

SITE PLAN FOR
WESTWOOD INVESTMENTS, LLC

BLOCK 1501 LOTS 2 AND 3

SITUATED IN THE BOROUGH OF WESTWOOD
BERGEN COUNTY, NEW JERSEY

PROJECT: TOWNHOMES AT PLAZA ONE

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MAY 2020

NOTE REGARDING SOIL COMPACTION TESTING AND SOIL RESTORATION REQUIREMENTS:

PURSUANT TO CLARIFICATION BY THE STATE SOIL CONSERVATION COMMITTEE REGARDING NEW JERSEY STANDARD FOR LAND GRADING, URBAN REDEVELOPMENT AREAS INCLUDING THE METROPOLITAN PLANNING AREA, OF WHICH THIS PROPERTY IS A PART OF AS SHOWN ON THE STATE PLAN POLICY MAP, SHALL BE TREATED FOR SOIL COMPACTION RESTORATION AS FOLLOWS:

1. ANY SITE OR PORTION THEREOF WHICH CONTAINS WOODY VEGETATION AND IS PROPOSED FOR STABILIZATION WITH VEGETATIVE COVER IS SUBJECT TO ALL APPLICABLE PROVISIONS FOR SOIL COMPACTION REMEDIATION IN ACCORDANCE WITH THE NJ STANDARD FOR LAND GRADING.
2. ANY SITE OR PORTION THEREOF THAT DOES NOT CONTAIN WOODY VEGETATION IS COMPLETELY EXCLUDED FROM THE REQUIREMENTS FOR SOIL COMPACTION REMEDIATION AND THEREFORE NO TESTING, REMEDIATION AREA(S) OR REMEDIATION NOTES ARE REQUIRED TO BE DEPICTED ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. PLAN PREPARERS WHO DETERMINE THAT THEIR PROJECT IS COMPLETELY OR PARTIALLY EXCLUDED FROM THE SOIL RESTORATION REMEDIATION REQUIREMENTS MUST PROVIDE A NOTE ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN STATING THE REASON FOR THE EXCLUSION AND ALSO, IN THE CASE OF PARTIAL EXCLUSION, LABEL THE EXCLUDED AREA(S).
4. EXCLUSION FROM SOIL COMPACTION REMEDIATION DOES NOT EXCLUDE THE NEW TOPSOIL REQUIREMENTS. PLAN PREPARERS MUST USE THE LATEST REVISED SOIL EROSION AND SEDIMENT CONTROL NOTES DATED 12/7/17 AND MUST INCLUDE AN ITEM IN THE SEQUENCE OF CONSTRUCTION THAT ADDRESSES THE NEW TOP SOIL REQUIREMENT AS FOLLOWS: **UNIFORMLY APPLY TOPSOIL TO AN AVERAGE DEPTH OF 5", MINIMUM OF 4", FIRMED IN PLACE.**

****NO DISTURBANCE OF WOODY VEGETATION IS PROPOSED AS PART OF THIS DEVELOPMENT APPLICATION.****

SOIL DE-COMPACTION AND TESTING REQUIREMENTS

- SOIL COMPACTION TESTING REQUIREMENTS**
1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
 2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
 3. **COMPACTION TESTING LOCATIONS** ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION MITIGATION VERIFICATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
 4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

- COMPACTION TESTING METHODS**
- A. PROBING WIRE TEST (SEE DETAIL).
 - B. HAND-HELD PENETROMETER TEST (SEE DETAIL).
 - C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED).
 - D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED).

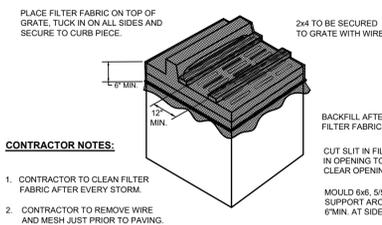
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

PROCEDURES FOR SOIL COMPACTION MITIGATION

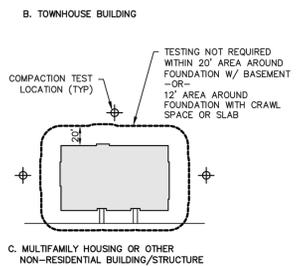
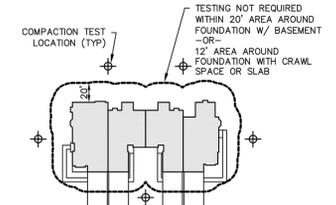
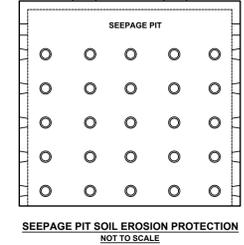
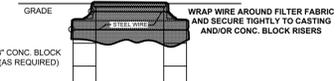
PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.



METHOD OF PROTECTING TYPE 'B' INLET DURING CONSTRUCTION

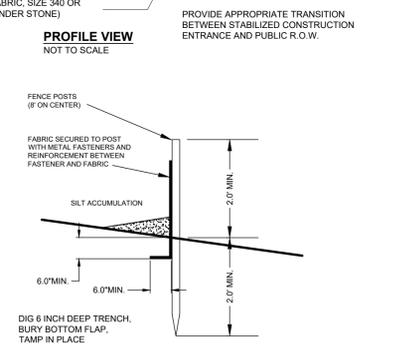
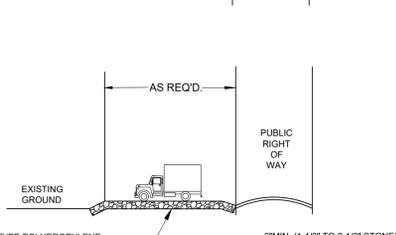
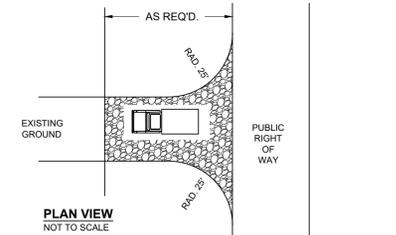
IMPORTANT NOTE:
CASTING MUST BE MORTARED IN PLACE AND LAWN MUST BE IN PLACE BEFORE FILTER FABRIC IS SECURED AS SHOWN. FAILURE TO DO SO CAN RESULT IN INJURY.



BERGEN COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES

1. All soil erosion and sediment control practices will be installed in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey (NJ Standards), and will be installed in proper sequence and maintained until permanent stabilization is established.
2. Any disturbed area that will be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding and mulching. If the season prohibits temporary seeding, the disturbed area will be mulched with untreated straw at a rate of 2 tons per acre anchored by approved methods (i.e. peg and twine, mulch netting, or liquid mulch binder).
3. Immediately following initial disturbance or rough grading, all critical areas subject to erosion will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of 2 tons per acre, according to the NJ Standards.
4. Stabilization Specifications:
 - A. Temporary Seeding and Mulching:
 - Ground Limestone - Applied uniformly according to soil test recommendations.
 - Fertilizer - Apply 1 lbs./1,000 sf of 10-20-10 or equivalent with 50% water insoluble nitrogen (unless a soil test indicates otherwise) worked into the soil a minimum of 4".
 - Seed - perennial ryegrass 100 lbs./acre (2.3 lbs./1,000 sf) or other approved seed; plant between March 1 and May 15 or between August 15 and October 1.
 - Mulch - Untreated straw or hay at a rate of 70 to 90 lbs./1,000 sf applied to achieve 95% soil surface coverage. Mulch shall be anchored by approved methods (i.e. peg and twine, mulch netting, or liquid mulch binder).
 - B. Permanent Seeding and Mulching:
 - Topsoil - A uniform application to an average depth of 5", minimum of 4" if firm in place is required.
 - Ground Limestone - Applied uniformly according to soil test recommendations.
 - Fertilizer - Apply 1 lbs./1,000 sf of 10-10-10 or equivalent with 50% water insoluble nitrogen (unless a soil test indicates otherwise) worked into the soil a minimum of 4".
 - Seed - Turf type tall fescue (blend of 3 cultivars) 350 lbs./acre (8 lbs./1,000 sf) or other approved seed; plant between March 1 and October 1 (summer seeding requires irrigation).
 - Mulch - Untreated straw or hay at a rate of 70 to 90 lbs./1,000 sf applied to achieve 95% soil surface coverage. Mulch shall be anchored by approved methods (i.e. peg and twine, mulch netting, or liquid mulch binder).
5. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
6. Soil erosion and sediment control measures will be inspected and maintained on a regular basis, including after every storm event.
7. Stockpiles are not to be located within 50' of a floodplain, slope, roadway or drainage facility. The base of all stockpiles shall be contained by a haybale sediment barrier or silt fence.
8. A crushed stone, vehicle wheel-cleaning blanket will be installed wherever a construction access road intersects any paved roadway. Said blanket will be composed of 1" - 2 1/2" crushed stone, 6" thick, will be at least 30' x 100' and should be underlain with a suitable synthetic sediment filter fabric and maintained.
9. Maximum side slopes of all exposed surfaces shall not exceed 3:1 unless otherwise approved by the District.
10. Driveways must be stabilized with 1" - 2 1/2" crushed stone or subbase prior to individual lot construction.
11. All soil washed, dropped, spilled or tracked outside the limit of disturbance or onto public right-of-ways, will be removed immediately. Paved roadways must be kept clean at all times.
12. Catch basin inlets will be protected with an inlet filter designed in accordance with Section 28-1 of the NJ Standards.
13. Storm drainage outlets will be stabilized, as required, by the discharge points become operational.
14. Dewatering operations must discharge directly into a sediment control bag or other approved filter in accordance with Section 14-1 of the NJ Standards.
15. Dust shall be controlled via the application of water, calcium chloride or other approved method in accordance with Section 16-1 of the NJ Standards.
16. Trees to remain after construction are to be protected with a suitable fence installed at the drip line or beyond in accordance with Section 9-1 of the NJ Standards.
17. The project owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or off-site as a result of construction of the project.
18. Any revision to the certified Soil Erosion and Sediment Control Plan must be submitted to the District for review and approval prior to implementation in the field.
19. A copy of the certified Soil Erosion and Sediment Control Plan must be available at the project site throughout construction.
20. The Bergen County Soil Conservation District must be notified, in writing, at least 48 hours prior to any land disturbance: Bergen County SCD, 700 Kinderkamack Road, Suite 108, Oradell, NJ 07649; Tel: 201-261-4407; Fax 201-261-7573.
21. The Bergen County Soil Conservation District may request additional measures to minimize on or off-site erosion problems during construction.
22. The owner must obtain a District issued report of compliance prior to the issuance of any certificate of occupancy. The District requires at least one week's notice to facilitate the scheduling of all report of compliance inspections. All site work must be completed, including temporary/permanent stabilization of all exposed areas, prior to the issuance of a report of compliance by the District.

