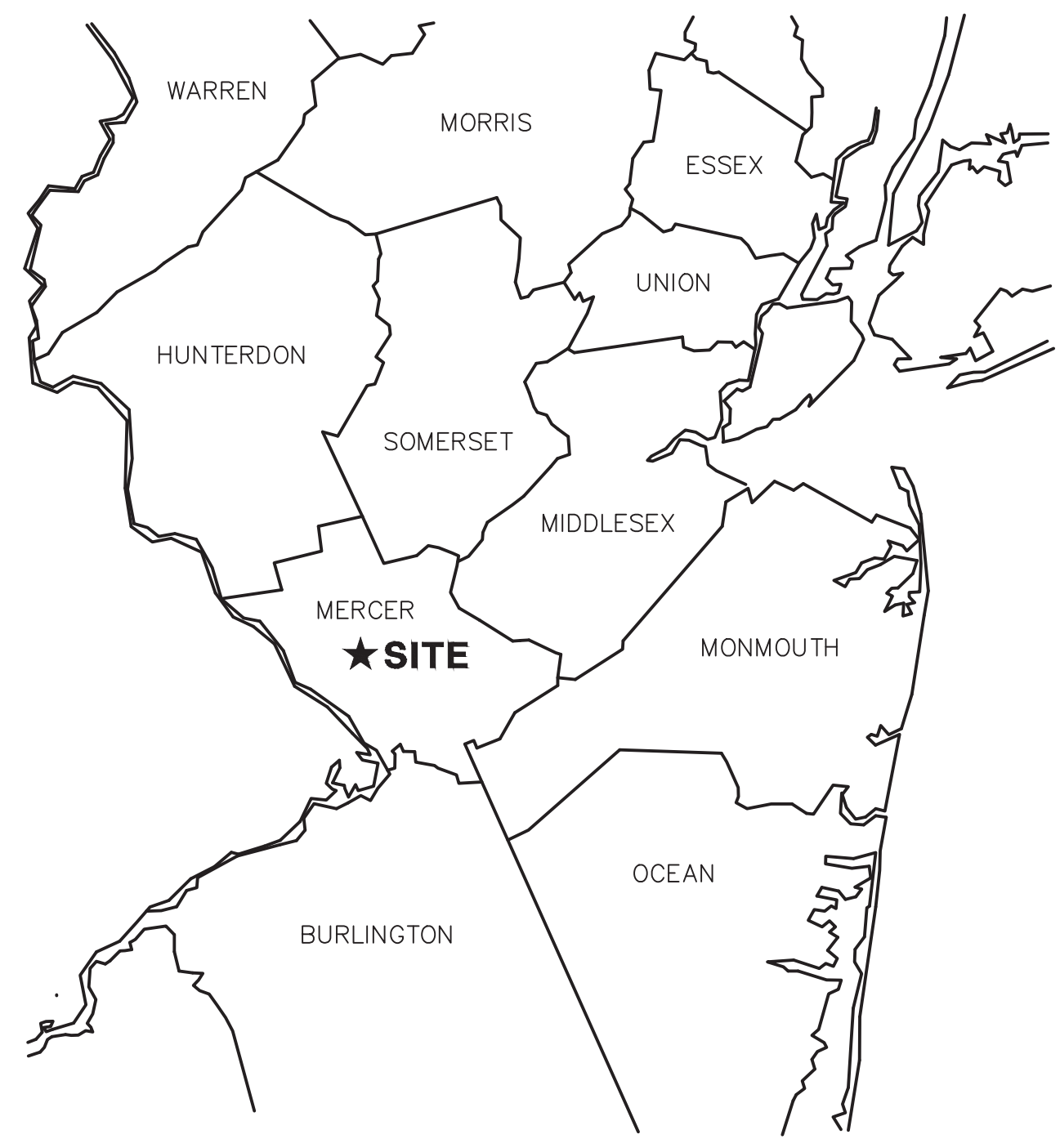
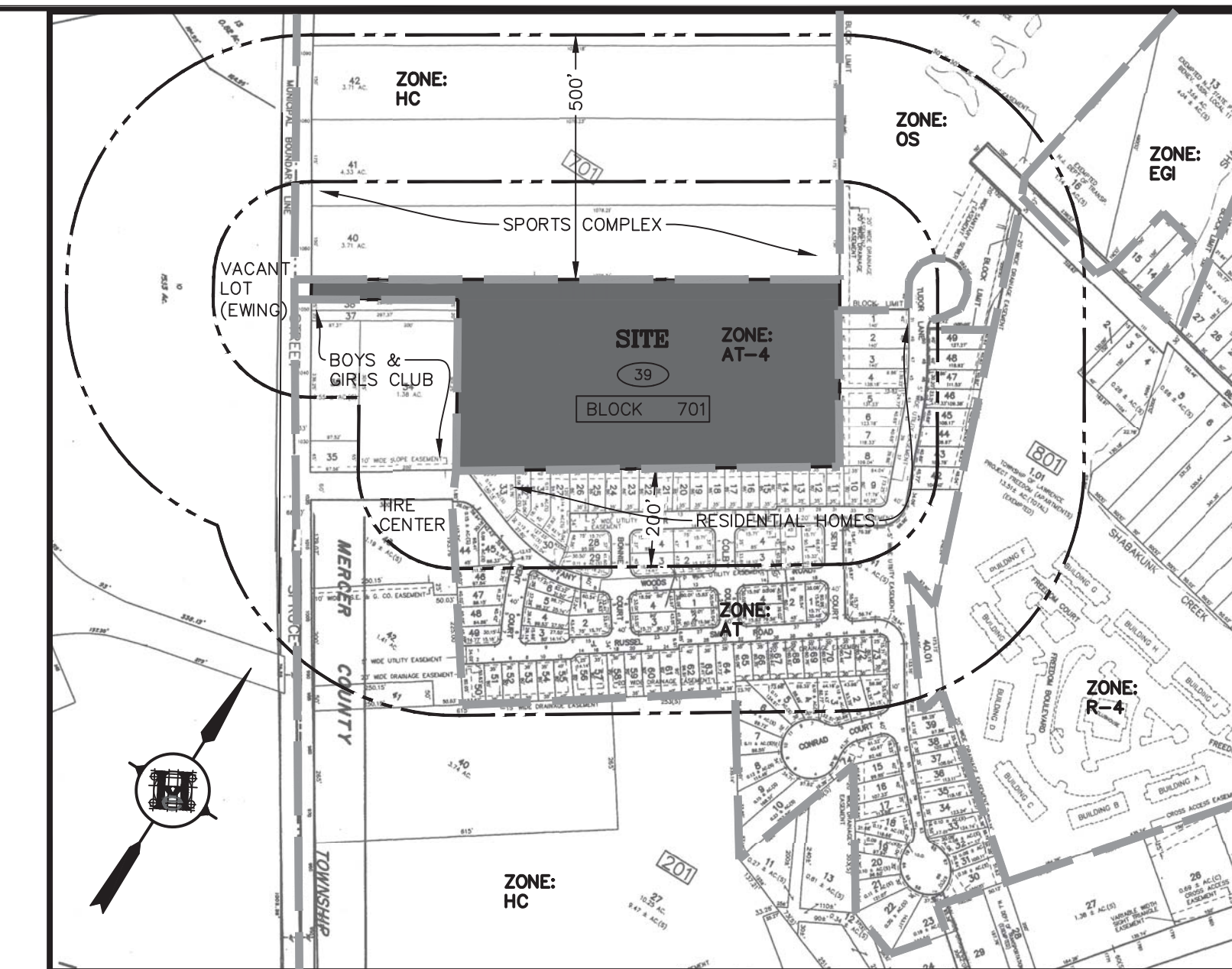


REGIONAL MAP NO SCALE



PRELIMINARY AND FINAL SITE PLAN FOR SPRUCE STREET APARTMENTS LOTS 39 IN BLOCK 701 SITUATE IN



KEY MAP SCALE: 1"=300'

LAWRENCE TOWNSHIP MERCER COUNTY, NEW JERSEY

PREPARED BY HOPEWELL VALLEY ENGINEERING, P.C. 1600 REED ROAD, SUITE A PO BOX 710 PENNINGTON, N.J. 08534-3613

EXPECTED REGULATORY PERMITS AND APPROVALS

- 1. LAWRENCE TOWNSHIP PLANNING BOARD SITE PLAN AND MINOR SUBDIVISION
2. MERCER COUNTY PLANNING BOARD
3. LAWRENCE TOWNSHIP SOIL DISTURBANCE
4. DELAWARE AND RARITAN CANAL COMMISSION ZONE 'B' CERTIFICATE
5. NJDEP WETLANDS GENERAL PERMIT #11 - STORMWATER OUTFALLS
6. EWING-LAWRENCE SEWERAGE AUTHORITY
7. NJDEP TREATMENT WORKS APPROVAL
8. TRENTON WATER WORKS
9. NJDEP WATER MAIN EXTENSION
10. PSE&G ELECTRIC AND GAS CONNECTIONS

LAWRENCE TOWNSHIP PROPERTY OWNERS LIST 1052 Spruce Street, LLC (LAWRENCE WATER) WITHIN 200' OF: Block 701, Lot 39

Table listing property owners and their addresses within 200 feet of Block 701, Lot 39.

EWING TOWNSHIP PROPERTY OWNERS LIST 1052 Spruce Street, LLC (LAWRENCE WATER) WITHIN 200' OF: Block 701, Lot 39

Table listing property owners and their addresses within 200 feet of Block 701, Lot 39 in Ewing Township.

ZONING REQUIREMENTS

Table comparing required vs proposed zoning requirements for AT-4 Zone.

OWNER/APPLICANT 1052 SPRUCE LLC 1333 BRUNSWICK AVE SUITE 200 LAWRENCEVILLE, NJ 08648

ISSUANCE DATED: 11/18/21 LAST REVISED: 02/02/22

INDEX OF DRAWINGS

- 1 - COVER SHEET
2 - LAYOUT CONTROL PLAN
3 - GRADING AND STORMWATER PLAN
4 - UTILITY PLAN
5 - TREE PROTECTION & LANDSCAPING PLAN
6 - LANDSCAPING PLAN
7 - LIGHTING PLAN
8 - CONSTRUCTION DETAILS
9 - CONSTRUCTION DETAILS
10 - STORM PROFILES AND INLET DETAILS
11 - SANITARY PROFILES AND DETAILS
12 - REFUSE TRUCK CIRCULATION PLAN
13 - FIRE TRUCK CIRCULATION PLAN
14 - MOVING TRUCK CIRCULATION PLAN

LEGEND

Legend table showing symbols for existing and proposed items like sign, utility pole, storm sewer, etc.

APPROVAL SIGNATURES

Approval signatures section including Owner/Applicant and Professional Engineer Russell M. Smith.

DEVELOPMENT DATA

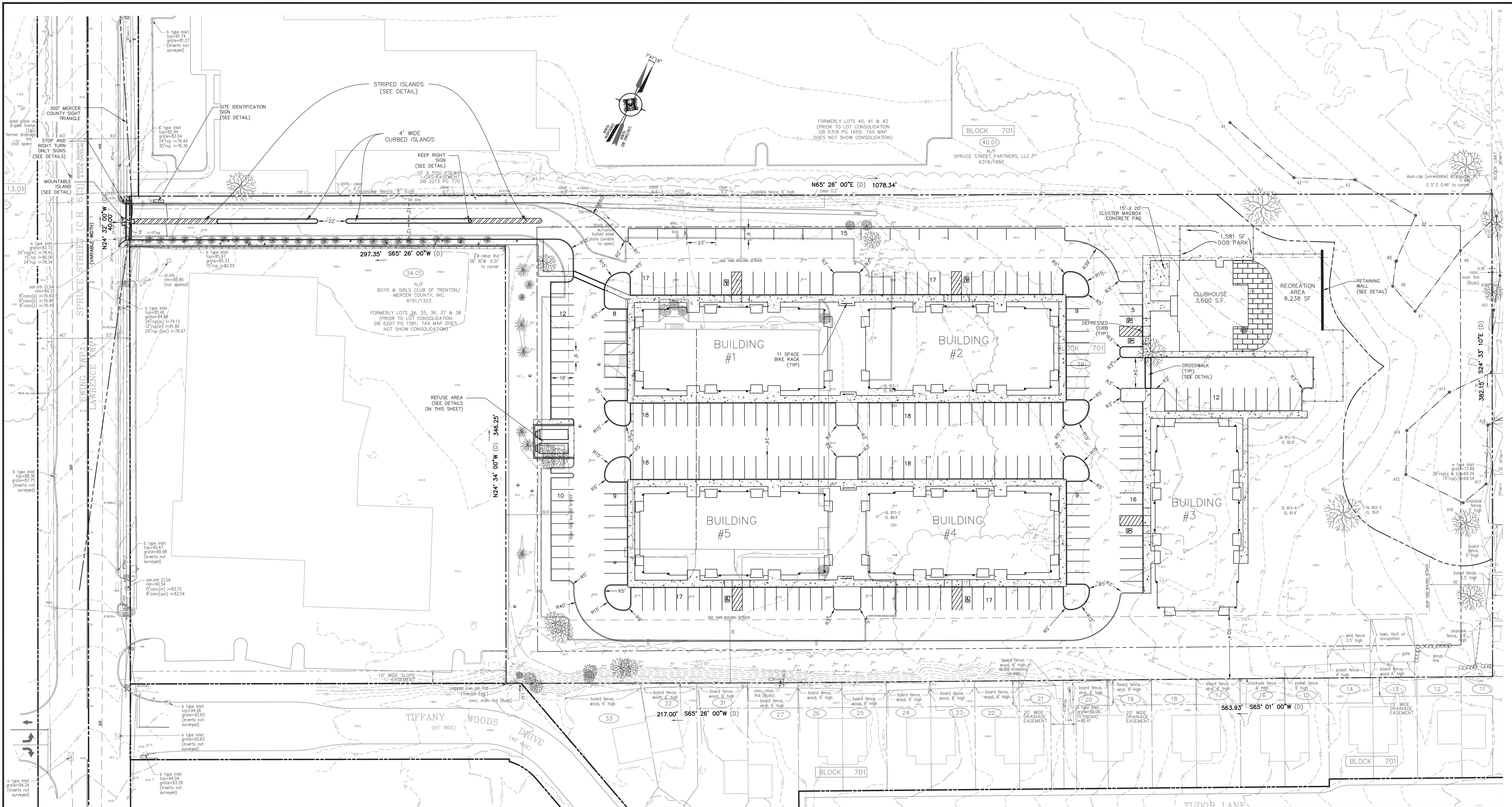
PARKING PROVIDED = 245 SPACES (7 HC SPACES (ALL VAN) AS PER ADA)
DWELLING UNITS PROVIDED: 1 BEDROOM UNITS 69, 2 BEDROOM UNITS 55, 3 BEDROOM UNITS 5, TOTAL UNITS 129
PARKING REQUIREMENTS (RSIS REGULATIONS FOR GARDEN APARTMENTS): 69 ONE BEDROOM UNITS @ 1.8 SPACES PER UNIT = 124.2 SPACES, 55 TWO BEDROOM UNITS @ 2.0 SPACES PER UNIT = 110.0 SPACES, 5 THREE BEDROOM UNITS @ 2.1 SPACES PER UNIT = 10.5 SPACES, TOTAL REQUIRED = 244.7 SPACES (5AY 245)

SUBMISSION AND DESIGN WAIVERS/ EXCEPTIONS REQUIRED

- THE PROJECT WILL REQUIRE A WAIVER/EXCEPTION FROM THE FOLLOWING:
1. SECTION 522E4, SOIL TESTING WAS COMPLETED AS REQUIRED BUT WAS NOT WITNESSED...
2. CHECKLIST ITEM #27 - A DEVELOPMENT STAGES OR STAGING PLAN IS NOT PROVIDED...
3. CHECKLIST ITEM #34 - A STREAM ENFORCEMENT PLAN IS NOT REQUIRED...
4. CHECKLIST ITEMS #47 & 48 - THE PROJECT DOES NOT PROPOSE ANY NEW ROADWAYS.
5. CHECKLIST ITEM #60 (SECTION 813A) - A WAIVER FROM THE COMMUNITY IMPACT STATEMENT IS REQUESTED...

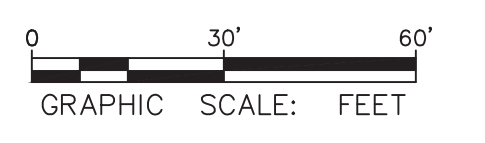
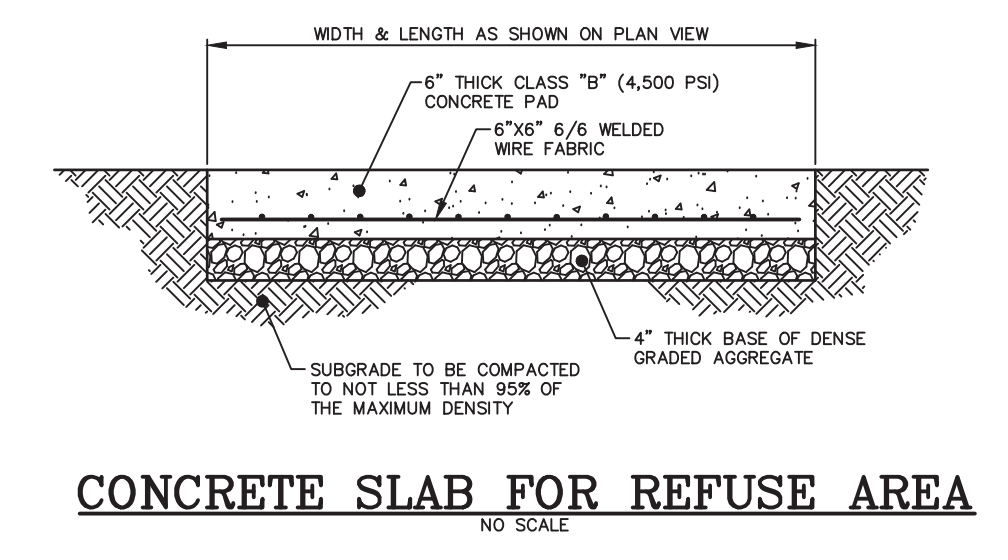
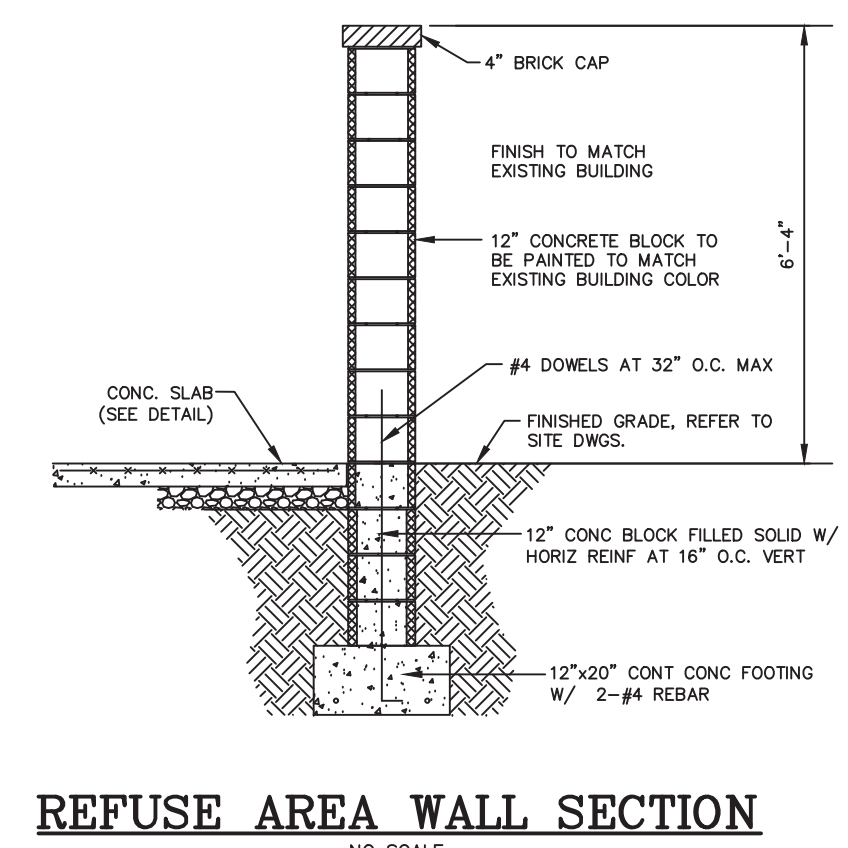
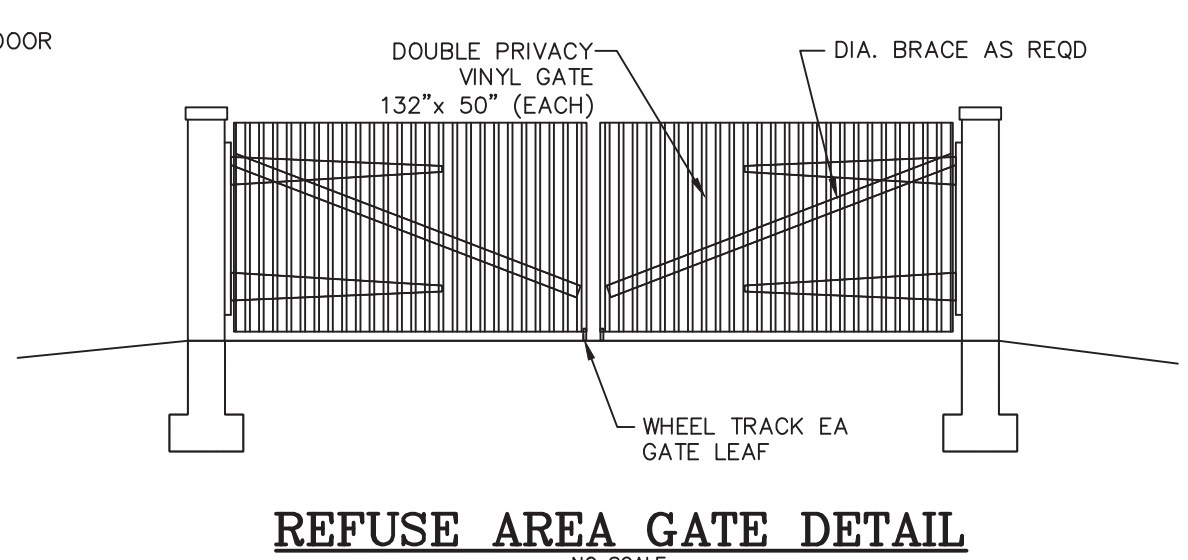
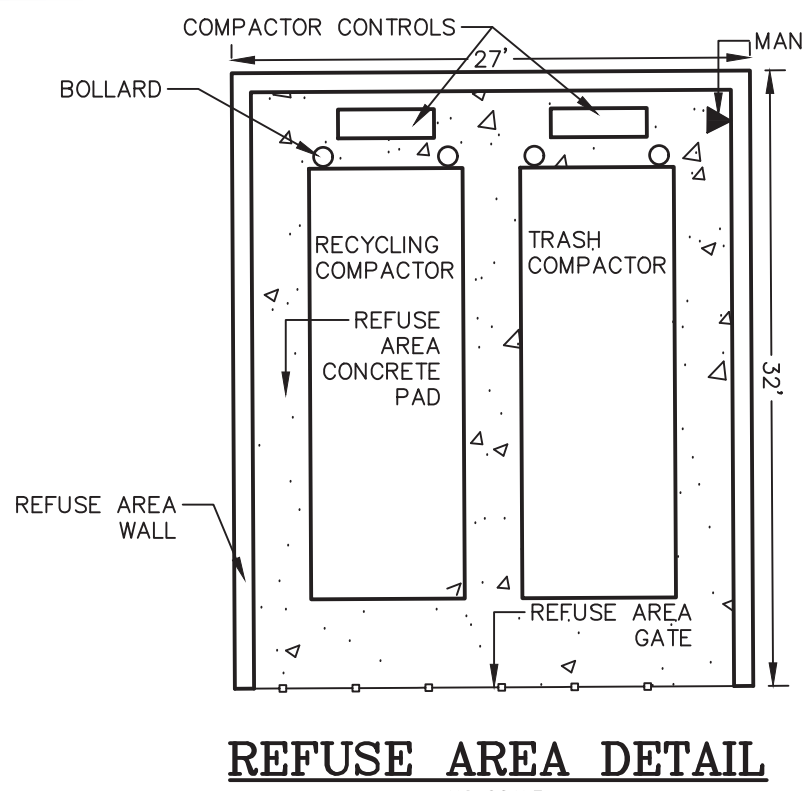
Professional Engineer information for Russell M. Smith, N.J. Professional Engineer No. 33065, and project details for Spruce Street Apartments.

DATE: 02/02/22 10:25:33 AM FILE: PLAN1052.DWG (1052) - 1052.DWG USER: russell.smith



**GENERAL NOTES:**

- PROPERTY IS LOCATED IN THE "AT-4" APARTMENT AND TOWNHOUSE DISTRICT AND IS KNOWN AS LOT 39, BLOCK 701 AS SHOWN ON THE LAWRENCE TOWNSHIP TAX MAP, SHEETS 2, 7 AND 8. THE LOT CONSISTS OF 7.17± AC.
- PROPERTY IS SUBJECT TO A TITLE SEARCH AND SUBJECT TO ANY RESTRICTIONS OR EASEMENTS OF RECORD.
- REFERENCE PLANS:
  - A SURVEY ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY FOR SPRUCE STREET PARTNERS, LLC, LOT 39 BLOCK 701" PREPARED BY HOPEWELL VALLEY ENGINEERING P.C. DATED 06/21/21 AND LAST REVISED 09/09/21.
  - ARCHITECTURAL PLANS PREPARED BY vbjr+ DATED 07/13/21.
  - TOWNSHIP OF LAWRENCE TAX MAP SHEETS 2, 7, 8 AND 9.
  - NJDEP LETTER OF INTERPRETATION FILE NUMBER 1113-07-0007.1 (FW190001) DATED JUNE 2, 2020.
- REFER TO COVER SHEET FOR LEGEND OF STANDARD SYMBOLS USED HEREON.
- UNLESS OTHERWISE NOTED ALL MATERIALS AND METHODS OF CONSTRUCTION USED FOR SITE IMPROVEMENTS SHALL CONFORM TO THE REQUIREMENTS AS SPECIFIED IN THE NEW JERSEY DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT VERSION.
- VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM (88) [NAVD(88)].
- ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLANS TO ANY SUBSEQUENT OWNERS.
- THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAS BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."
- ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR THE UNIFORM CONSTRUCTION CODE.



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
Perth Amboy, NJ 08854-5002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

**LAYOUT CONTROL PLAN**  
FOR  
**SPRUCE STREET APARTMENTS**  
LOT 39 IN BLOCK 701

SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

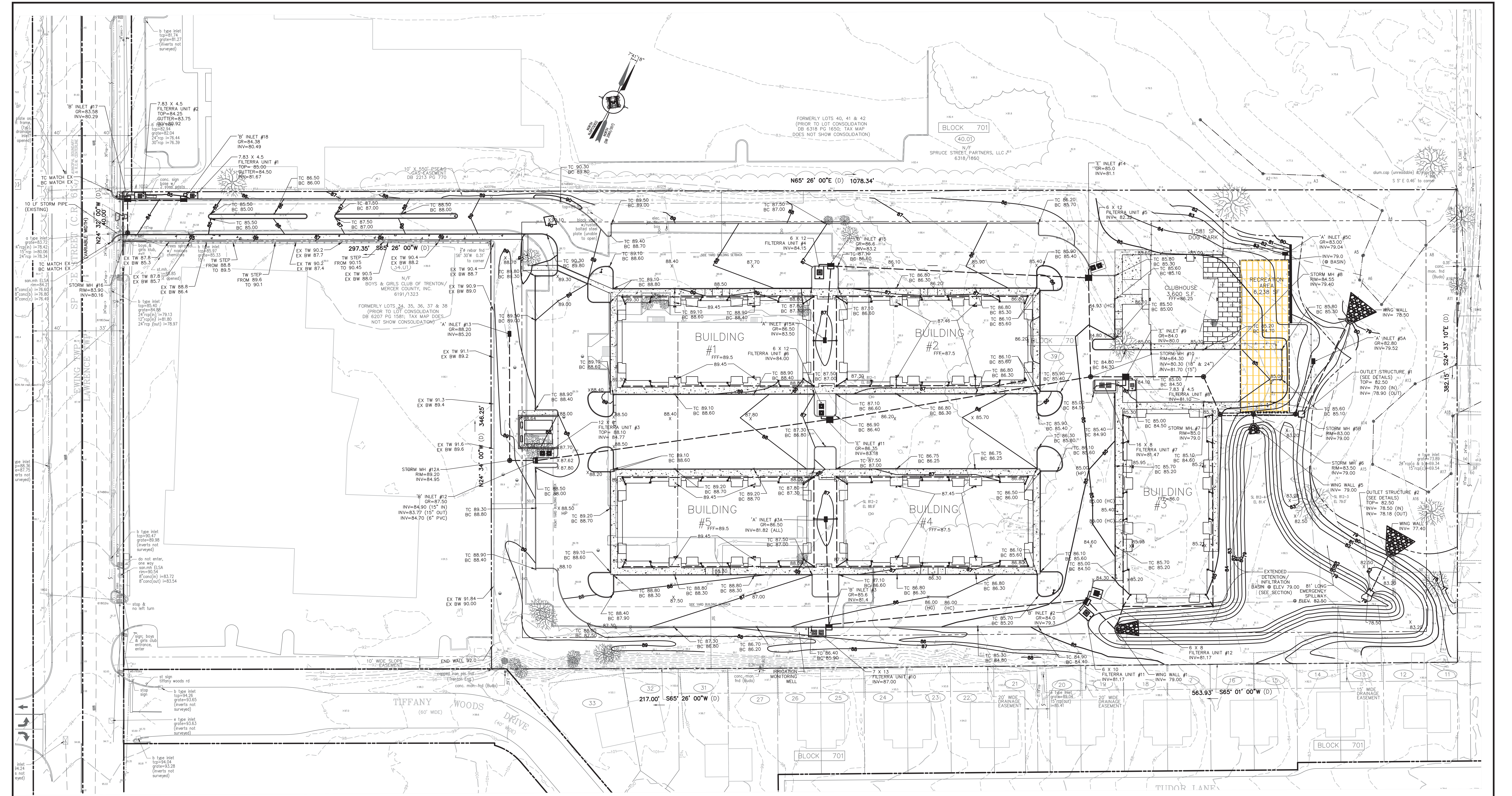
DATE: 11/18/21  
SCALE: 1" = 30'  
PROJECT: AWS  
DRAWN: RMS  
CHECKED: JF NA  
DATE: 2021.11.23  
PROJECT: SPO1537C - VPS1

**RUSSELL M. SMITH**  
No. GE33065  
LICENSED PROFESSIONAL ENGINEER

Digitally signed by  
Russell M Smith  
Date: 2023.11.23  
10:33:33 -0500

Sheet 2 of 14

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD

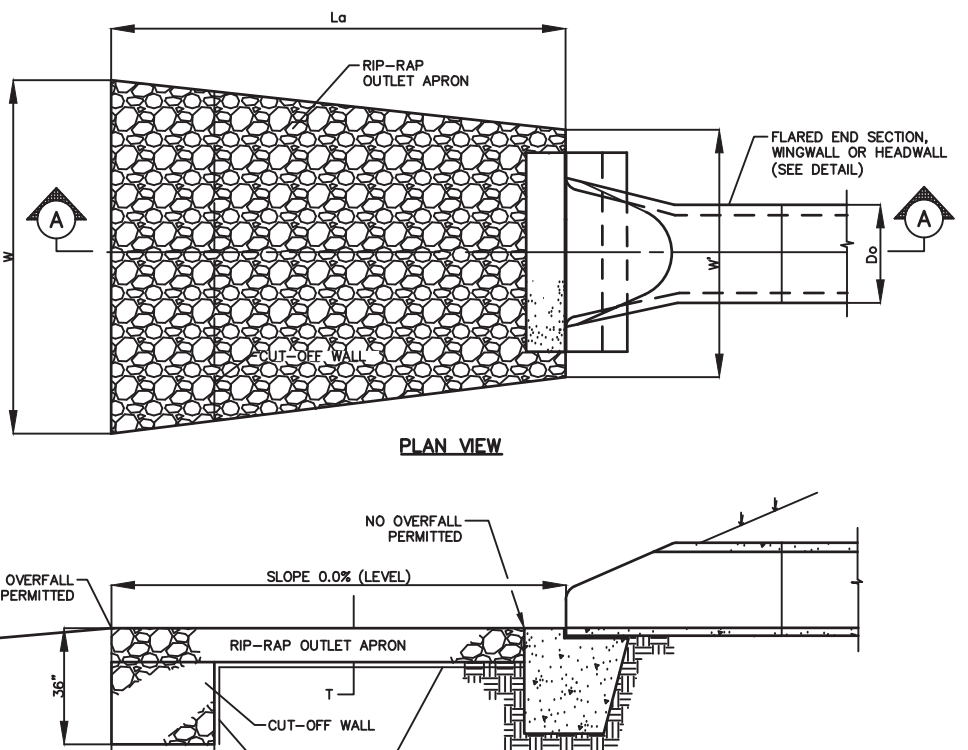


- GRADING AND FINISHES**
- ALL ELEVATIONS SHOWN HEREON ARE EXISTING OR FINISHED PAVEMENT GRADES.
  - THE FOLLOWING MINIMUM GRADES ARE REQUIRED UNLESS OTHERWISE SPECIFIED:  
2% OVERLAND IN LAWN AREAS  
1% IN GRASS SWALES  
0.75% OVERLAND IN PARKING AREAS
  - SOIL STABILIZATION SHALL BE IN ACCORDANCE WITH APPROVED SOIL EROSION AND SEDIMENT CONTROL PLANS AND / OR MERCER COUNTY SOIL CONSERVATION DISTRICT STANDARDS.
  - BACKSLOPES ARE NOT PROPOSED.
  - LIGHTWEIGHT CONSTRUCTION EQUIPMENT SHALL BE USED BY THE CONTRACTOR WHEN GRADING PROPOSED OPEN SPACES, BASIN AND LAWN AREAS.

