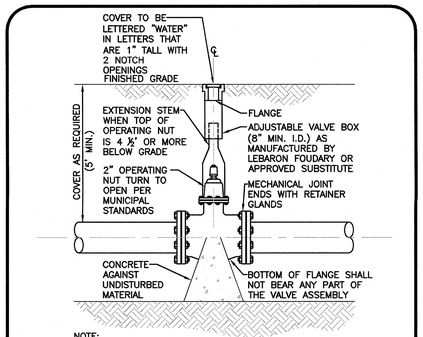
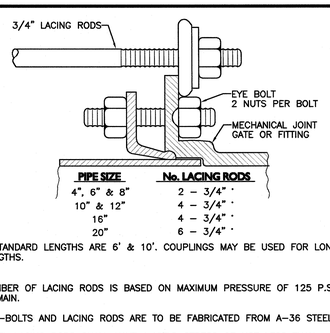
THRUST BLOCKS (6)
SCALE: N.T.S.

NOT USED (7)
NOT TO SCALE



NOTE:
1.) CONTRACTOR MAY USE ANCHOR TEES AT HIS OPTION.
2.) HYDRANTS AND VALVES TO OPERATE PER MUNICIPAL STANDARDS

GATE VALVE DETAIL (8)
NOT TO SCALE

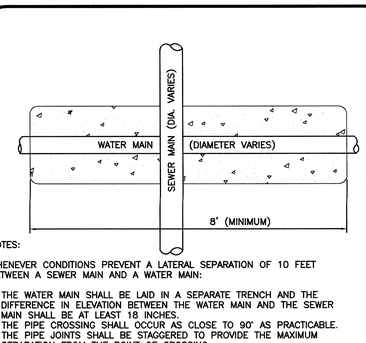


PIPE SIZE	No. LACING RODS
4", 6" & 8"	2 – 3/4" *
10" & 12"	4 – 3/4" *
16"	4 – 3/4" *
20"	6 – 3/4" *

* STANDARD LENGTHS ARE 6' & 10'. COUPLINGS MAY BE USED FOR LONGER LENGTHS.

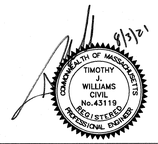
NOTES:
1. NUMBER OF LACING RODS IS BASED ON MAXIMUM PRESSURE OF 125 P.S.I. IN MAIN.
2. EYE–BOLTS AND LACING RODS ARE TO BE FABRICATED FROM A–36 STEEL.
3. STEEL LACING RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 36,000 P.S.I.
4. EYE–BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 7,000 LBS. EACH.

MECHANICAL JOINT LACING DETAIL (9)
NOT TO SCALE



NOTES:
WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET BETWEEN A SEWER MAIN AND A WATER MAIN:
1. THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE DIFFERENCE IN ELEVATION BETWEEN THE WATER MAIN AND THE SEWER MAIN SHALL BE AT LEAST 18 INCHES.
2. THE PIPE CROSSING SHALL OCCUR AS CLOSE TO 90° AS PRACTICABLE.
3. THE PIPE JOINTS SHALL BE STAGGERED TO PROVIDE THE MAXIMUM SEPARATION FROM THE POINT OF CROSSING.
4. THE CROSSING SHALL BE ENCASED IN CONCRETE FOR THE ENTIRE WIDTH OF THE TRENCH AND FOR A DISTANCE OF 8 LINEAR FEET CENTERED ON THE CROSSING.