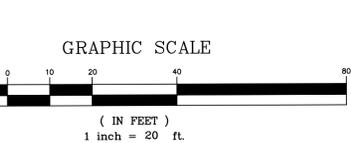
- NOTE:
1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL APPLY TO SUBSEQUENT PROPERTY OWNERS, WHEN THE TITLE IS CONVEYED.
 2. PERMANENT SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MEASURES ARE THE RESPONSIBILITY OF THE PROPERTY OWNER DURING AND AFTER CONSTRUCTION.



SILT FENCE AND CONSTRUCTION ENTRANCE DETAILS

APPROVED BY THE COUNTY PLANNING BOARD
COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____



REQUIREMENTS FOR SILT FENCE:

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER TO CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/2 INCHES.
2. A METAL FENCE WITH 8 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET ABOVE GROUND MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SEQUENCE OF CONSTRUCTION:

1. DEMOLISH EXISTING DWELLINGS. 1 WEEK
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND TOPSOIL STOCKPILE. 1 WEEK
3. ROUGH GRADE PROPOSED PARKING AREA AND CONSTRUCT PROPOSED RETAINING WALL. 2 WEEKS
4. CONSTRUCT CURBING AND STORM DRAIN FOR PROPOSED PARKING AREA. 6 WEEKS
5. CONSTRUCT PROPOSED HANDICAP RAMP. 3 WEEKS
6. REMOVE EXISTING PAVED PARKING AREA AND EXISTING RETAINING WALL. 2 WEEKS
7. REMOVE EXISTING SEEPAGE PITS. 2 WEEKS
8. CONSTRUCT RELOCATED UTILITIES. 4 WEEKS
9. CONSTRUCT PROPOSED TOWNHOMES BUILDING. 20 WEEKS
10. PERFORM FINAL GRADING AND LANDSCAPING AND CONSTRUCT PROPOSED RETAINING WALL. 2 WEEKS
11. PERFORM SOIL RESTORATION AND TOPSOILING PROCEDURES AS REQUIRED. UNIFORMLY APPLY TOPSOIL TO AN AVERAGE DEPTH OF FIVE (5) INCHES WITH A MINIMUM DEPTH OF FOUR (4) INCHES FIRMED IN PLACE. 2 WEEKS
12. INSTALL FINAL DRIVEWAYS AND PARKING LOT PAVEMENT. 2 WEEKS
13. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION. 2 WEEKS

THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.

Matthew R. Fox

MATTHEW R. FOX
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 37567

DATE: DECEMBER 31, 2019

NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

CANGER ENGINEERING ASSOCIATES
A NEW JERSEY CORPORATION SINCE 1948
CERTIFICATE NO. 24GA27985900
ENGINEERS - CONSULTANTS - SURVEYORS
P.O. BOX 93, TRANQUILITY, NEW JERSEY 07879

DRAWN BY: PF	DATE: DECEMBER 2019	SHEET NO: 2
CHECKED BY: MF	SCALE: AS SHOWN	DRAWING NO: 17327
		SHEETS IN SET: 10

Custom Soil Resource Report Soil Map

NRCS NJ 24 HOUR RAINFALL FREQUENCY DATA (RAINFALL AMOUNTS IN INCHES)

COUNTY	1 YEAR	2 YEAR	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR
BERGEN	2.75	3.34	4.27	5.07	6.28	7.32	8.47

DRAINAGE CALCULATIONS:

DRAINAGE AREAS:
 EXISTING DRAINAGE AREA 1 = 4,653 SF = 0.1068 ACRES
 EXISTING DRAINAGE AREA 2 = 17,716 SF = 0.4067 ACRES
TOTAL EXISTING DRAINAGE AREA = 22,369 SF OR 0.5135 ACRES

EXISTING IMPERVIOUS AREAS:

LOT 2
 CONC WALK = 161.1 SF
 STEPS = 41.5 SF
 STOOP = 52.2 SF
 SIGN = 4.7 SF
 FOUNDATION = 2,301.6 SF
 OVERHANGS = 469.7 SF
 PARKING LOT, CONC. ENTRANCE AND WALLS = 5,985.0 SF
 CONC. TILE PAD = 45.0 SF
 A/C UNITS = 20.5 SF
 GRAVEL BEDS = 191.6 SF
 TOTAL IMPERVIOUS AREA = 9,272.9 SF
 TOTAL IMPERVIOUS COVERAGE = 9,272.9 SF / 14,407 SF = 64.4 %

LOT 3
 BITUM PVT = 432.5 SF
 APRON = 16.2 SF
 GARAGE = 358.8 SF
 CONC WALK = 242.6 SF
 FOUNDATION = 1,081.4 SF
 CHIMNEY = 4.3 SF
 OVERHANGS = 23.5 SF
 PORCH = 445.5 SF
 STEPS = 71.0 SF
 TOTAL IMPERVIOUS AREA = 2,675.8 SF
 TOTAL IMPERVIOUS COVERAGE = 2,675.8 SF / 7,962 SF = 33.6 %

TOTAL IMPERVIOUS AREAS OF LOTS 2 AND 3 = 11,948.7 SF = 0.27 ACRES

EXISTING WEIGHTED 'C' RUNOFF COEFFICIENT:
 $C_{wt} = [10,420.3 * (0.35) + 11,948.7 * (0.95)] / 22,369.0$ SF = 0.67

TIME OF CONCENTRATION CALCULATIONS:

SHEET FLOW:
 $T_2 \text{ SHEET} = [0.007 * x (nL)^{10.8}] / [(P2)^{10.5} * x (s)^{10.4}]$
 WHERE:
 MANNING'S ROUGHNESS COEFFICIENT, n = 0.40
 LENGTH OF THE RUN, L = 100 FT.
 TWO (2) YEAR RAINFALL, P = 3.34 IN.
 OVERLAND SLOPE, s = 0.04 FT. / FT.

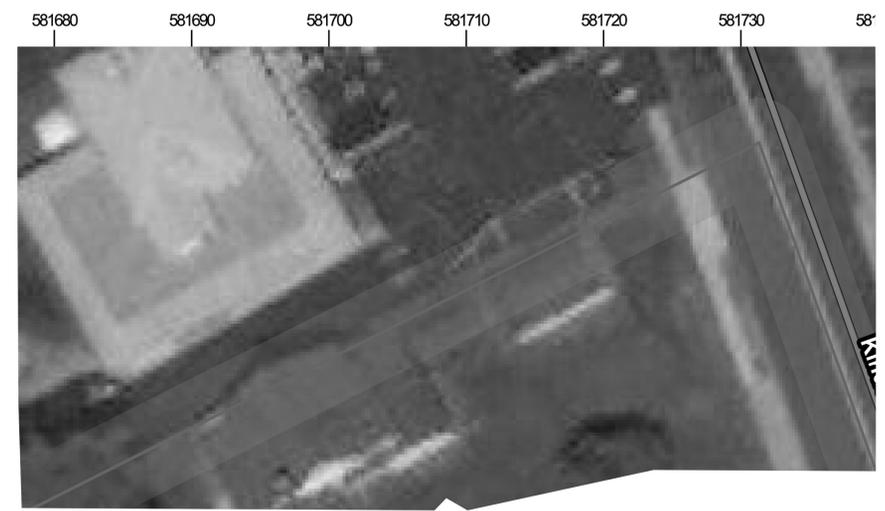
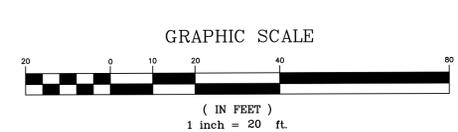
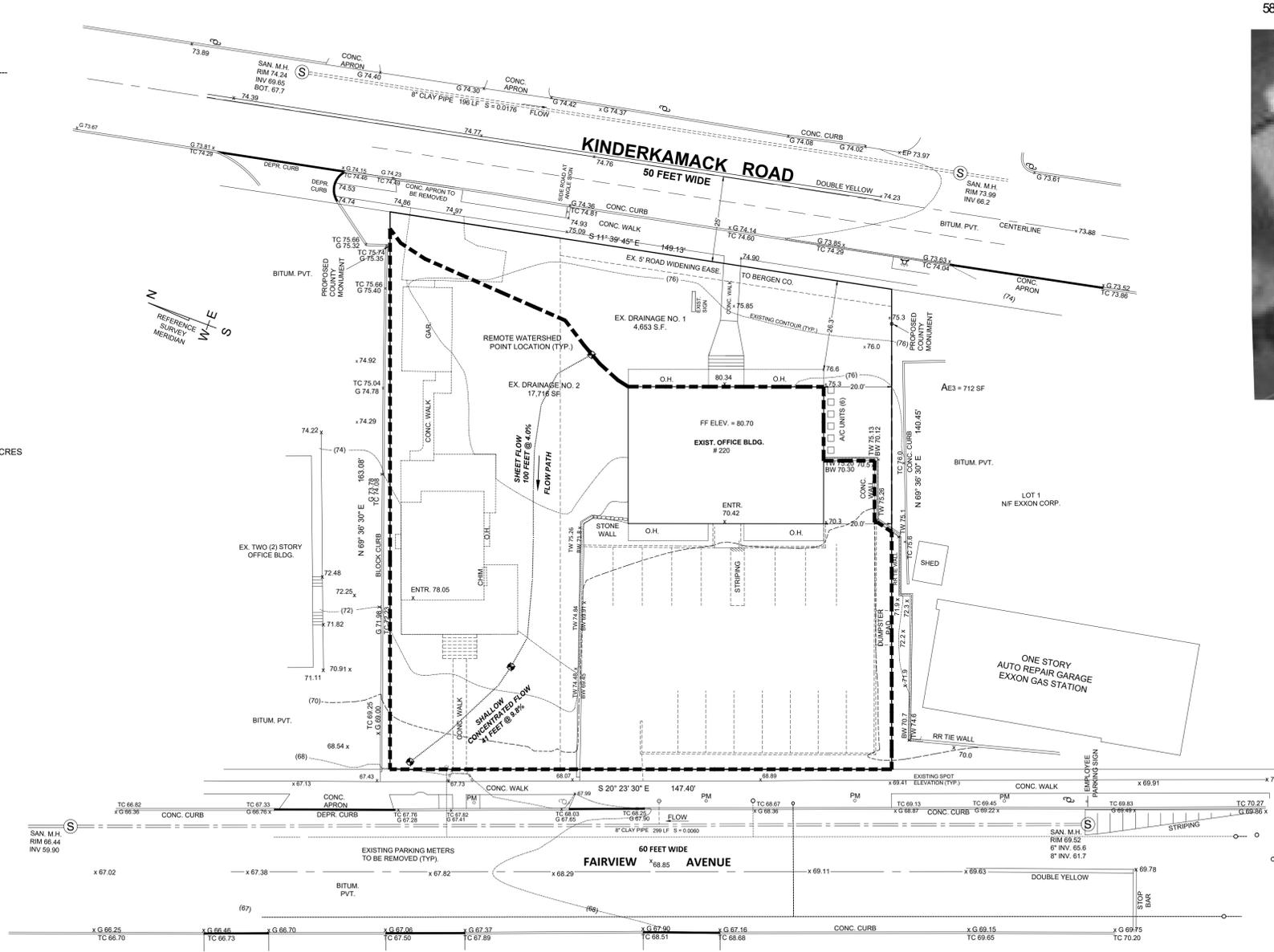
$T_2 \text{ SHEET} = 15.93$ MINUTES

SHALLOW CONCENTRATED FLOW:
 LENGTH OF THE RUN, L = 41 FT.
 PAVED OR UNPAVED COVER = UNPAVED
 OVERLAND SLOPE, S = 0.098
 AVERAGE VELOCITY, V = 5.1 FT. / SEC.