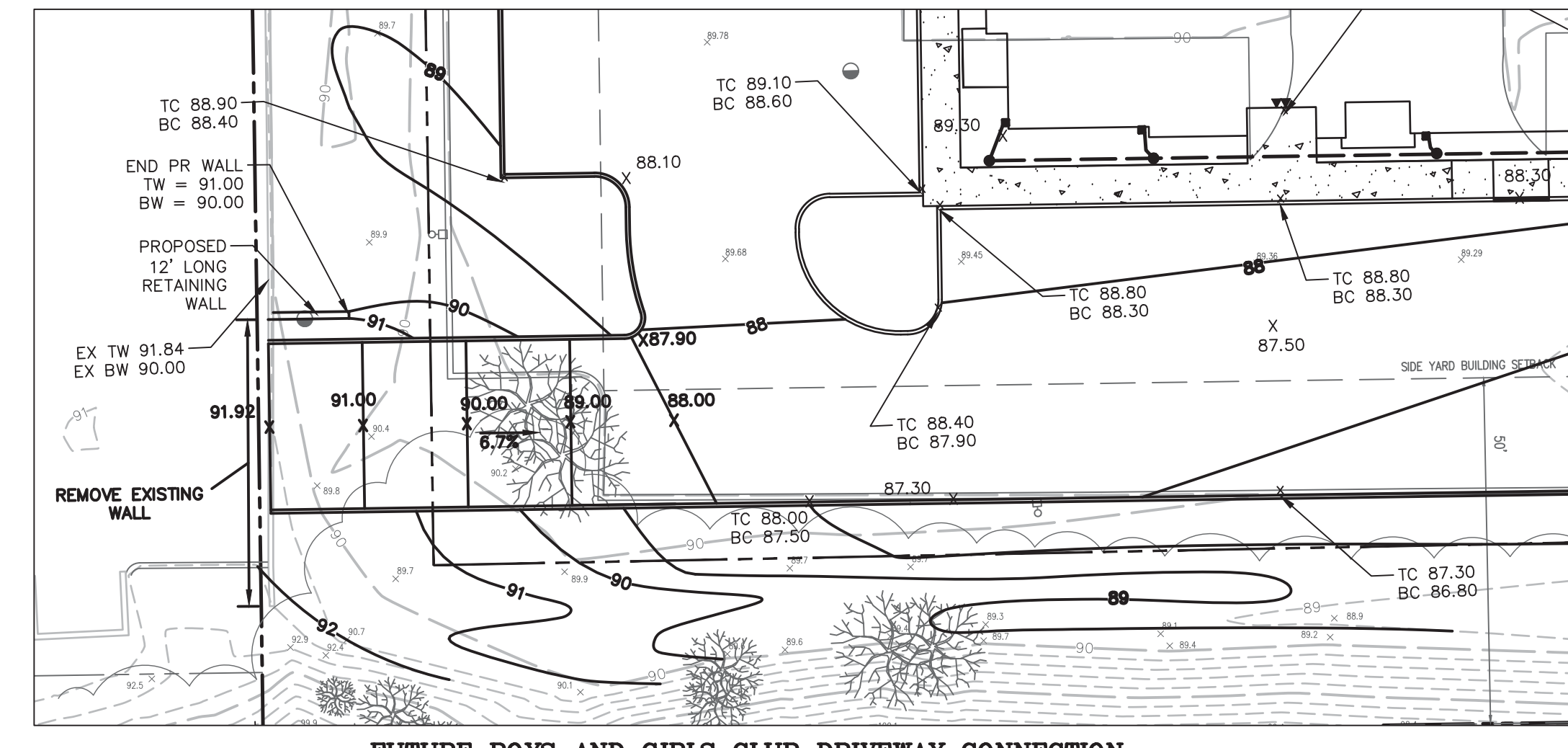
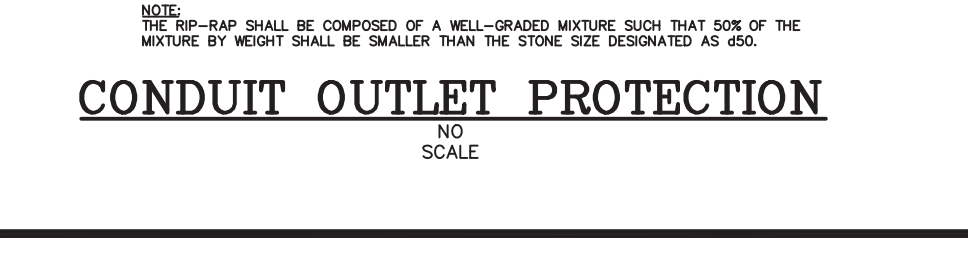
- GENERAL NOTES FOR DETENTION BASINS**
- THE DESIGN TOP ELEVATION OF ALL DAMS AND EMBANKMENTS, AFTER ALL SETTLEMENT HAS TAKEN PLACE SHALL BE 1' GREATER THAN THE MAXIMUM WATER SURFACE ELEVATION IN THE BASIN RESULTING FROM THE PASSAGE OF THE 100 YEAR STORM THROUGH THE EMBANKMENT OR SPILLWAY. INTERFERE THE DESIGN HEIGHT OF THE DAM OR EMBANKMENT TO THE DEPTH AS THE VERTICAL DISTANCE MEASURED FROM THE TOP OF BERM DOWN TO THE BOTTOM OF THE DETENTION CURVE. THIS SHALL BE INCREASED BY THE AMOUNT NEEDED TO INSURE THAT THE DESIGN ELEVATION WILL BE MAINTAINED FOLLOWING SETTLEMENT. THIS INCREASE SHALL NOT BE LESS THAN 3 PERCENT.
  - THE FILL MATERIAL IN ALL EARTHEN DAMS AND EMBANKMENTS SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY OBTAINED FROM COMPACTION TESTS PERFORMED BY THE APPROPRIATE METHOD IN ASTM D698.
  - ALL EARTHEN DAMS SHALL BE FREE FROM BRUSH, ROOTS, AND OTHER ORGANIC MATERIAL SUBJECT TO DECOMPOSITION.
  - ALL POURED CONCRETE STRUCTURES SHALL CONTAIN REINFORCING STEEL. ALL CONSTRUCTION JOINTS SHALL BE WATERSTOP.
  - ALL EXPOSED CONCRETE EDGES SHALL HAVE A 1" x 45 DEGREE CHAMFER UNLESS OTHERWISE NOTED.
  - THE BASIN SHALL BE TOPSOILED, SEED, AND MULCHED IMMEDIATELY FOLLOWING GRADING OF THE SAME.
  - ALL PRECAST CONCRETE STRUCTURES SHALL CONTAIN REINFORCING STEEL AND BE DESIGNED FOR HS-20 LOADING. SHOP DRAWINGS SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
  - THE DETENTION BASIN SHALL SERVE AS A TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION. IMMEDIATELY UPON COMPLETION OF ALL CONSTRUCTION AND FINAL REMOVAL OF ALL EXPOSED AREAS, THE SEDIMENT BASIN SHALL HAVE ALL EXPOSED AREAS REVEALED TO THE REQUIRED DETENTION BASIN DIMENSIONS AND STABILIZED ACCORDINGLY.

- SPECIFICATIONS FOR DETENTION BASIN BERM**
- ALL EXPOSED EMBANKMENT AND ANY STRUCTURAL DEFECTS SHALL BE CLEARED, GROUND, AND STRIPPED OF TOPSOIL, ROOTS AND OTHER ORGANIC MATERIAL. UNLESS OTHERWISE NOTED, ALL EXPOSED AREAS SHALL BE RESTORED TO ORIGINAL CONDITION WITH ALL BRUSH AND EXCESS TREES.
  - THE SATURABILITY AND ACCEPTABILITY OF ALL FILL MATERIAL WILL BE DETERMINED BY REGULAR PERIODIC SOIL ANALYSIS AND COMPACTION TESTS WHICH SHALL BE MADE BY QUALIFIED SOILS ENGINEER.
  - TESTS FOR SOIL ANALYSIS, MOISTURE CONTENT, AND COMPACTION TO BE CONDUCTED IN ACCORDANCE WITH THE LATEST ASTM STANDARDS.
  - IT IS RECOMMENDED THAT MATERIALS USED FOR THE IMPERVIOUS CORE BE COMPRISED OF ONE OF THE FOLLOWING SOILS AS DESIGNATED BY THE IMPERVIOUS SOIL SYSTEM: GC, GM, SC, SM, CL, CH, ML, MH.
  - THE FILL SHALL BE CONSTRUCTED IN 6 INCH LIFTS AND SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. ALL VERTICAL PLACES SHALL BE SMOOTHED AND ALL BRUSH AND EXCESS TREES SHALL BE REMOVED. ALL HORIZONTAL PLACES CAN BE AVOIDED BY SCARPING OR USE OF SHEEPSFOOT ROLLERS.
  - THE EMBANKMENT SHALL BE CONSTRUCTED TO A MINIMUM ELEVATION OF 2% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT WHEN MECHANICAL COMPACTORS ARE USED FOR COMPACTION.
  - IF SUFFICIENT ACCEPTABLE MATERIAL IS NOT AVAILABLE ON THE SITE TO PROPERLY COMPLETE THE FILL, THE CONTRACTOR IS RESPONSIBLE TO ACQUIRE ADOQUATE ACCEPTABLE MATERIAL.

- STORM SEWER NOTES**
- ALL PRECAST DRAINAGE STRUCTURES SHALL CONTAIN REINFORCING STEEL AND BE DESIGNED FOR HS-20 LOADING.
  - SHOP DRAWINGS OF ALL PRECAST DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. ALL PRECAST STRUCTURES SHALL COMPLY WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF ALL EXPOSED AREAS. THE SEDIMENT BASIN SHALL HAVE ALL EXPOSED AREAS REVEALED TO THE REQUIRED DETENTION BASIN DIMENSIONS AND STABILIZED ACCORDINGLY.
  - ALL SUBSURFACE DRAINS ENCASEMENT DURING CONSTRUCTION SHALL BE EXTENDED AND CONNECTED TO THE NEAREST STORM DRAIN STRUCTURE.
  - ANY STORM SEWER STRUCTURE THAT IS TO BE LEFT UNCOVERED FOR MORE THAN 6 HOURS SHALL BE PROTECTED WITH BARRICADES IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL, LATEST EDITION.
  - CONDUIT PROTECTION SHALL BE INSTALLED PRIOR TO THE CONSTRUCTION OF STORM SEWER PROGRESSING IN ACCORDANCE WITH THE SEQUENCE OF THE CONSTRUCTION.
  - ALL STORM SEWER CONSTRUCTION SHALL BEGIN AT THE LOWEST ELEVATION.
  - NO STORM SEWER SHALL BE CONSTRUCTED IN ADVANCE OF THE STORM WATER DETENTION BASIN CONSTRUCTION.
  - ALL STORM SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  - NO STORM SEWER SHALL BE CONSTRUCTED IN ADVANCE OF THE STORM WATER DETENTION BASIN CONSTRUCTION.
  - ALL STORM SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  - STORM SEWER AND LENGTHS INDICATED ON PLANS AND PROFILES REPRESENT LENGTHS FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.



OUTLET NO.	LA (FT)	W (FT)	H (FT)	NO. STONES (TYP)	COMMENTS
1	18.0	5.0	12.0	4	W/ FILTER FABRIC
2	7.0	6.0	9.0	4	W/ FILTER FABRIC
3	20.0	6.0	28.0	4	W/ FILTER FABRIC
4	20.0	6.0	28.0	4	W/ FILTER FABRIC



NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD

CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
Pennington, NJ 08654-9000  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

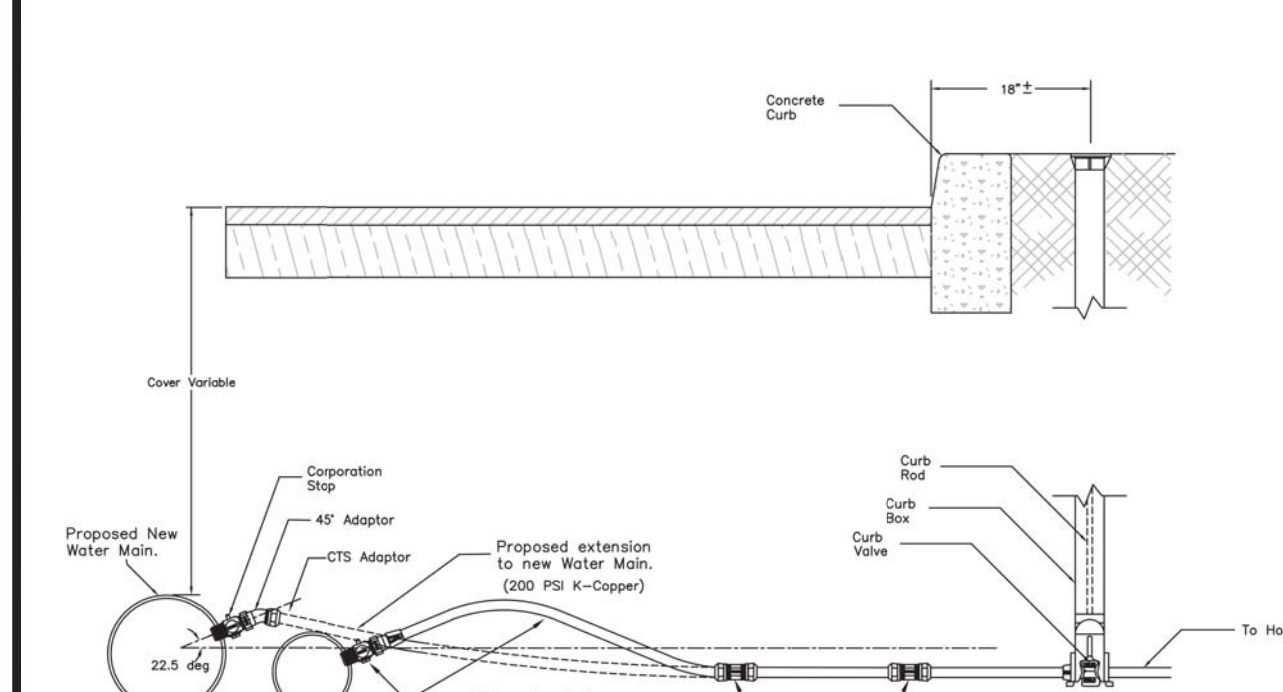
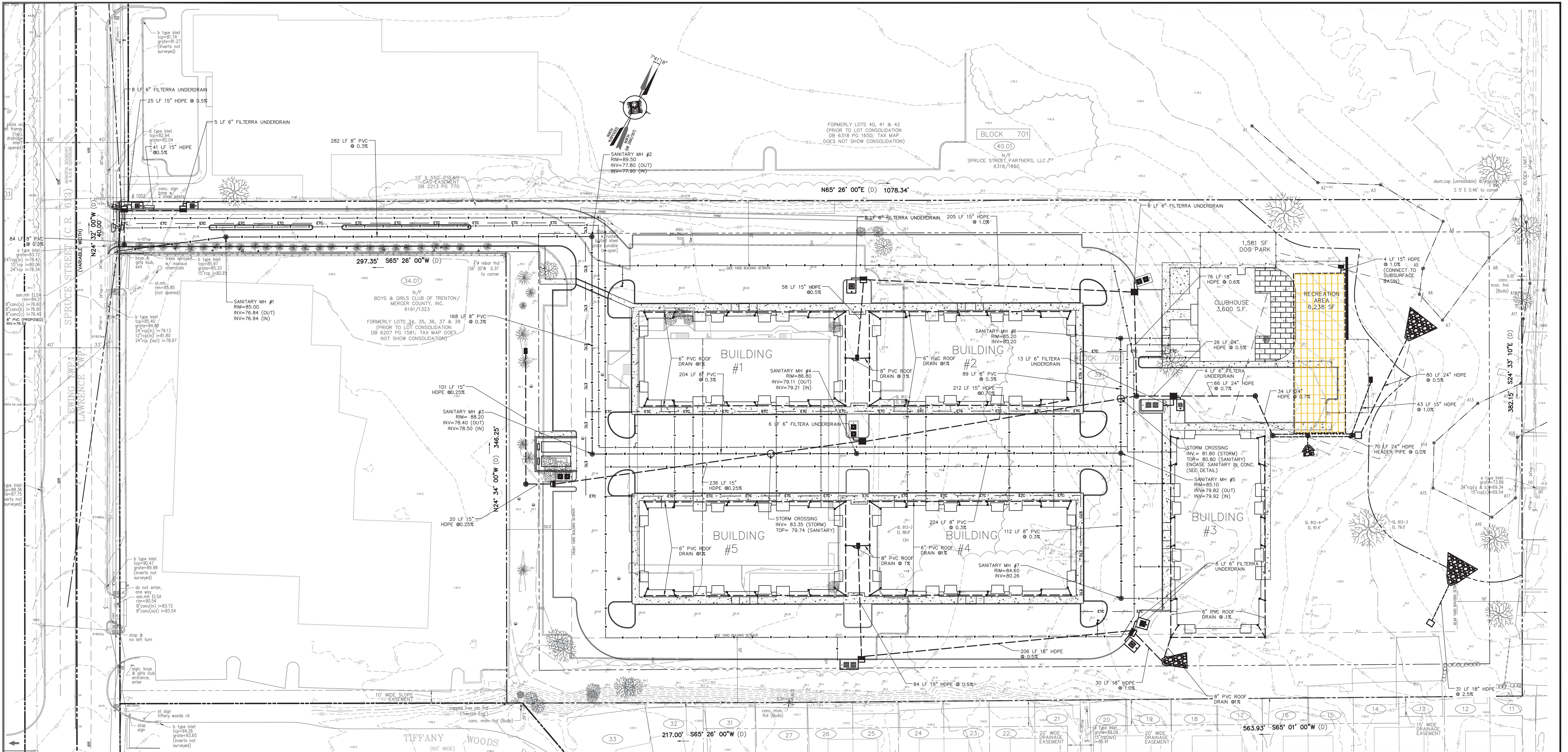
**RUSSELL M. SMITH**  
N.J. PROFESSIONAL ENGINEER No. 003065

11/18/21  
RMS  
11075370  
SPO1537C - VPS1

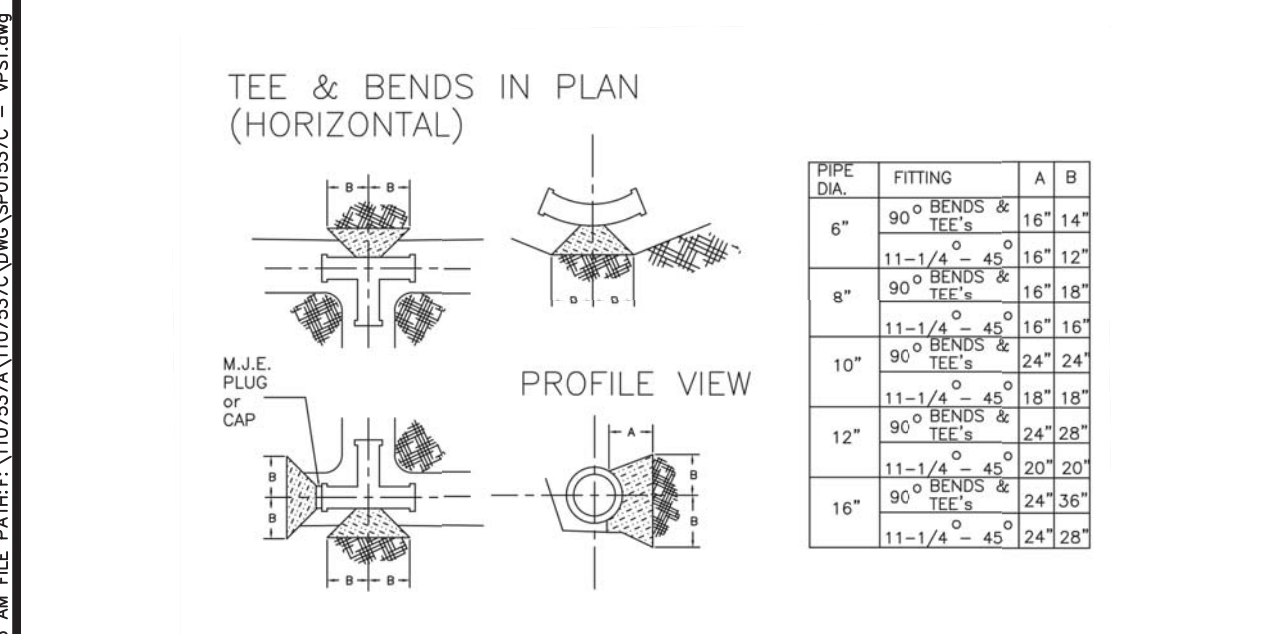
**GRADING AND STORMWATER PLAN**  
FOR  
**SPRUCE STREET APARTMENTS**  
LOT 39 IN BLOCK 701  
SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

Digitally signed by  
Russell M Smith  
Date: 2021.11.23  
10:32:47 -05'00'

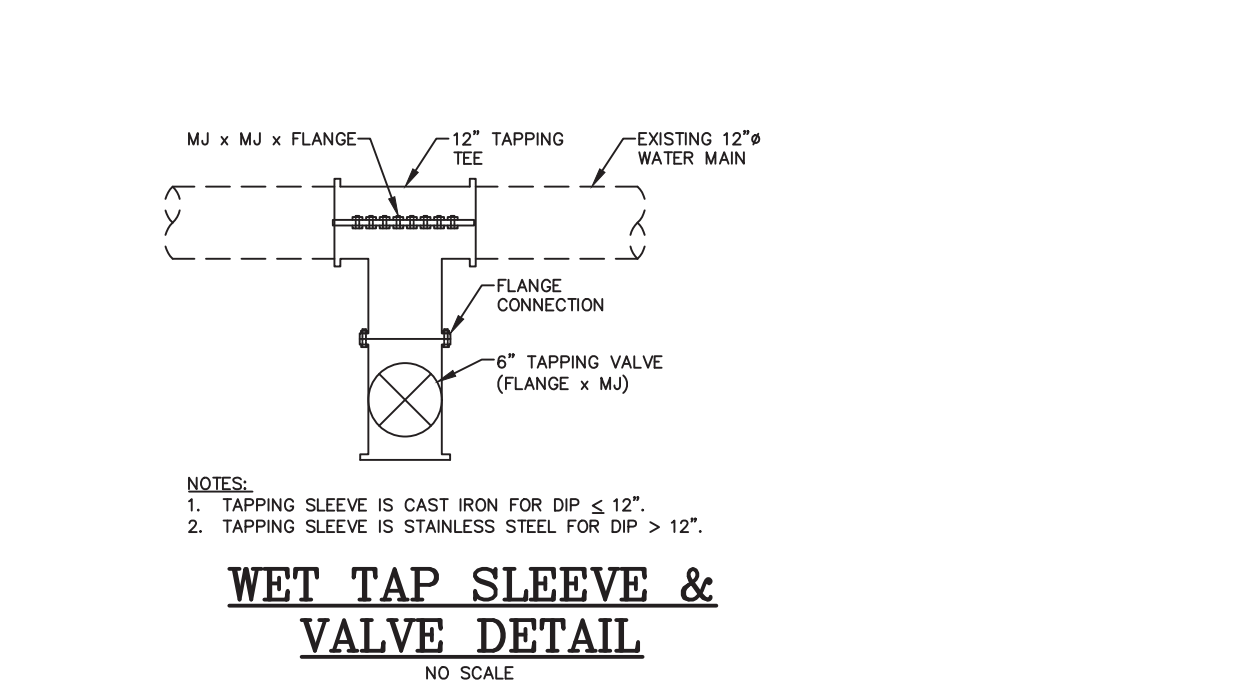
Sheet 3 of 14



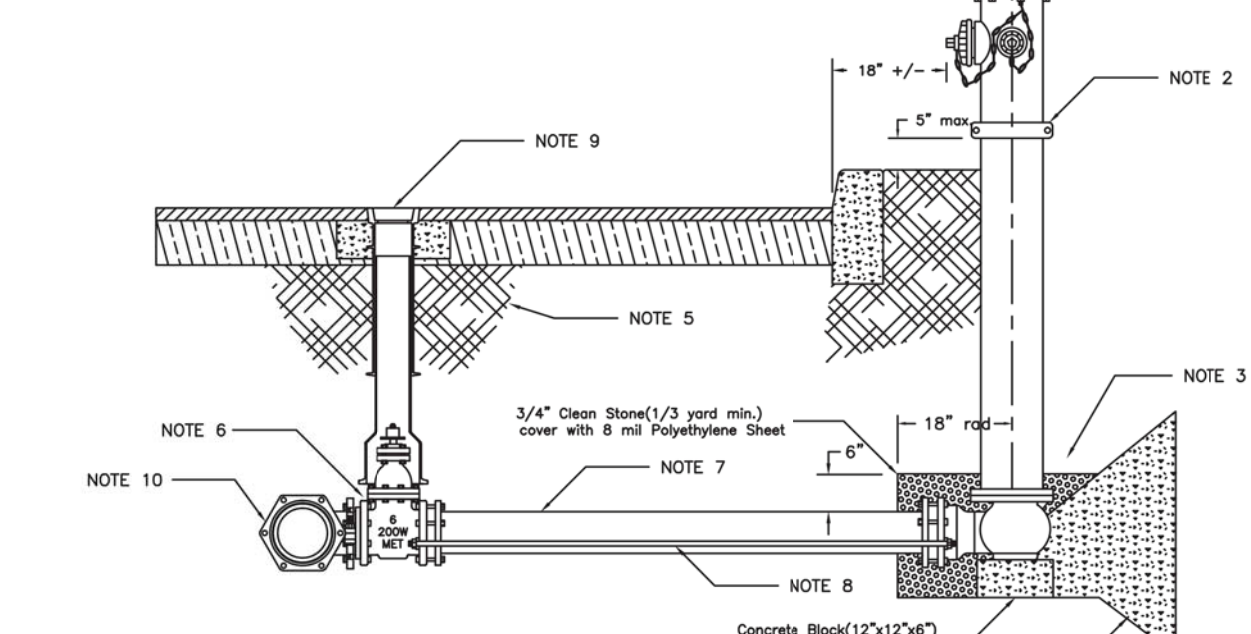
**TRENTON WATER WORKS NEW WATER SERVICE CONNECTION DETAIL**  
NO SCALE



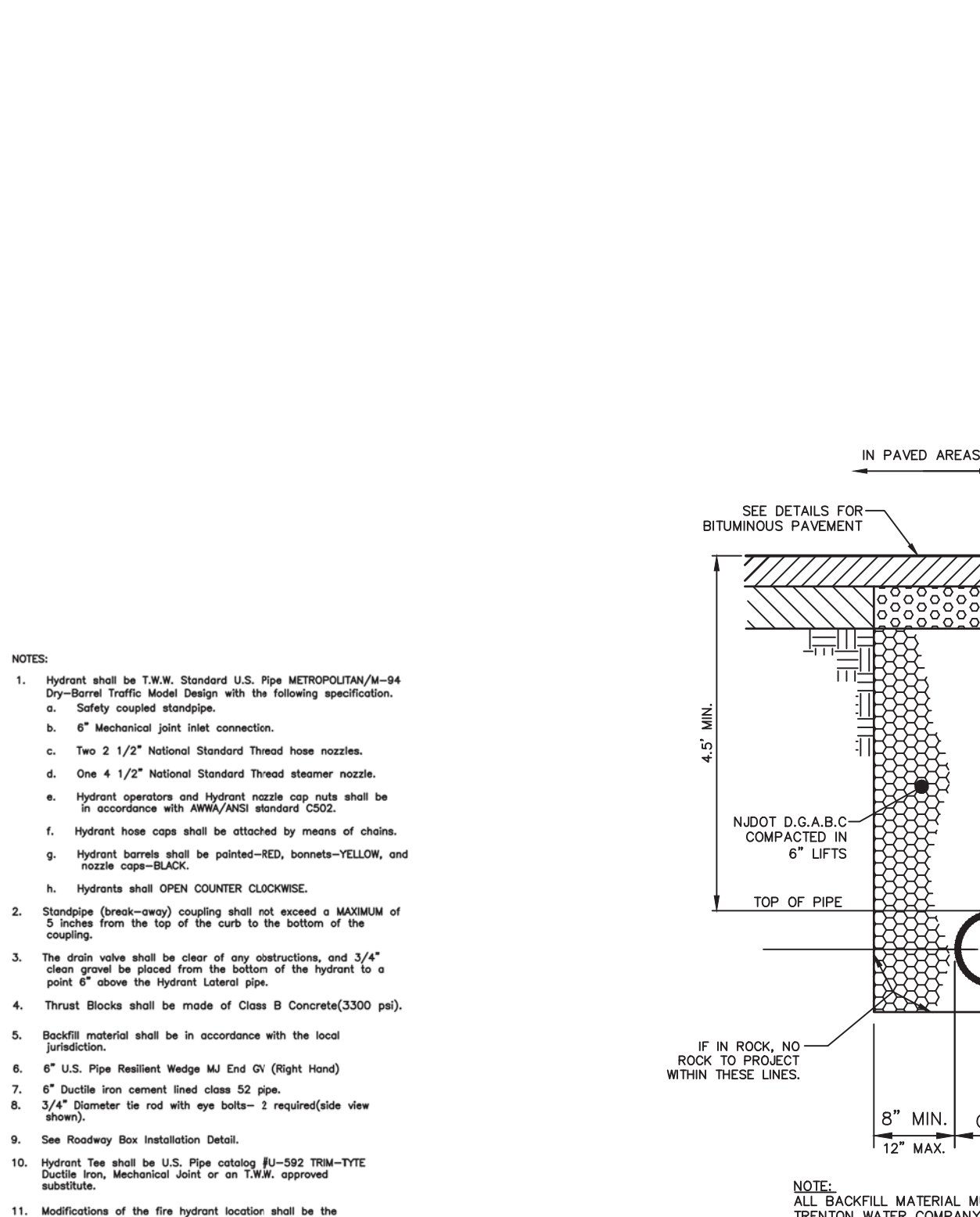
**TRENTON WATER WORKS CONCRETE THRUST BLOCKS DETAIL**  
NO SCALE



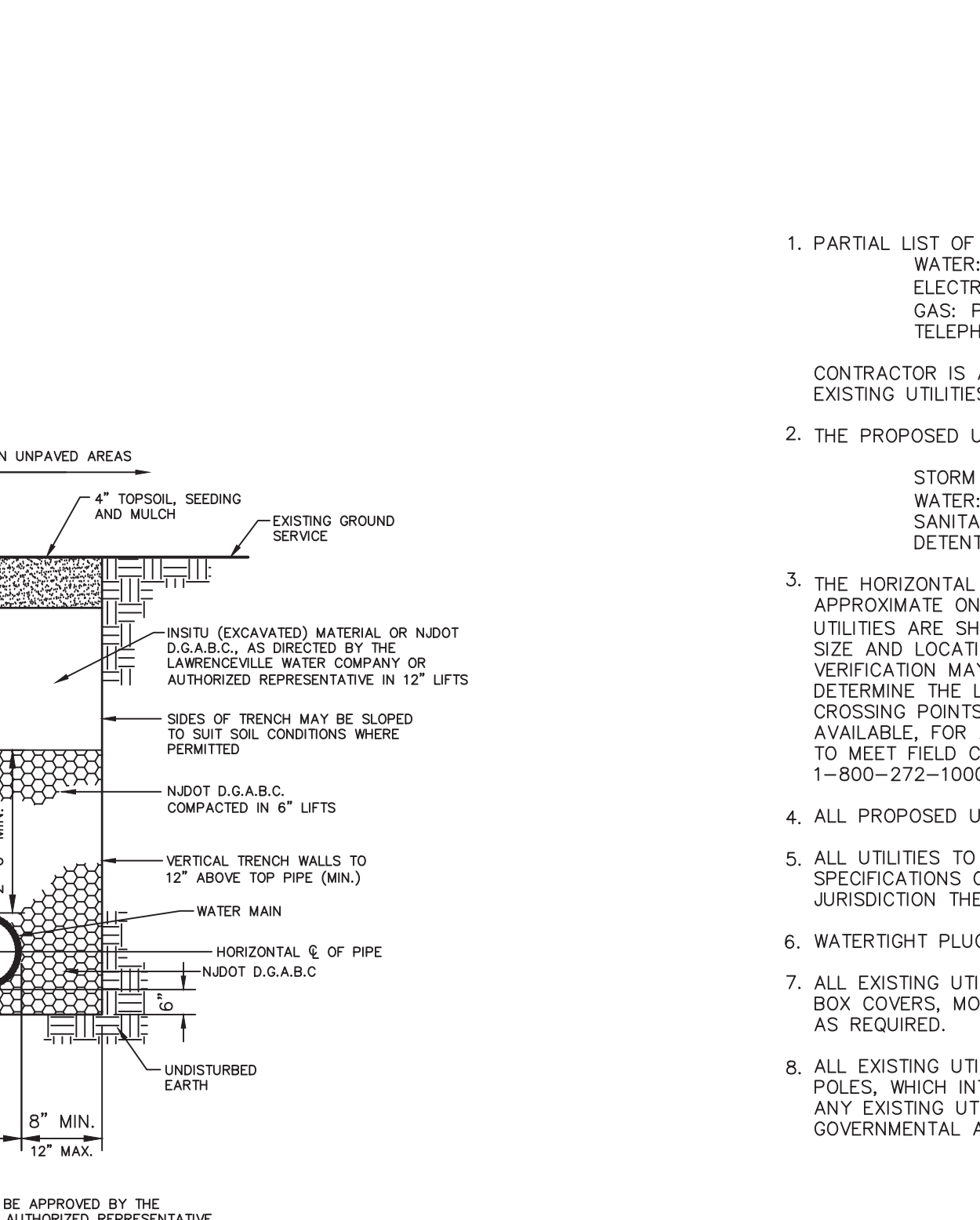
**WET TAP SLEEVE & VALVE DETAIL**  
NO SCALE



**TRENTON WATER WORKS FIRE HYDRANT DETAIL**  
NO SCALE



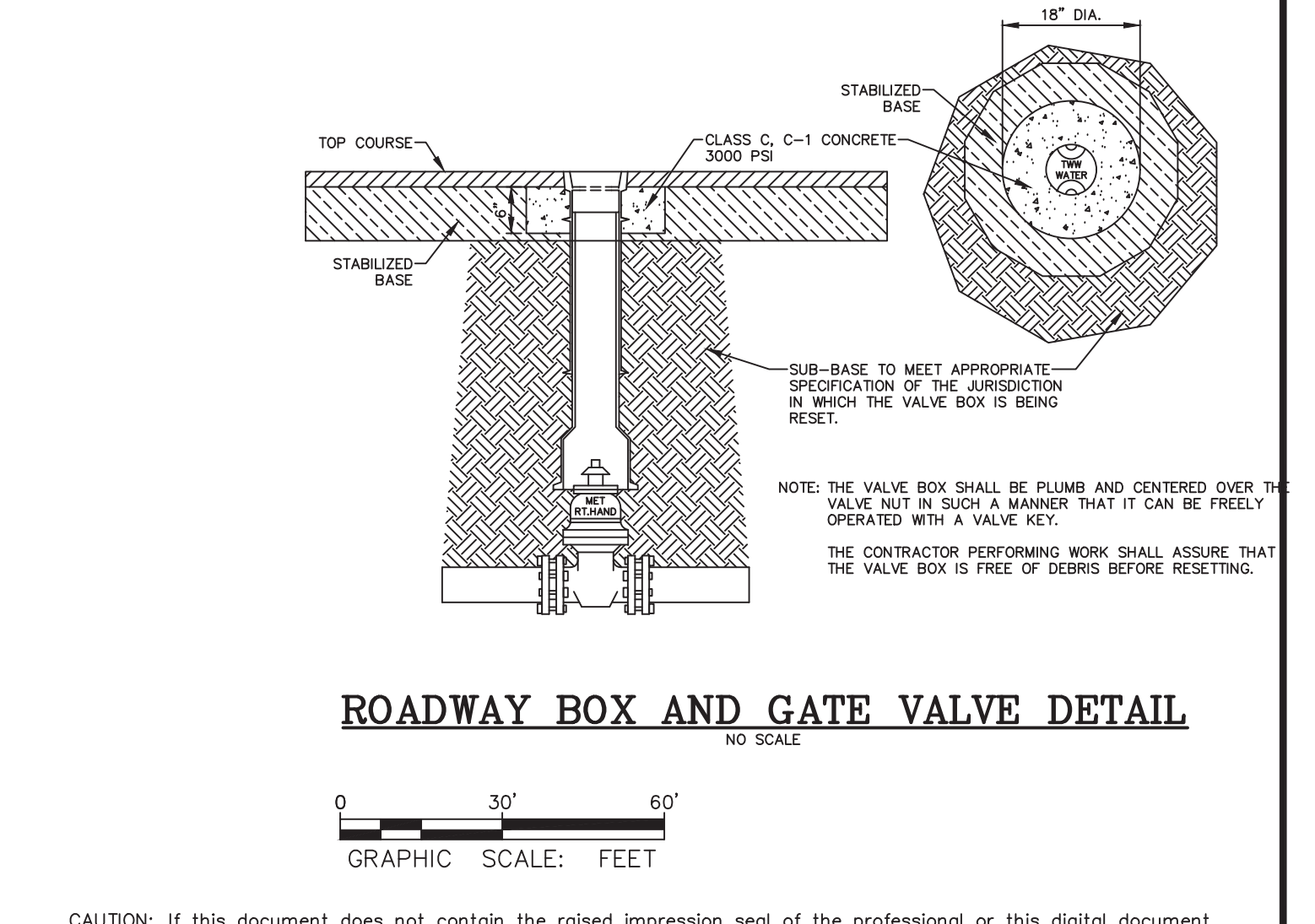
**WATER MAIN TRENCH DETAIL**  
NO SCALE



**ROADWAY BOX AND GATE VALVE DETAIL**  
NO SCALE

- UTILITY NOTES**
- PARTIAL LIST OF UTILITIES THAT MAY SERVICE THE SITE:  
WATER: TRENTON WATER WORKS  
ELECTRIC: PSE&G (PUBLIC SERVICE ELECTRIC & GAS)  
GAS: PSE&G (PUBLIC SERVICE ELECTRIC & GAS)  
TELEPHONE: VERIZON
  - CONTRACTOR IS ADVISED TO CALL 1-800-272-1000 PRIOR TO CONSTRUCTION TO LOCATE ANY EXISTING UTILITIES.
  - THE PROPOSED UTILITIES SHALL BE OWNED AND MAINTAINED AS FOLLOWS:  
STORM SEWER: OWNER  
WATER: PUBLIC WATER CONNECTION (TRENTON WATER WORKS)  
SANITARY SYSTEM: ELSA  
DETENTION BASIN: OWNER
  - THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY. NO GUARANTEE IS HEREIN MADE OR IMPLIED THAT ALL UNDERGROUND UTILITIES ARE SHOWN. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TYPE, SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO STARTING THE WORK. THIS VERIFICATION MAY INCLUDE PERFORMING TEST PITS OR OTHER SUBSURFACE EXPLORATION TO DETERMINE THE LOCATION OF EXISTING UTILITIES AT ALL CRITICAL POINTS INCLUDING CROSSING POINTS OF ALL OTHER UTILITIES. SHOULD ANY CONFLICT OCCUR, THE ENGINEER IS AVAILABLE, FOR A FEE, TO MAKE SUCH ADJUSTMENTS TO THE ORIGINAL DESIGN, AS REQUIRED, TO MEET FIELD CONDITIONS ENCOUNTERED. CONTRACTOR IS ADVISED TO CALL 1-800-272-1000 PRIOR TO CONSTRUCTION.
  - ALL PROPOSED UTILITIES SHALL BE INSTALLED UNDERGROUND.
  - ALL UTILITIES TO BE INSTALLED IN STRICT ACCORDANCE WITH THE RULES, REGULATIONS AND SPECIFICATIONS OF THE GOVERNMENTAL AGENCIES AND UTILITY COMPANIES HAVING JURISDICTION THEREOVER.
  - WATERTIGHT PLUGS SHALL BE PROVIDED AT TERMINAL ENDS OF ALL PROPOSED UTILITIES.
  - ALL EXISTING UTILITY VALVE BOX COVERS, MANHOLE FRAMES AND COVERS, UTILITY JUNCTION BOX COVERS, MONITORING WELLS AND INLET FRAMES AND GRATES SHALL BE RESET TO GRADE AS REQUIRED.
  - ALL EXISTING UTILITIES WHICH PROJECT ABOVE GRADE, SUCH AS FIRE HYDRANTS AND UTILITY POLES, WHICH INTERFERE WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS REQUIRED. ANY EXISTING UTILITIES TO BE RELOCATED SHALL BE DESIGNED AND APPROVED BY THE GOVERNMENTAL AGENCIES AND UTILITY COMPANY HAVING JURISDICTION THEREOVER.