SEWER / WATER CROSSING DETAIL (10)
NOT TO SCALE



PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	N.T.S.	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:

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DRAWING TITLE: DETAILS
SHEET No. C-503

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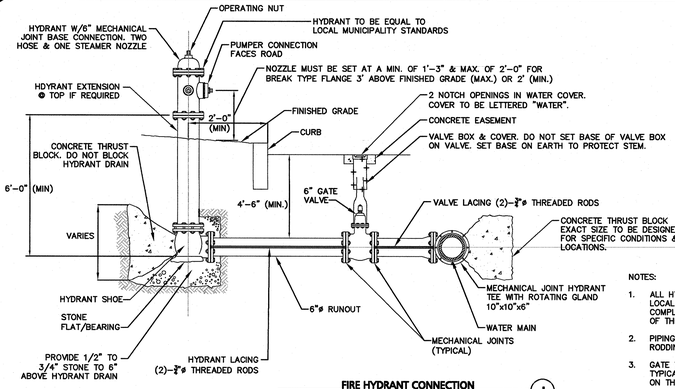
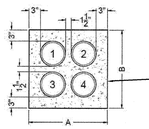


NOTES:

1. ALL HYDRANTS, VALVES AND LOCAL CONNECTIONS SHALL COMPLY WITH THE SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
2. PIPING TO BE RESTRAINED WITH RODDING OR RETAINING GLANDS.
3. GATE VALVE INSTALLATION IS TYPICAL FOR ALL GATES SHOWN ON THE DRAWINGS.

FIRE HYDRANT CONNECTION (1)
NOT TO SCALE



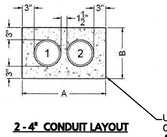
DIMENSIONS:
A = 18.5-INCHES
B = 18.5-INCHES

USE SPACERS TO MAINTAIN CORRECT SPACING & ALIGNMENT OF THE DUCTS

4 - 5" CONDUIT LAYOUT

CONCRETE SPECIFICATION:

- CONCRETE SHALL BE NORMAL WEIGHT WITH PEASTONE MIX, 2500 PSI @ 28 DAY COMPRESSIVE STRENGTH.
- UNLESS OTHERWISE SPECIFIED, CONSTRUCTION SHALL CONFORM TO ACI-318 (LATEST EDITION) WHERE REINFORCEMENT IS SPECIFIED.



DIMENSIONS:
A = 16.5-INCHES
B = 10.5-INCHES

USE SPACERS TO MAINTAIN CORRECT SPACING & ALIGNMENT OF THE DUCTS

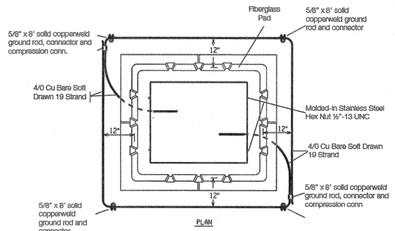
2 - 4" CONDUIT LAYOUT

NOTES:

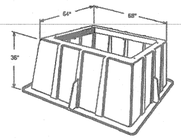
1. MAINTAIN A CLEAR DISTANCE OF 12" (MIN.) FROM ALL STRUCTURES THAT CROSS ABOVE OR BELOW THE DUCTBANK.
2. PVC SOLVENT CEMENT SHALL BE USED TO CREATE WATER-TIGHT JOINTS FOR ALL CONDUIT INSTALLED.
3. RED CAUTION TAPE REQUIRED. CENTERED ABOVE ALL DUCT LINES.
4. OTHER UTILITIES SHALL MAINTAIN A 12" MIN. CLEAR DISTANCE FROM WMGLD ELECTRIC WHEN SHARING SAME TRENCH & SHALL NOT BE IN THE SAME CONCRETE ENCASEMENT.
5. ALL ELECTRIC WORK SHALL CONFORM WITH WMGLD REQUIREMENTS AND STANDARDS.

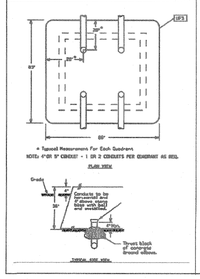
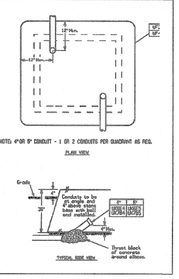
STANDARD UNREINFORCED CONCRETE DUCTBANK FOR 4" & 5" CONDUIT (WMGLD) (2)
NOT TO SCALE

26.1 Fiberglass Switchgear Ground Grid
The Customer shall install the ground grid for a fiberglass switchgear installation as shown in the picture.