$T_2 \text{ SHALLOW} = 0.14$ MINUTES

$T_2 \text{ TOTAL} = 15.93 \text{ MINS.} + 0.14 \text{ MINS.} = 16.1 \text{ MINS.}$

EXISTING DISCHARGE RATES:
 $T_c = 15.1 \text{ MIN. AND STORM DURATION} = 60 \text{ MIN.}$
 $Q_2 \text{ YEAR} = (0.67) * (2.3 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 0.8 \text{ CFS}$
 $Q_{10} \text{ YEAR} = (0.67) * (3.2 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.1 \text{ CFS}$
 $Q_{25} \text{ YEAR} = (0.67) * (3.7 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.3 \text{ CFS}$
 $Q_{100} \text{ YEAR} = (0.67) * (4.8 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.7 \text{ CFS}$



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UR	Urban land	0.7	100.0%
Totals for Area of Interest		0.7	100.0%

Custom Soil Resource Report

Bergen County, New Jersey

UR—Urban land

Map Unit Setting
 National map unit symbol: b0ss
 Elevation: 0 to 170 feet
 Mean annual precipitation: 30 to 64 inches
 Mean annual air temperature: 46 to 79 degrees F
 Frost-free period: 131 to 178 days
 Farmland classification: Not prime farmland

Map Unit Composition
 Urban land: 95 percent
 Minor components: 5 percent
 Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land
Setting
 Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Interpretive groups
 Land capability classification (irrigated): None specified
 Land capability classification (nonirrigated): 8s
 Hydric soil rating: Unranked

Minor Components
Udorthents
 Percent of map unit: 5 percent
 Landform: Low hills
 Down-slope shape: Linear
 Across-slope shape: Linear
 Hydric soil rating: No

NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

**EXISTING DRAINAGE PLAN
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE**

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

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 A NEW JERSEY CORPORATION SINCE 1948
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THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.

MATTHEW R. FOX
 PROFESSIONAL ENGINEER & LAND SURVEYOR
 NEW JERSEY LICENSE NO. 37567
 DATE: DECEMBER 31, 2019

DRAWN BY: PF	DATE: DECEMBER 2019	DRAWING NO: 17327	SHEET NO: 3
CHECKED BY: MF	SCALE: AS SHOWN		SHEETS IN SET: 10

APPROVED BY THE COUNTY PLANNING BOARD
COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____

NRCS NJ 24 HOUR RAINFALL FREQUENCY DATA (RAINFALL AMOUNTS IN INCHES)

COUNTY	1 YEAR	2 YEAR	5 YEAR	10 YEAR	25 YEAR	50 YEAR	100 YEAR
BERGEN	2.75	3.34	4.27	5.07	6.28	7.32	8.47

DRAINAGE CALCULATIONS:

DRAINAGE AREAS:
 PROPOSED DRAINAGE AREA 1 = 3,435 SF = 0.0789 ACRES
 PROPOSED DRAINAGE AREA 2 = 8,680 SF = 0.1992 ACRES
 PROPOSED DRAINAGE AREA 2A = 2,674 SF = 0.0614 ACRES
 PROPOSED DRAINAGE AREA 3 = 7,580 SF = 0.1740 ACRES
TOTAL PROPOSED DRAINAGE AREA = 22,369 SF OR 0.5135 ACRES

PROPOSED IMPERVIOUS AREAS:
 PROPOSED PARKING AND CURB AREA = 5,210.6 SF
 PROPOSED DUMPSTER PAD AND CONC. RAMP AREA = 65.0 SF
 EXISTING SIGN AREA = 6.2 SF
 EXISTING STOOP, STEPS AND WALK AREA = 254.8 SF
 EXISTING FOUNDATION AREA = 2,296 SF
 EXISTING OVERHANG AREA = 476.0 SF
 EXISTING A/C UNITS AREA = 20.5 SF
 PROPOSED CONCRETE AND STEPS AREA NOT UNDER OVERHANG = 92.9 SF
 PROPOSED WALL AREA = 137.0 SF
 EXISTING CONCRETE WALL AREA = 39.5 SF
 PROPOSED CONCRETE PATIO AND A/C PADS AREA = 168.0 SF
 PROPOSED FOUNDATION AREA = 2,674 SF
 PROPOSED OVERHANG AREA = 296.4 SF
 PROPOSED PORCH NOT UNDER OVERHANG AREA = 82.8 SF
 PROPOSED DRIVEWAYS NOT UNDER OVERHANG AREA = 1016.7 SF
 PROPOSED HANDICAP RAMP = 277.6 SF
 PROPOSED TOWNHOMES WALKWAYS = 153.0 SF
TOTAL PROPOSED IMPERVIOUS AREAS = 13,267.0 SF

PROPOSED WEIGHTED 'C' RUNOFF COEFFICIENT:
 $[9,102.0 * (0.35) + 13,267.0 * (0.95)] / 22,369.0 \text{ SF} = 0.71$
TOTAL INCREASE IN IMPERVIOUS AREA = 13,267.0 SF - 11,948.7 SF = 1,318.3 SF

TIME OF CONCENTRATION CALCULATIONS:

SHEET FLOW:
 $T_s \text{ SHEET} = [0.007 * (nL) / (P^2)]^{10.8} / [(P^2) / (10.5 * (s) / 10.4)]$
 WHERE:
 MANNING'S ROUGHNESS COEFFICIENT, n = 0.20
 LENGTH OF THE RUN, L = 100 FT.
 TWO (2) YEAR RAINFALL, P = 3.34 IN.
 OVERLAND SLOPE, s = 0.01 FT. / FT.

T_s SHEET = 15.9 MINUTES

SHALLOW CONCENTRATED FLOW:

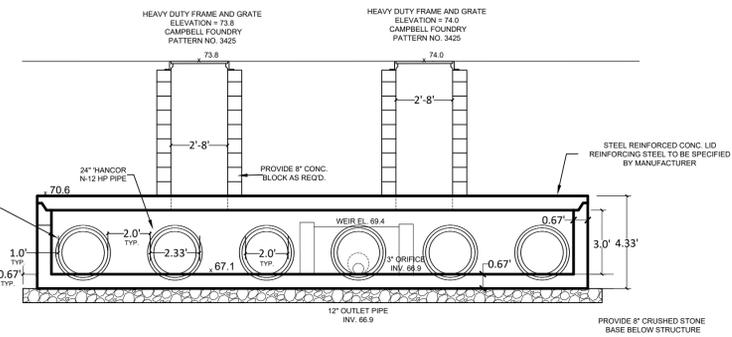
LENGTH OF THE RUN, L = 120 FT.
 PAVED OR UNPAVED COVER = UNPAVED
 OVERLAND SLOPE, S = 0.0125
 AVERAGE VELOCITY, V = 4.7 FT. / SEC.

T_s SHALLOW = 1.1 MINUTES

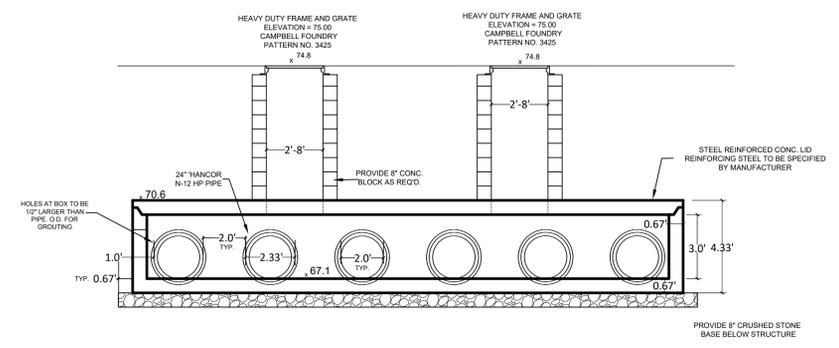
T_s TOTAL = 15.9 MINS. + 1.1 MINS. = 17.0 MINS.

PROPOSED DISCHARGE RATES:

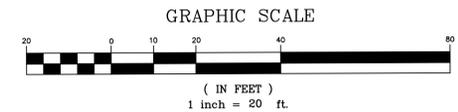
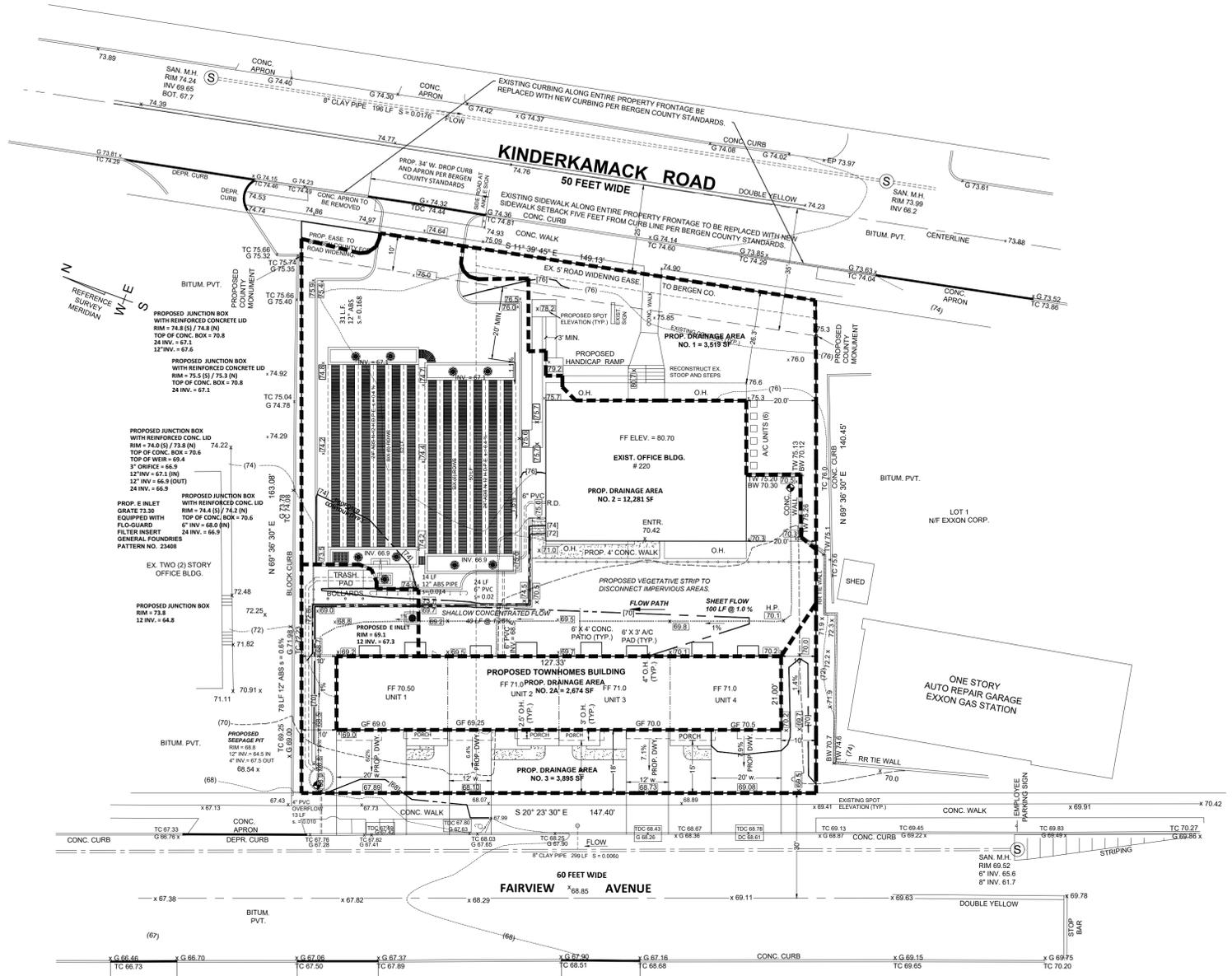
$T_c = 17.0 \text{ MIN. AND STORM DURATION} = 60 \text{ MIN.}$
 $Q_{2 \text{ YEAR}} = (0.71) * (2.3 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 0.8 \text{ CFS}$
 $Q_{10 \text{ YEAR}} = (0.71) * (3.2 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.2 \text{ CFS}$
 $Q_{25 \text{ YEAR}} = (0.71) * (3.7 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.4 \text{ CFS}$
 $Q_{100 \text{ YEAR}} = (0.71) * (4.8 \text{ IN. / HR.}) * (0.5135 \text{ AC.}) = 1.8 \text{ CFS}$