**UTILITY NOTES**



**ROADWAY BOX AND GATE VALVE DETAIL**  
NO SCALE

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
Perth Amboy, NJ 08864-0002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

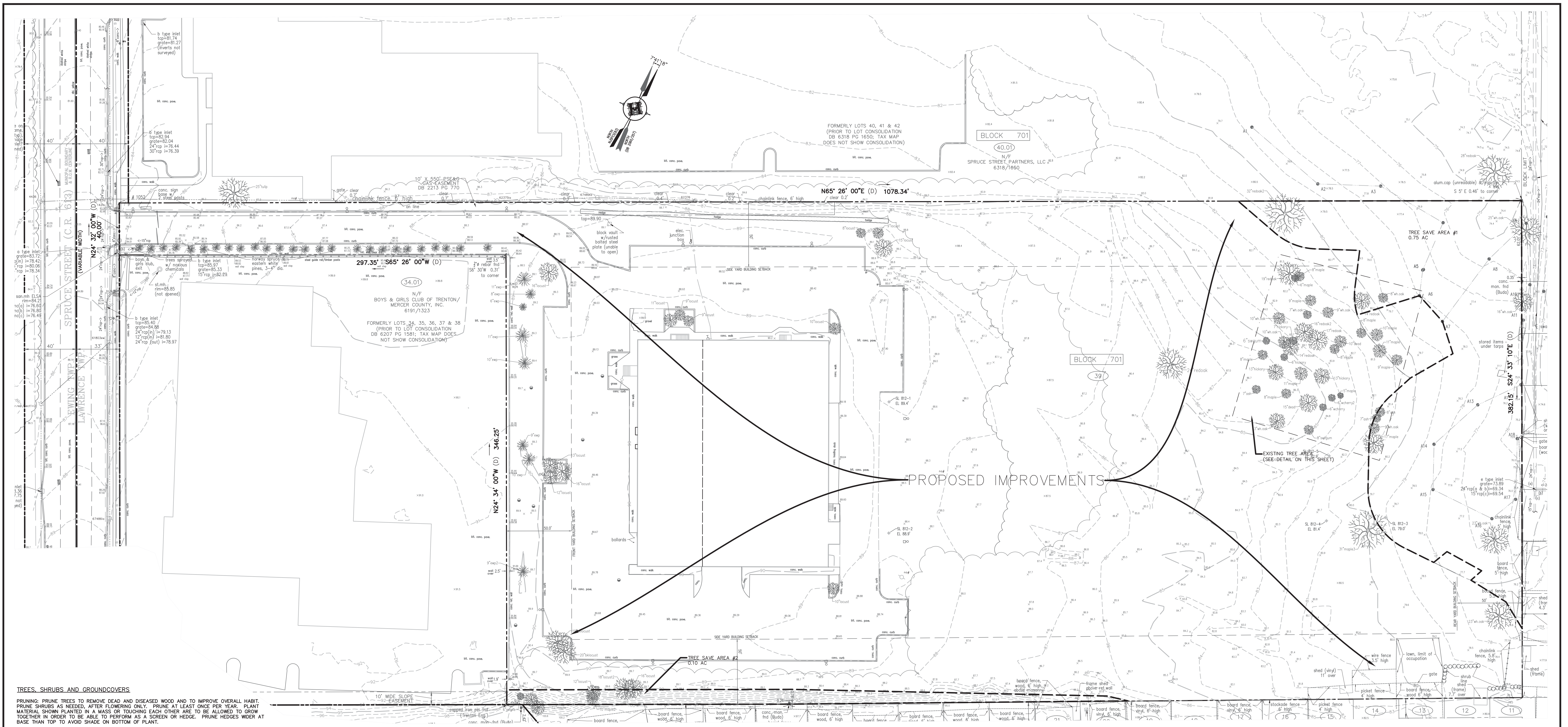
**UTILITY PLAN**  
FOR  
**SPRUCE STREET APARTMENTS**  
LOT 39 IN BLOCK 701  
SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

DATE: 11/18/21  
SCALE: 1" = 30'  
PROJECT: AWS 11075370 - R/S  
PROJ: 11075370 - R/S  
SPOKES/REV: - WP/1

Digitally signed by  
Russell M Smith  
Date: 2021.11.23 10:31:16 -05'00'

**RUSSELL M. SMITH**  
N.J. PROFESSIONAL ENGINEER No. GE33065

Sheet 4 of 14



**TREES, SHRUBS AND GROUNDCOVERS**

PRUNING: PRUNE TREES TO REMOVE DEAD AND DISEASED WOOD AND TO IMPROVE OVERALL HABIT. PRUNE SHRUBS AS NEEDED, AFTER FLOWERING ONLY. PRUNE AT LEAST ONCE PER YEAR. PLANT MATERIAL SHOWN PLANTED IN A MASS OR TOUCHING EACH OTHER ARE TO BE ALLOWED TO GROW TOGETHER IN ORDER TO BE ABLE TO PERFORM AS A SCREEN OR HEDGE. PRUNE HEDGES WIDER AT BASE THAN TOP TO AVOID SHADE ON BOTTOM OF PLANT.

FERTILIZER: RATIO 2:1:1 AT 2-3 LBS. ACTUAL NITROGEN PER 1,000 SQ. FT. FERTILIZE IN SPRING ONLY.

PESTICIDE: APPLY PESTICIDES ONLY AS NEEDED FOR SPECIFIC DISEASES OR INSECT PESTS.

WEED CONTROL: WEED ALL BEDS AS NEEDED TO KEEP WELL GROOMED AND RELATIVELY WEED FREE.

WATER: WATER ALL NEW PLANT MATERIAL AS NEEDED THROUGH FIRST AND SECOND GROWING SEASON. IF RAIN IS INSUFFICIENT, WATER ALL WOODY PLANTS THOROUGHLY TWO TIMES PER WEEK.

MULCH: RENEW SHREDDED BARK MULCH TO 3" DEPTH EVERY YEAR.

LEAF REMOVAL: REMOVE LEAVES FROM ALL BEDS, TURF AREAS, PARKING AREAS, AND WALKS.

REPLACEMENTS: REPLACE ALL DEAD SHRUBS AND TREES WITHIN NEXT PLANTING SEASON. (2/15 TO 5/15 OR 10/15 TO 12/30).

TUBE

RENEWAL PROCEDURES: OVER SEED THIN SPOTS IN SPRING AND FALL. THATCH AS NECESSARY. (4/1 TO 5/31 AND 8/16 TO 10/15).

FERTILIZER: RATIO 3:1:2 AT 1 LB. NITROGEN PER 1,000 SQ. FT. FERTILIZE TWO TIMES PER YEAR.

PESTICIDES: INSPECT AND APPLY AS NEEDED FOR DISEASES AND INSECTS.

MOW: MAINTAIN A 2" HEIGHT. MOW AT LEAST ONCE PER WEEK. REMOVE CLIPPINGS FROM DETENTION BASIN.

MANICURE: TRIM LAWN AND GROUND COVERS ALONG SIDEWALKS AND SHRUB BED EDGES. RAKE AS NEEDED.

**GENERAL MAINTENANCE**

DETENTION BASIN: CLEAN OUT OUTLET STRUCTURES AFTER EVERY STORM EVENT.

PAVEMENT: REPLACE ALL BROKEN OR MISSING PAVERS. REPAIR OR REPLACE ALL OTHER DAMAGED PAVING AS NECESSARY. REMOVE ALL STAINS.

PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED BRANCHES, DENSELY FOLIATED, WOODRUS ROOT SYSTEMS, AND BE FREE FROM DEFECTS AND INJURIES.

QUALITY AND SIZE OF PLANTS, INCLUDING ROOT SIZE, SHALL BE IN ACCORDANCE WITH "AMERICAN STANDARDS FOR NURSERY STOCK" ANSI Z60 (MOST RECENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

B&B PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY. PLANT WITH BROKEN, SPLIT OR DAMAGED ROOT BALLS SHALL BE REJECTED.

ALL BEDLINES SHALL BE CUT FOUR INCHES DEEP INTO A "V" SHAPED GROOVE TO PROVIDE A WELL DEFINED EDGE. THE LAYOUT OF ALL BEDLINES SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT ON-SITE PRIOR TO CUTTING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY MARK OUTS AND COMPLIANCE WITH ALL FEDERAL, STATE, OR LOCAL CODES, LAWFUL ORDERS, OR REGULATIONS GOVERNING UPON THIS WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT AS SHOWN ON THE PLANTING PLAN.

THE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF THE PROPOSED PLANT MATERIAL.

INSOFAR AS IT IS PRACTICABLE, PLANTING MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT ALL STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A TWO (2) DAY PERIOD AFTER DELIVERY.

PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH TOWNSHIP ORDINANCES:

FALL TREES	AUGUST 15 - DECEMBER 15	EVERGREEN	DECEMBER 15
SPRING	MARCH 1 - MAY 15	ALL PLANTS	

**GENERAL NOTES**

- ALL PLANTS TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-1996, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. THIS STANDARD IS SET BY THE AMERICAN NATIONAL STANDARDS INSTITUTE.
- PLANT MATERIALS MUST BE WARRANTED TO LIVE FOR ONE YEAR, FROM BILLING DATE, PROVIDED THEY ARE PROPERLY MAINTAINED BY THE OWNER.
- THE LANDSCAPE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN MAINTENANCE INTERVENTIONS.
- ALL SHRUB MASSES TO BE MULCHED WITH AGED SHREDDED MULCH, DARK BROWN COLOR, 3" DEEP.
- FINE LAWN SEED MIX TO BE 60% TURF TYPE FESCUE, 30% TURF TYPE PER. RYE, 10% KENTUCKY BLUEGRASS AT SEED RATE 5 LBS. PER 1,000 S.F.

**EXISTING TREE DATA FROM SURVEYED TREE AREA (SEE DETAIL)**

TREE CALIPER	QUANTITY	UNIT FACTOR	TOTAL TREE UNITS
6"	8	0.5	4.0
8"	4	0.5	2.0
10"	3	0.6	1.8
11"	2	0.7	1.4
13"	3	0.9	2.7
14"	2	1.1	2.2
16"	1	1.4	1.4
17"	2	1.6	3.2
19"	1	2.0	2.0
TOTAL	26 TREES		20.7 TREE UNITS (TU)

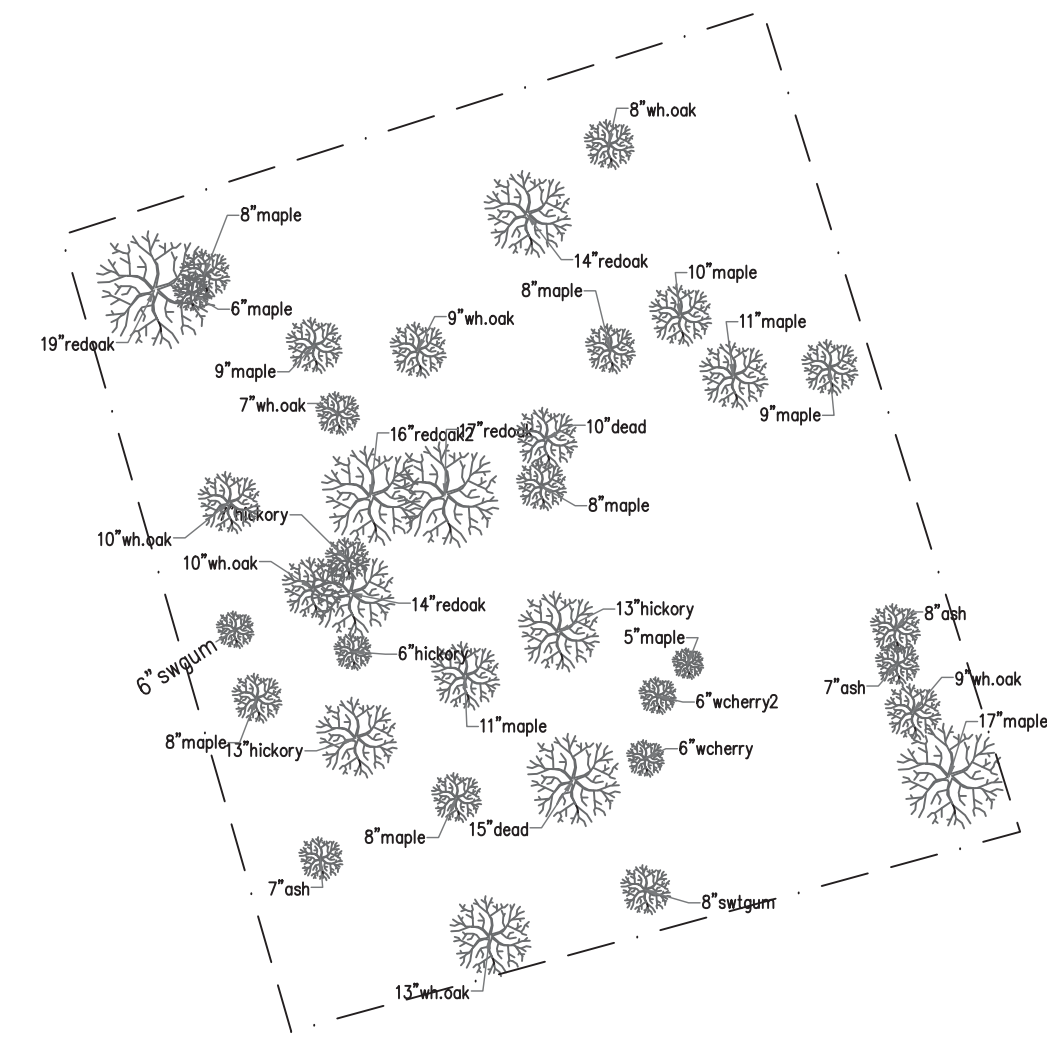
THE SURVEYED AREA WAS 15,912 SF OF WHICH IS EQUIVALENT TO 36% OF AN ACRE. THIS AREA NEEDS TO BE MULTIPLIED APPROX 2.75 TIMES IN ORDER TO GET THE AMOUNT OF TU IN AN ACRE.

EXISTING TU PER AC = 20.7 TU x 2.75 = 56.93 TU/AC.

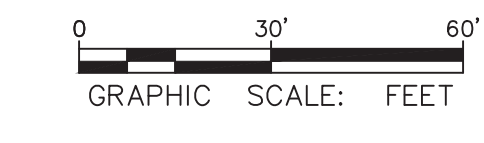
**LAWRENCE TOWNSHIP DENSITY CALCULATIONS:**

- REQUIRED TREE DENSITY (RTD) = GROSS LOT AREA x 15 = 7.17 x 15 = 107.55 TREE UNITS.
- EXISTING TREE DENSITY (ETD) TO REMAIN = AREA OF THE TREE SAVE ZONE X EXISTING TU PER AC = 0.85 AC x 56.93 TU/AC = 48.39 TU
- REPLACEMENT TU NEEDED = RTD - ETD = 107.55 - 48.39 = 59.16 TU

SEE LANDSCAPING PLAN FOR PROPOSED TREE DENSITY



**EXISTING TREE AREA DETAIL**  
SCALE 1"=30'



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
Pennington, NJ 08534-0002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

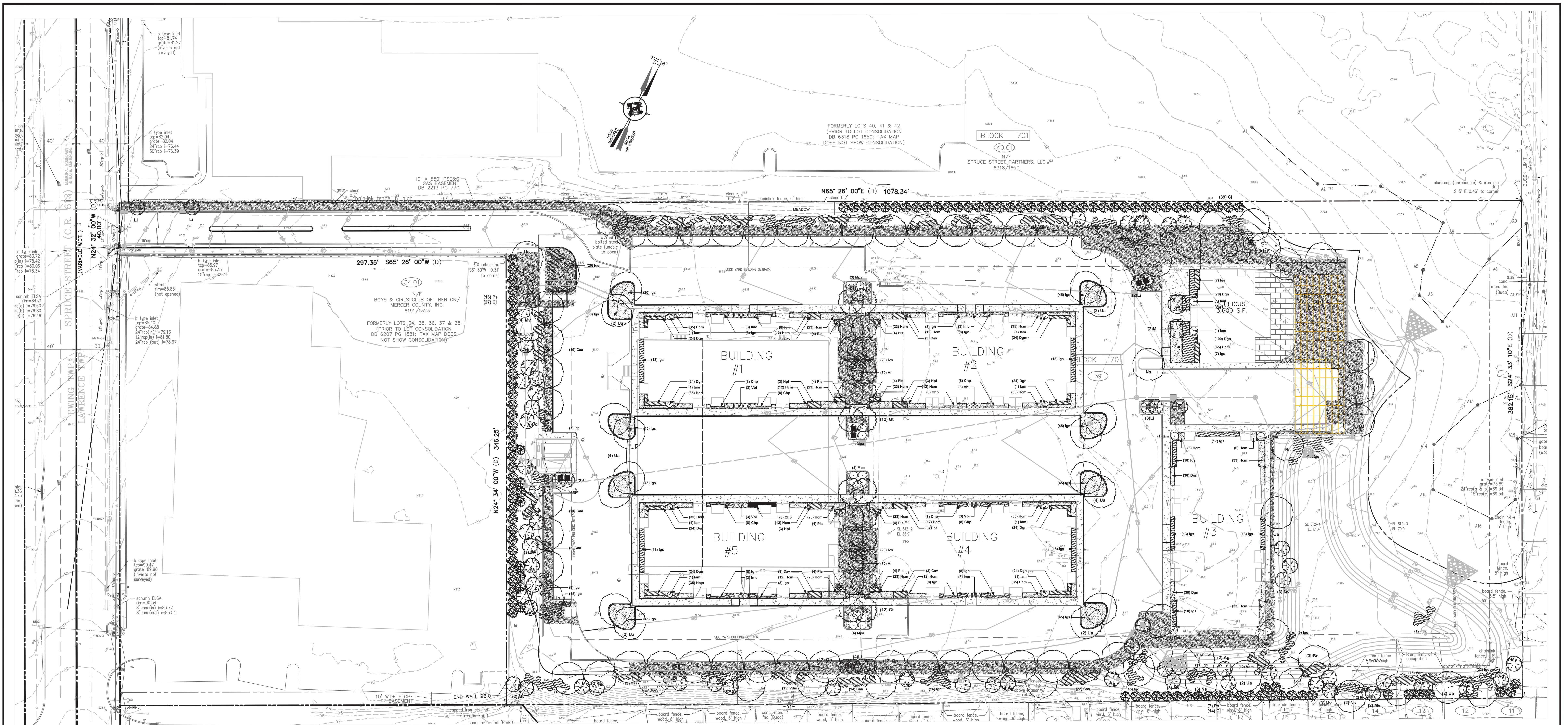
**TREE PROTECTION & LANDSCAPING PLAN**

FOR  
**SPRUCE STREET APARTMENTS  
LOT 39 IN BLOCK 701**

SITUATE IN  
**LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY**

Digitally signed by Russell M Smith  
Date: 2021.11.23 10:30:10-05'00'  
**RUSSELL M. SMITH**  
N.J. PROFESSIONAL ENGINEER No. 03065

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD.



FOR ADDITIONAL LANDSCAPING NOTES SEE SHEET 5 OF 14

THE LANDSCAPE DESIGNS SHOWN ON THIS PLAN WERE PREPARED BY STEPHEN LEDERACH CLA NJ #AS000717

**PLANTING NOTES**

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE ENCOUNTERED.
- CONTRACTOR SHALL STAKE OUT TREE LOCATIONS AND BED CONFIGURATION FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATION OF ALL UNDERGROUND UTILITIES TO CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE OWNER'S REPRESENTATIVE OF ANY CONDITION FOUND ON-SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE PLANS.
- BEFORE PLANTING, CONTRACTOR SHALL TOPSOIL AT AN APPROVED AGRICULTURAL TESTING FACILITY FOR PH, FERTILIZER SALTS, AND BULK DENSITY. DEPENDING ON TEST RESULTS, SOIL SHALL BE AMENDED WITH LIMESTONE, FERTILIZER, AND PEAT MOSS TO CREATE OPTIMUM GROWING CONDITIONS FOR SPECIFIED PLANTS.
- TOPSOIL SHALL MEET THE STANDARDS SET FORTH IN THE "SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY STANDARDS" WITH THE FOLLOWING EXCEPTIONS: SOIL PH SHALL BE BETWEEN 6 AND 6.5; ORGANIC MATTER BETWEEN 4-6%.
- COMPACTED SUBGRADE SHALL BE LOOSENED BEFORE SPREADING NEW TOPSOIL. NEW TOPSOIL SHALL BE SPREAD TO A DEPTH OF 8" TO MEET PROPOSED GRADE LINES.
- LANDSCAPE PLAN SHALL TAKE PRECEDENCE REGARDING PLANT QUANTITY DISCREPANCIES BETWEEN PLANT SCHEDULE AND PLAN. ALL TREES, SHRUBS, AND GRASS COVERS SHALL BE PLANTED, STAKED, AND MULCHED IN ACCORDANCE WITH THE PLANTING DETAIL DRAWINGS.
- PLANTS SHALL BE CALIBERED, THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED, SYMMETRICAL OR BALANCED BRANCHES AND HABIT, WOODS/ROOT SYSTEMS AND BE FREE FROM DEFECTS OR INJURIES. UNLESS OTHERWISE SPECIFIED, TREES SHALL HAVE A SINGLE TRUNK WITH UNCLUT SINGLE LEADER. TREES WITH A CUT LEADER WILL BE REJECTED.
- QUALITY AND SIZE OF PLANTS, INCLUDING ROOT SIZE, SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARD BY THE AMERICAN ASSOCIATION FOR NURSERY STOCK (AAS) AS PUBLISHED BY NURSERYMEN.
- BALLED AND BURLAPPED PLANTS SHALL BE SUPPORTED FROM THE BOTTOM OF THE ROOTBALL PLANTS WITH BROKEN, SPLIT, OR DAMAGED ROOTBALLS SHALL BE REJECTED.
- PLANTS SHALL BE PRUNED OF DEAD, DAMAGED, OR DISEASED BRANCHES PRIOR TO DELIVERY. PRUNING SHALL MAINTAIN THE NATURAL FORM OR HABIT OF THE PLANT UNLESS A FORMAL HEDGE HAS BEEN SPECIFIED BY THE LANDSCAPE ARCHITECT. FLOWERING SHRUBS/TREES TO BE PRUNED AFTER FLOWERING. A CLEAN CUT SHALL BE MADE PERPENDICULAR TO THE ROOT WITH A SHARP PRUNING TOOL.
- PLANTS SHOULD BE PLANTED ON DAY OF DELIVERY. CONTRACTOR SHALL PROTECT AND WATER MATERIALS NOT PLANTED ON DAY OF DELIVERY. ALL MATERIALS TO BE PLANTED WITHIN THREE DAYS AFTER DELIVERY.
- NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT TIME OF INSTALLATION. REGULAR WATERING SHALL BE PERFORMED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A MINIMUM OF ONE-YEAR TO BE ALIVE AND IN VIGOROUS GROWING CONDITION DURING AND AT THE END OF THE GUARANTEE PERIOD. CONTRACTOR SHALL REPLACE ALL DEAD PLANTS EVERY MONTH DURING THE GUARANTEE PERIOD AND REPLACE WITH PLANTS OF THE SAME KIND, QUALITY, AND SIZE. THE CONTRACTOR SHALL GUARANTEE ALL PLANTS SHALL BE GUARANTEED FOR ONE-YEAR FROM DATE OF PLANTING. CONTRACTOR SHALL ENSURE PLANTS ARE REGULARLY WATERED THROUGHOUT THE ONE-YEAR GUARANTEE PERIOD.
- ALL WATERING SAUCERS SHALL BE REMOVED AT END OF MAINTENANCE PERIOD.
- ALL CLEARED GROUND NOT INDICATED FOR PLANTING OF GROUNDCOVERS SHALL BE SEeded AS PER LAWN SEEDING NOTES. ALL SEEDING AREAS TO BE MULCHED IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY".
- NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES OR VARIETY WITHOUT WRITTEN PERMISSION OF THE ENGINEER. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABLE OR UNREASONABLE COST SHALL ALSO BE DOCUMENTED.
- LANDSCAPE PLAN IS TO BE USED FOR PLANTING PURPOSES ONLY. SEE ENGINEER'S DRAWINGS FOR CONSTRUCTION DOCUMENTATION.

THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY

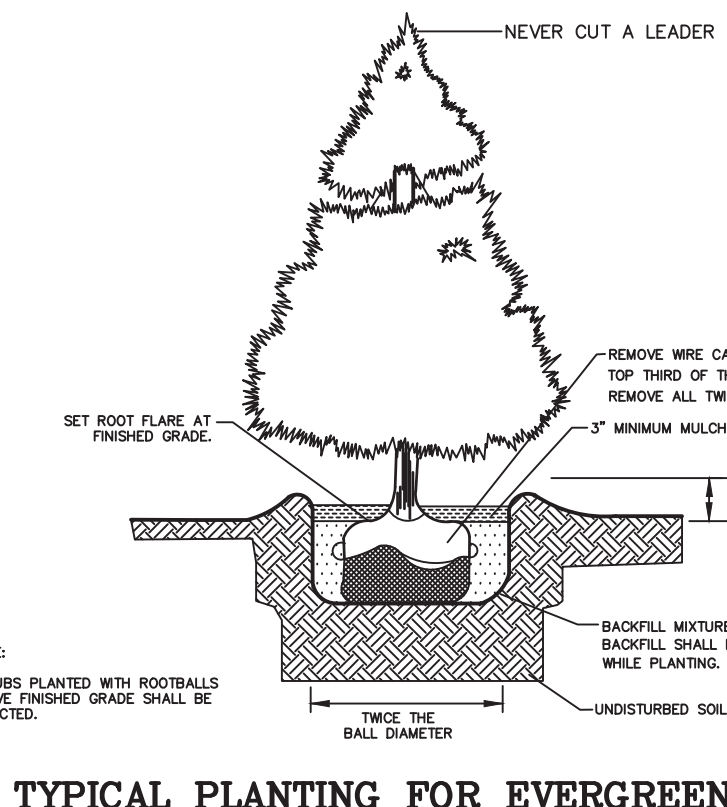
**PLANT SCHEDULE**

Key	Quantity	Botanical Name	Common Name	Caliper	Ht	Spd	Notes	Tree Units
<b>SITE</b>								
Bn	3	Betula nigra 'Heritage'	Heritage River Birch	---	12'-14'	6'-8'	B & B. Midstem, Branched to 6' Ht	14.4
Gt	24	Oedocia thacanthos inermis 'Shademaster'	Shademaster Honeylocust	3'-3.5"	14'-16'	8'-10'	B & B. Branched to 6' Ht	5.4
Ns	9	Quercus prinus 'Wildfire'	Wildfire Black Gum	3'-3.5"	14'-16'	8'-10'	B & B. Branched to 6' Ht	24.6
Cp	41	Quercus phellos	Willow Oak	3'-3.5"	14'-16'	8'-10'	B & B. Branched to 6' Ht	18
Ua	30	Ulmus americana 'Princeton'	Princeton American Elm	3'-3.5"	14'-16'	8'-10'	B & B. Branched to 6' Ht	5.4
Up	9	Ulmus parvifolia 'Allee'	Allee Lacebark Elm	3'-3.5"	14'-16'	8'-10'	B & B. Branched to 6' Ht	6.8
Total	116							67.8
<b>ORNAMENTAL TREES</b>								
Ag	23	Ametanther grandiflora x Autumn Brilliance	Autumn Brilliance Serviceberry	2 1/2"-3"	12'-14'	6'-8'	B & B. Midstem	13.8
Cc	9	Cercis canadensis	Eastern Redbud	---	6'-8'	4'-6'	B & B. Full symmetrical head	9.6
Li	16	Lagerstroemia x Pink Veilour	Pink Veilour Crape Myrtle	2 1/2"-3"	8'-10'	6'-8'	B & B. Midstem, Branched to 6' Ht	9.6
Mi	2	Magnolia toboensis 'Memil'	Memil Magnolia	---	10'-12'	6'-8'	B & B. Midstem, Branched to 6' Ht	23.4
Mv	25	Magnolia virginiana 'Moonglow'	Moonglow Sweetbay Magnolia	---	10'-12'	6'-8'	B & B	23.4
Total	75							67.8
<b>EVERGREEN TREES</b>								
Ps	23	Pinus strobus	White Pine	---	5'-6'	3'-4'	B&B Full symmetrical head, branched to ground	51.2'
Cj	80	Cryptomeria japonica 'Radicans'	Radicans Japanese Cedar	---	5'-6'	2'-3'	B&B Full symmetrical head, branched to ground	51.2'
Total	103							102.4
<b>SHRUBS</b>								
Csa	117	Clethra alnifolia	Summersweet	---	18'-24'	18'-24'	Space @ 3' o.c.	
Caw	12	Clethra alnifolia 'Vanilla Spice'	Vanilla Spice Summersweet	---	30'-36'	30'-36'	Full symmetrical head	
Chp	64	Cephalotaxus harringtoniana prostrata	Dwarf Japanese Plum	---	12'-15'	18'-24'	Space @ 2.5' o.c.	
Dgn	423	Deutzia gracilis 'Nikko'	Dwarf Deutzia	---	18'-24'	18'-24'	Space @ 18" o.c.	
Hcm	787	Hydrangea corymbosa	Aaron's Beard St. Johnswort	---	12'-18'	18'-24'	Space @ 2' o.c.	
Hpf	12	Hydrangea paniculata 'Fire and Ice'	Fire and Ice Panicle Hydrangea	---	30'-36'	30'-36'	Full symmetrical head	
lhm	12	Ilex aquifolium 'Measchke'	Dragon Lady Holly	---	5'-6'	3'-4'	Full symmetrical head, branched to ground	
lhc	272	Ilex glabra 'Compacta'	Compact Holly	---	18'-24'	18'-24'	Space @ 3' o.c.	
lgn	64	Ilex glabra 'Nimbus'	Nimbus Holly	---	18'-24'	18'-24'	Space @ 2.5' o.c.	
lgs	468	Ilex glabra 'Shamrock'	Shamrock Holly	---	18'-24'	18'-24'	Full symmetrical head	
lnc	16	Ilex mesaeae 'China Girl'	China Girl Holly	---	30'-36'	30'-36'	Full symmetrical head, branched to ground	
lvh	40	Ilex verticillata 'Henry Garnet'	Henry Garnet Sweetpire	---	18'-24'	18'-24'	Full symmetrical head	
lmp	15	Myrica pensylvanica	Northern Bayberry	---	30'-36'	30'-36'	Full symmetrical head	
pls	32	Prunus laurocerasus 'Schipkaensis'	Skip Laurel	---	30'-36'	18'-24'	Full symmetrical head	
vbi	12	Viburnum x brkwoodii	Birkwood Viburnum	---	30'-36'	30'-36'	Full symmetrical head	
vdm	100	Viburnum dentatum	Arlowood Viburnum	---	18'-24'	18'-24'	Full symmetrical head	
<b>GROUNDCOVERS</b>								
An	140	Athyrium niponicum 'Pewter Lace'	Pewter Lace Painted Fern	---	---	---	1' of cont. spaced @ 24" o.c.	