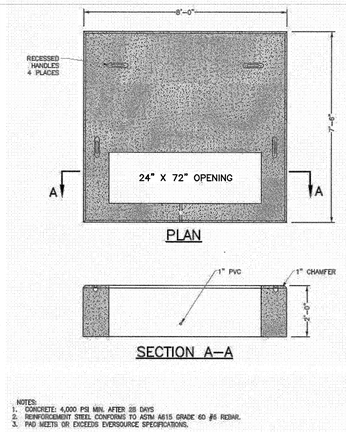


FIBERGLASS SWITCHGEAR GROUND GRID (3)
NOT TO SCALE



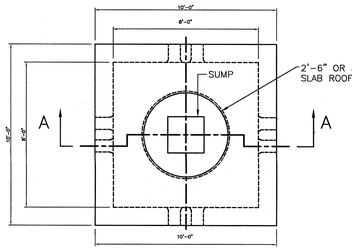
Typical Installation, Vertical Conduit Entry	Typical Installation, Horizontal Conduit Entry
	

FIBERGLASS SWITCHGEAR BASE (4)
NOT TO SCALE

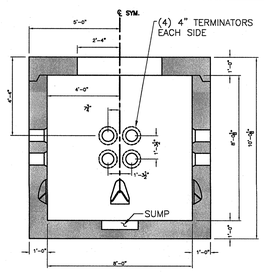


NOTES:
1. CONCRETE: 4,000 PSI MIN. AFTER 28 DAYS
2. REINFORCEMENT STEEL CONFORMS TO ASTM A615 GRADE 60 #6 REBAR.
3. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS.

3 PHASE TRANSFORMER PAD - 750-2000 KVA (5)
NOT TO SCALE



PLAN



SECTION A-A
CLOSED BOTTOM

NOTES:

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60.
4. MINIMUM STEEL COVER 1".
5. VAULT TO HAVE STANDARD 30" VERIZON MANHOLE RING & COVER

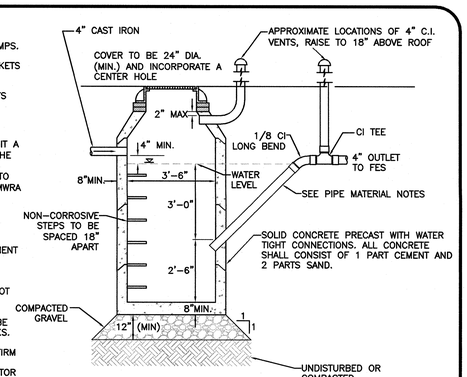
TELE/DATA MANHOLE (6)
NOT TO SCALE

PIPE MATERIAL NOTES:

1. NO-HUB CAST IRON WITH PRODUCT-APPROVED STAINLESS STEEL CLAMPS.
2. SERVICE WEIGHT CAST IRON WITH PRODUCT-APPROVED RESILIENT GASKETS OR LEAD AND OAKUM JOINTS.
3. EXTRA HEAVY CAST IRON WITH PRODUCT-APPROVED RESILIENT GASKETS OR LEAD AND OAKUM JOINTS.

MWRA INSPECTION NOTES:

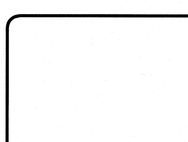
1. AT LEAST 10 DAYS PRIOR TO INSTALLATION CONTRACTOR SHALL SUBMIT A "NOTIFICATION OF PROPOSED GAS/OIL SEPARATOR INSTALLATION" TO THE MWRA PER THE MASSACHUSETTS UNIFORM PLUMBING CODE AND THE MWRA'S SEWER USE REGULATIONS. FOR ADDITIONAL INFORMATION OR TO REQUEST AN INSPECTION PLEASE CONTACT THOMAS J. COFFEY, JR. (MWRA SOURCE COORDINATOR) @ (617)-305-5624.
2. PLUMBING SHALL BE INSTALLED, BUT STRUCTURE SHALL NOT BE BACKFILLED PRIOR TO MWRA INSPECTION.
3. MORTAR THE JOINTS (NO RUBBER BOOTS ALLOWED - HYDRAULIC CEMENT ONLY).
4. THE STRUCTURES SEAM MUST BE COMPLETELY VISIBLE AROUND THE ENTIRE STRUCTURE FOR INSPECTION. ADDITIONALLY THE AREA ONE FOOT BELOW THE OUTLET PIPE MUST ALSO BE VISIBLE. FOR INSPECTION.
5. OUTLET LINE SHALL BE PLUGGED (ON THE OUTSIDE) WHERE IT CAN BE REMOVED ONCE IT IS CONFIRMED THAT THE STRUCTURE HAS NO LEAKS.
6. THE CONTRACTOR SHALL FILL THE STRUCTURE WITH WATER AND CONFIRM THAT THE THERE ARE NO LEAKS PRIOR TO SCHEDULING THE MWRA INSPECTION. THE CONTRACTOR SHOULD NOTE THAT THE MWRA INSPECTOR WILL BE SPECIFICALLY LOOKING AT THE OUTLET PIPE "45 DEGREE ANGLE" AND UNDERSTANDS THAT IT IS PARTICULARLY DIFFICULT TO SEAL. SO THE CONTRACTOR SHOULD BE CAREFUL WHEN MORTARING THE JOINT. NOTE THE INSPECTOR WILL WANT TO INSPECT THE CONNECTION WITH THE TANK 1' BELOW THAT JOINT.
7. ONCE ON SITE, THE INSPECTOR WILL FIRST INSPECT THE STRUCTURE COMPLETELY FULL TO INSURE IT HAS NO LEAKS. THE INSPECTOR WILL THEN REQUIRE THAT THE OUTLET PIPE PLUG BE REMOVED TO OBSERVE THE WATER LEVEL. THE WATER LEVEL MUST BE OBSERVED AT LEAST 4" BELOW THE INLET PIPE.
8. THE CONTRACTOR MUST HAVE A 2" PUMP ON-SITE DURING THE INSPECTION TO ALLOW THE INSPECTOR TO VERIFY THE INTERIOR MEASUREMENT OF THE TANK FOR CODE COMPLIANCE.
9. THE OUTLET PIPE MUST NOT STICK INTO THE STRUCTURE CHAMBER ANY MORE THAN ILLUSTRATED.



GENERAL CONSTRUCTION NOTES:

1. SEPARATOR TO BE LOCATED OUTSIDE WHERE POSSIBLE, WHEN LOCATED OUTSIDE, MANHOLE SHALL HAVE A CENTER HOLE.
2. SEPARATOR SHALL BE LOCATED AND CONSTRUCTED TO PREVENT SURFACE OR SUB-SURFACE WATER FROM ENTERING.
3. OUTLET TO BE BELOW FROST LINE.
4. SEPARATOR MUST BE FILLED WITH CLEAN WATER AND LEAK TESTED BEFORE BEING INTRODUCED INTO SERVICE.
5. OIL AND GAS TO BE REMOVED BEFORE CLEANING AND SHALL NOT BE DISCHARGED TO THE SEWER THROUGH ANY FIXTURES.
6. INLET SHALL BE SET A MINIMUM OF THREE FEET BELOW GRADE

GAS/OIL SEPARATOR (7)
NOT TO SCALE



PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	N.T.S.	DWG. NAME:	C-1623-11.dwg
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:
ALLEN & MAJOR ASSOCIATES, INC.
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environmental consulting ◆ landscape architecture
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DRAWING TITLE:	SHEET No.
DETAILS	C-504

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STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT – NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

STORMTECH RECOMMENDS 3 BACKFILL METHODS:
- STONESHOOTER LOCATED OFF THE CHAMBER BED.
- BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUB-GRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.