LONGITUDINAL SECTION AT WESTERLY JUNCTION BOX
SCALE: 1" = 4'



LONGITUDINAL SECTION AT EASTERLY JUNCTION BOX
SCALE: 1" = 4'



NOTE: SEE CONSTRUCTION DETAIL SHEET NO 7 OF 10 FOR ADDITIONAL CONSTRUCTION DETAILS FOR THE PROPOSED STORM WATER DETENTION SYSTEM.

MAINTENANCE PLAN:

THIS MAINTENANCE PLAN HAS BEEN PREPARED IN CONNECTION WITH THE HEREIN DESCRIBED DEVELOPMENT APPLICATION CURRENTLY UNDER CONSIDERATION. THE LOCATIONS OF PROPOSED STORM WATER MANAGEMENT MEASURES ARE:

BLOCK 1501 LOTS 2 AND 3
 220 KINDERKAMACK ROAD AND 49 FAIR VIEW AVENUE
 BOROUGH OF WESTWOOD, BERGEN COUNTY N.J.

1. NAME, ADDRESS, AND TELEPHONE NUMBER OF RESPONSIBLE PARTY FOR PREVENTATIVE, CORRECTIVE, MAINTENANCE AND REPLACEMENT.

NAME: WESTWOOD INVESTMENTS, LLC
 C/O KYODO USA
 17-01 POLITT DRIVE
 FAIR LAWN, NJ 07410
 TELEPHONE: (201) 213-1956

2. SPECIFIC PREVENTATIVE MAINTENANCE TASKS FOR THE PROPOSED STORMWATER MANAGEMENT MEASURES INCLUDE ENSURING THAT THE STORM DRAINAGE STRUCTURES SUCH AS INLETS, PIPES, TRASH RACKS, INLET FILTERS, ORIFICES, ANDE WEIRS, ARE ALL KEPT CLEAN AND FREE OF LITTER AND DEBRIS.

THE PROPOSED STORMWATER COLLECTION, DETENTION, AND WATER QUALITY SYSTEMS ARE DESIGNED TO SAFELY CONVEY THE RECEIVING STORMWATER RUNOFF WITHOUT ANY MOVING PARTS, MOTORS, OR DEVICES. THE SYSTEMS ARE DESIGNED TO OPERATE SOLELY UNDER THE NATURAL FORCES FOUND IN GRAVITY AND HYDRAULICS.

3. SCHEDULED MAINTENANCE FOR THE STRUCTURAL BMP'S IS RECOMMENDED TO INSURE THE LONGEVITY AND OPERATIONAL EFFICIENCY OF THE STORM WATER MANAGEMENT SYSTEM DOCUMENTATION INCLUDING INSPECTION REPORTS SHOULD BE MAINTAINED FOR RECORD PURPOSES.

THESE REPORTS SHOULD INCLUDE INFORMATION IDENTIFYING THE ITEM SCHEDULED FOR PERIODIC OR PROBLEMATIC MAINTENANCE, TIME, DATE, AND WORK PARTY RESPONSIBLE FOR CARRYING OUT THE MAINTENANCE TASKS. A WRITTEN DESCRIPTION OF THE SPECIFIC TASKS BEING PERFORMED AS WELL AS THE FINDINGS SHOULD ALSO BE INCLUDED.

4. PERIOD MAINTENANCE OF THE PROPOSED STORMWATER MANAGEMENT MEASURES CAN BE PERFORMED EVERY SIX MONTHS, AND AFTER EVERY SEVERE STORM EVENT. THE MAINTENANCE INCLUDES VISUAL INSPECTIONS OF THE STORM WATER COLLECTION SYSTEM, THE PIPE NETWORK, THE OUTLET STRUCTURE, AND THE DISCHARGE PIPE.

ANY OBSTRUCTIONS OBSERVED INCLUDING SEDIMENTATION, TRASH, AND DEBRIS SHOULD BE REPORTED AND SCHEDULED FOR REMOVAL TO BE DISCARDED WITH THE PROPER WASTE MANAGEMENT UNIT.

THE VISUAL INSPECTIONS CAN BE PERFORMED BY ANYONE, ONCE THEY HAVE RECEIVED SIMPLE INSTRUCTIONS ON THE PROCEDURES AND PRACTICES ESTABLISHED.

5. COST ESTIMATES FOR THE MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM SHOULD INCLUDE THE COSTS FOR THE SCHEDULED INSPECT THE COSTS ASSOCIATED WITH THE REMOVAL AND DISPOSAL OF SEDIMENT, TRASH AND DEBRIS.

6. ONE (1) QUALIFIED PERSON SHOULD MAKE ALL ROUTINE INSPECTIONS SEMI-ANNUALLY WITHIN ONE (1) TO TWO (2) HOURS AT THE PREVAILING RATES. ONE (1) OR TWO (2) PERSONNEL PROPERLY EQUIPPED SHOULD BE ABLE TO REMOVE SMALL OBSTRUCTIONS FROM THE PREFABRICATED STRUCTURAL DEVICES, JUNCTION BOXES, PIPE NETWORK, CONTROL STRUCTURE, AND OUTLET PIPE WITHIN TWO (2) TO THREE (3) HOURS AT THE PREVAILING RATES.

NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

**PROPOSED DRAINAGE PLAN
 BLOCK 1501, LOTS 2 AND 3
 TOWNHOMES AT PLAZA ONE**

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

CANGER ENGINEERING ASSOCIATES
 A NEW JERSEY CORPORATION SINCE 1948
 CERTIFICATE NO. 24GA27985900
 ENGINEERS - CONSULTANTS - SURVEYORS
 P.O. BOX 93, TRANQUILITY, NEW JERSEY 07879

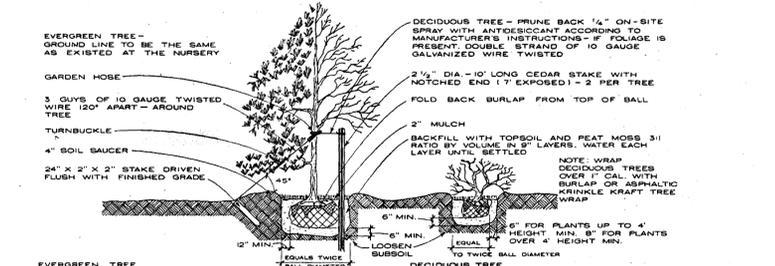
THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.

MATTHEW R. FOX
 PROFESSIONAL ENGINEER & LAND SURVEYOR
 NEW JERSEY LICENSE NO. 37567
 DATE: DECEMBER 31, 2019

DRAWN BY: PF	DATE: DECEMBER 2019	SHEET NO: 4
CHECKED BY: MF	SCALE: AS SHOWN	DRAWING NO: 17327
		SHEETS IN SET: 10

APPROVED BY THE COUNTY PLANNING BOARD
 COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____