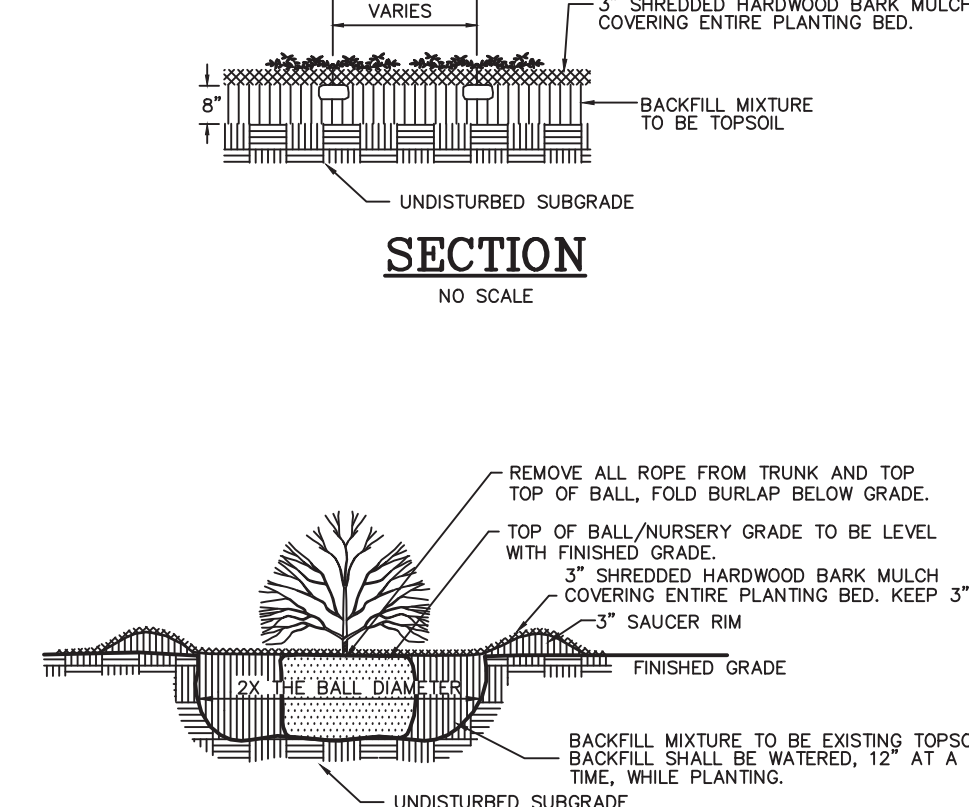
\*per section 541.1.4 only 40% of the replacement trees can be evergreen. This number represents the TU of the complying trees.

**PROPOSED TREE DENSITY CALCULATIONS:**

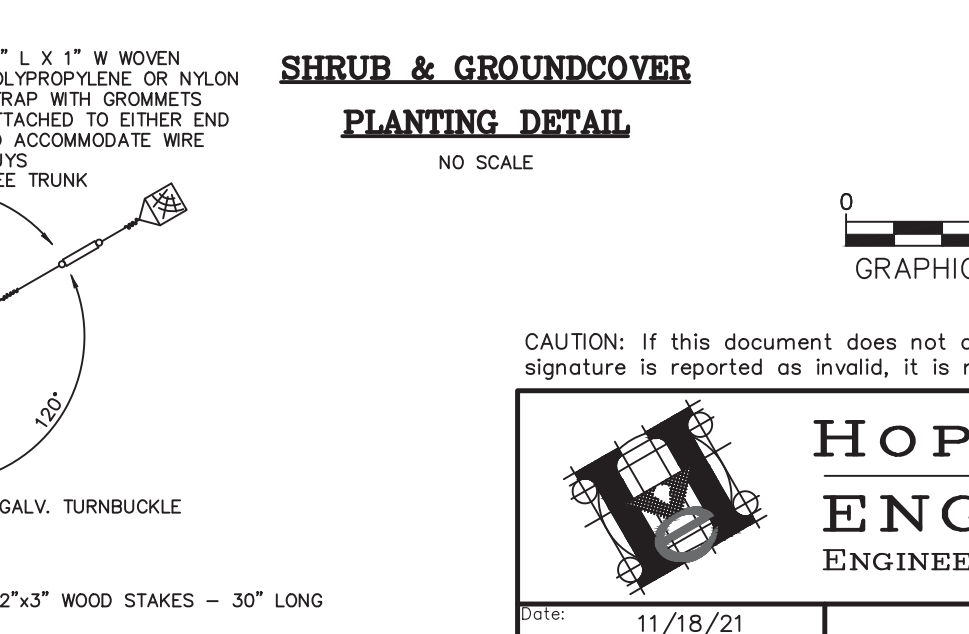
- REPLACEMENT TREE UNITS (TU) NEEDED = 59.16 TU
- REPLACEMENT TREE UNITS PROVIDED
  - DECIDUOUS TREES PROPOSED FOR TREE REPLACEMENT = 152  
 --ALL PROPOSED DECIDUOUS TREES PROPOSED TO BE FROM 2.5 - 3.5" IN CALIPER (SAY 3")  
 --PER TABLE 5.20 IN SECTION 541 A 3" TREE COUNTS AS .6 TU  
 DECIDUOUS TU (DTU) = 152 X 0.6 = 91.2 TU
  - EVERGREEN TREES ALLOWED FOR TREE REPLACEMENT = DTU X .4 = 60.8 (SAY 60)  
 --ALL PROPOSED EVERGREEN TREES ARE 5 TO 6' TALL  
 --PER TABLE 5.21 IN SECTION 541 A 5 - 6' TALL TREE IS .8 TU  
 EVERGREEN TU (EOTU) = 60 X .8 = 48.0 TU
- TOTAL PROPOSED TU = DTU + EOTU = 91.2 + 48 = 139.2 TU > 59.16 TU SO WE COMPLY



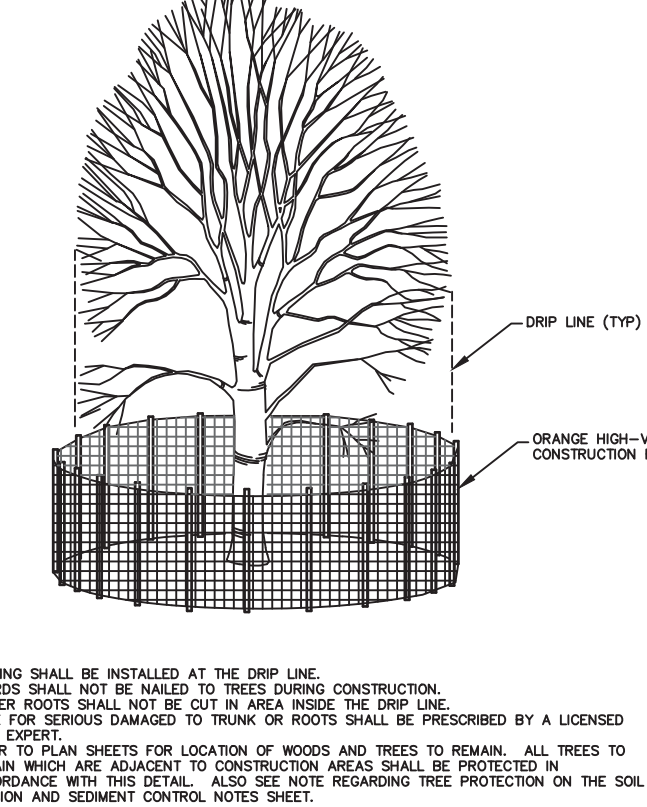
**TYPICAL PLANTING FOR EVERGREENS**



**TYPICAL TREE PLANTING DETAIL**



**SHRUB & GROUNDCOVER PLANTING DETAIL**



**TREE PROTECTION FENCE**

CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an outdated original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
 ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
 Pennington, NJ 08654-6006  
 Tel: 609-745-6800  
 Fax: 609-745-6807  
 www.hopewellvalleyengineering.com

LANDSCAPING PLAN FOR SPRUCE STREET APARTMENTS LOT 39 IN BLOCK 701

SITUATE IN LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

Digitally signed by Russell M Smith  
 Date: 2021.11.23 09:29:05-0500

Russell M Smith  
 RUSSELL M. SMITH  
 N.J. PROFESSIONAL ENGINEER No. 00066

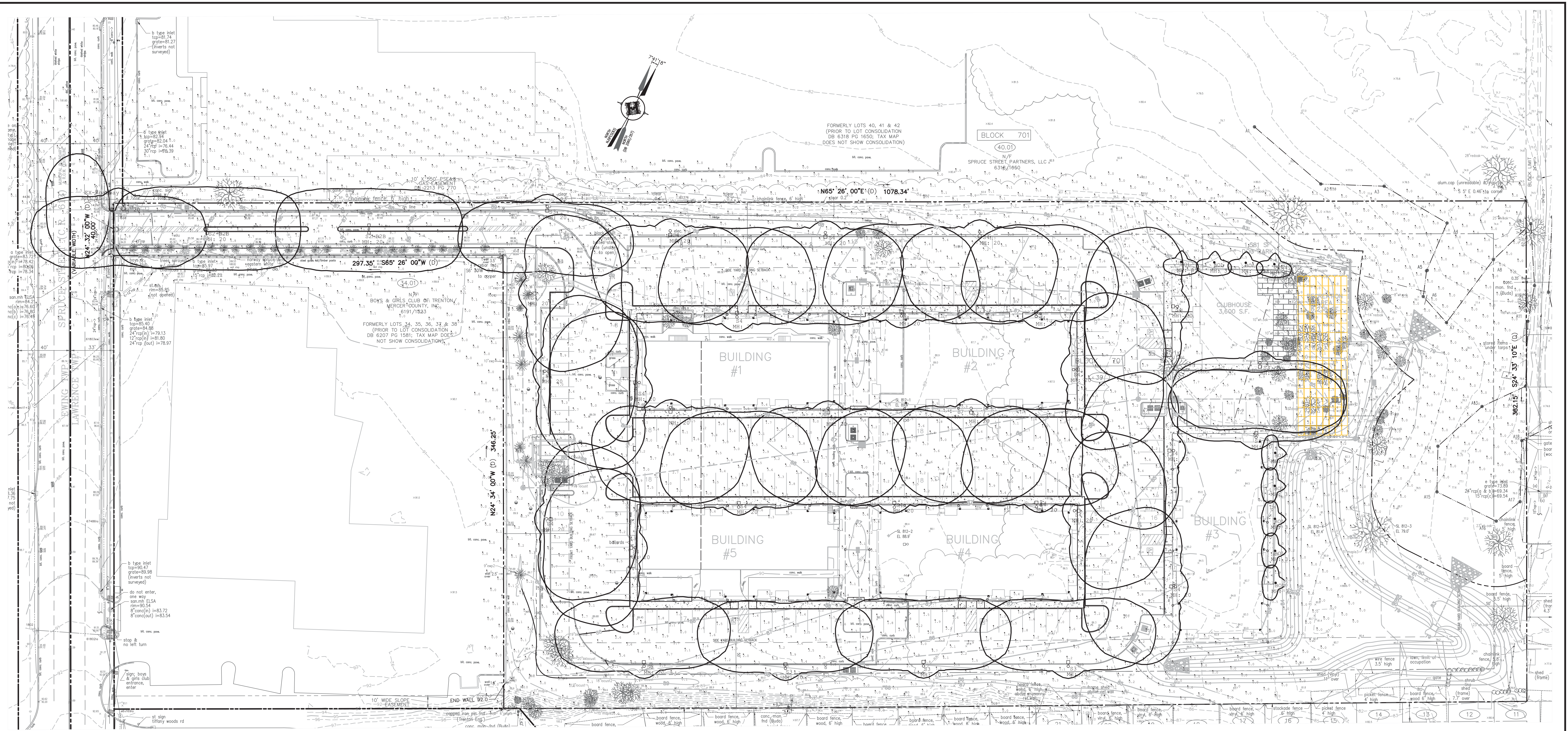
Professional Engineer License No. GE33065

Scale: 1" = 30'

Graphic Scale: FEET

Revision Table:

No.	DATE	DESCRIPTION OF REVISION	BY	CHKD

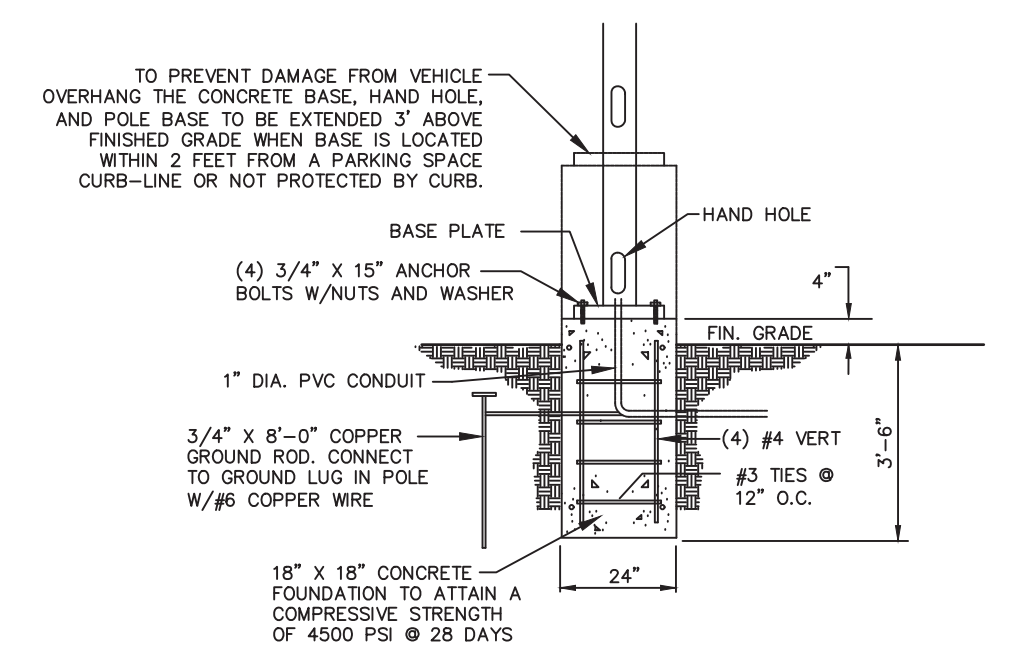
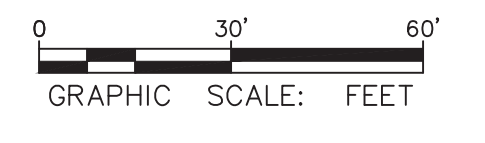


Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	Lum. Lumens	BUG Rating
●	9	BOL	SINGLE	1.190	Gardco PBL-14L-350-NW-G2-3-UNV-1600lm	10	1211	B0-U0-G0
○	1	EX-Roadway	SINGLE	0.900	Lumec RFS-54W16LED4K-G2-R3S	53	6421	B1-U0-G2
□	2	S2-B2B	BACK-BACK	0.900	Gardco ECF-S-32L-1A-NW-G2-2	105.6	13685	B3-U0-G2
○	8	S3	SINGLE	0.900	Gardco ECF-S-48L-900-NW-G2-3-HIS	135.1	14040	B1-U0-G3
□	22	S4	SINGLE	0.900	Gardco ECF-S-48L-1-2A-NW-G2-4-HIS	162.71	18176	B1-U0-G4

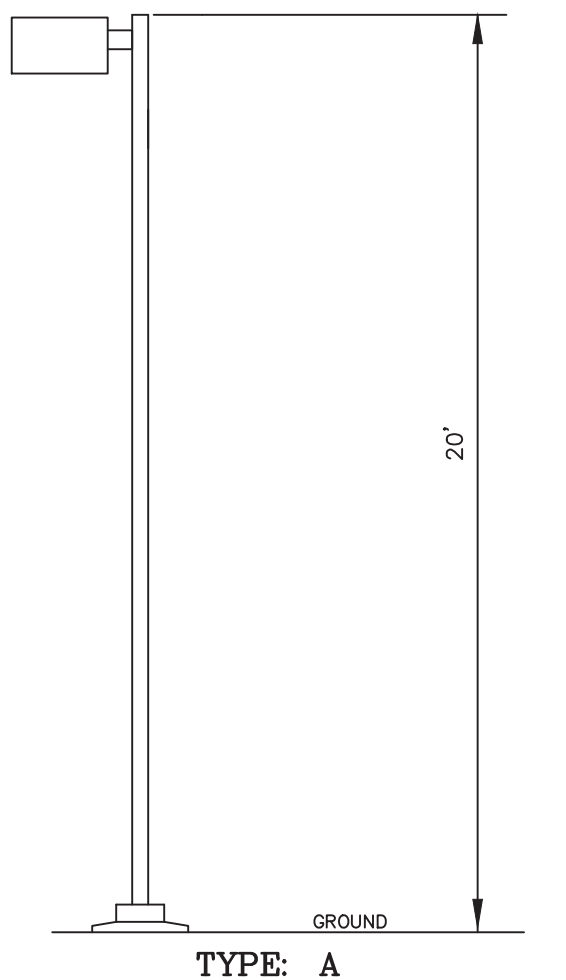
**LIGHTING NOTES**

1. THE LIGHTING INFORMATION ON THIS PLAN IS FOR PHOTOMETRIC INFORMATION ONLY. ELECTRICAL WIRING SHALL BE PER A WIRING PLAN BY OTHERS (IF PREPARED) AND/OR APPROPRIATE CONSTRUCTION CODES AND SPECIFICATIONS.
2. A TIMING DEVICE SHALL BE INSTALLED ON THE PARKING LOT AND SIGNAGE LIGHTS. A TIMER SHALL BE SET TO TURN ON AT DUSK AND OFF FOR THE DURATION OF THE NIGHT AT 10 PM.
3. ALL LIGHTS ADJACENT TO PARKING STALL AREAS SHALL BE INSTALLED A MINIMUM OF 2' FROM THE FACE OF CURB OR EDGE OF PAVEMENT AND ALIGNED WITH THE PARKING SPACE STRIPES TO MINIMIZE THE POSSIBILITY OF A VEHICLE HITTING A POLE.
4. ALL PROPOSED LIGHT FIXTURES ARE FULL CUT-OFF FIXTURES AS DEFINED BY THE IESNA.
5. A MAXIMUM POLE MOUNTING HEIGHT OF 20' IS PROPOSED WHERE 25' IS ALLOWED PER SECTION 527 C.1.
6. THE LIGHTING DESIGN WAS PROVIDED BY PENN LIGHTING ASSOCIATES, IAN ELLER, A NCLSP CERTIFIED PROFESSIONAL PREPARED THE DESIGN.

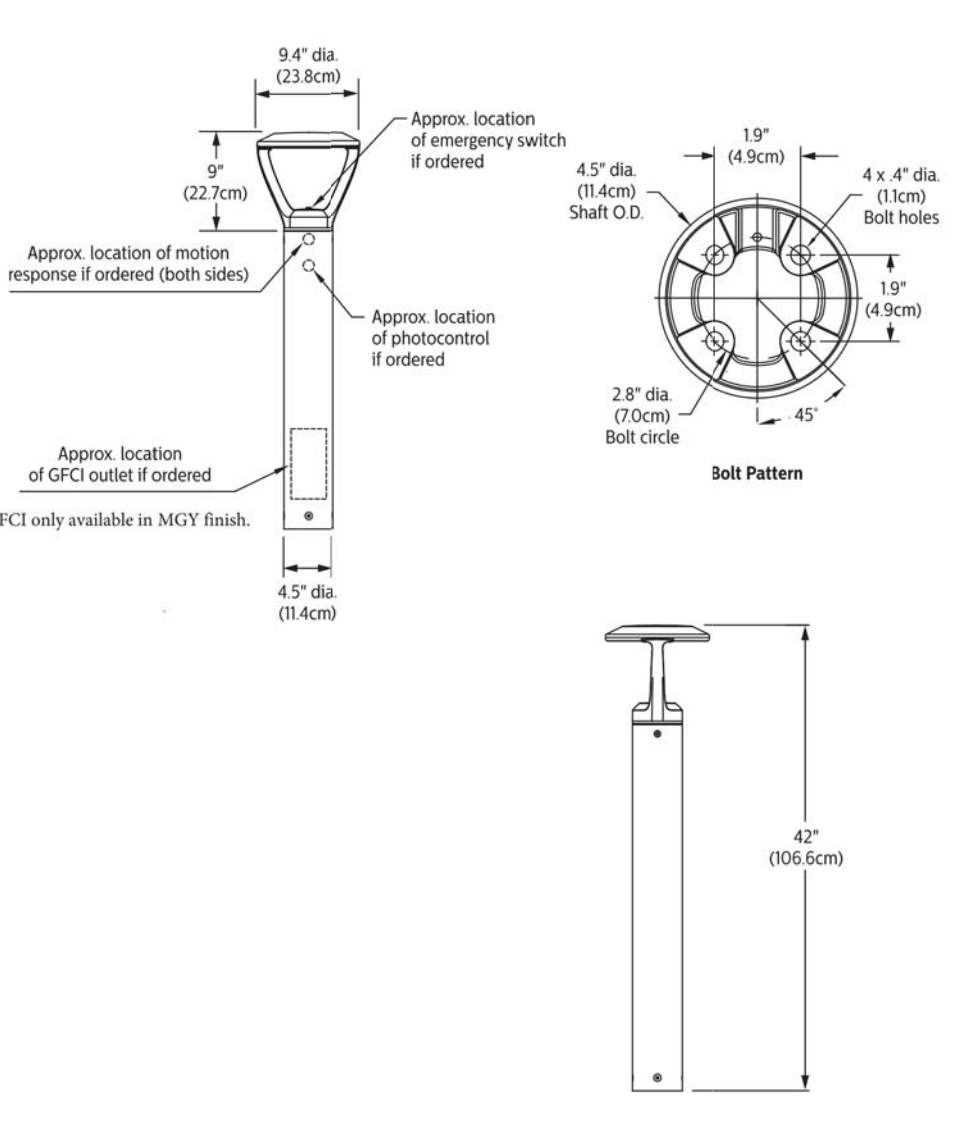
Label	Calc Type	Units	Avg	Max	Min	Max/Min	Avg/Min	Grid Z	PtSpCr	PtSpCb
Center Grid	Illuminance	Fc	1.55	16.0	0.0	N.A.	N.A.	0	10	10
Center Parking	Illuminance	Fc	3.77	7.4	1.2	6.17	3.14			
Clubhouse Parking	Illuminance	Fc	3.66	6.0	1.5	4.00	2.44			
Driveway Entrance	Illuminance	Fc	3.68	5.8	1.0	5.80	3.68			
E Parking	Illuminance	Fc	3.82	7.4	1.2	6.17	3.18			
N Parking	Illuminance	Fc	3.67	7.5	1.0	7.50	3.87			
S Parking	Illuminance	Fc	2.30	5.2	1.0	5.20	2.30			
W Parking	Illuminance	Fc	4.28	8.1	1.3	6.23	3.29			



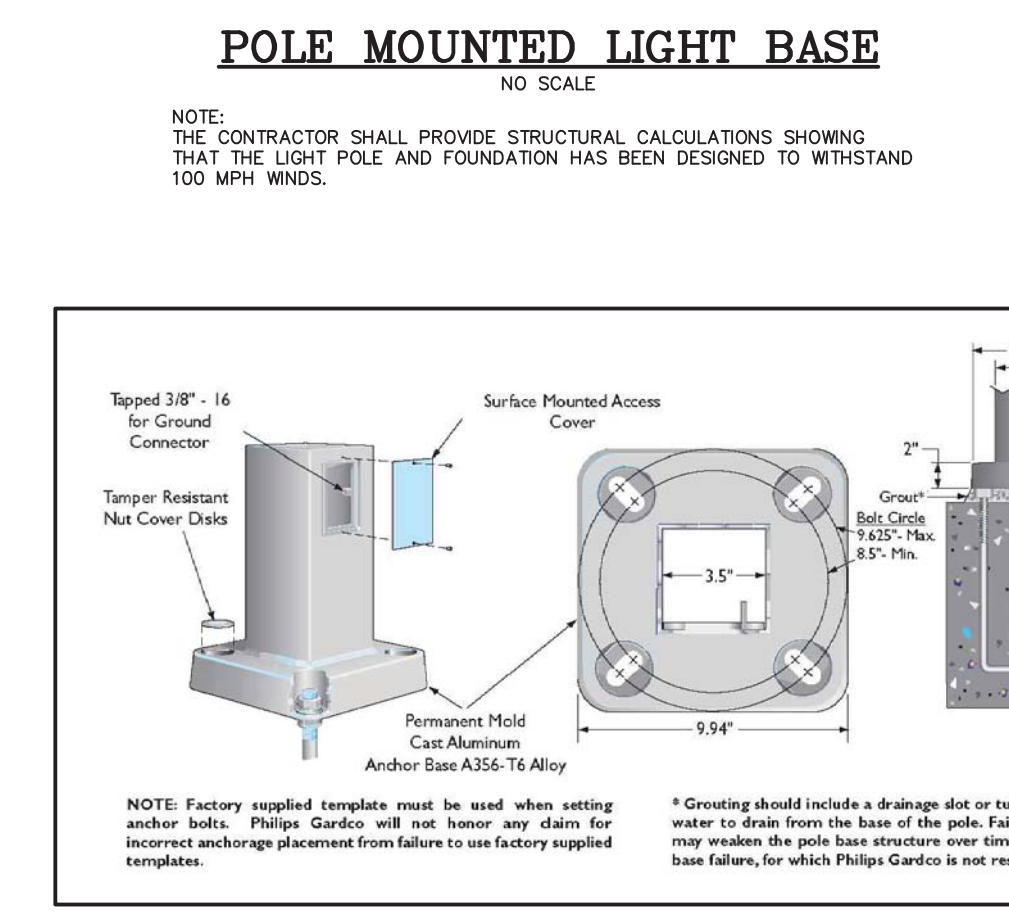
**GARDCO ECF-S LIGHT HEAD DETAILS**



**LIGHT POLE HEIGHT DETAIL**



**GARDCO BOLLARD LIGHT DETAILS**



**4" SQUARE ALUMINIUM LIGHT POLE DETAIL**

**HOPEWELL VALLEY ENGINEERING, PC**  
 ENGINEERS, PLANNERS & LAND SURVEYORS  
 1600 Reed Road, Suite A  
 Pennington, NJ 08654-0002  
 Tel: 609-745-6800  
 Fax: 609-745-6807  
 www.hopewellvalleyengineering.com

**LIGHTING PLAN**  
 FOR  
**SPRUCE STREET APARTMENTS**  
 LOT 39 IN BLOCK 701  
 SITUATE IN  
 LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

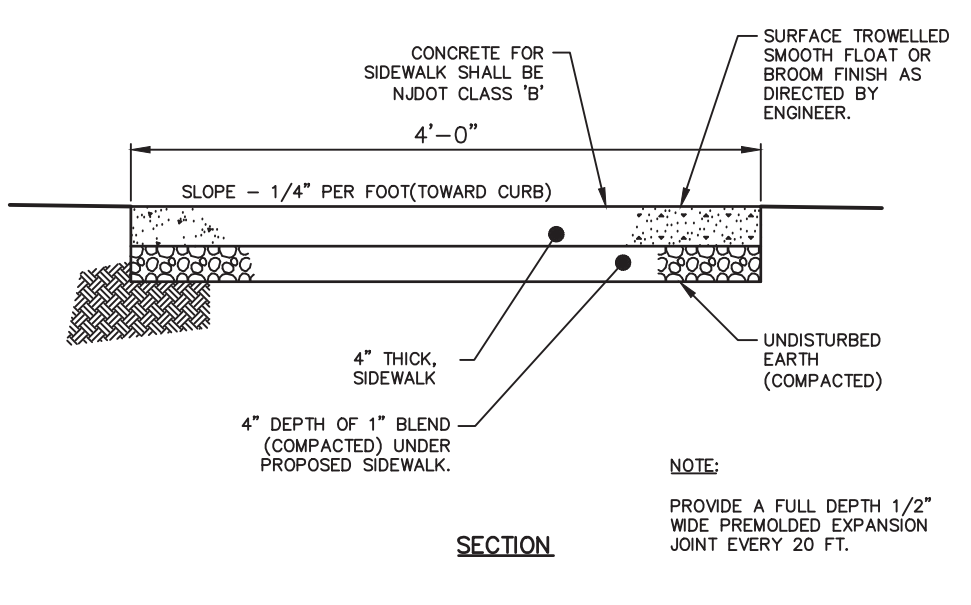
NOTE: 11/18/21  
 SCALE: 1" = 30'  
 PROJ: AWS  
 DES: RWS  
 CDR: SPO1537C - VPS1

Digitally signed by  
 Russell M Smith  
 Date: 2021.11.23  
 10:28:10 -05'00'

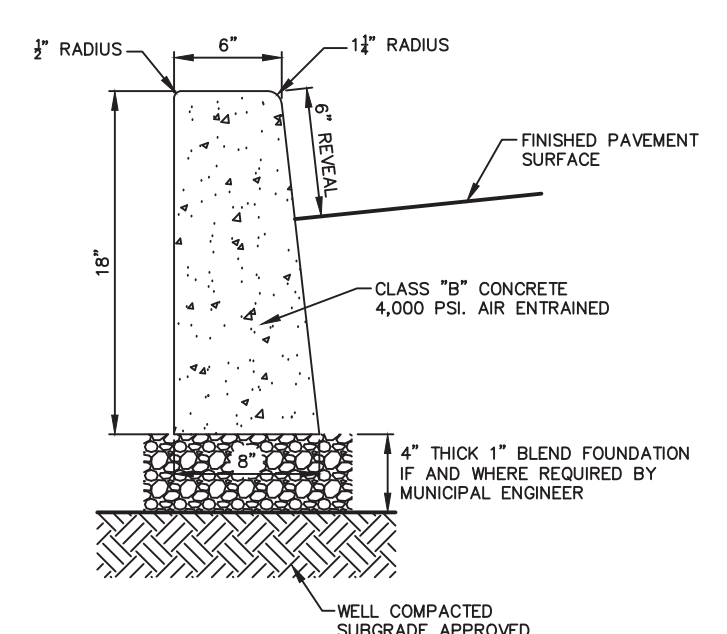
**RUSSELL M. SMITH**  
 N.J. PROFESSIONAL ENGINEER No. 03065

Sheet 7 of 14

FILED IN: C:\Z:\2021\11\23\AW\FILE FOLDER\AW\PROJECTS\SPRUCE STREET APARTMENTS - LOT 39 IN BLOCK 701 - VPS1.dwg (SPE, Andrew Smith)



**CONCRETE SIDEWALK DETAIL**  
NO SCALE



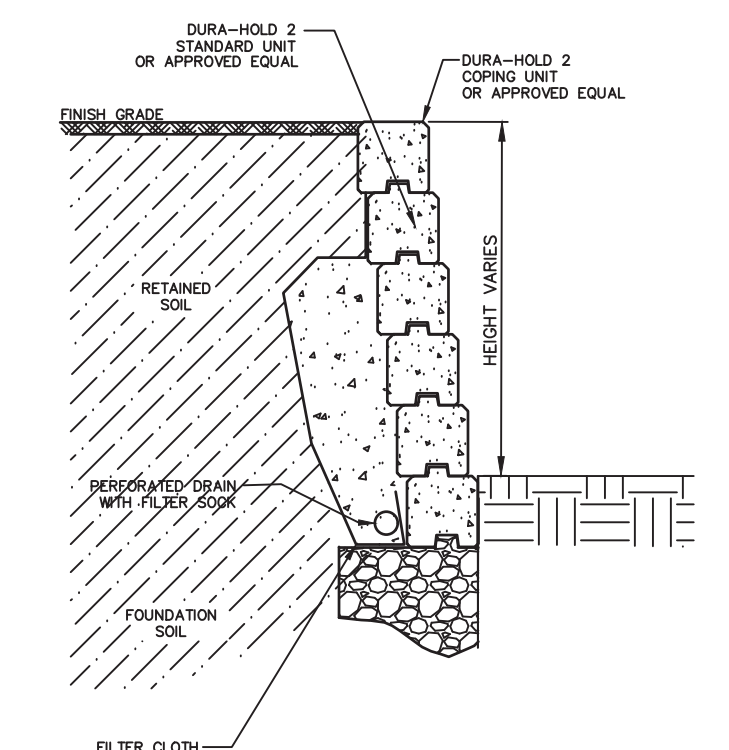
**LAWRENCE TOWNSHIP CONCRETE CURB**  
NO SCALE

**Design Specific Geometric Information**

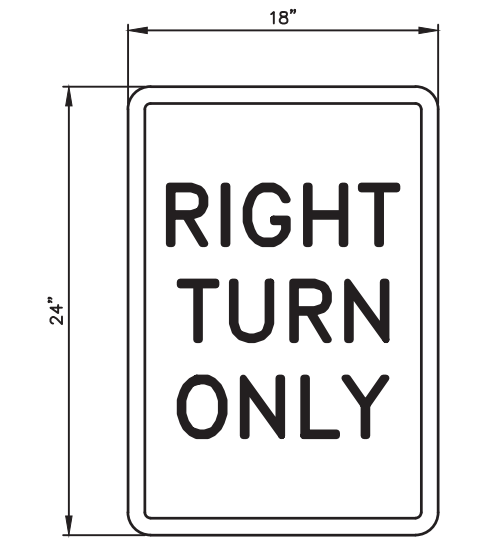
Stationing	DURAH02	Sheet No.	N/A
Stationing	1220 (48)	Scale	N/A
Horizontal	Horizontal	Notes	None
Vertical	None	Notes	305 (12)
Grade	7.12 %	Notes	915 x 305 (36 x 12)

**Design Specific Soil Information**

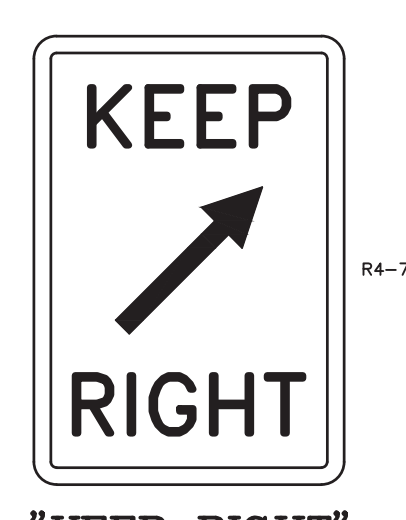
Description	Soil Region			
	MR	SM	GW	GP
Foundation	N/A	SM	SM	GW
Interior	N/A	34"	34"	30"
Notes	N/A	NR	NR	NR