4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM – 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

   USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

   CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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GENERAL NOTES
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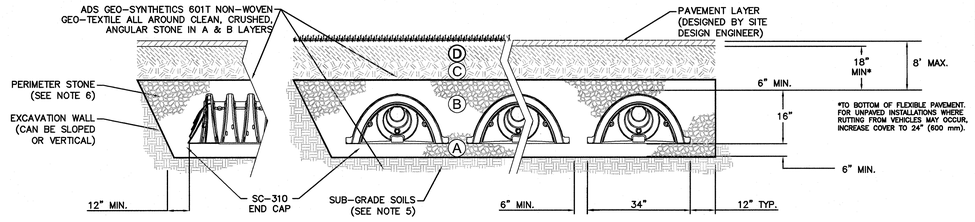
1

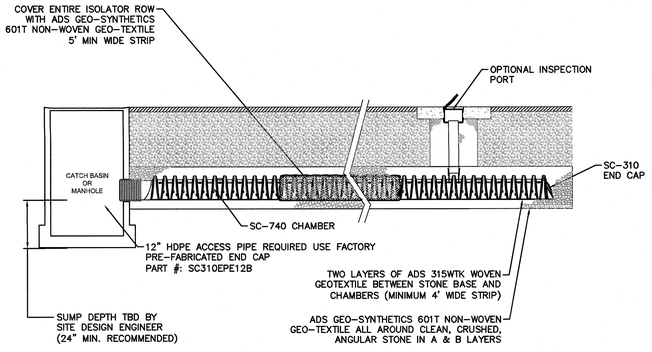
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUB-GRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUB-GRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

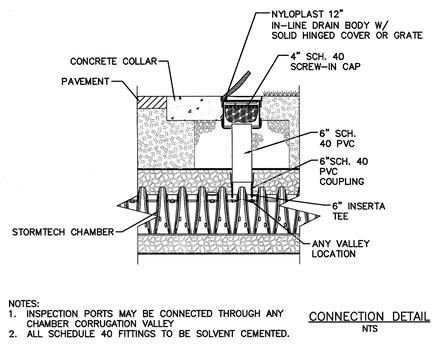


NOTES:
1. SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. EXISTING FILL MATERIAL TO BE REMOVED (WHERE ENCOUNTERED) WITHIN LIMITS OF THE PROPOSED INFILTRATIONS SYSTEM DOWN TO THE NATIVE SOIL AND BACKFILLED WITH TITLE V SAND.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUB-BASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS
NOT TO SCALE
2



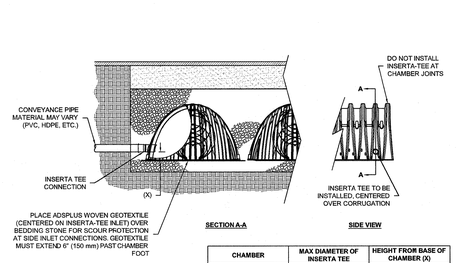
STORMTECH ISOLATOR ROW*
ISOLATOR ROW & INSPECTION PORT
NOT TO SCALE
3



NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.

CONNECTION DETAIL
NTS

INSPECTION PORT DETAIL



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	6" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

INSERTA TEE DETAIL
NOT TO SCALE
4

N:\PROJECTS\1623-11\CIVIL\DRAWINGS\CURRENT\C-1623-11 - DETAILS.DWG

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. WILLIAMS
CIVIL
No. 43119
REGISTERED PROFESSIONAL ENGINEER
8/3/21

PROFESSIONAL ENGINEER FOR
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	8/03/2021	Issued to Conservation Commission
1	3/31/2021	Re-Issued to ZBA

APPLICANT:
CCF QUANNAPOWITT PROPERTY COMPANY, LLC
185 DARTMOUTH STREET
BOSTON, MA 02116

PROJECT:
200-400 QUANNAPOWITT PARKWAY
WAKEFIELD, MA 01880

PROJECT NO.	1623-11	DATE:	MARCH 16, 2021
SCALE:	N.T.S.	DWG. NAME: C-1623-11.dwg	
DESIGNED BY:	NCD	CHECKED BY:	TJW

PREPARED BY:
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