PLANTING DETAILS - TREES AND SHRUBS

SHRUBS AND MINOR TREES BALLED AND BURLAPPED

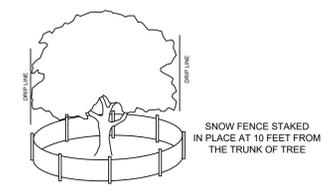
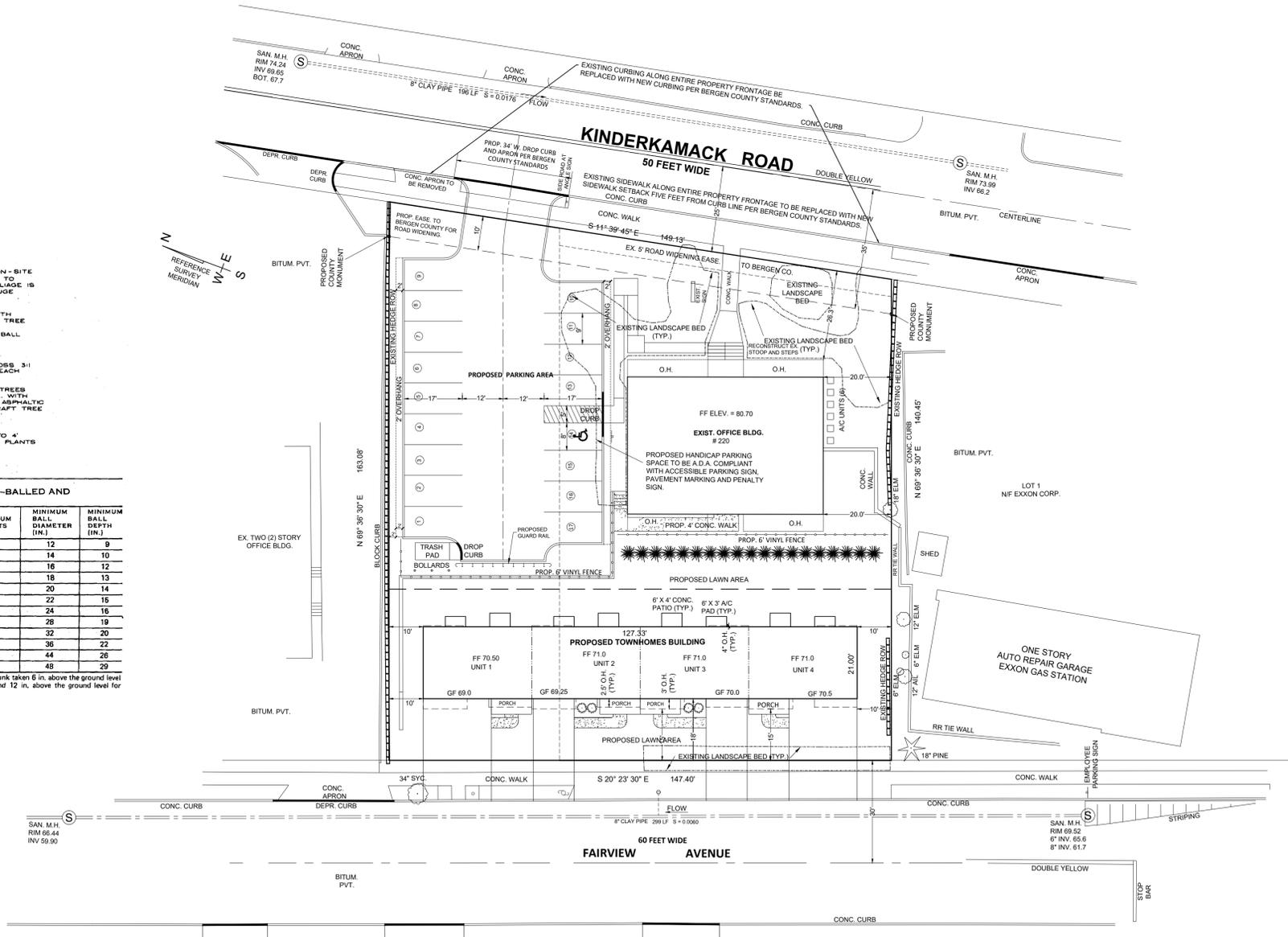
HEIGHT RANGE (FT)	MINIMUM BALL DIAMETER (IN.)	MINIMUM BALL DEPTH (IN.)
1 1/2 - 2	10	9
2 - 3	12	9
3 - 4	13	10
4 - 5	15	11
5 - 6	16	12
6 - 7	18	13
7 - 8	20	14
8 - 9	22	15
9 - 10	24	16
10 - 12	26	17

NOTE: Ball sizes should always be of a diameter to encompass the fibrous and feeding root system necessary for the full recovery of the plant.

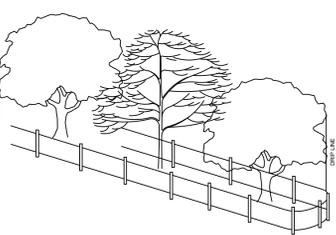
STANDARD SHADE TREES - BALLED AND BURLAPPED

CALIPER* (IN.)	HEIGHT RANGE (FT)	MAXIMUM HEIGHTS (FT)	MINIMUM BALL DIAMETER (IN.)	MINIMUM BALL DEPTH (IN.)
1/2 - 3/4	5-6	8	12	9
3/4 - 1	6-8	10	14	10
1 - 1 1/2	7-9	11	16	12
1 1/4 - 1 1/2	8-10	12	18	13
1 1/2 - 1 3/4	10-12	14	20	14
1 3/4 - 2	10-12	14	22	15
2 - 2 1/2	12-14	16	24	16
2 1/2 - 3	12-14	16	28	19
3 - 3 1/2	14-16	18	32	20
3 1/2 - 4	14-16	18	36	22
4 - 5	16-18	22	44	26
5 - 6	18 and up	28	48	29

*Caliper indicates the diameter of the trunk taken 6 in. above the ground level up to and including 4 in. caliper size and 12 in. above the ground level for larger sizes.

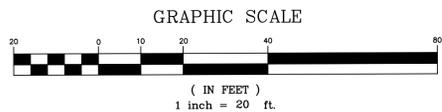


METHOD OF PROTECTING SINGLE TREES DURING CONSTRUCTION



METHOD OF PROTECTING GROUPED TREES DURING CONSTRUCTION

WHERE TREES ARE TIGHTLY GROUPED, SILT FENCE TO BE PLACED 10 FEET FROM THE TRUNK IN A LINEAR FASHION.



NOTES:
1. ALL PORTIONS OF THE PROPERTY NOT UTILIZED BY BUILDINGS OR PAVED SURFACES SHALL BE LANDSCAPED.

PROPOSED PLANTING LIST :

SYMBOL	ABBREV.	COMMON NAME	BOTANICAL NAME	ROOT TYPE	PLANTING HT.	SPACING	QUANTITY
	AE	AMERICAN ARBORVITAE	THUJA OCCIDENTALIS	B AND B	5'	4' ON CENTER	19
	YEW	UPRIGHT YEW	TAXUS YEW (CULTIVAR)	CONTAINER	3'	3' ON CENTER	4

APPROVED BY THE COUNTY PLANNING BOARD
COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____

THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.
Matthew R. Fox
MATTHEW R. FOX
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 37567
DATE: DECEMBER 31, 2019

NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

**LANDSCAPE PLAN
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE**

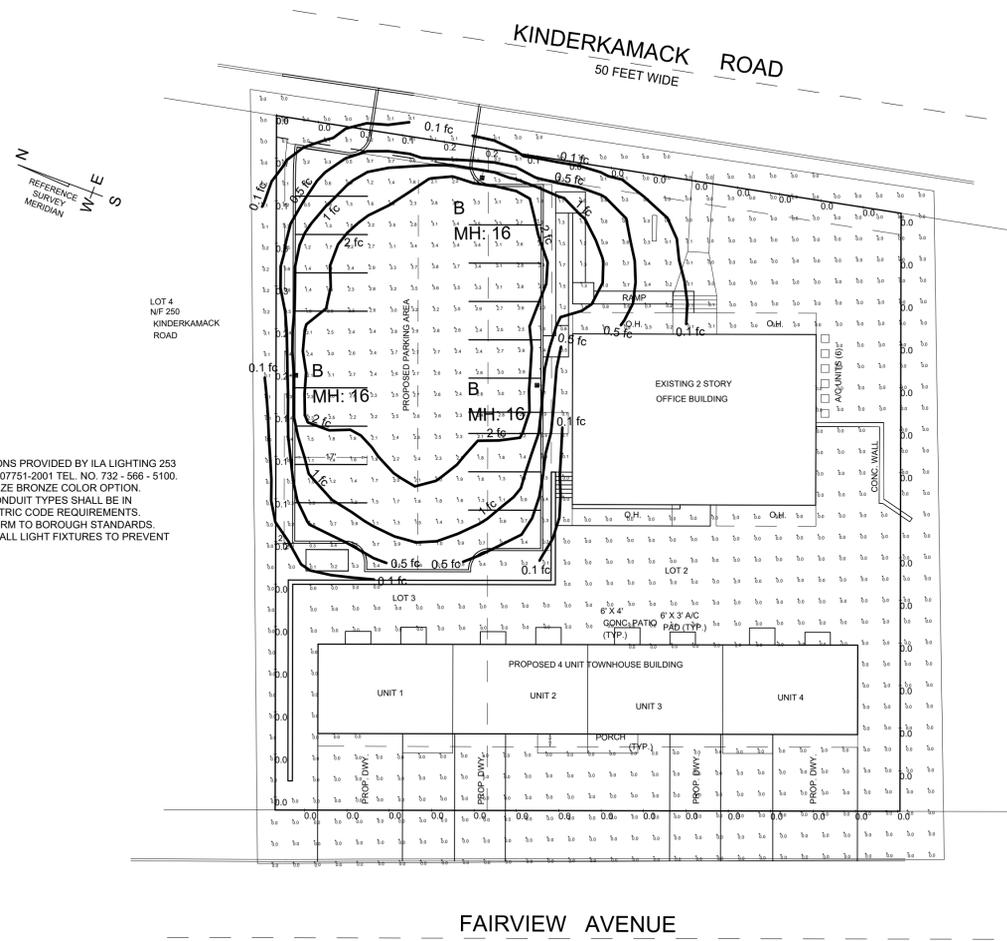
BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

CANGER ENGINEERING ASSOCIATES
A NEW JERSEY CORPORATION SINCE 1948
CERTIFICATE NO. 24GA27985900
ENGINEERS - CONSULTANTS - SURVEYORS
P.O. BOX 93, TRANQUILITY, NEW JERSEY 07879

DRAWN BY: PF	DATE: DECEMBER 2019	SHEET NO: 5
CHECKED BY: MF	SCALE: AS SHOWN	DRAWING NO: 17327
		SHEETS IN SET: 10

Symbol	Qty	Label	Arrangement	Description	LLD	UDF	LLF	Arr. Lum. Lumens	Arr. Watts
	3	B	SINGLE	MRM-LED-07L-SIL-FT-40-70CRI-HL-16"MH	1,000	1,000	0.920	4656	53

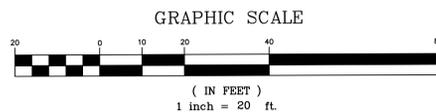
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL POINTS AT GRADE 5'X5'	ILLUMINANCE	Fc	0.57	3.8	0.0	N.A.	N.A.
PROPERTY LINE	ILLUMINANCE	Fc	0.04	0.3	0.0	N.A.	N.A.
PARKING SUMMARY	ILLUMINANCE	Fc	2.08	3.8	0.2	10.40	19.00



GENERAL LIGHTING NOTES:

- LIGHTING LAYOUT AND SPECIFICATIONS PROVIDED BY ILLUMINANCE LIGHTING ASSOCIATES (ILA) LIGHTING 253 STATE ROUTE 79 MORGANVILLE, NJ 07751-2001 TEL. NO. 732 - 566 - 5100.
- LIGHTS, POLES AND TIMERS TO UTILIZE BRONZE COLOR OPTION.
- ALL PERMITTED WIRE TYPES AND CONDUIT TYPES SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE REQUIREMENTS.
- ALL PROPOSED LIGHTING TO CONFORM TO BOROUGH STANDARDS.
- SHIELDING SHALL BE INSTALLED ON ALL LIGHT FIXTURES TO PREVENT OFFSITE SPILLAGE, IF REQUIRED.