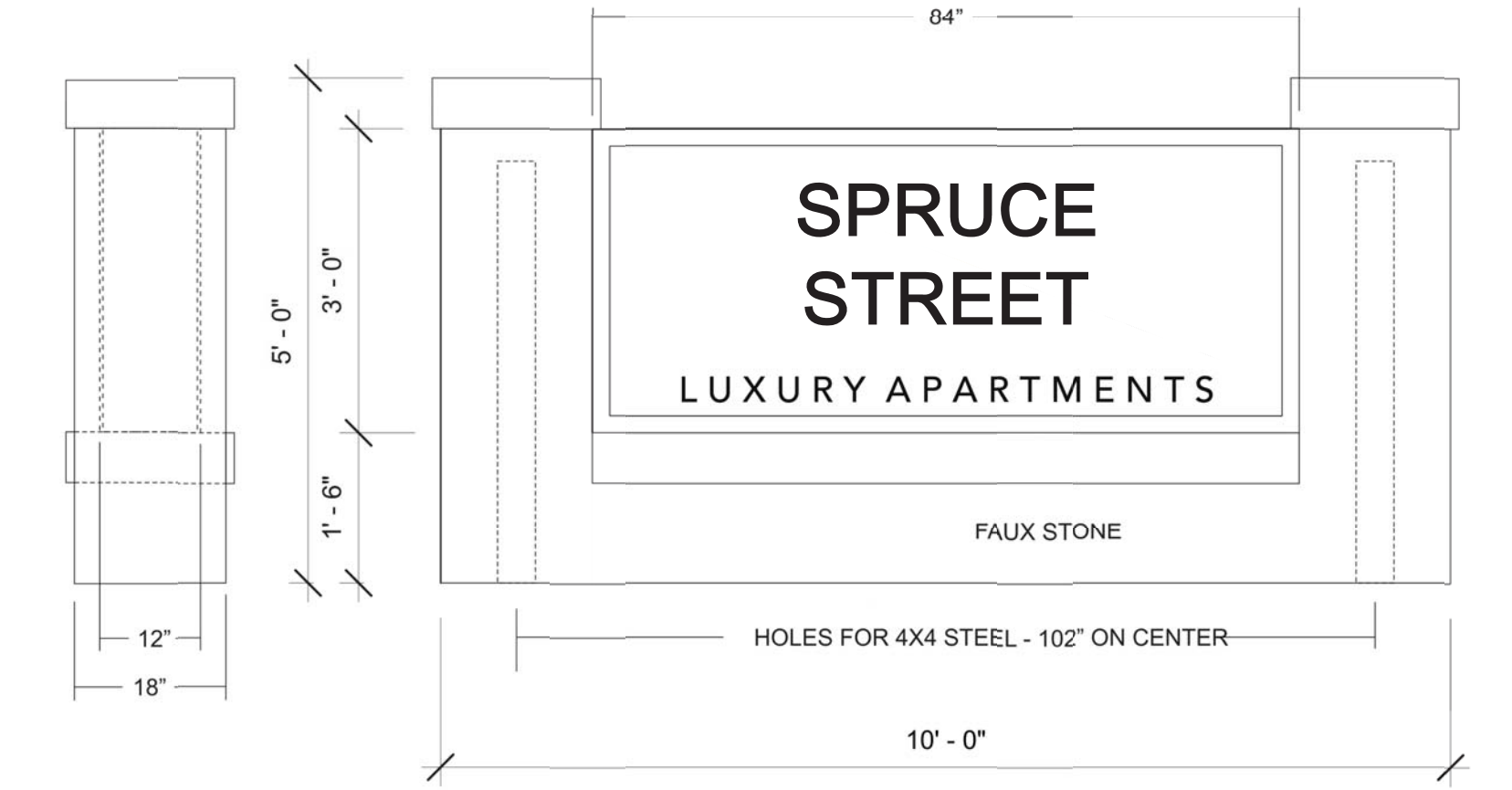
**RETAINING WALL 4' AND UNDER**  
NO SCALE



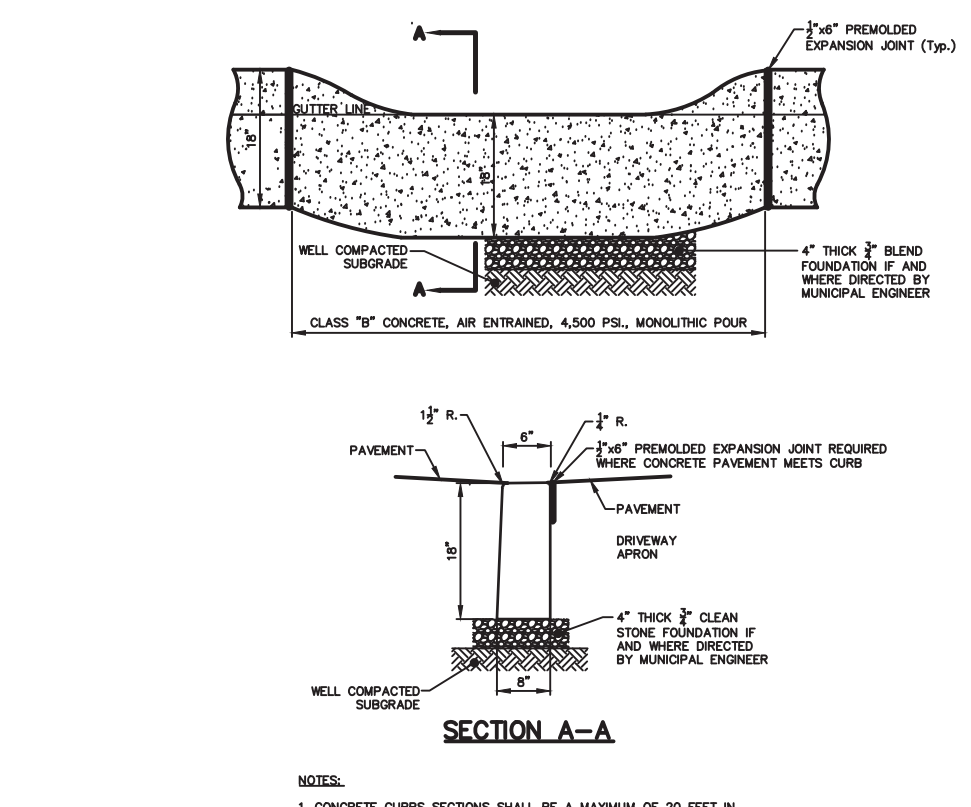
**"RIGHT TURN ONLY" SIGN DETAIL**  
NO SCALE



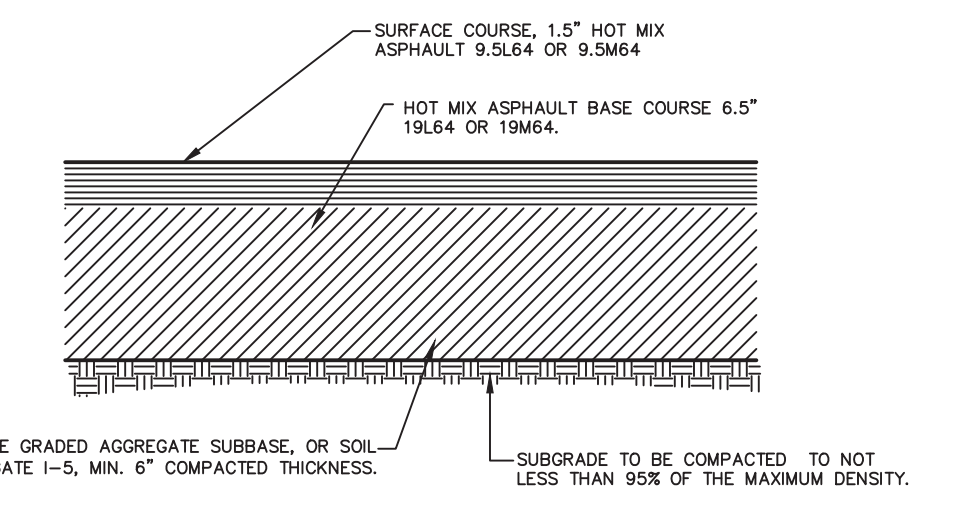
**"KEEP RIGHT" SIGN DETAIL**  
NO SCALE



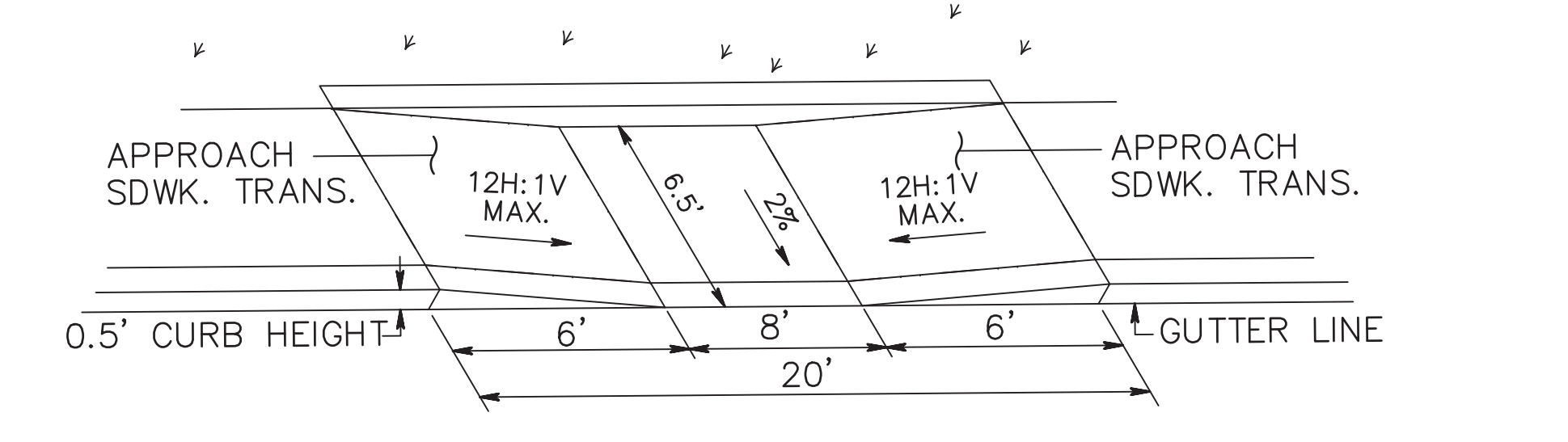
**SITE SIGN DETAIL**  
NO SCALE



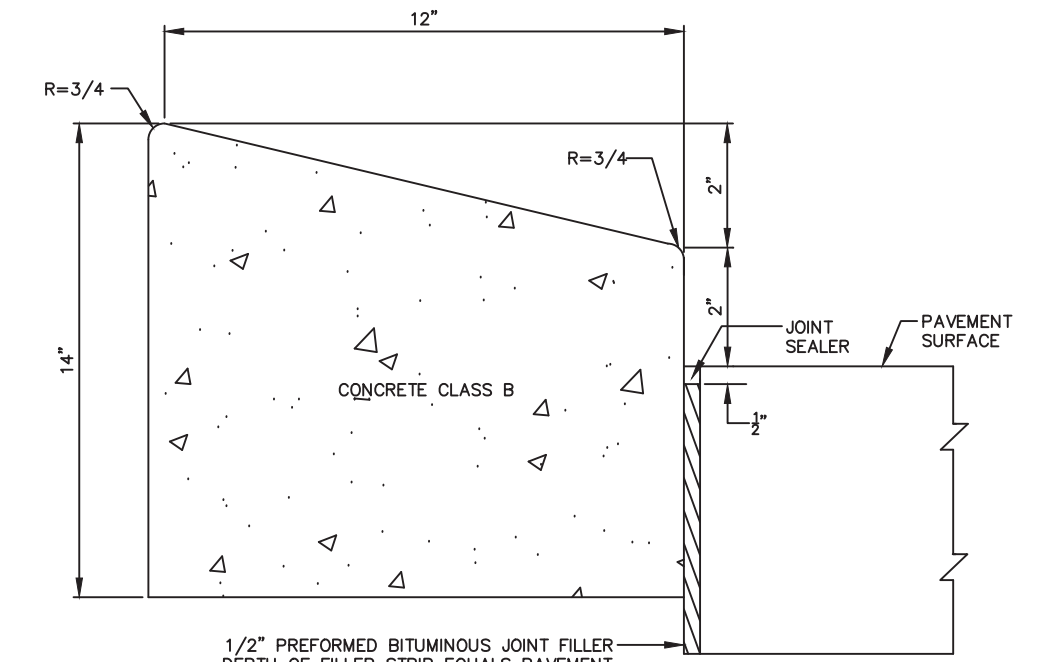
**DEPRESSED CURB**  
NO SCALE



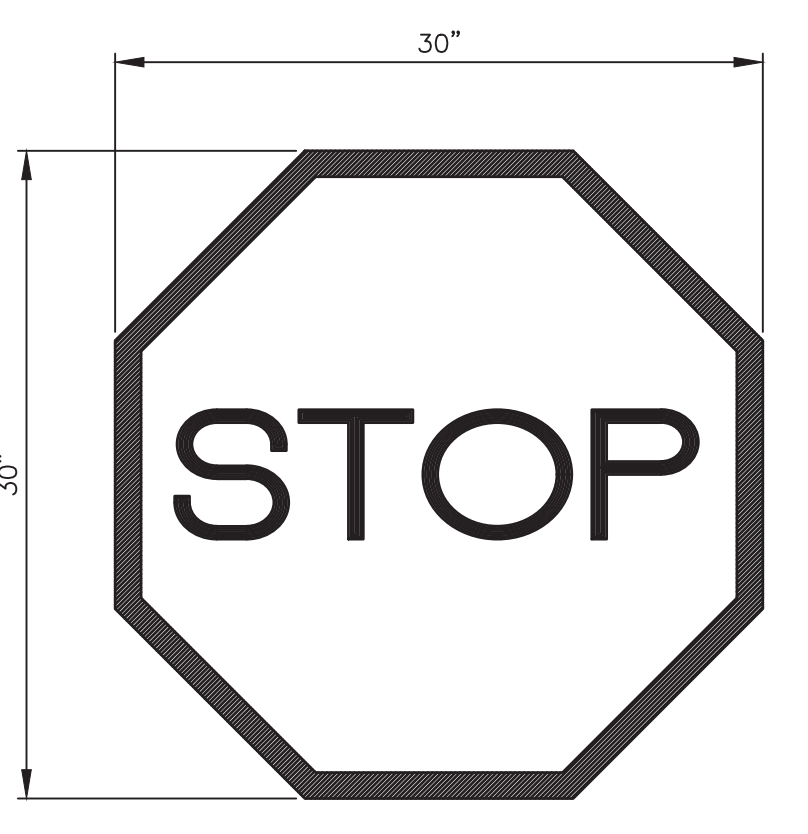
**PARKING LOT PAVEMENT SECTION**  
NO SCALE



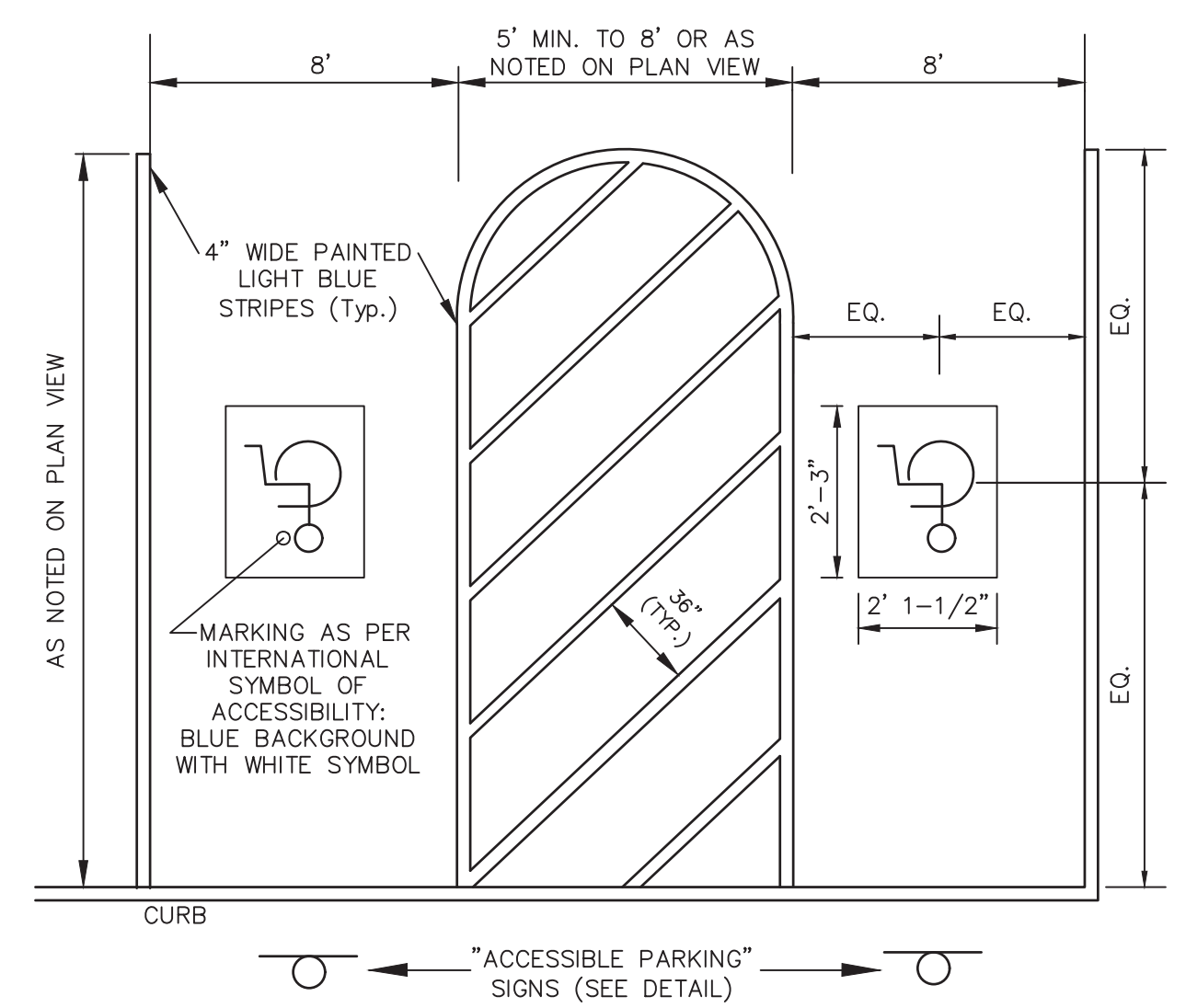
**ADA RAMP DETAIL**  
NO SCALE



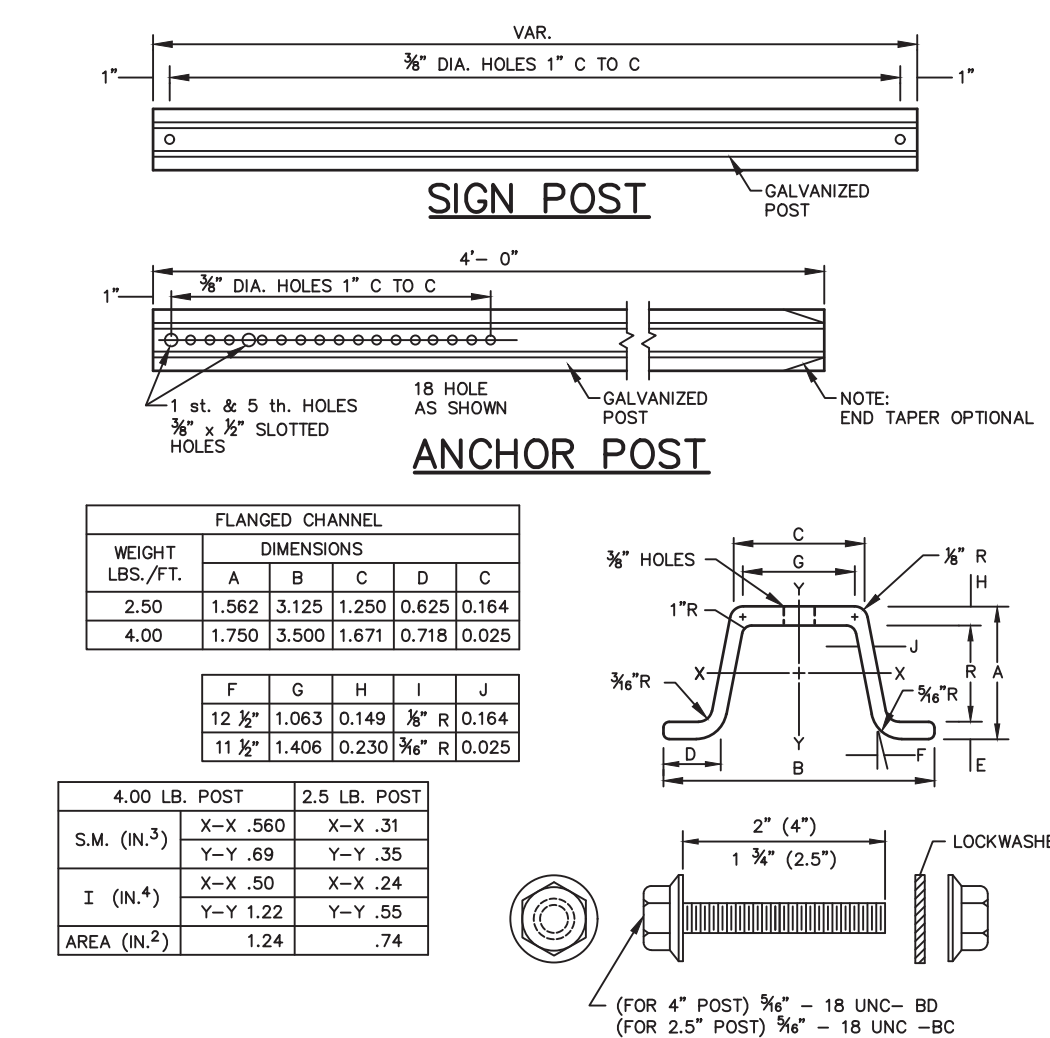
**CONCRETE SLOPING CURB**  
NO SCALE



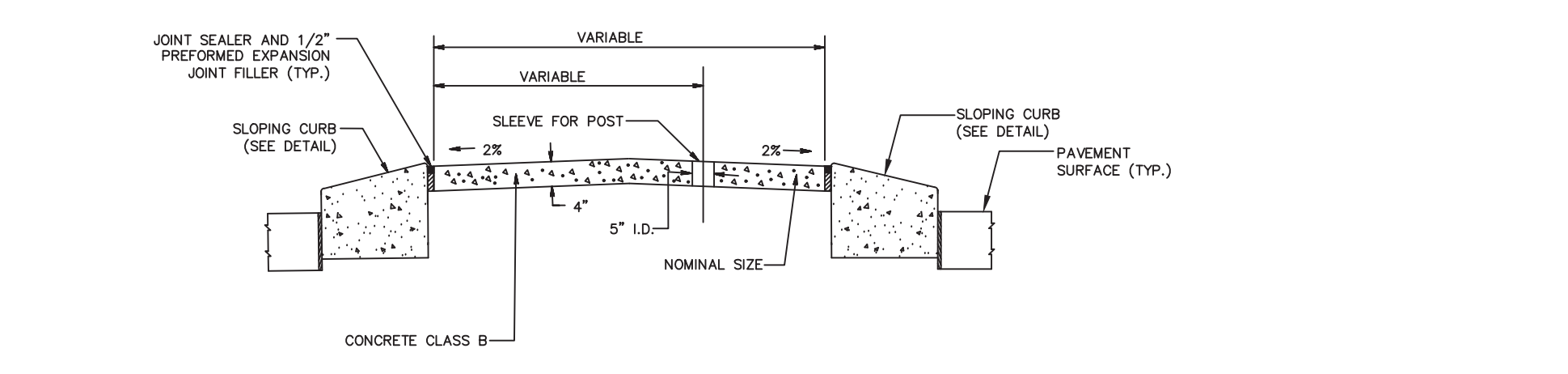
**STOP SIGN**  
R1-1  
NO SCALE



**ACCESSIBLE PARKING STRIPING**  
NO SCALE



**CONNECTOR-RETAINER BOLT**  
NO SCALE

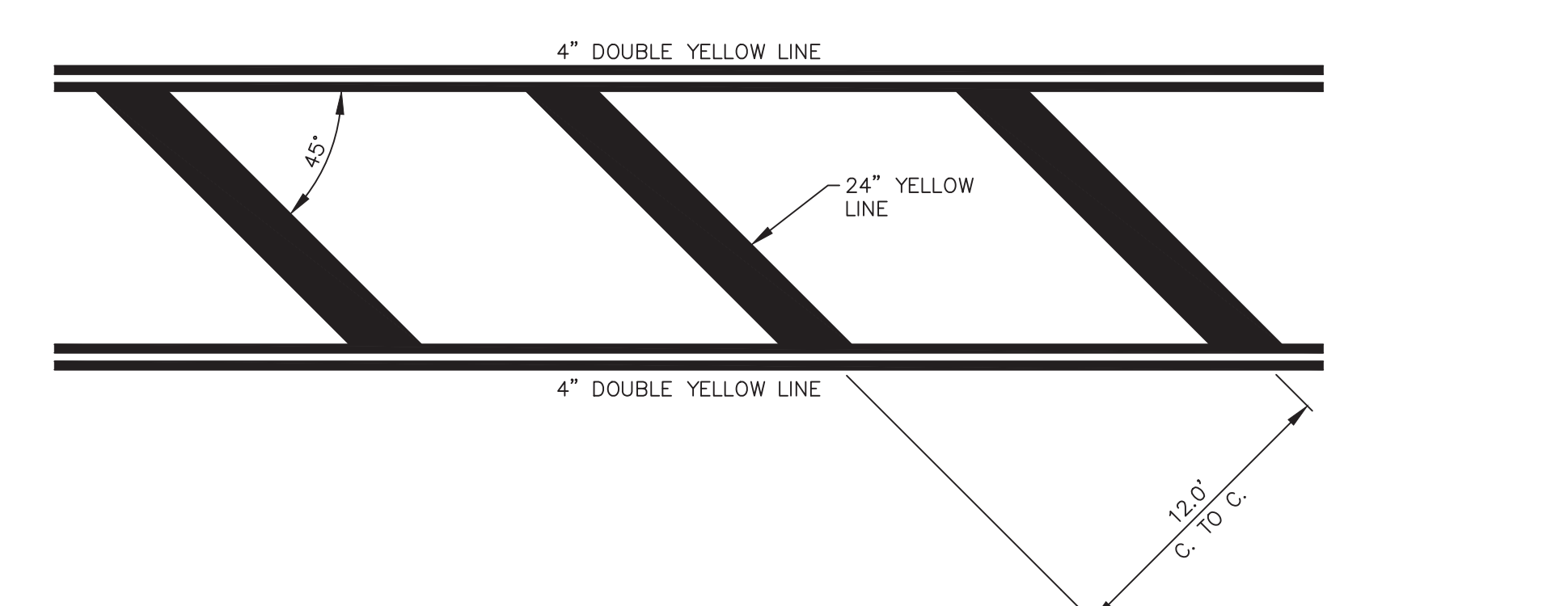


**MOUNTABLE CONCRETE ISLAND DETAIL**  
NO SCALE

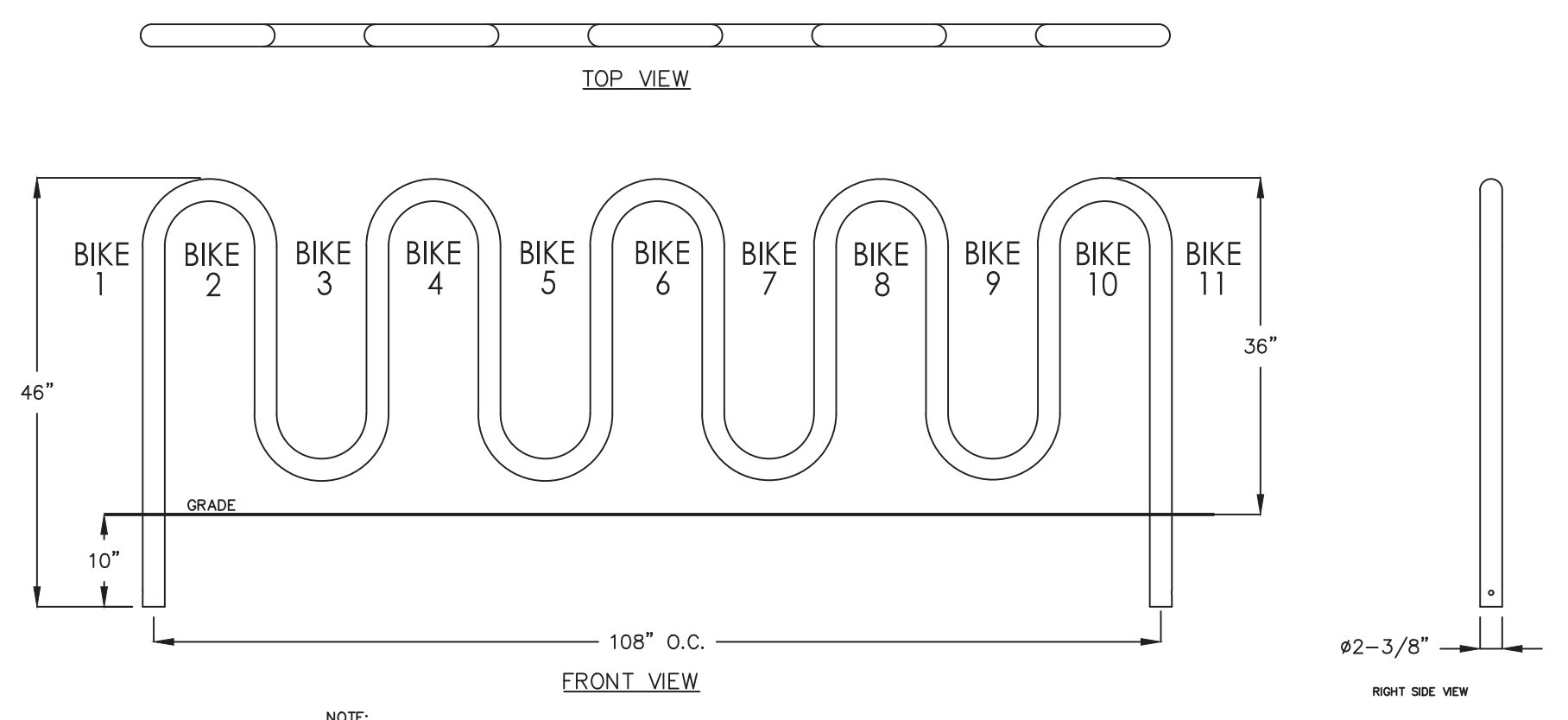
- NOTES:**
- 1/2 INCH PREFORMED EXPANSION JOINT FILLER, BITUMINOUS TYPE, TO BE INSTALLED BETWEEN THE CURB AND CONCRETE PAVEMENT OR CONCRETE BASE COURSE.
  - TRANSVERSE JOINTS 1/2 INCH WIDE SHALL BE INSTALLED IN THE CURB 30 FEET APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS IMPREGATED FIBER JOINT RECESSED 1/4 INCH IN FROM FACE AND TOP OF CURB.
  - EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

**CONCRETE SLOPING CURB**  
NO SCALE

- NOTES:**
- SIGNS INSTALLED AT THE SIDE OF THE ROAD IN RURAL DISTRICTS SHALL BE AT LEAST 1.5M (5FT), MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. WHERE PARKING OR PEDESTRIAN MOVEMENTS OCCUR, THE CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE AT LEAST 2.1M (7FT).



**STRIPED ISLAND DETAIL**  
NO SCALE



**ECHO 11-SPACE BICYCLE RACK**  
NO SCALE



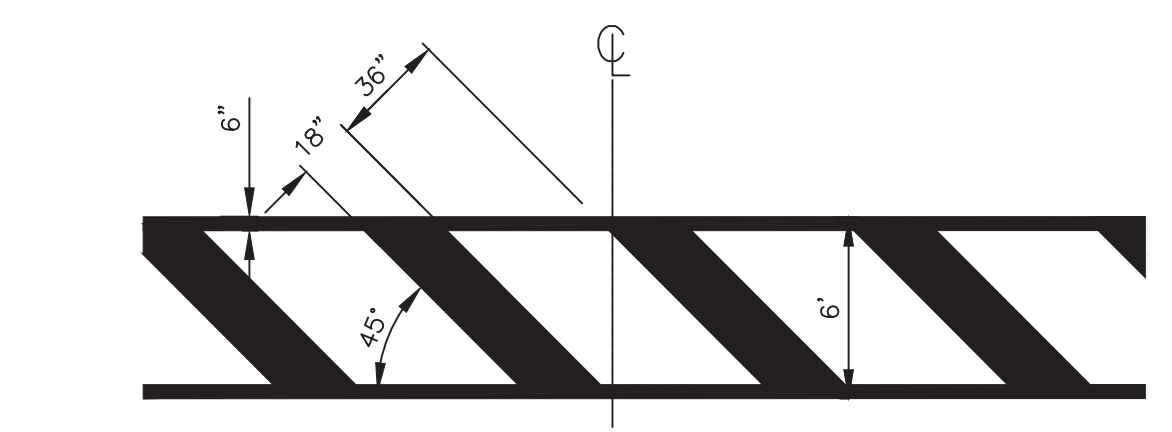
**PENALTY**  
NJDOT R7-8P



**RESERVED PARKING**  
MUTCD R7-8

- NOTES:**
- REFER TO THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT) RULES FOR FULL SPECIFICATIONS.
  - SIGNS INSTALLED AT THE SIDE OF THE ROAD IN RURAL DISTRICTS SHALL BE AT LEAST 1.5M (5FT), MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. WHERE PARKING OR PEDESTRIAN MOVEMENTS OCCUR, THE CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE AT LEAST 2.1M (7FT).

**ACCESSIBLE PARKING SIGNS**  
NO SCALE



**CROSSWALK STRIPING**  
NO SCALE

CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
Pennington, NJ 08534-5002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

**CONSTRUCTION DETAILS**  
OF  
**SPRUCE STREET APARTMENTS**  
LOT 39 IN BLOCK 701  
SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

11/18/21  
NO SCALE  
AWS  
11/07/2024  
SP01537C - NO VPS

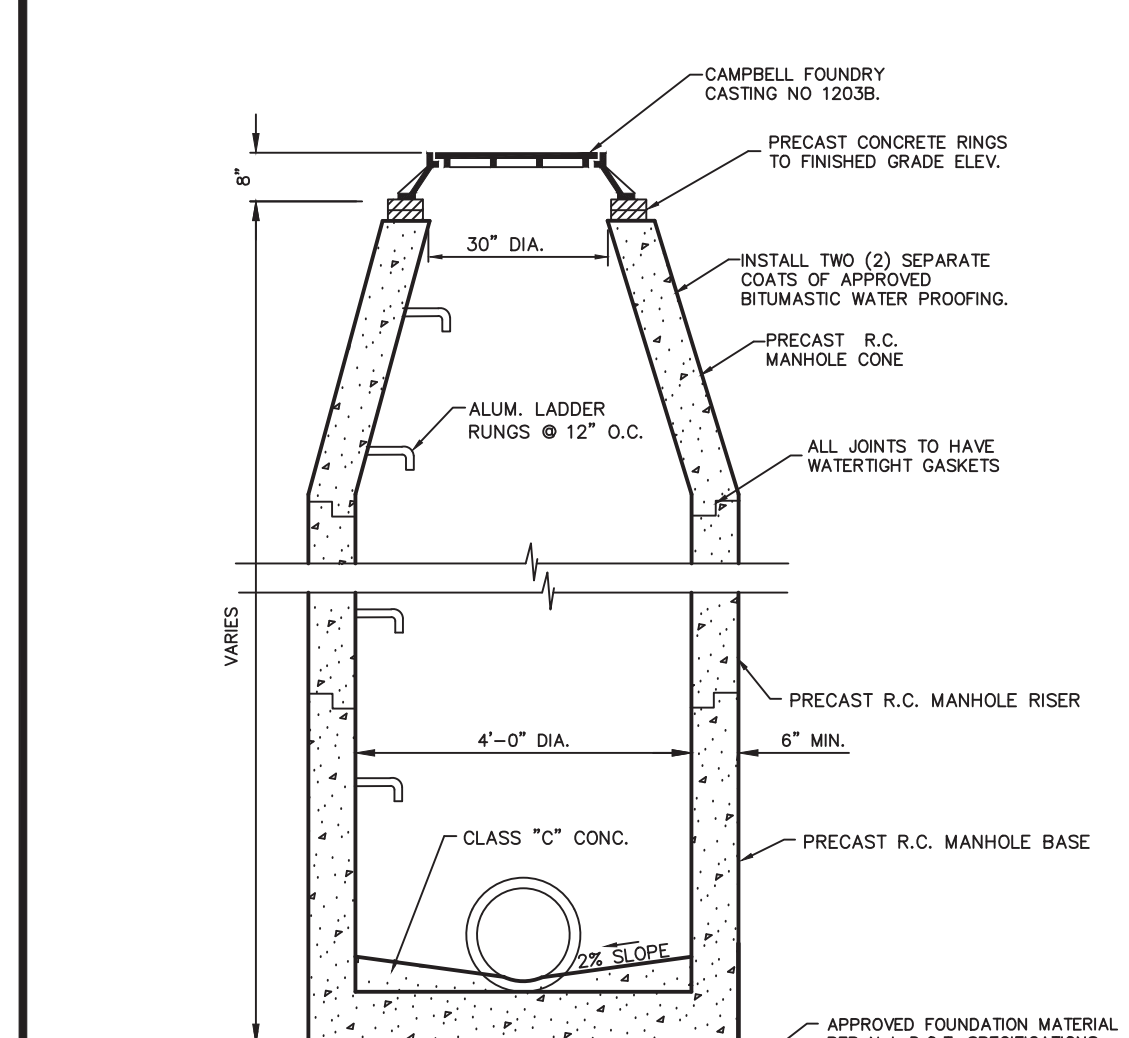
**RUSSELL M. SMITH**  
No. GE33065  
LICENSED PROFESSIONAL ENGINEER

Digitally signed by  
Russell M Smith  
Date: 2021.11.23  
10:42:28 -05'00'

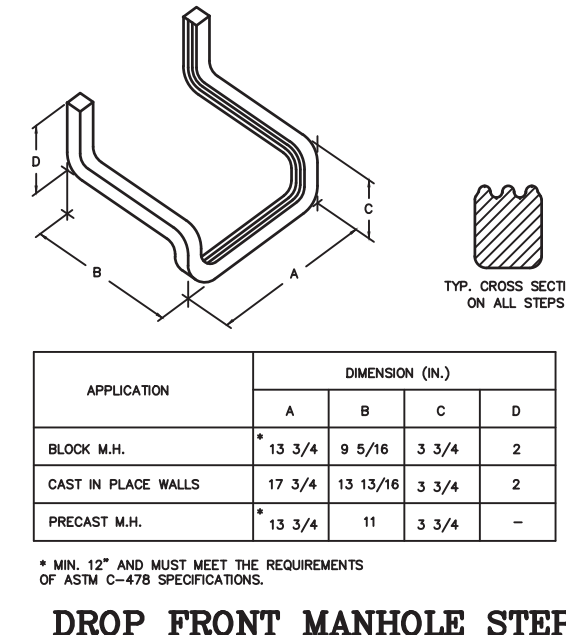
Sheet 8 of 14

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD



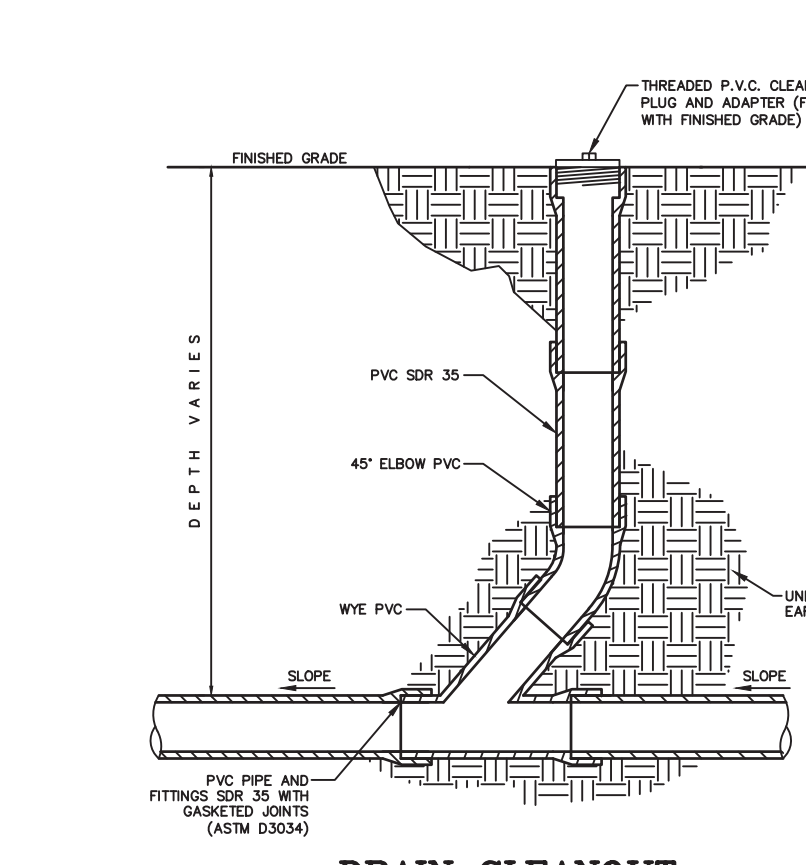


**STORM SEWER MANHOLE**

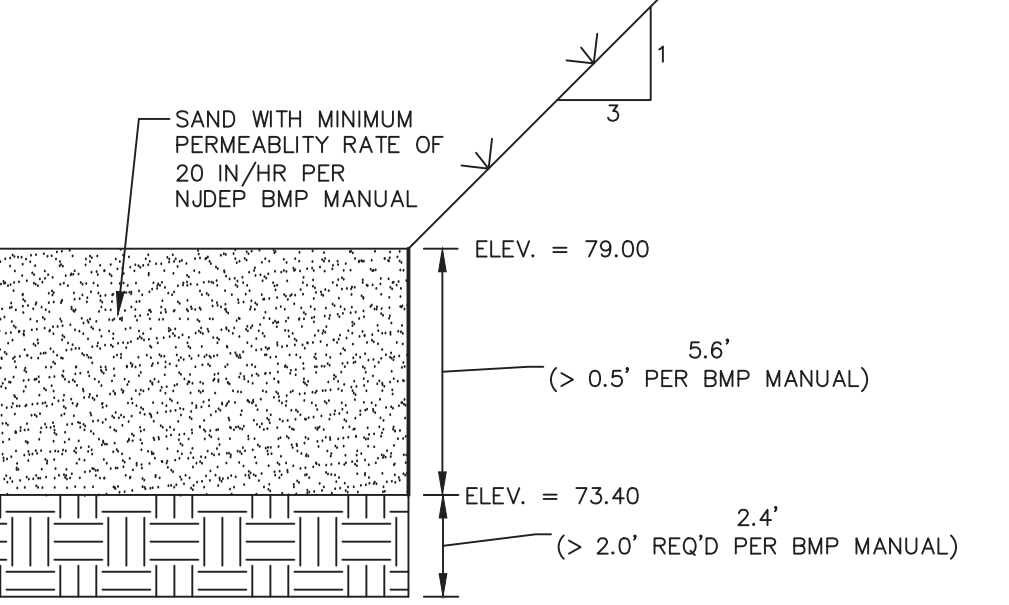


**DROP FRONT MANHOLE STEP**

Table with dimensions for manhole components.

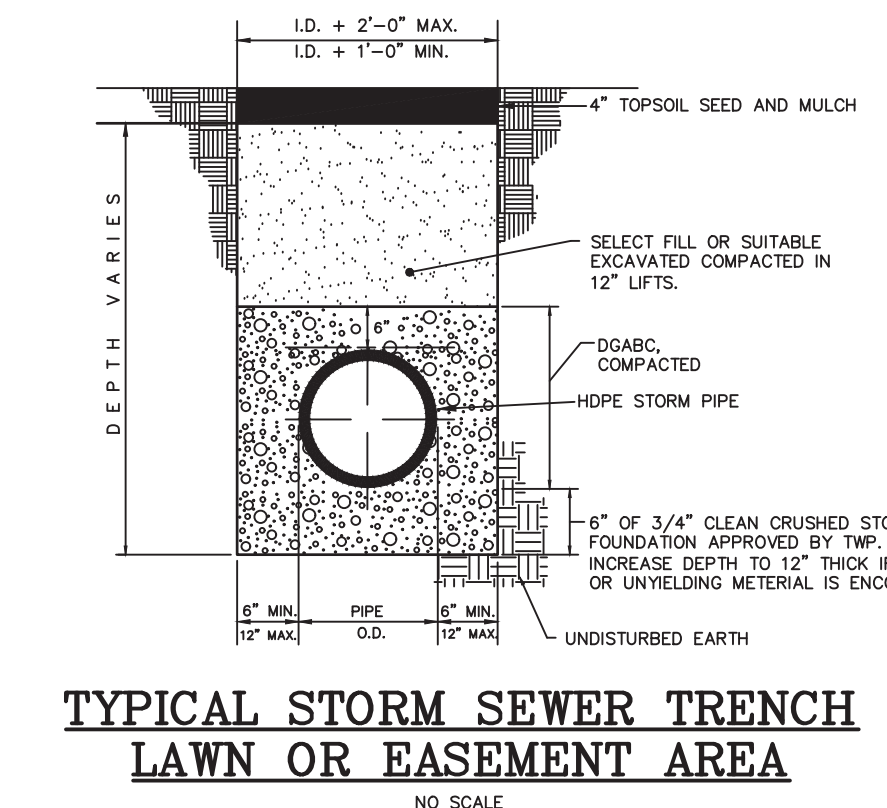


**DRAIN CLEANOUT**

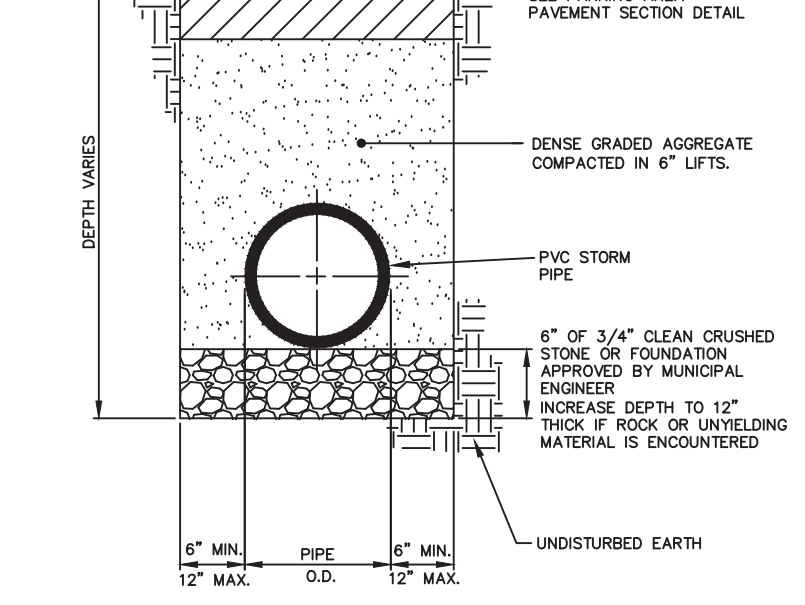


**EXTENDED DETENTION/INFILTRATION BASIN SECTION**

\* NOTE: SOIL LOGS AND TESTING WAS COMPLETED ON 08/12/21. TO DETERMINE THE SEASONAL HIGH WATER TABLE (SHWT) AND SUBSURFACE PERMEABILITY WE USED TESTS #4 AND #5. THE LOGS SHOWED AN AVERAGE SHWT ELEVATION OF 71.00± PERMEABILITY RATES WERE DETERMINED USING TUBE PERMETER TEST RATES OF 7.1 IN/HR AT #4 AND 4.3 IN/HR AT #5. THESE TESTING RESULTS ARE INCLUDED IN APPENDIX A OF THE STORMWATER MANAGEMENT REPORT DATED 11/18/21

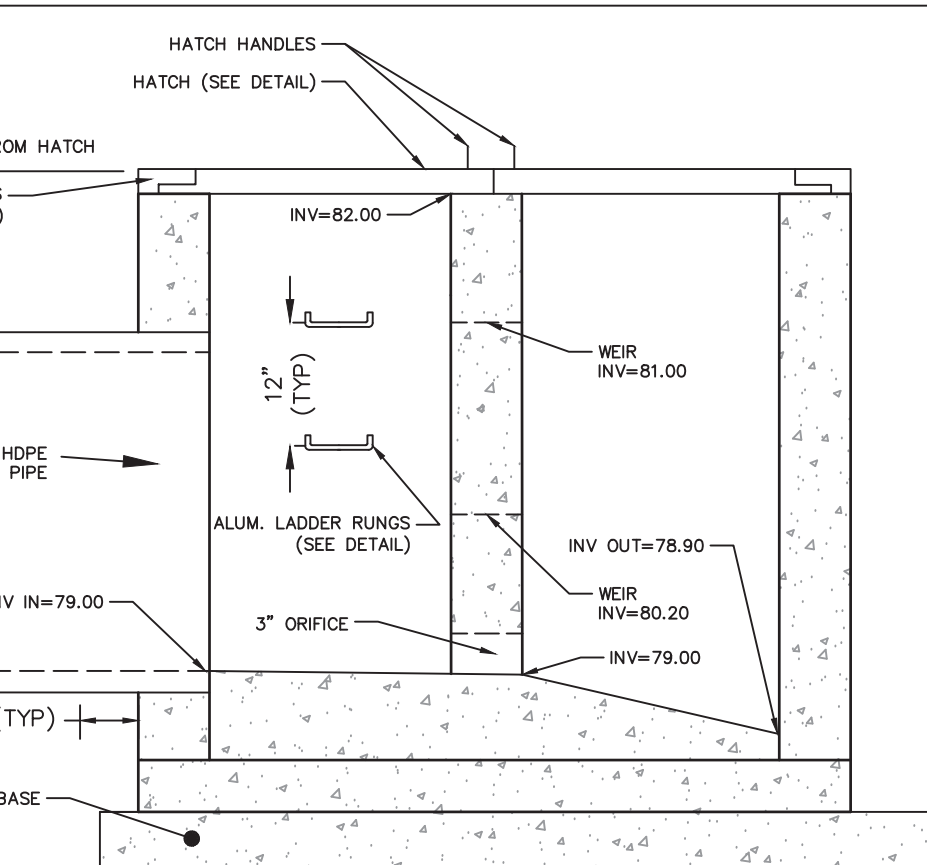
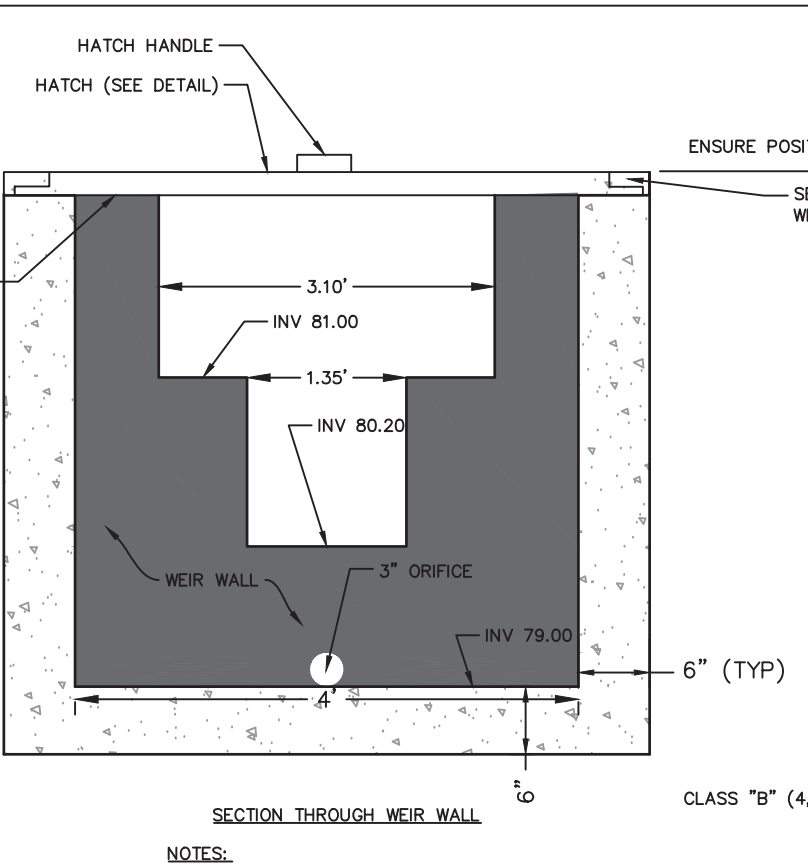


**TYPICAL STORM SEWER TRENCH LAWN OR EASEMENT AREA**

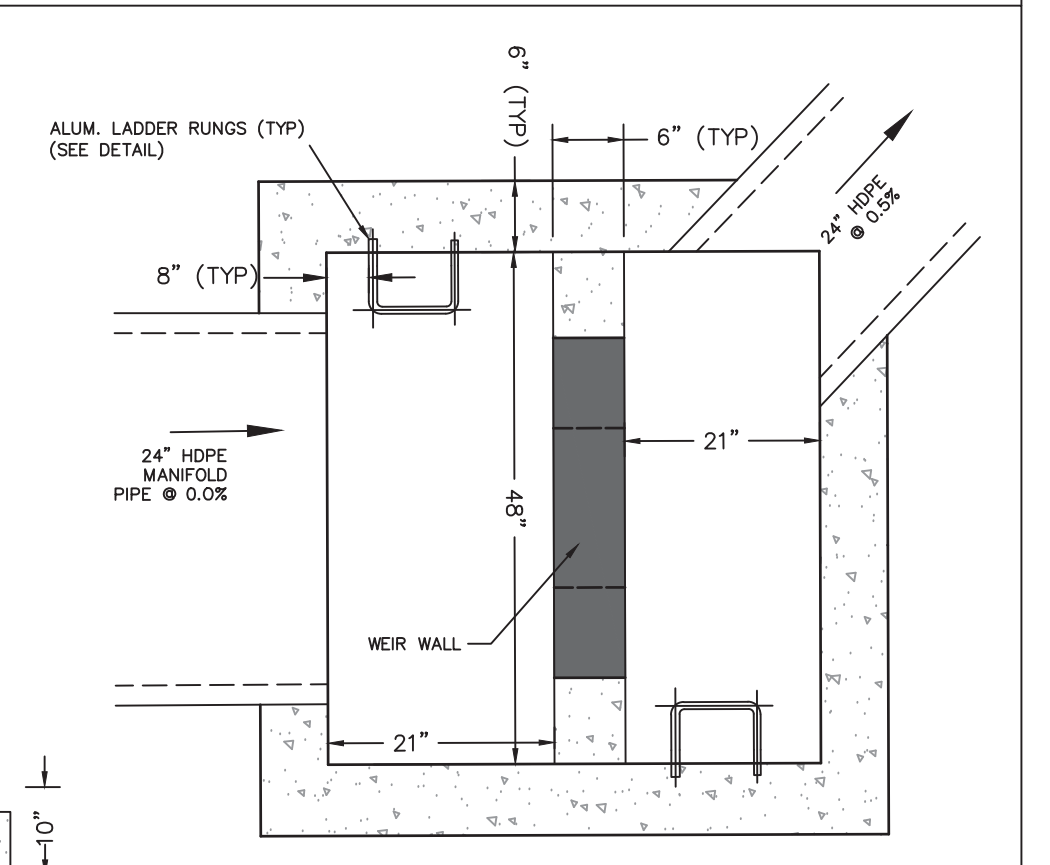


**STORM SEWER TRENCH IN PAVEMENT**

**ROOF DOWNSPOUT CONNECTION**

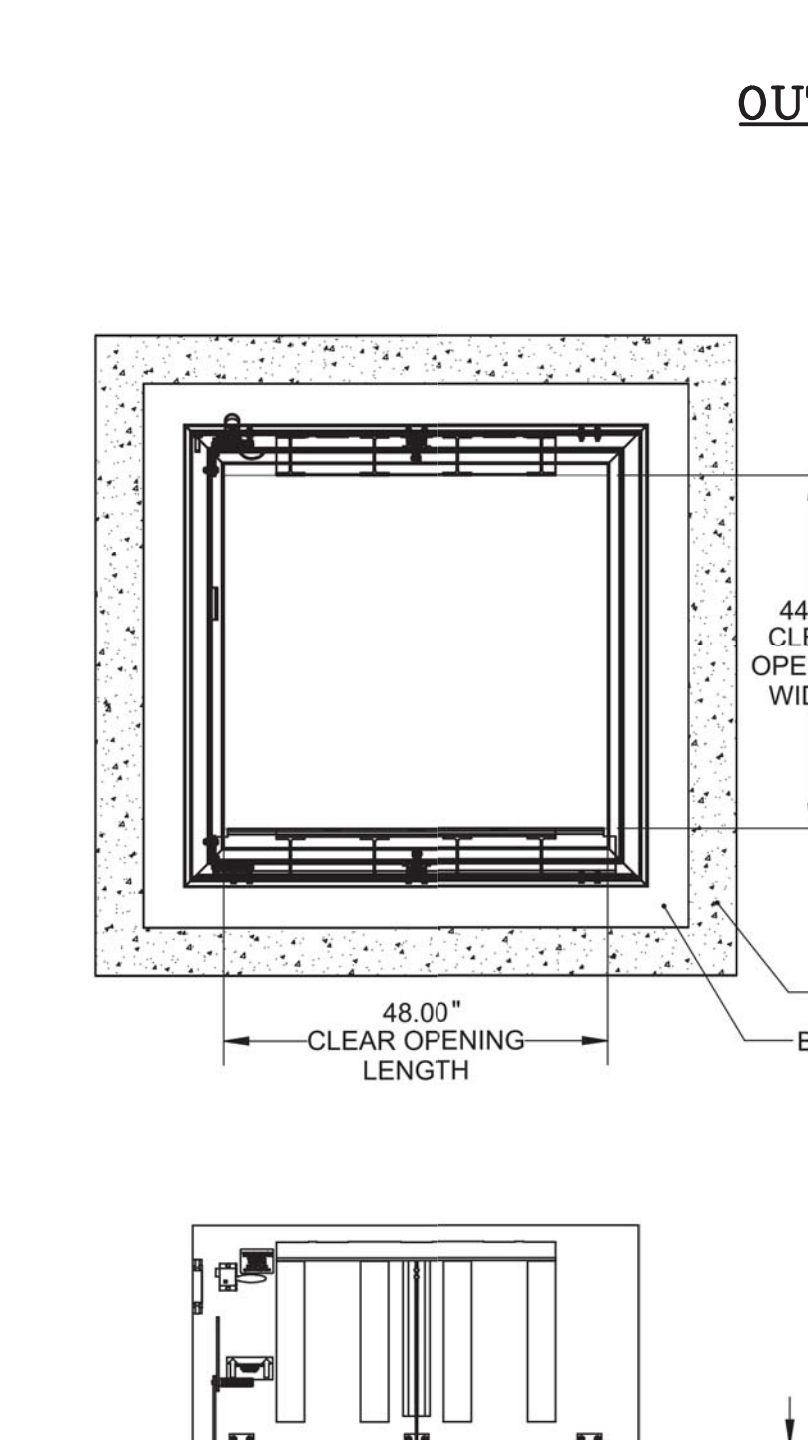


**OUTLET CONTROL STRUCTURE #1**

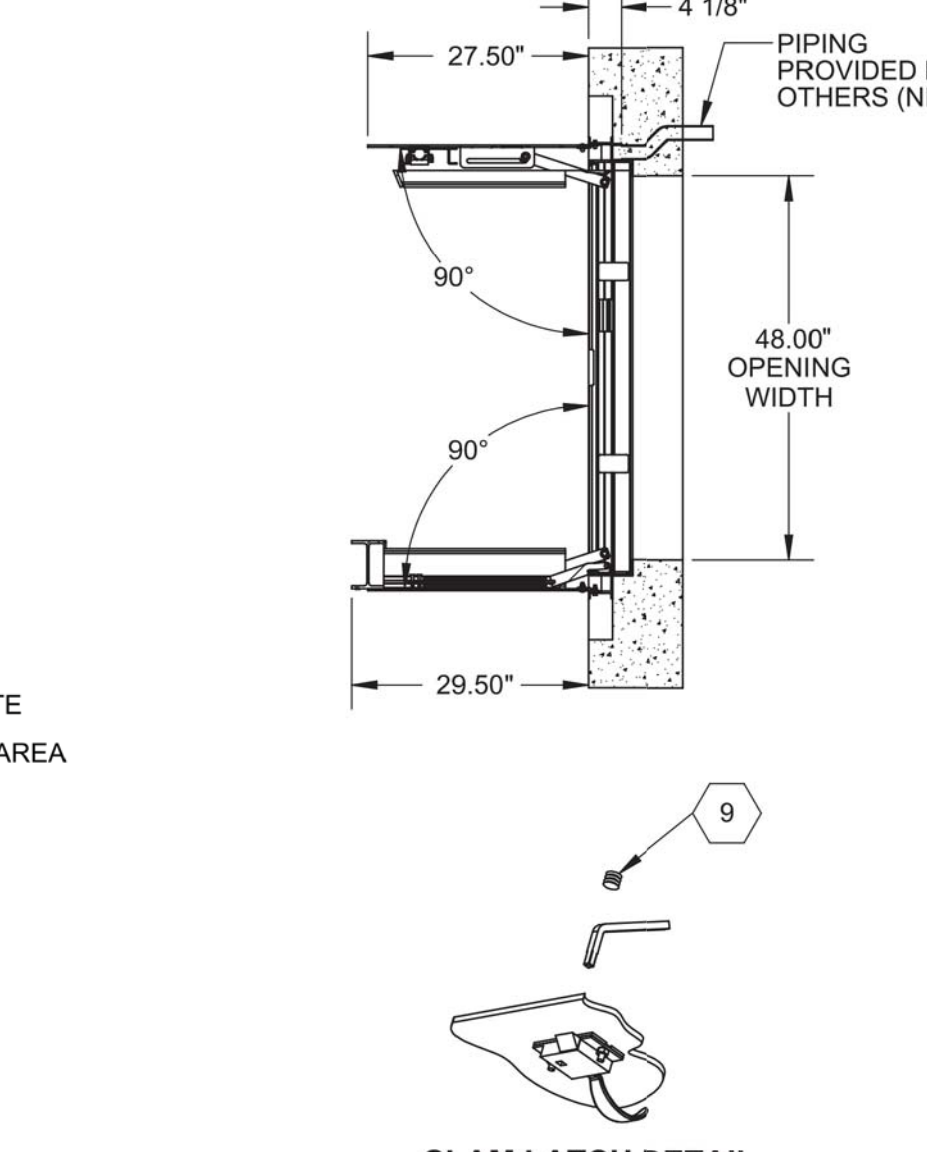


**WEIR PLATE DETAIL**

**OUTLET CONTROL STRUCTURE #2 DETAILS**

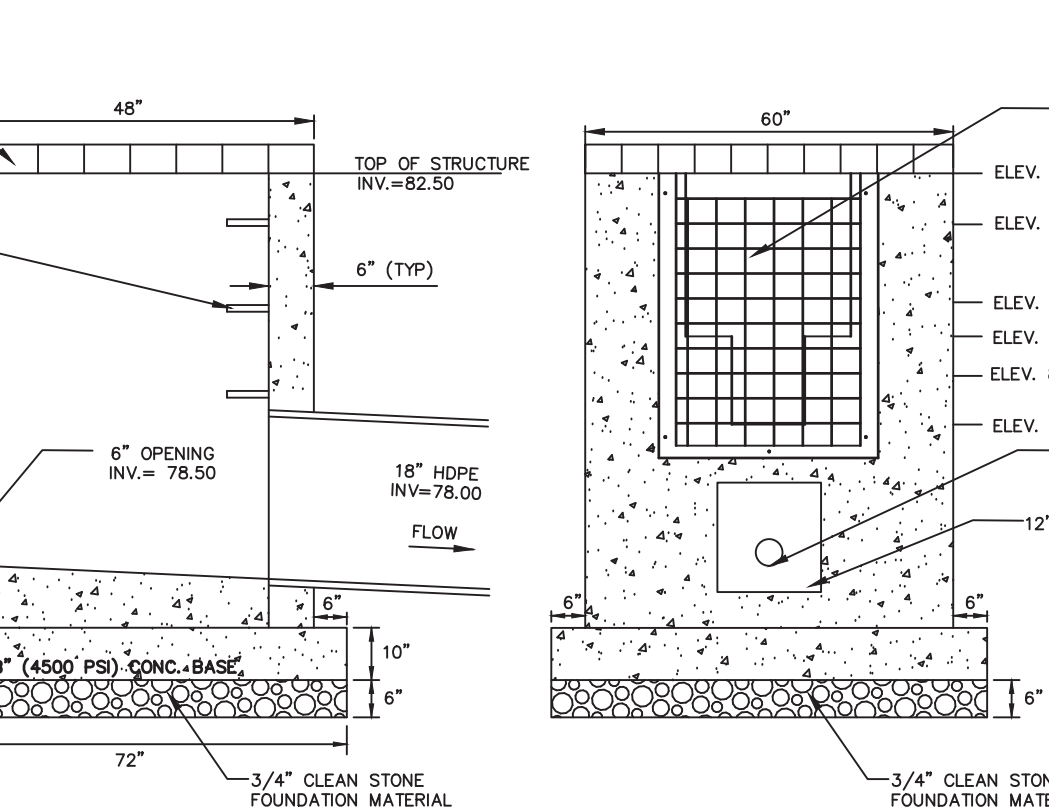
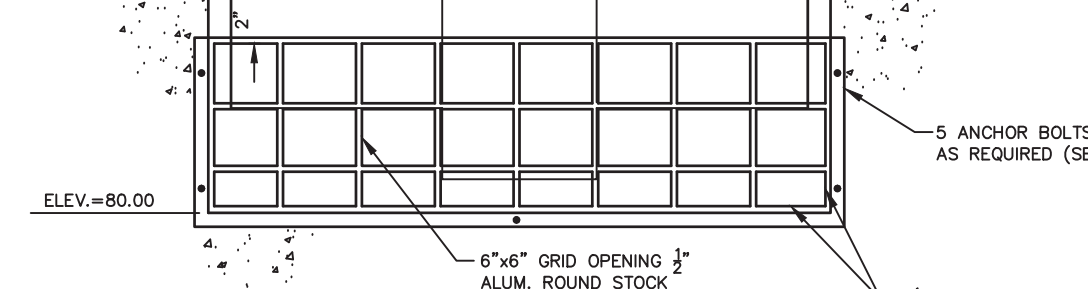