**LIGHTING PLAN
WITH ISOLUX CONTOURS
AND POINT ANALYSIS**

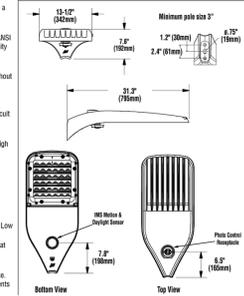


Features & Specifications

- Optical System**
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
 - Proprietary silicone refractor optic provides exceptional coverage and uniformity in E5 Type 2, 3, 5E, F1 and F7A.
 - Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 92%.
 - Zero weight.
 - Available in 5000K, 4000K, 3000K, and 2700K color temperatures per ANSI C78.377. Also Available in Phosphor Coated Amber with Peak Intensity at 610nm.
 - Minimum CRI of 70.
 - Integral Lumen (L) option available for improved back-light control without sacrificing street side performance. See page 5 for more details.
- Electrical**
- High performance driver features over-voltage, under-voltage, short-circuit and over-temperature protection.
 - 0-10V dimming (10% - 100%) standard.
 - Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (241-480 VAC).
 - LED Calculated Life: >100K Hours (See Lumen Maintenance on Page 2)
 - Total harmonic distortion: <20%
 - Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L lumen package rated to +40°C.
 - Power factor: >90.
 - Input power stays constant over life.
 - Field replaceable surge protection device meets a minimum Category C Low conductor ANSI/IEEE C82.41.2).
 - High efficiency LEDs mounted to metal-core circuit board to maximize heat dissipation.
 - Terminal block provided accepts up to 10ga wire.
 - Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.



Product Dimensions

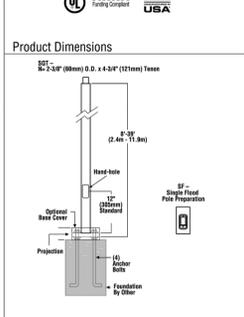


poles STEEL SQUARE STRAIGHT POLES

Features & Specifications

- Pole Shaft**
- Straight poles are 4", 5", or 6" square.
 - Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
 - On Tower Mount steel poles, tension is 3/32" O.D. high-strength pipe. Tension is 4-3/4" in length.
- Hand Hole**
- Standard hand-hole location is 12" above pole base.
 - Poles 22" and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.
- Base**
- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
 - Two-piece square base cover is optional.
- Anchor Bolts**
- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
 - Anchor bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 psi.
- Ground Lug**
- Ground lug is standard.
- Duplex Receptacle**
- Weatherproof duplex receptacle is optional.
- Ground Fault Circuit Interrupter**
- Self-testing ground fault circuit interrupter is optional.
- Finishes**
- Every pole is provided with the Duragrip® Protection System and a 5-year limited warranty.
 - Each shaft is purchased to a stricter straightness tolerance than specified on industry material standards. Shafts with dents, dings, roll marks, or patterns on the exterior surface are rejected. Shafts are stored indoors to prevent corrosion.
 - After connecting holes are cut and hand holes and baseplates welded to the shafts, each pole undergoes a thorough shot-peening process, resulting in a near-white surface. This procedure removes all dirt and scale and strengthens the surface of the steel by inducing a compressive residual stress that helps prevent cracking and extend the life of the pole.
 - After shot peening, a neutral soap is applied followed by the application of a zinc-rich primer that improves powder-coat adhesion and protects from corrosion.
 - Next, each pole is coated through electrostatic application of a polyester powder paint in standard LSI Bronze or the color approved by the customer. Paint thickness is measured in multiple locations along the pole to ensure specification adherence.
 - Finally, the pole is oven baked to form a homogeneous, non-porous surface and wrapped for shipment in a woven fabric sleeve to protect the finish during transit.
 - When the top-of-the-line Duragrip® Plus Protection System is selected, in addition to the Duragrip® Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior, sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Product Dimensions



NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

**LIGHTING PLAN
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE**

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY
CANGER ENGINEERING ASSOCIATES
A NEW JERSEY CORPORATION SINCE 1948
CERTIFICATE NO. 24GA27985900
ENGINEERS - CONSULTANTS - SURVEYORS
P.O. BOX 93, TRANQUILITY, NEW JERSEY 07879

THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.

MATTHEW R. FOX
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 37567
DATE: DECEMBER 31, 2019

DRAWN BY: PF	DATE: DECEMBER 2019	DRAWING NO: 17327	SHEET NO: 6
CHECKED BY: MF	SCALE: AS SHOWN	DRAWING NO: 17327	SHEETS IN SET: 10

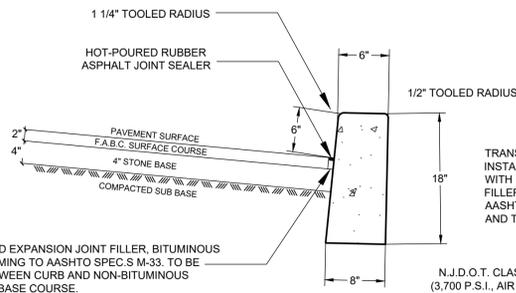
APPROVED BY THE COUNTY PLANNING BOARD
COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____

Drawn by: PF
Checked: MF

CURB AND PAVEMENT DETAIL

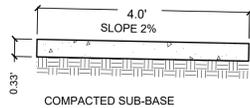
NOT TO SCALE



TRANSVERSE JOINTS FROM 3/8" TO 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20' APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213, RECESSED 1/4" FROM THE FRONT FACE AND TOP OF THE CURB.

N.J.D.O.T. CLASS B CONC.
(3,700 P.S.I., AIR ENTRAINED)

- NOTE: WIDTH OF FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT LESS 1/2"
1. ANY SUBGRADE MATERIAL BELOW PAVEMENT THAT HAS BEEN DAMAGED FROM SAW-CUTTING IS TO BE REPLACED, GRADED AND COMPACTED TO PROVIDE A STABILIZED BASE FOR PAVEMENT REPAIR TO THE SATISFACTION OF THE MUNICIPAL ENGINEER.
 2. 4" STONE BASE COURSE TO BE COMPACTED AND BOUND WITH STONE DUST.
 3. PROVIDE TACK COAT (LIQUID ASPHALT BINDER) ALONG EDGES OF EXISTING PAVEMENT AT SAW CUT PRIOR TO REPLACEMENT OF SURFACE COURSE.

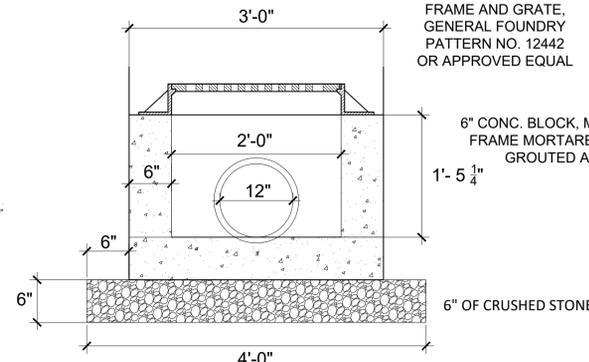


SIDEWALK DETAIL

1. CONCRETE SIDEWALK SHALL BE 4" THICK EXCEPT AT POINTS OF VEHICULAR CROSSING, WHERE THEY SHALL BE 6" THICK. AT VEHICULAR CROSSINGS, CONCRETE SIDEWALKS SHALL BE REINFORCED WITH WELDED WIRE FABRIC MESH OR AN EQUIVALENT.
2. CONCRETE AIR ENTRAINED SIDEWALKS SHALL BE CLASS B CONCRETE HAVING A 28 DAY VERIFICATION STRENGTH OF 4000 P.S.I.
3. GRADED AREAS SHALL BE PLANTED WITH GRASS OR TREATED WITH OTHER SUITABLE GROUND COVER, AND THEIR WIDTH AND CROSS SLOPE SHALL CORRESPOND TO THAT OF THE SIDEWALKS.
4. PREFORMED EXPANSION JOINT MATERIAL SHALL BE PLACED AT 20' INTERVALS WHERE SIDEWALKS ABUT CURBING OR STRUCTURE.



ROUND FLANGE - FLUSH GRATE
GENERAL FOUNDRY PATTERN NO. 12442

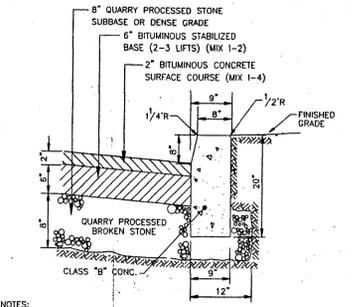


TYPE E INLET WITH FRAME AND GRATE

FRAME AND GRATE, GENERAL FOUNDRY PATTERN NO. 12442 OR APPROVED EQUAL

6" CONC. BLOCK, MORTARED JOINTS, FRAME MORTARED IN PLACE, PIPE GROUDED AS REQUIRED

6" OF CRUSHED STONE



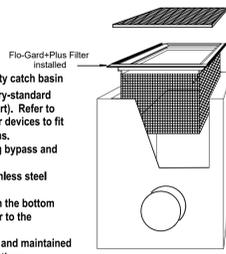
BERGEN COUNTY CURB DETAIL

NOT TO SCALE
(FOR USE WITHIN BERGEN COUNTY R.O.W. ONLY)

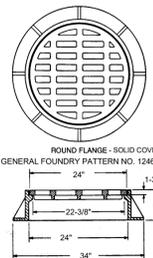
- NOTES:
1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED 10'-0" APART & SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER AASHTO DESIGNATION M215 RECESSED 1/4" FROM TOP & FACE

NOTES:

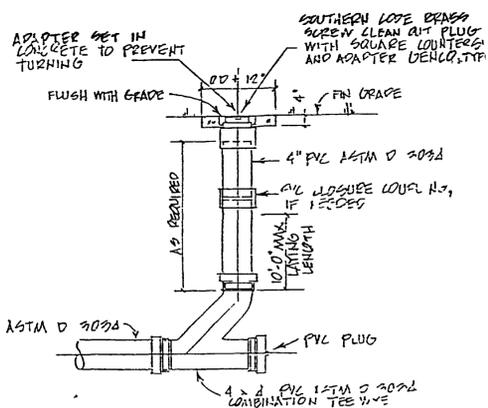
1. Flo-Gard™ PLUS (frame mount) high capacity catch basin inserts are available in sizes to fit most industry-standard catch basin sizes and styles (see specifier chart). Refer to the Flo-Gard™ PLUS (wall mount) insert for devices to fit non-standard or combination style catch basins.
2. Filter insert shall have both an "initial" filtering bypass and "ultimate" high-flow bypass feature.
3. Filter assembly shall be constructed from stainless steel (Type 304).
4. Allow a minimum of 2'-0" of clearance between the bottom of grate and top of inlet or outlet pipe(s). Refer to the Flo-Gard™ insert for "shallow" installations.
5. Filter medium shall be Rubberizer® installed and maintained in accordance with manufacturer recommendations.