**OUTLET CONTROL STRUCTURE #2 DETAILS**



**SLAM LATCH DETAIL**

**TRASH RACK FOR WEIR**

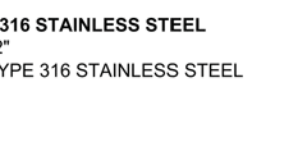


**TRASH RACK FOR ORIFICE**

**ANCHOR BOLT**

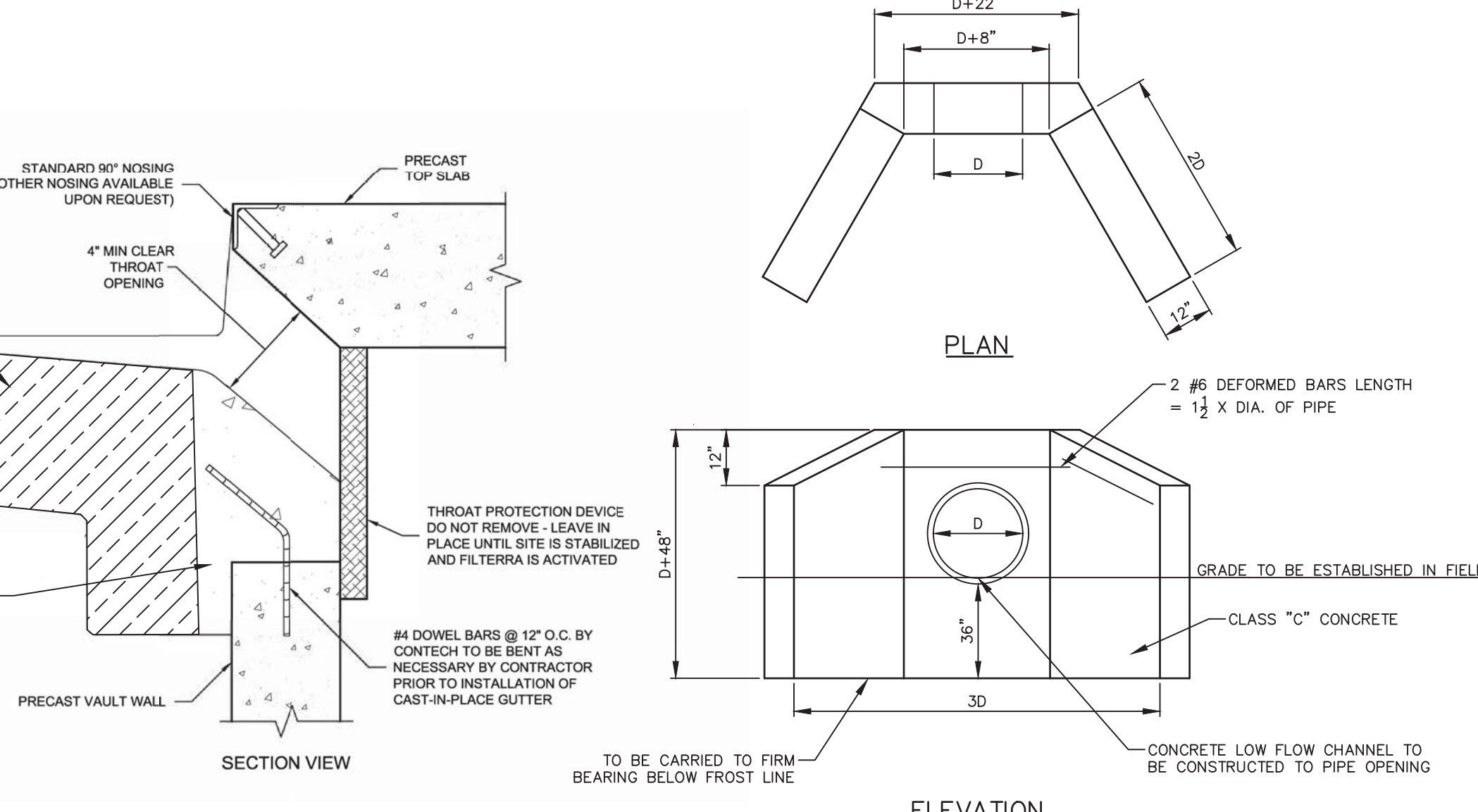


**TRASH RACK HINGE ASSEMBLY**

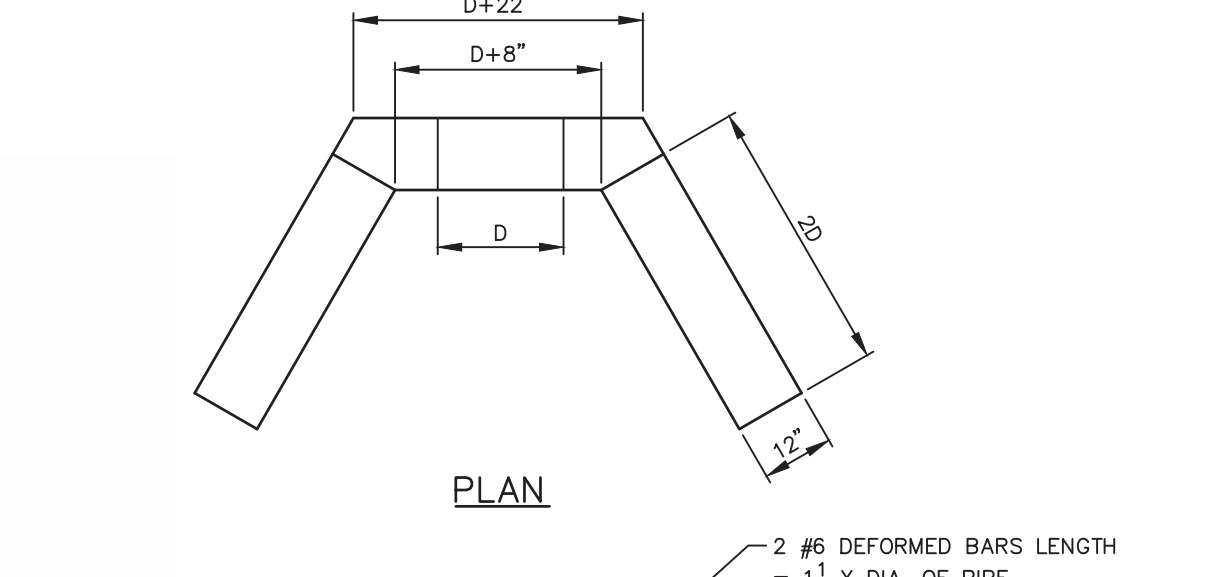


PART#: FDDSA48K48DFL TITLE: FD, Drainable HS20, DBI Dr. Alum. 14\" Dmd. MR, Castor, SSI Epoxy Adhesive, 316 SST HDW, Castor, Slam Latch Removal L Hr

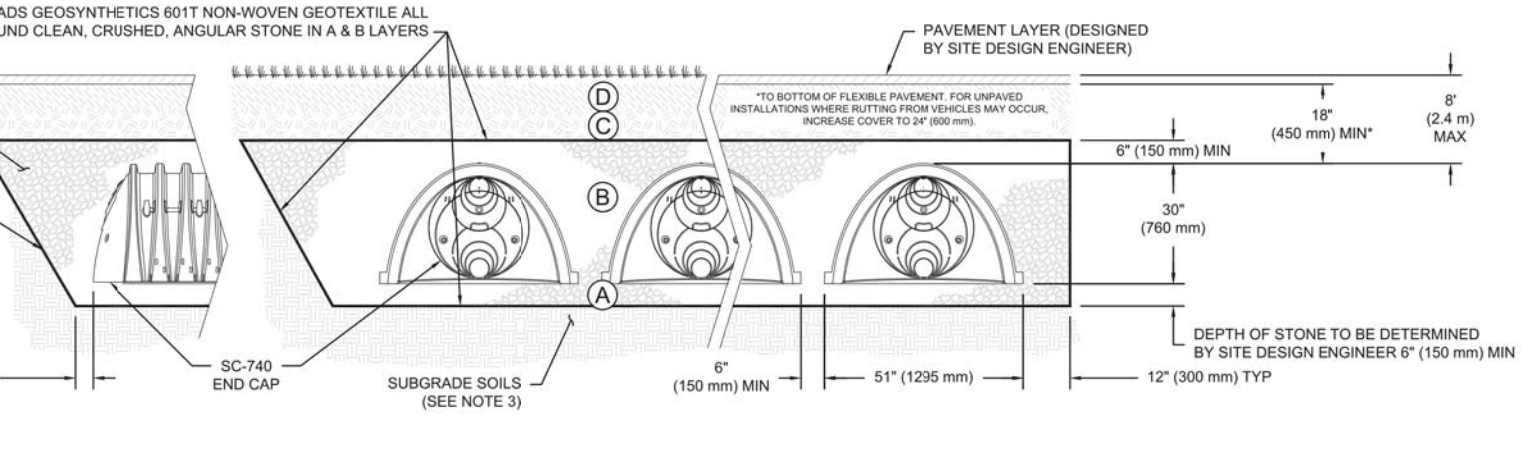
**OUTLET STRUCTURE HATCH DETAIL**



**FILTERRA UNIT THROAT AND GUTTER DETAIL**



**PRECAST CONCRETE WINGWALL DETAIL**



**UNDERGROUND BASIN CROSS SECTIONS**

**GENERAL PAVING NOTES**

- 1. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER IN WRITING 48 HOURS PRIOR TO PAVING.
- 2. ON THE DAY OF PAVING, THE SUBGRADE SHALL BE PROOF ROLLED WITH A 10 TON, THREE WHEEL ROLLER AND APPROVED BY THE TOWNSHIP ENGINEER. THE SUBGRADE SHALL BE FREE OF LARGE ROCKS AND ORGANIC MATERIALS AND SHALL BE COMPACTED. THE TOWNSHIP ENGINEER MAY REQUEST THAT A DENSE GRADED AGGREGATE SURBASE BE INSTALLED IF CONDITIONS WARRANT THE SAME.
- 3. ALL SUBGRADES SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- 4. ALL CURBING SHALL BE INSTALLED OR REPAIRED AND APPROVED PRIOR TO THE INSTALLATION OF ANY PAVING.
- 5. INSTALLATION METHODS AND MATERIALS FOR ALL BITUMINOUS CONCRETE SHALL FOLLOW THE PROCEDURES AND SPECIFICATIONS OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION.
- 6. PAVING SHALL NOT TAKE PLACE WHILE RAINING.
- 7. ALL BITUMINOUS STABILIZED BASE MATERIAL SHALL BE HOT MIX 1-2 CONFORMING TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1983, AS AMENDED OR SUPPLEMENTED.
- 8. ALL F.A.B.C. WEARING SURFACE (TOP COURSE) MATERIAL SHALL BE HOT MIX 1-3 CONFORMING TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1983, AS AMENDED OR SUPPLEMENTED.
- 9. PRIOR TO THE PLACEMENT OF THE TOP COURSE, THE PAVEMENT SHALL BE SWEEP. ANY AREAS OF DISTRESSED PAVEMENT SHALL BE REPLACED AT THE DISCRETION OF THE TOWNSHIP ENGINEER AND A TACK COAT OF 0.10 GALLONS PER SQUARE YARD OR AS CONDITIONS WARRANT SHALL BE APPLIED.
- 10. WHEN AN EXISTING PAVEMENT IS TO BE OVERLAIN, ALL DISTRESSED AREAS OF THE EXISTING PAVEMENT SHALL BE REPAIRED AS DESCRIBED IN NO. 9 ABOVE. THE EXISTING PAVEMENT SHALL BE SWEEP, TACKED WITH 0.10 GALLONS OF TACK COAT PER SQUARE YARD AND RECEIVE A LEVELING COURSE OF STABILIZED BITUMINOUS BASE 1B 1-2. THE TOP COURSE SHALL BE APPLIED IMMEDIATELY FOLLOWING THE LEVELING COURSE TO ASSURE A GOOD BONDING SURFACE.
- 11. THE GENERAL REVISION OR CHANGE OF HOWEVELL TOWNSHIP REQUIRES THAT THE STABILIZED BASE COURSE BE CONTINUED UP TO AND ALONG THE PROEDGE OF THE LOT ON WHICH A BUILDING OR STRUCTURE IS TO BE ERRECTED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

**CONCRETE NOTES**

- A. PRECAST CONCRETE INLETS AND MANHOLES MAY BE SUBSTITUTED FOR CAST-IN-PLACE STRUCTURES PROVIDING THAT THEY CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS:
- 1. INLETS -
- a. CONCRETE SHALL BE N.I.D.O.T. CLASS B.
- b. REINFORCING STEEL, IF REQUIRED FOR HANDLING, SHALL HAVE A MINIMUM OF 2" OF COVER.
- c. WALL THICKNESS - 8" MINIMUM
- d. BASE THICKNESS - 8" MINIMUM
- 2. MANHOLES -
- a. SHALL MEET THE REQUIREMENTS OF A.S.T.M. C 478 LATEST EDITION.
- b. JOINTS SHALL BE O-RING TYPE CONFORMING TO THE REQUIREMENTS OF A.S.T.M. C 381 AND C 443 LATEST EDITION.
- B. PRECAST STRUCTURES MAY BE USED IN ONLY THOSE AREAS WHERE THERE IS NO CONFLICT WITH EXISTING UNDERGROUND STRUCTURES WHICH MAY NECESSITATE THE REVISION OF INVERTS.
- C. PRECAST STRUCTURES SHALL BE PLACED ON A 6 INCH (MIN.) BED OF COMPACTED COARSE AGGREGATE, SEE NO. 2.
- D. ALL CONCRETE SHALL BE MINIMUM 4,500 P.S.I., AIR ENTRAINED. ALL ALUMINUM TO COME IN CONTACT WITH CONCRETE, SHALL BE COATED WITH ASPHALTIC PAINT TO PREVENT OXIDATION.
- E.

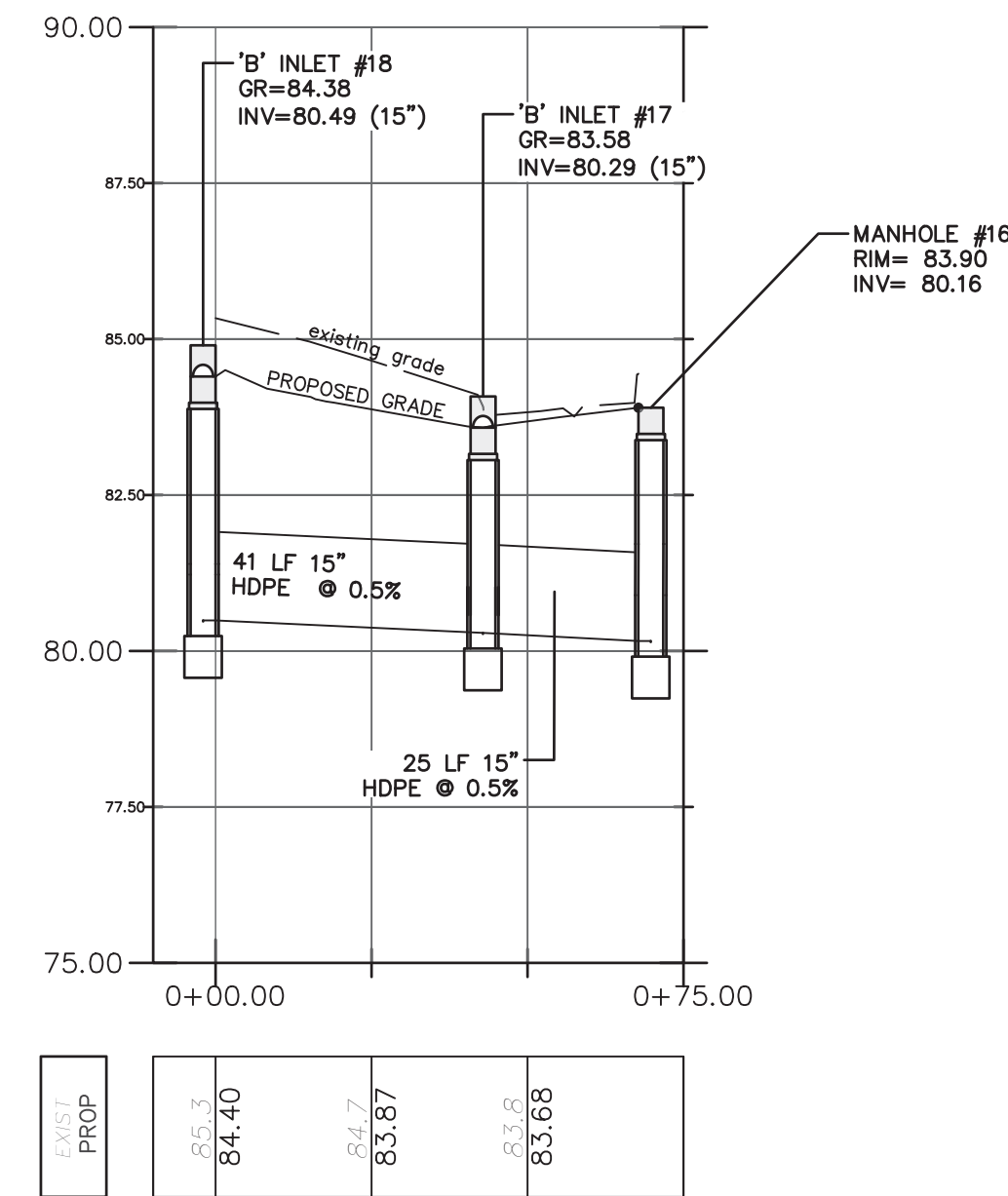
HOPEWELL VALLEY ENGINEERING, PC ENGINEERS, PLANNERS & LAND SURVEYORS 1600 Reed Road, Suite A Pennington, NJ 08534-0002 Tel: 609-745-5800 Fax: 609-745-5807 www.hopewellvalleyengineering.com

CONSTRUCTION DETAILS OF SPRUCE STREET APARTMENTS LOT 39 IN BLOCK 701 SITUATE IN LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

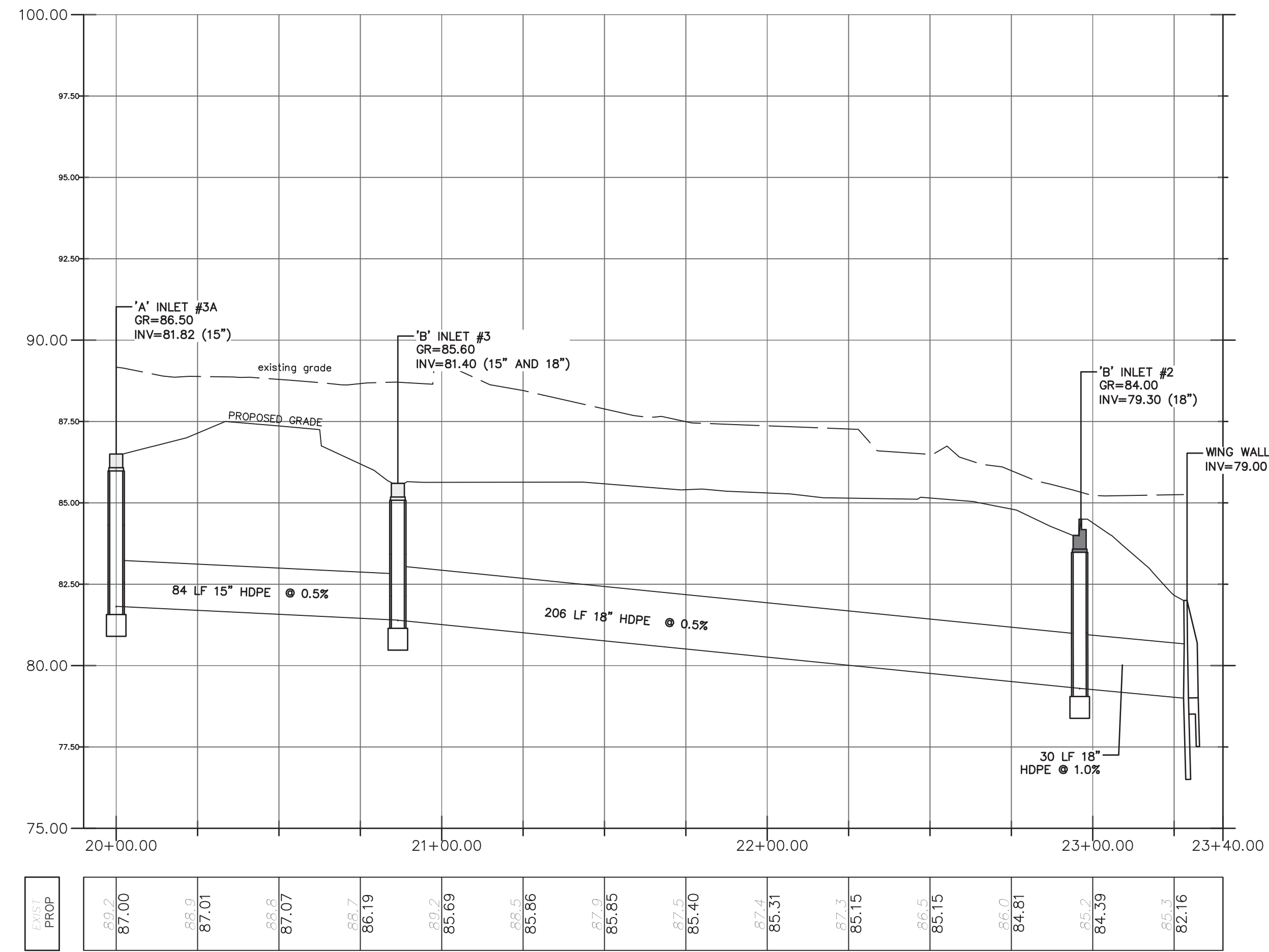
Digitally signed by Russell M Smith Date: 2021.11.23 10:40:29 -0500

RUSSELL M. SMITH P.E. PROFESSIONAL ENGINEER

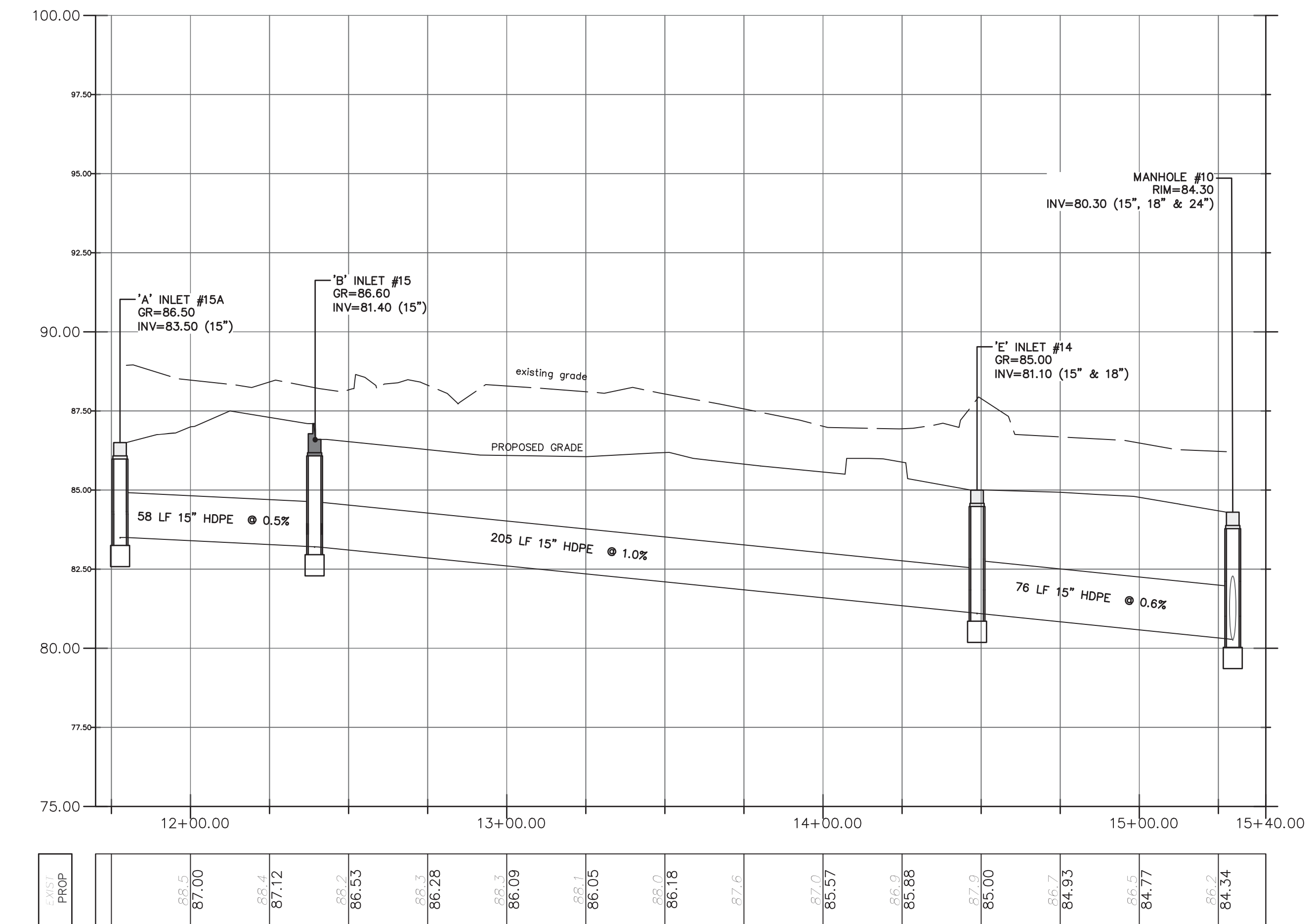
PLOT DATE: 11/18/21 (2:52 PM); FILE NAME: FDDSA48K48DFL.DWG; USER: J. W. R...; PLOT...; NO. 0010; USER: J. W. R...



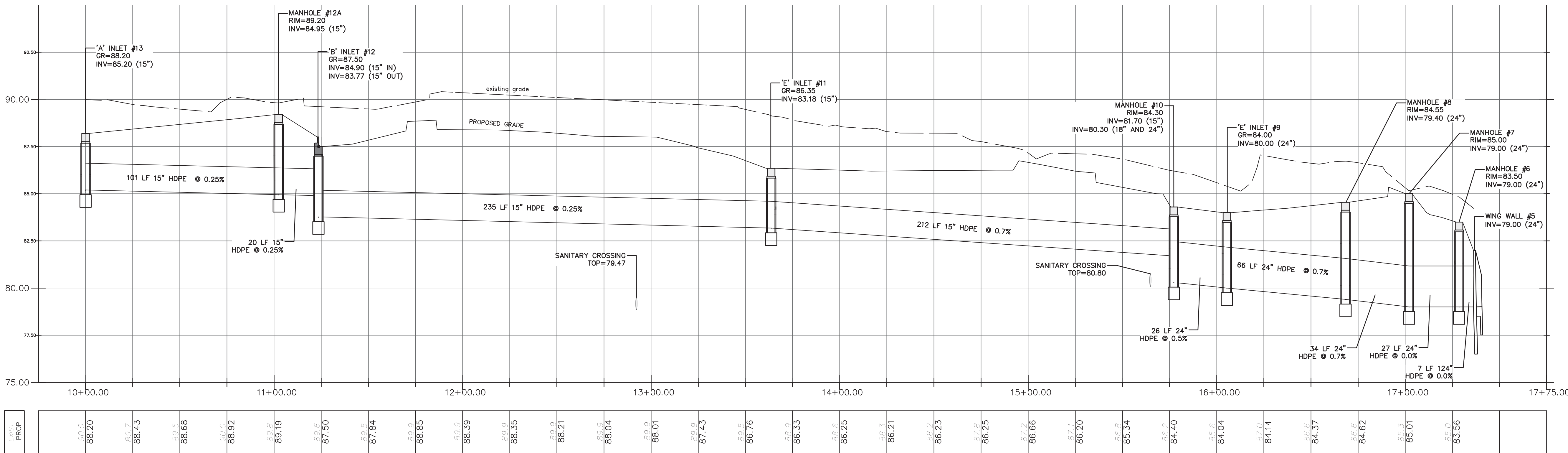
STORM SEWER PROFILE  
'B' INLET #18 TO MANHOLE #16



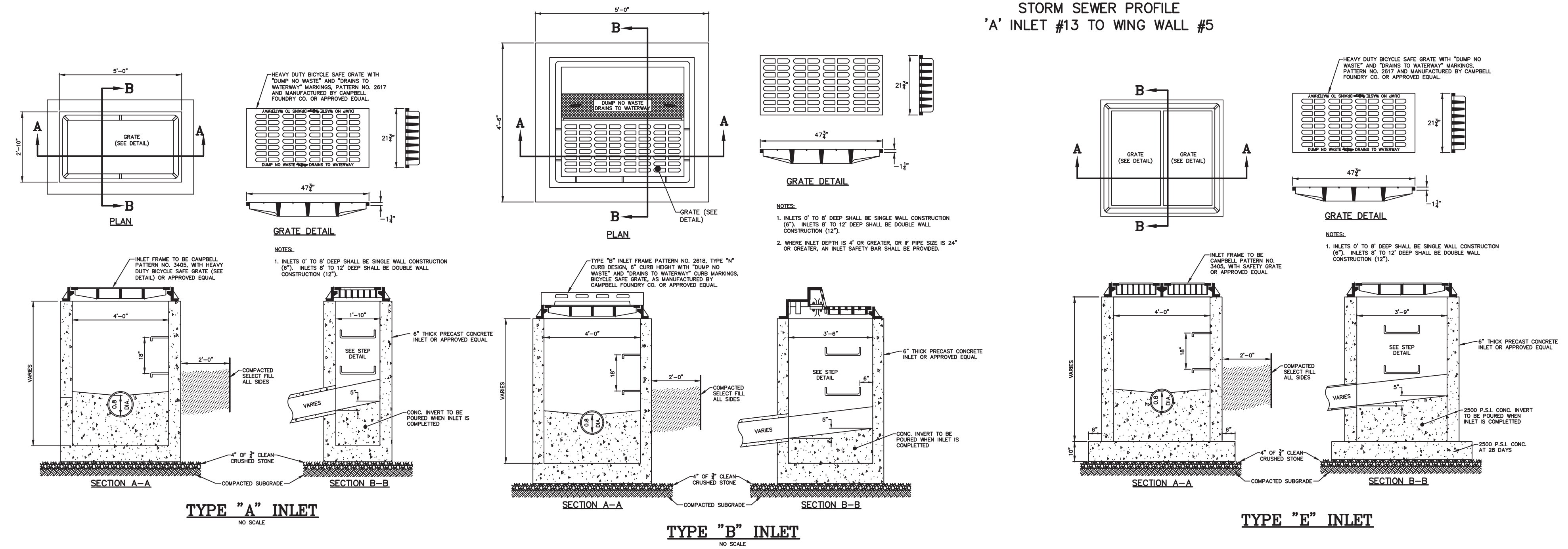
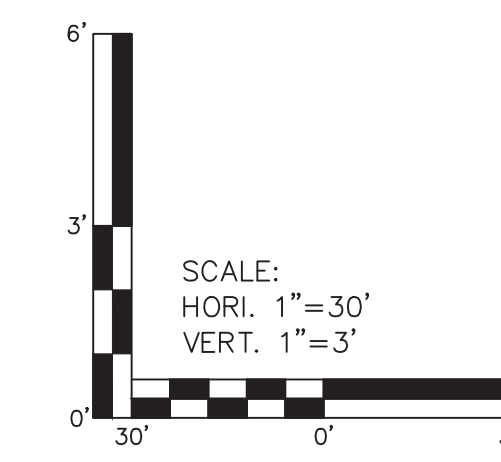
STORM SEWER PROFILE  
'A' INLET #3A TO WING WALL #1



STORM SEWER PROFILE  
'A' INLET #15A TO MANHOLE #10



STORM SEWER PROFILE  
'A' INLET #13 TO WING WALL #5



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS  
1600 Reed Road, Suite A  
Pennington, NJ 08534-5002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

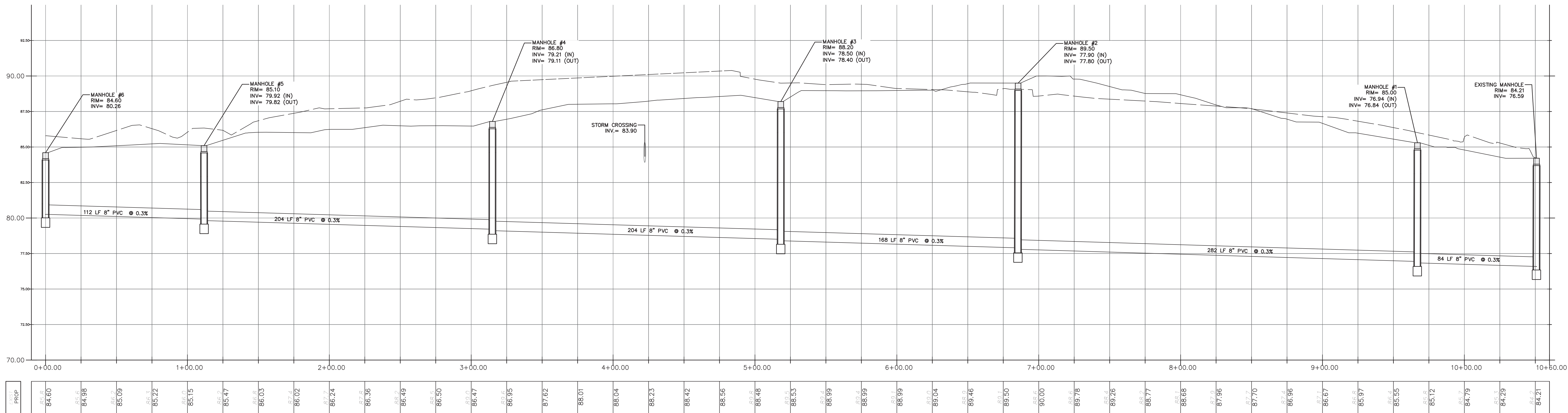
DATE: 11/18/21  
SCALE: NO SCALE  
BY: AWS  
CHECKED: RMS  
PROJECT: 1107570A / PA/VA  
DRAWING: SPO1537C - NO VPS

STORM PROFILES AND INLET DETAILS  
OF  
SPRUCE STREET APARTMENTS  
LOT 39 IN BLOCK 701  
SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

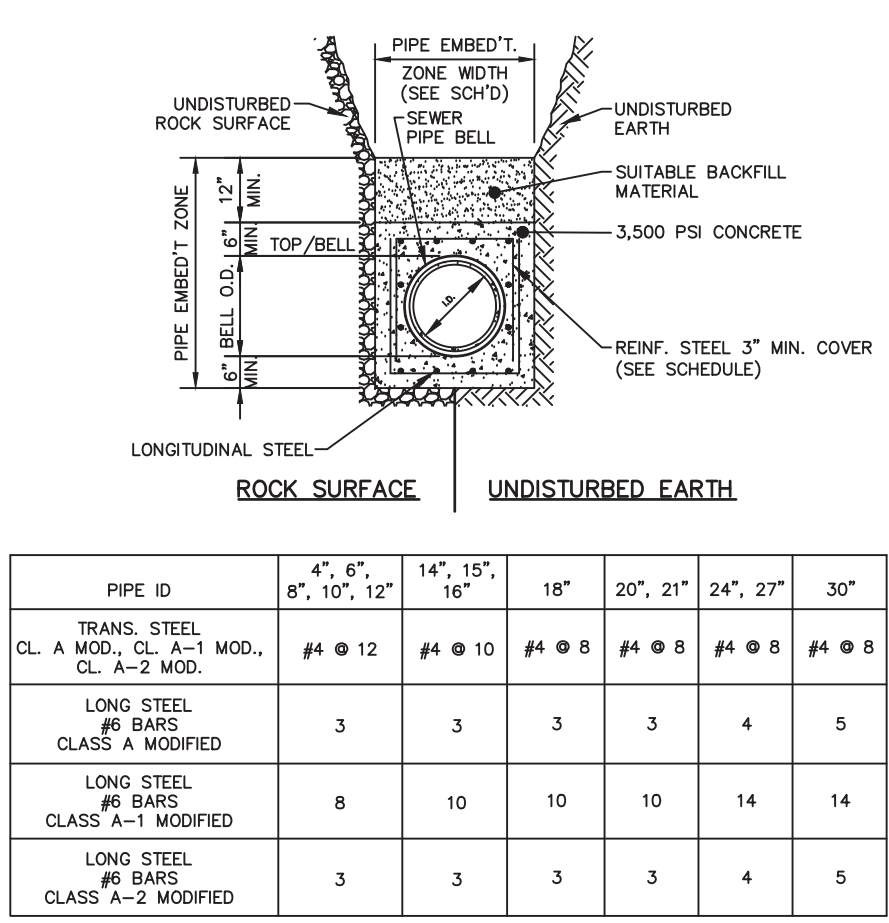
Digitally signed by  
Russell M Smith  
Date: 2021.11.23  
10:39:51 -05'00'