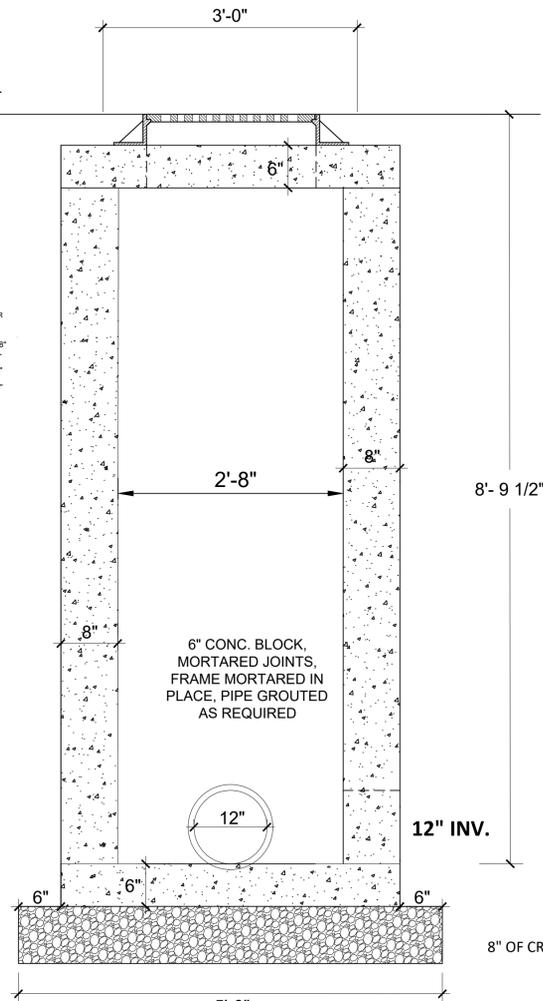
FLO-GARD PLUS™
CATCH BASIN FILTER INSERT
(Frame Mount Installation)
FLAT GRATED INLET



ROUND FLANGE - SOLID COVER
GENERAL FOUNDRY PATTERN NO. 12441

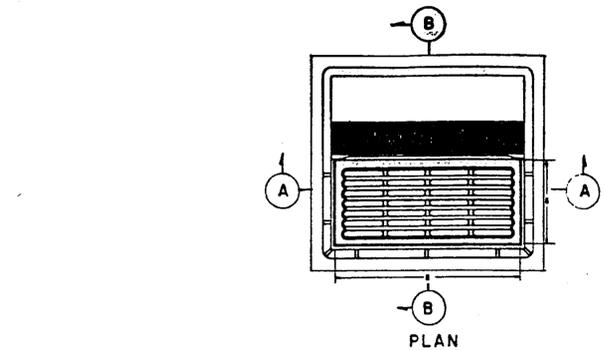


CLEAN-OUT (PVC)

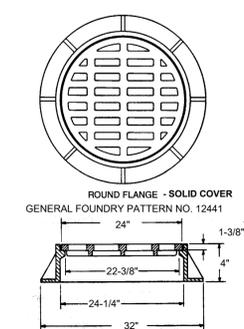
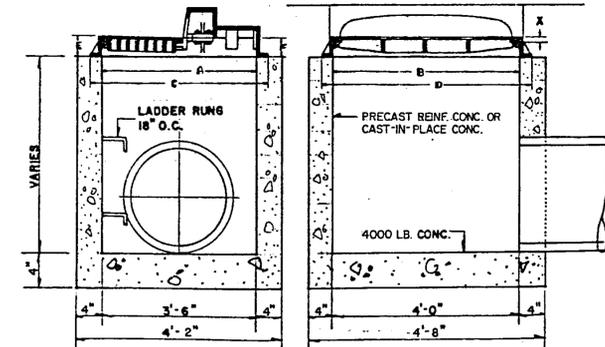


JUNCTION BOX WITH HEAVY DUTY MANHOLE COVER

FRAME AND GRATE, GENERAL FOUNDRY PATTERN NO. 12462 OR APPROVED EQUAL



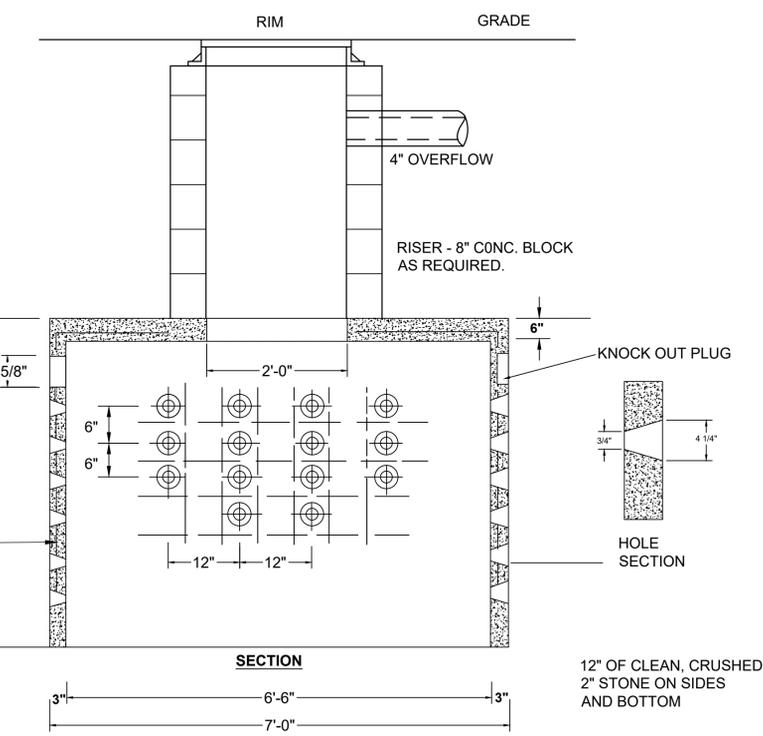
INLET TYPE B WITH FRAME AND GRATE



ROUND FLANGE - SOLID COVER
GENERAL FOUNDRY PATTERN NO. 12441

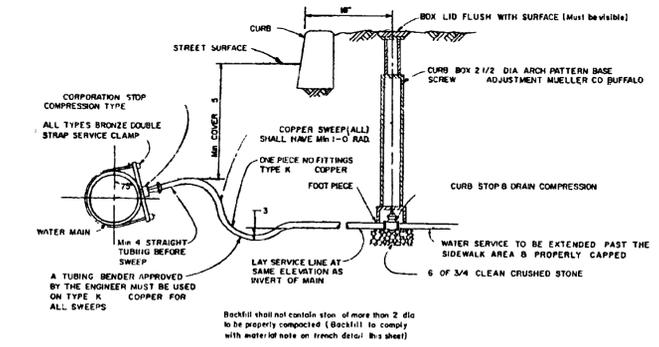
PROVIDE FILTER FABRIC AT LIMITS OF EXCAVATION

6 x 6 x 10/10 REINF. MESH



1000 GALLON SEEPAGE PIT WITH FRAME AND GRATE

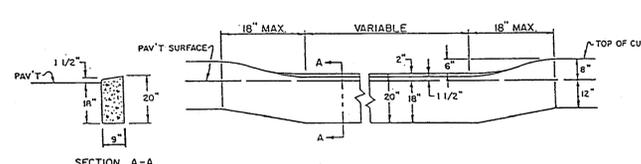
NOTE: SEE DRAINAGE PLAN SHEET NO 4 OF 8 FOR ADDITIONAL CONSTRUCTION DETAILS FOR THE PROPOSED STORM WATER DETENTION SYSTEM



WATER VALVE AND BOX

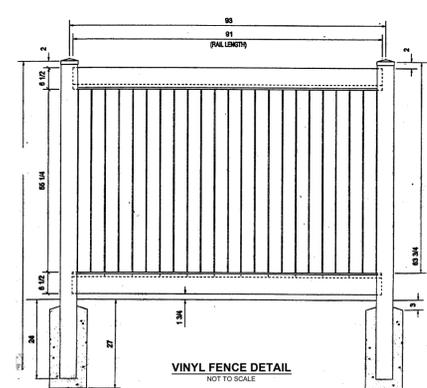
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COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____



DEPRESSED CURB DETAIL AT DRIVEWAYS

NOT TO SCALE



VINYL FENCE DETAIL

NOT TO SCALE

THE INFORMATION SHOWN HEREON IS CERTIFIED TO BE CORRECT.

Matthew R. Fox

MATTHEW R. FOX
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 37567

DATE: DECEMBER 31, 2019

REVISIONS			
NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

CONSTRUCTION DETAILS
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

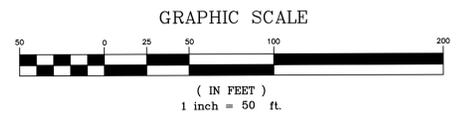
CANGER ENGINEERING ASSOCIATES
A NEW JERSEY CORPORATION SINCE 1948
CERTIFICATE NO. 24GA27985900
ENGINEERS - CONSULTANTS - SURVEYORS
P.O. BOX 93, TRANQUILITY, NEW JERSEY 07879

DRAWN BY: PF	DATE: DECEMBER 2019	SHEET NO: 7
CHECKED BY: MF	SCALE: AS SHOWN	DRAWING NO: 17327
		SHEETS IN SET: 10

AREA MAP:



APPROVED FOR RECORDATION BY
MUNICIPAL CLERK OF
WESTWOOD TOWNSHIP SHEET 9



APPROVED BY THE COUNTY PLANNING BOARD
COUNTY OF BERGEN, NEW JERSEY.

ATTESTED TO BY _____ DATE _____

THE INFORMATION SHOWN HEREON
IS CERTIFIED TO BE CORRECT.

Matthew R. Fox

MATTHEW R. FOX
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 37567

DATE: DECEMBER 31, 2019

1.	REVISED FOR RESUBMISSION	PF	04-28-2020
NO.	REVISIONS	BY	DATE

AREA MAP
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

CANGER ENGINEERING ASSOCIATES
A NEW JERSEY CORPORATION SINCE 1948
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		SHEETS IN SET: 10

**BOROUGH OF WESTWOOD
SCHEDULE A
AREA AND BULK REGULATIONS**

C.O. - CENTRAL OFFICE DISTRICT ZONE

REQUIRED	EXISTING CONDITION		PROPOSED CONDITION	
	LOT 2	LOT 3	EASTERLY LOT	WESTERLY LOT
MINIMUM LOT AREA (S.F.)	7,500	14,407	15,000	7369**
MINIMUM LOT WIDTH (FT.)	75	67.40	75	147.40
MINIMUM LOT DEPTH (FT.)	100	147.92	101.76	50**
MINIMUM FRONT YARD (FT.)	20	26.3	26.3	15**
MINIMUM SIDE YARD EA/TOTAL (FT.)	10/20	20/40	1.6"/14.1"	20/90
MAXIMUM FLOOR AREA RATIO (F.A.R.)	0.25	0.54	0.28	0.52**
MINIMUM REAR YARD (FT.)	20	67.0	19.1"	11.0**
MAXIMUM BUILDING COVERAGE (%)	50	19.2	24.0	18.5
MAXIMUM IMPERVIOUS COVERAGE (%)	65	64.4	33.6	58.9
MAXIMUM BUILDING HEIGHT (STORIES)	3	3	2.5	3
MAXIMUM BUILDING HEIGHT (FT.)	35	34.13	28.50	34.13
NUMBER OF PARKING SPACES	31.36	17**	3	10

- NUMBER OF REQUIRED OFFICE SPACES = 1 SPACE PER 250 SF GFA. 7840 SF GFA / 1 SPACE PER 250 SF GFA = 31.36 SPACES.
- NUMBER OF EXISTING OFFICE SPACES = 17**
- NUMBER OF PROPOSED OFFICE SPACES = 17**
- NUMBER OF REQUIRED TOWNHOMES PARKING SPACES = 9.6
- NUMBER OF PROPOSED TOWNHOMES PARKING SPACES = 10

TOWNHOUSE - FOR THREE BEDROOM UNIT, 2.4 SPACES INCLUDING 2 GARAGE SPACES.
FOR FOUR UNITS, 9.6 SPACES REQUIRED. 10 PROPOSED SPACES.

* DENOTES EXISTING NON-CONFORMITY.
** DENOTES VARIANCE REQUEST.

FOR COMPARISON PURPOSES ONLY:

ARTICLE XV
SUPPLEMENTARY REGULATIONS GOVERNING CERTAIN USES
§ 165-120. CERTAIN PRINCIPAL PERMITTED USES.
C. TOWNHOUSES. TOWNHOUSE DEVELOPMENTS SHALL COMPLY WITH THE FOLLOWING:

REQUIRED	PROVIDED
(1) MINIMUM LOT AREA: THREE ACRES	0.34 ACRES**
(2) MINIMUM LOT FRONTAGE: 300 FEET	147.40 FEET**
(3) MINIMUM LOT DEPTH: 200 FEET	50 FEET**
(4) MAXIMUM DENSITY: 12 DWELLING UNITS PER ACRE	11.8 DU/ACRE
(5) MAXIMUM UNITS PER BUILDING: SEVEN	4 UNITS/BLDG.
(6) MAXIMUM BUILDING HEIGHT (STORIES/FEET): 2 1/2 STORIES/35 FEET	3 STORIES / 34.97 FEET
(7) MINIMUM PARKING SPACES: ONE GARAGE SPACE, ONE DRIVEWAY SPACE, PLUS ONE VISITOR SPACE PER THREE UNITS. - 4 UNITS YIELDS 9.33 REQUIRED SPACES -	10 SPACES
(8) MAXIMUM BUILDING LENGTH: 175 FEET	127.33 FEET
(9) BUILDING-TO-BUILDING SETBACKS: (a) FRONT-TO-FRONT: 60 FEET. (b) FRONT-TO-SIDE: 45 FEET. (c) SIDE-TO-SIDE: 15 FEET. (d) BACK-TO-BACK: 40 FEET.	N/A
(10) MINIMUM BUILDING SETBACK FROM PUBLIC RIGHT-OF-WAY: 25 FEET.	15 FEET**

NOTE: THE PROPOSED DEVELOPMENT OF TOWNHOMES IS NOT LISTED AS A PRINCIPAL OR ACCESSORY PERMITTED USE IN THE CENTRAL OFFICE DISTRICT AND REQUIRES A USE VARIANCE. **

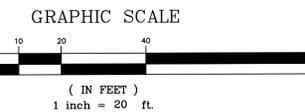
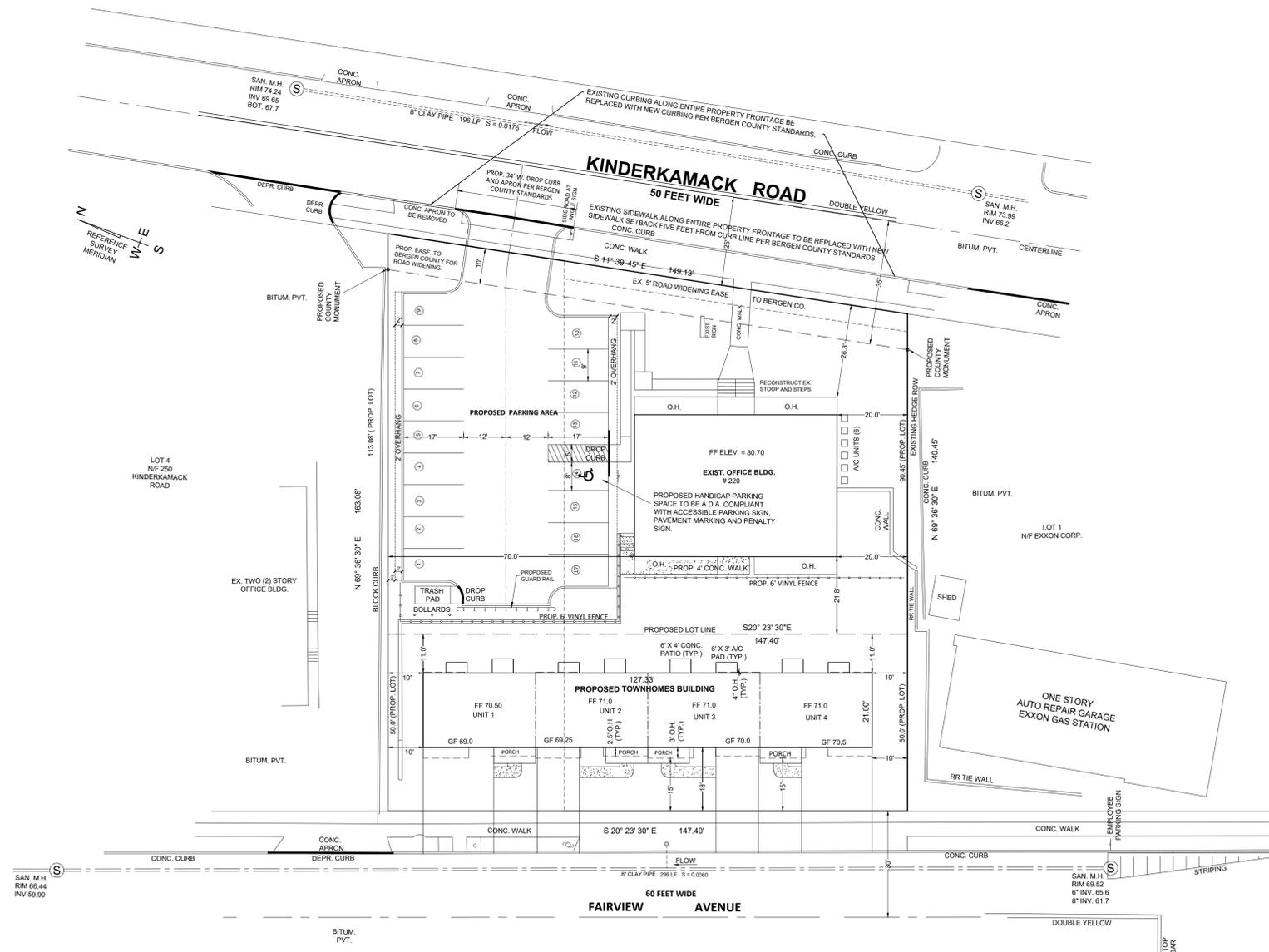
PROPOSED GROSS FLOOR AREA CALCULATIONS:

EASTERLY LOT:

BASEMENT FLOOR AREA = 2296 SF
FIRST FLOOR AREA = 2772 SF
SECOND FLOOR AREA = 2772 SF
TOTAL GROSS FLOOR AREA = 7840 SF
FLOOR AREA RATIO = 7840 SF / 15000 SF = 0.52

WESTERLY LOT:

TOTAL GROSS FLOOR AREA = 2135 SF PER UNIT * 4 UNITS = 8540 SF
FLOOR AREA RATIO = 8540 SF / 7369 SF = 1.16



NOTE:
OFFSETS SHOWN TO PROPOSED TOWNHOMES BUILDING ARE TO PROPOSED FOUNDATION WALLS.

EXISTING IMPERVIOUS AREAS:

LOT 2
CONC WALK = 161.1 SF
STEPS = 41.5 SF
STOOP = 52.2 SF
SIGN = 4.7 SF
FOUNDATION = 2,301.6 SF
OVERHANGS = 469.7 SF
PARKING LOT, CONC. ENTRANCE AND WALLS = 5,985.0 SF
CONC. TILE PAD = 45.0 SF
A/C UNITS = 20.5 SF
GRAVEL BEDS = 191.6 SF
TOTAL IMPERVIOUS AREA = 9,272.9 SF
TOTAL IMPERVIOUS COVERAGE = 9,272.9 SF / 14,407 SF = 64.4 %

LOT 3
BITUM PVT = 432.5 SF
APRON = 16.2 SF
GARAGE = 358.8 SF
CONC WALK = 242.6 SF
FOUNDATION = 1,081.4 SF
CHIMNEY = 4.3 SF
OVERHANGS = 23.5 SF
PORCH = 445.5 SF
STEPS = 71.0 SF
TOTAL IMPERVIOUS AREA = 2,675.8 SF
TOTAL IMPERVIOUS COVERAGE = 2,675.8 SF / 7,962 SF = 33.6 %

TOTAL IMPERVIOUS AREAS OF LOTS 2 AND 3 = 11,948.7 SF = 0.27 ACRES

PROPOSED IMPERVIOUS AREAS

EASTERLY LOT:
PROPOSED PARKING AND CURB AREA = 5210.6 SF
PROPOSED DUMPSTER PAD AND CONC APRON AREA = 65.00 SF
EXISTING SIGN AREA = 6.2 SF
EXISTING STOOP, STEPS AND WALK AREA = 254.8 SF
EXISTING FOUNDATION AREA = 2296 SF
EXISTING OVERHANG AREA = 476 SF
EXISTING A/C UNITS AREA 20.5 SF
PROPOSED CONCRETE AND STEPS AREA NOT UNDER OVERHANG = 92.9 SF
PROPOSED WALL AREA = 91.7 SF
EXISTING CONCRETE WALL AREA = 39.5 SF
PROPOSED HANDICAP RAMP = 277.6 SF

TOTAL IMPERVIOUS AREA = 8830.8 SF
TOTAL IMPERVIOUS COVERAGE = 8830.8 SF / 15000 SF = 58.87%

WESTERLY LOT:
PROPOSED WALL AREA = 45.3 SF
PROPOSED CONCRETE PATIO AND A/C PADS AREA = 168 SF
PROPOSED FOUNDATION AREA = 2674 SF
PROPOSED OVERHANG AREA = 296.4 SF
PROPOSED PORCH NOT UNDER OVERHANG AREA = 82.8 SF
PROPOSED DRIVEWAYS NOT UNDER OVERHANG AREA = 1016.7 SF
PROPOSED TOWNHOMES WALKWAY AREA = 153.0 SF

TOTAL IMPERVIOUS AREA = 4436.2 SF
TOTAL IMPERVIOUS COVERAGE = 4436.2 SF / 7369 SF = 60.20%

NO.	REVISIONS	BY	DATE
1.	REVISED FOR RESUBMISSION	PF	5-13-2020

**MINOR SUBDIVISION PLAN
BLOCK 1501, LOTS 2 AND 3
TOWNHOMES AT PLAZA ONE**

BOROUGH OF WESTWOOD, BERGEN COUNTY, NEW JERSEY

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