**RUSSELL M. SMITH**  
N.J. PROFESSIONAL ENGINEER NO. 33065

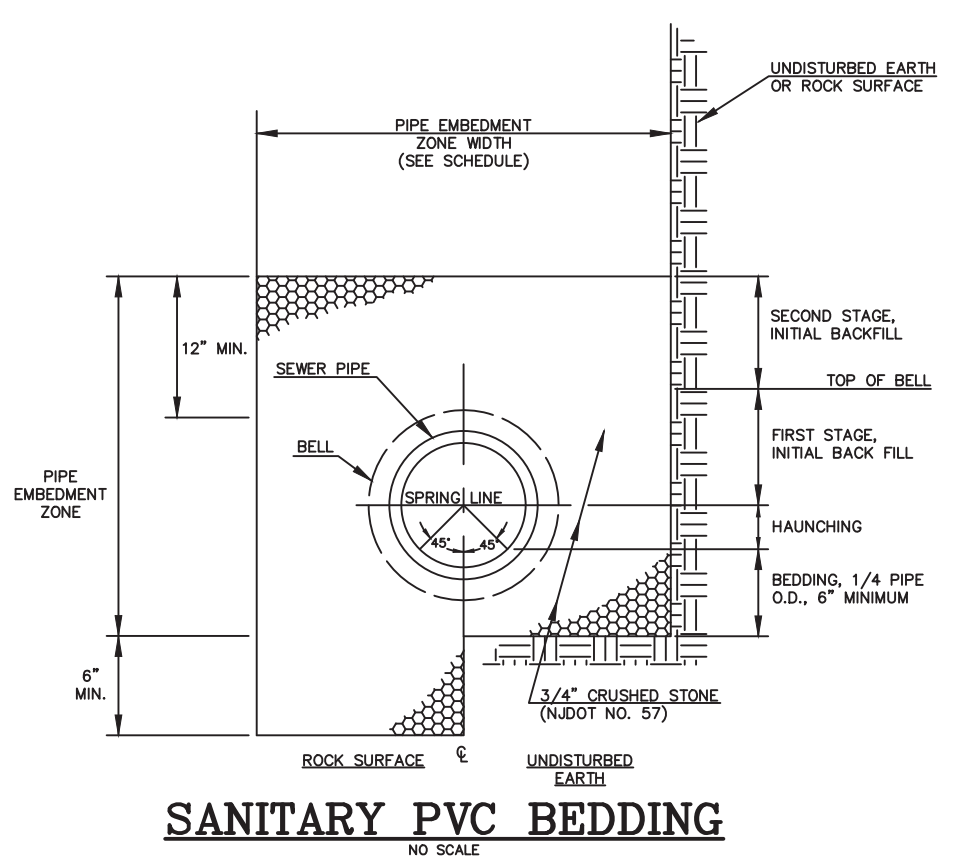
Sheet 10 of 14



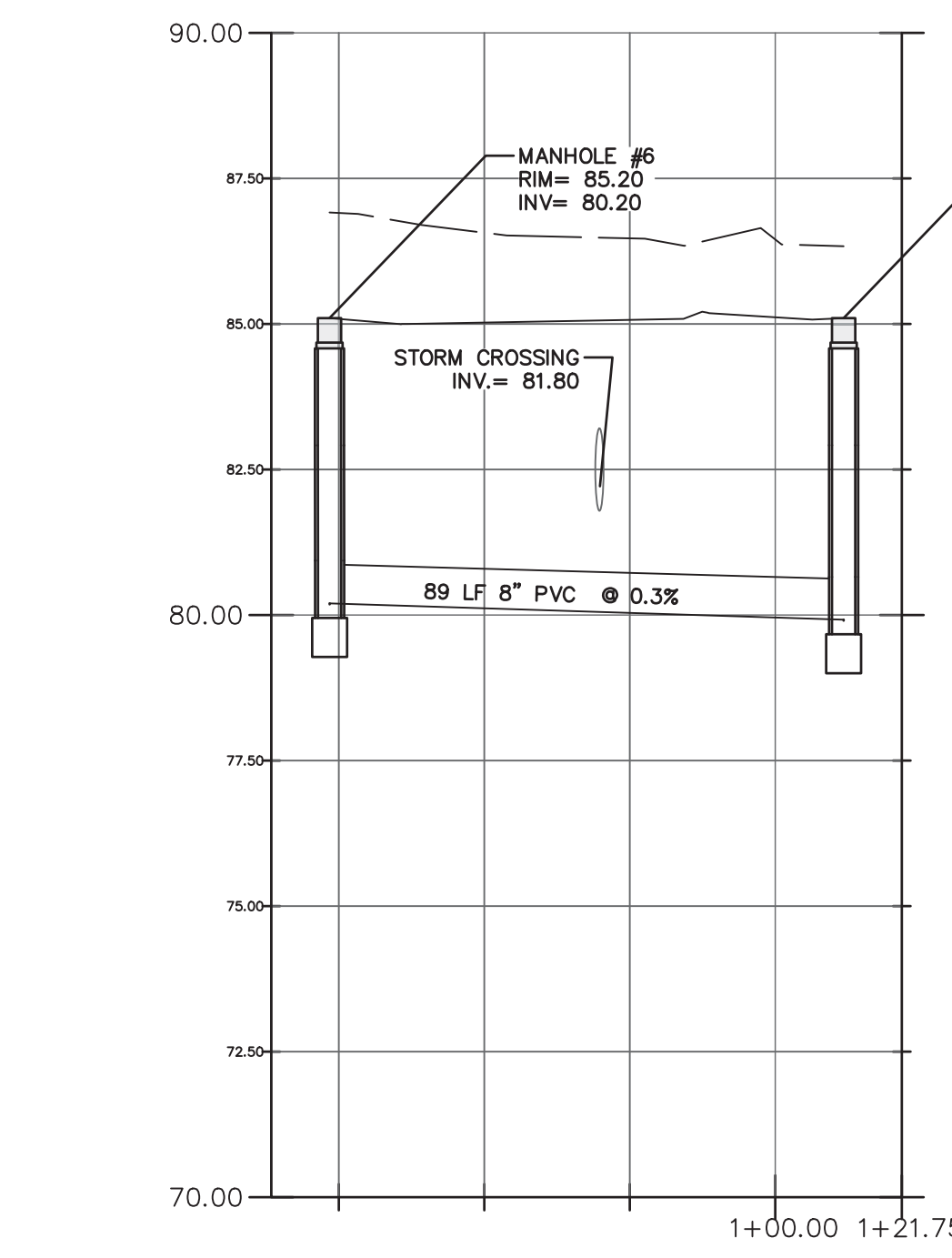
SANITARY SEWER PROFILE  
MANHOLE #7 TO EXISTING MANHOLE



SANITARY FULL ENCASEMENT  
NO SCALE

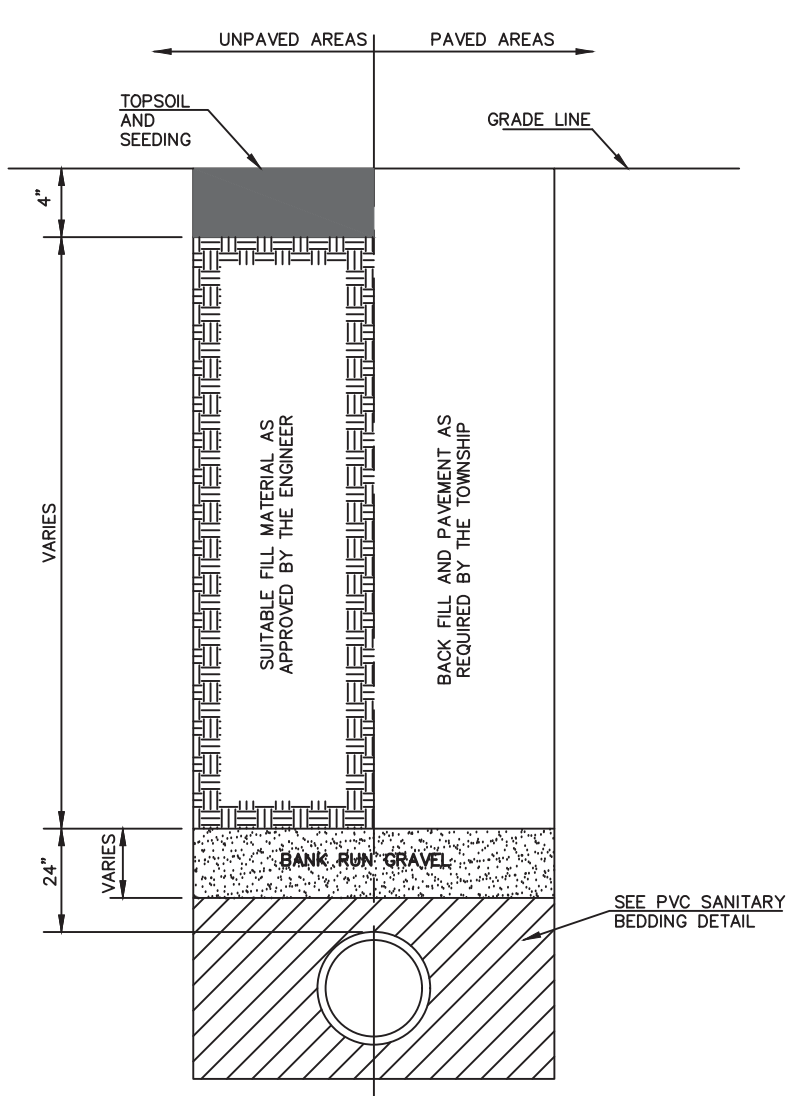


SANITARY PVC BEDDING  
NO SCALE

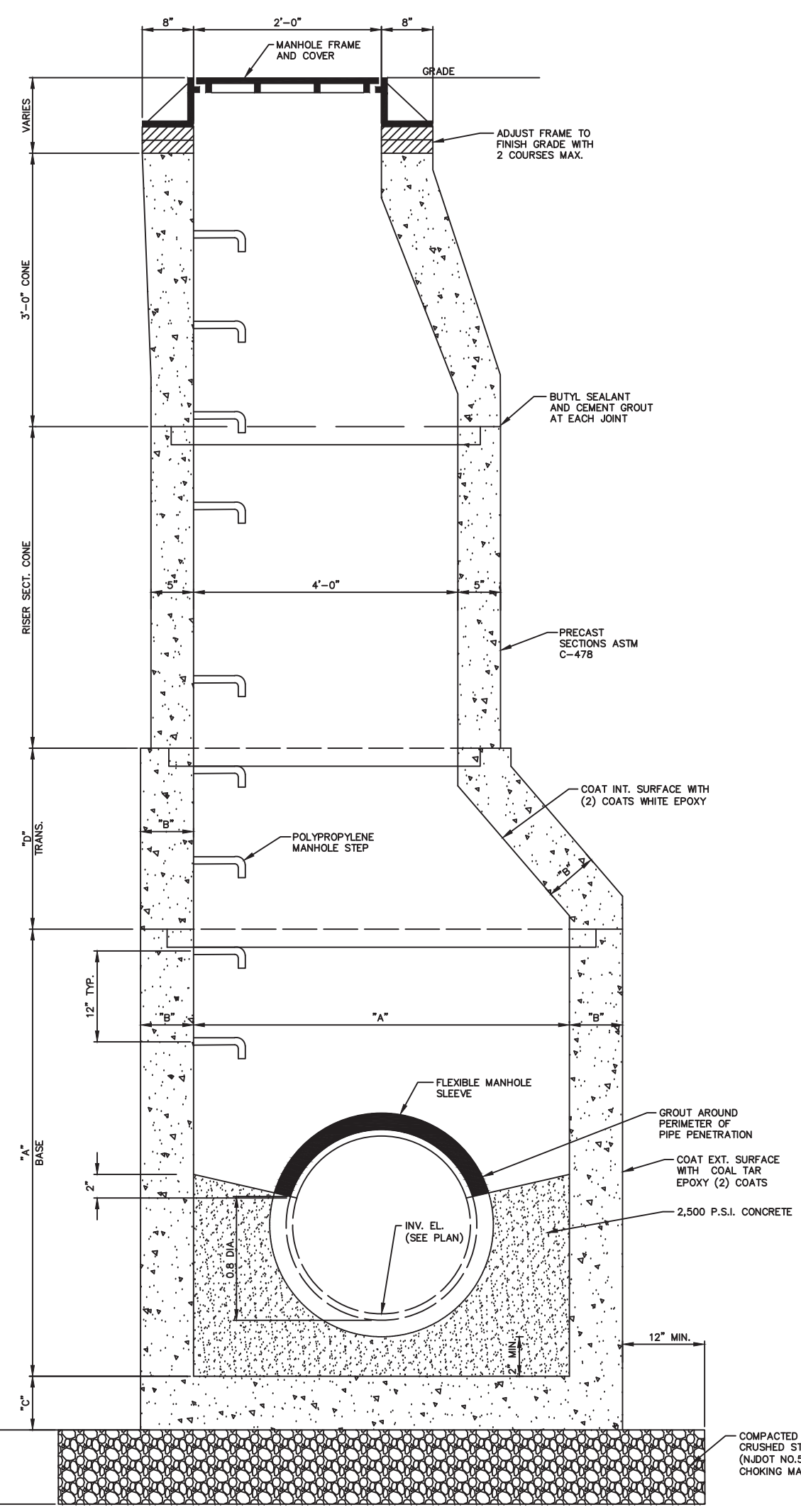


PROP	85.09	85.02	85.07	85.12
------	-------	-------	-------	-------

SANITARY SEWER PROFILE  
MANHOLE #6 TO MANHOLE #5

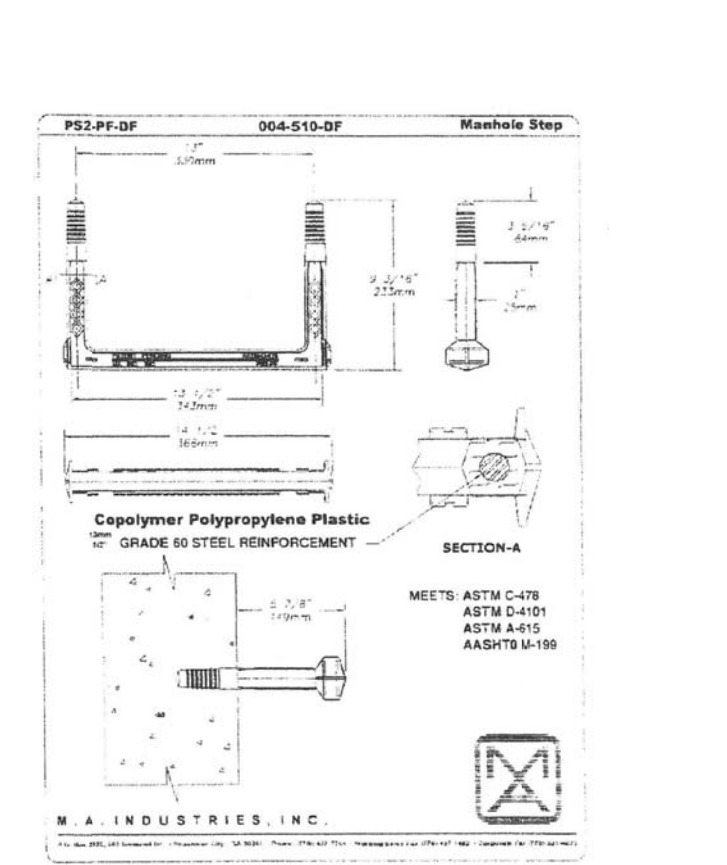


SANITARY TRENCH DETAIL  
NO SCALE

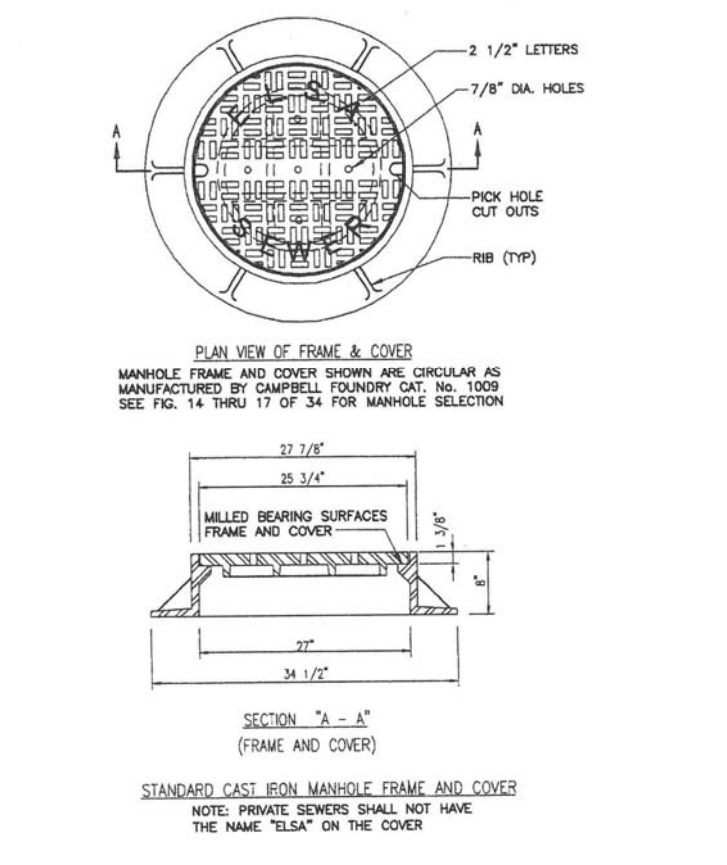


- MANHOLE NOTES:**
- SEWER SHALL BE USED AT MANHOLES.
  - EXTERIOR SURFACES SHALL BE PAINTED WITH (2) COATS OF BITUMINOUS WATERPROOFING MATERIAL. INTERIOR SHALL BE PAINTED WITH (2) COATS OF WHITE PRIMER.
  - ALL CONSTRUCTION SHALL MEET STANDARD SPECIFICATIONS, THE LATEST REVISIONS.
  - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST E.S.D.A. STANDARDS WHERE POSSIBLE.
- PRECAST CONCRETE MANHOLE (ASTM C-478)**
- WHERE 6\"/>
  - BASES TO BE AS SHOWN IN THE SCHEDULE.
- BRICK OR CONCRETE BLOCK MANHOLES (NOT SHOWN)**
- BRICK OR CONCRETE BLOCK MANHOLES MUST BE APPROVED BY THE AUTHORITY.
  - OPENINGS MUST BE IDENTIFIED FOR ALL DETAILS.
  - WORK AT EXISTING MANHOLES
- THE CONTRACTOR SHALL CUT INTO THE MANHOLE AND COMPLETE A CONNECTION USING A SUITABLE ADAPTOR AS REQUIRED AND APPROVED BY THE AUTHORITY.
  - THE CONTRACTOR SHALL NOT INTERFERE WITH EXISTING SEWERAGE SERVICE DURING THE PERIOD OF CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP SAME OUT OF MANHOLE.
- | PIPE  | SIZE | EMBEDMENT | REVISIONS |
|-------|------|-----------|-----------|
| 8\"/> |      |           |           |

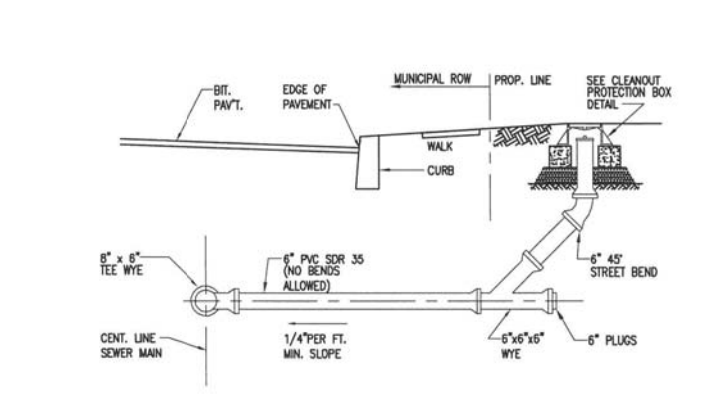
SANITARY PRECAST MANHOLE  
NO SCALE



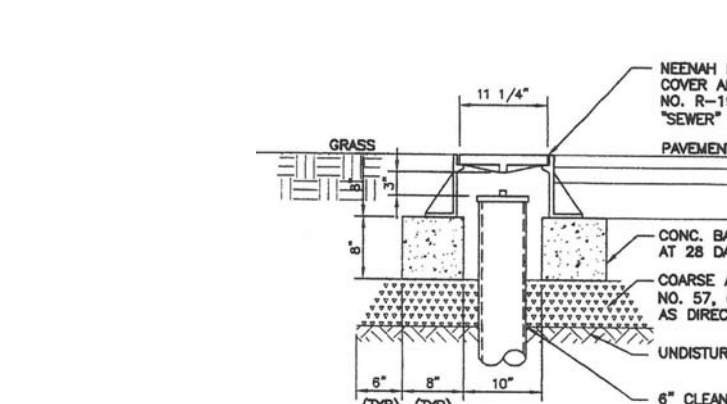
SANITARY MANHOLE STEP  
NO SCALE



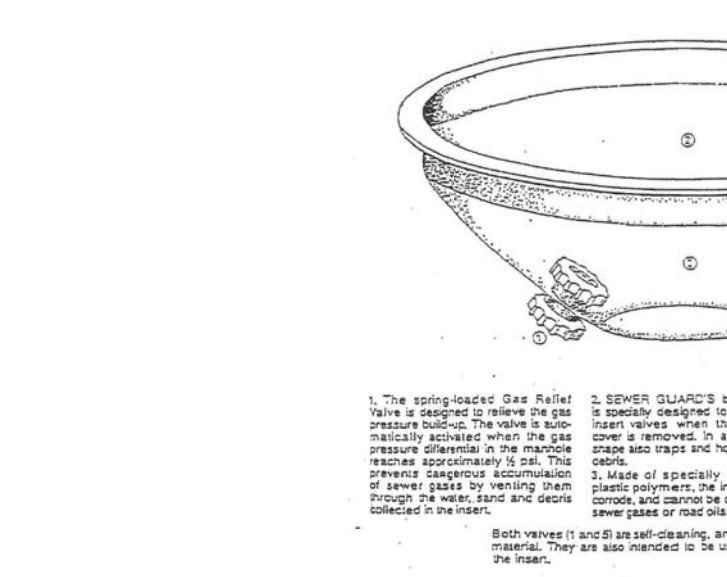
SANITARY MANHOLE COVER  
NO SCALE



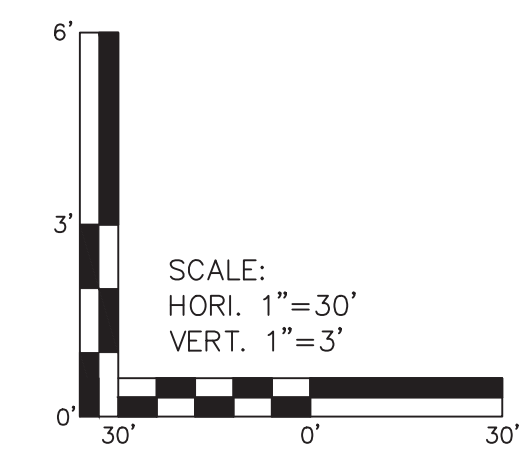
SANITARY CONNECTION LATERAL  
NO SCALE



SANITARY CLEANOUT PROTECTION BOX  
NO SCALE



SANITARY GAS RELEASE VALVE  
NO SCALE



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
ENGINEERS, PLANNERS & LAND SURVEYORS  
1600 Reed Road, Suite A  
Pennington, NJ 08634-5002  
Tel: 609-745-5800  
Fax: 609-745-5807  
www.hopewellvalleyengineering.com

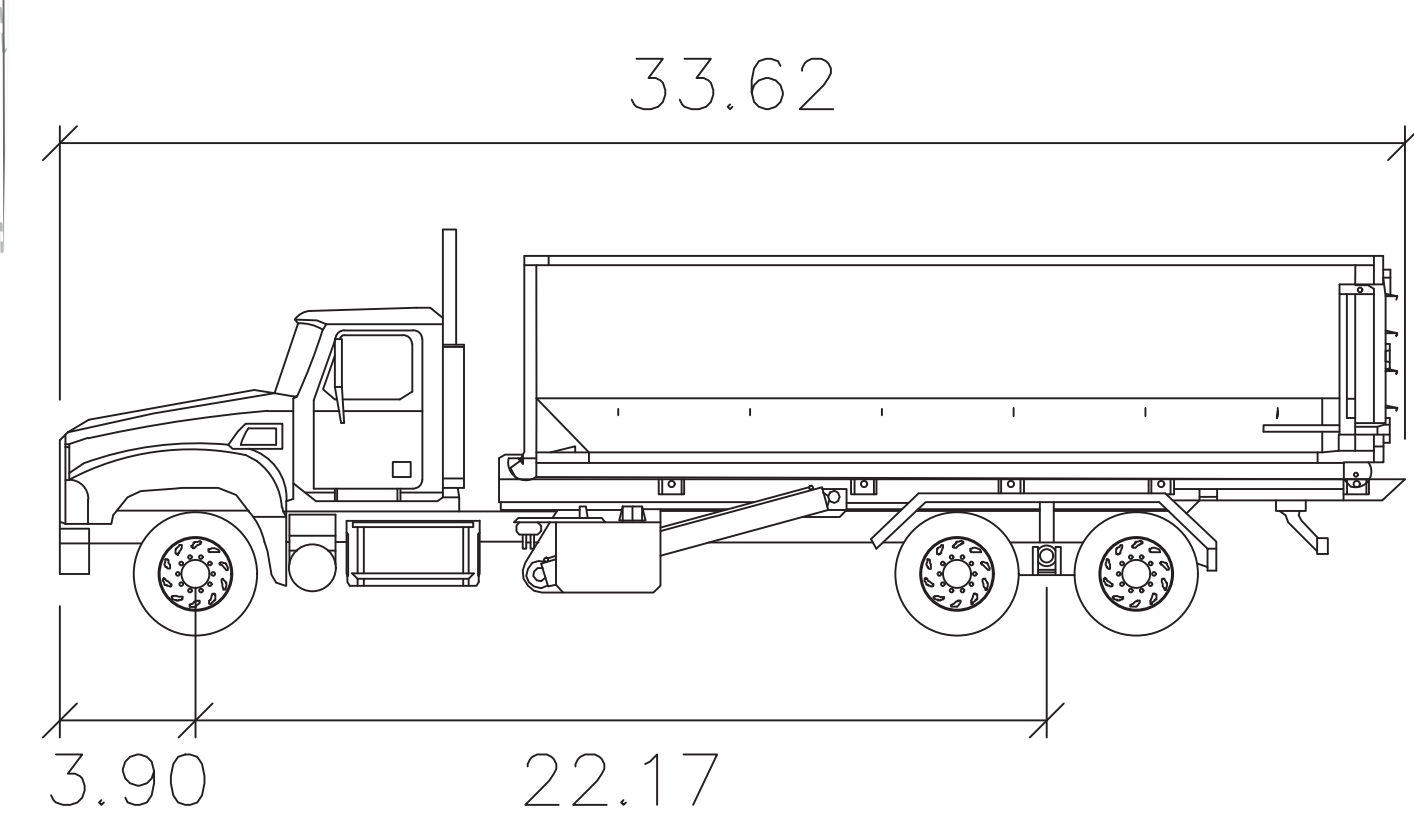
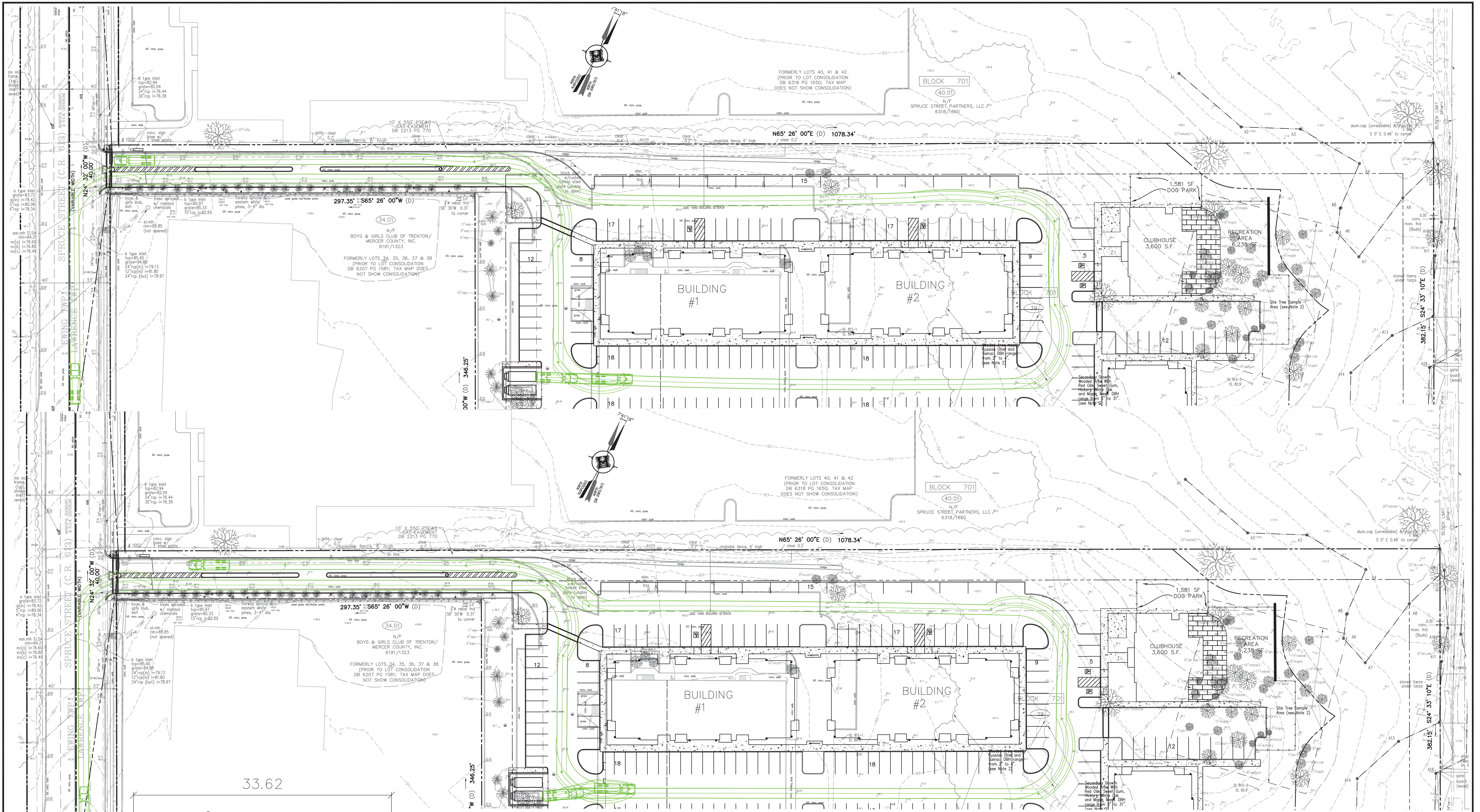
**SANITARY PROFILES AND DETAILS**  
OF  
**SPRUCE STREET APARTMENTS**  
LOT 39 IN BLOCK 701  
SITUATE IN  
LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

DATE: 11/18/21  
SCALE: NO SCALE  
BY: AWS  
CHECKED: RMS  
DESIGNED: JVA  
PROJECT: SP01537C - NO VPS

Professionally prepared by  
**RUSSELL M. SMITH**  
No. GE33065  
LICENSED PROFESSIONAL ENGINEER  
Date: 2021.11.23  
10:34:29 -05'07"

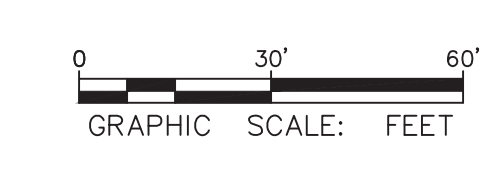
Digitally signed by  
**Russell M Smith**  
Date: 2021.11.23  
10:34:29 -05'07"

Sheet 11 of 14



ROLL OFF REFUSE TRUCK

Width : 8.17 feet  
 Track : 8.02 feet  
 Lock to Lock Time : 6.0 sec  
 Steering Angle : 32.7°



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
 ENGINEERS, PLANNERS & LAND SURVEYORS  
 1600 Reed Road, Suite A  
 Pennington, NJ 08534-5002  
 Tel: 609-745-5800  
 Fax: 609-745-5807  
 www.hopewellvalleyengineering.com

**REFUSE TRUCK CIRCULATION PLAN**  
 FOR  
**SPRUCE STREET APARTMENTS**  
 LOT 39 IN BLOCK 701  
 SITUATE IN  
 LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

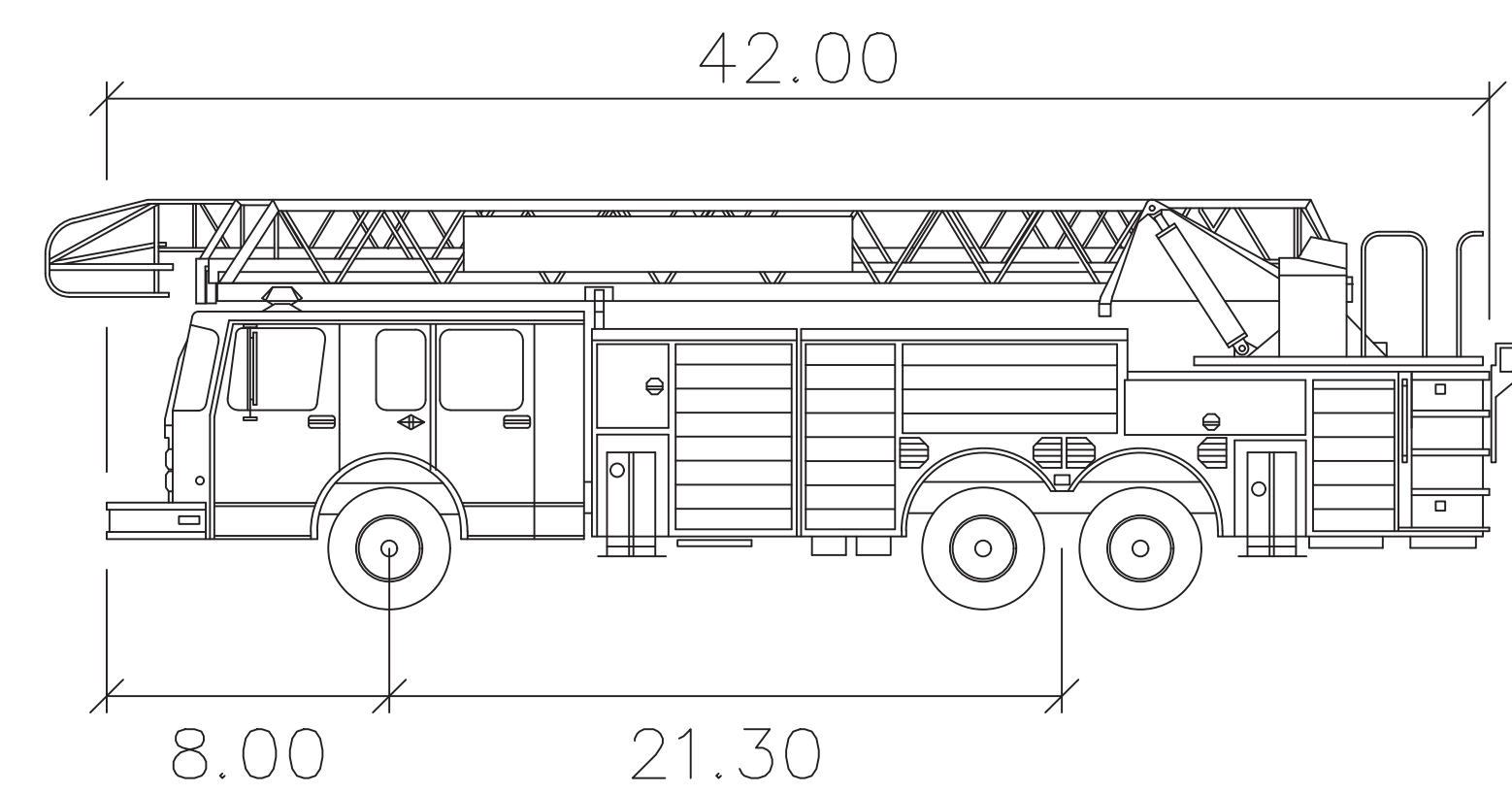
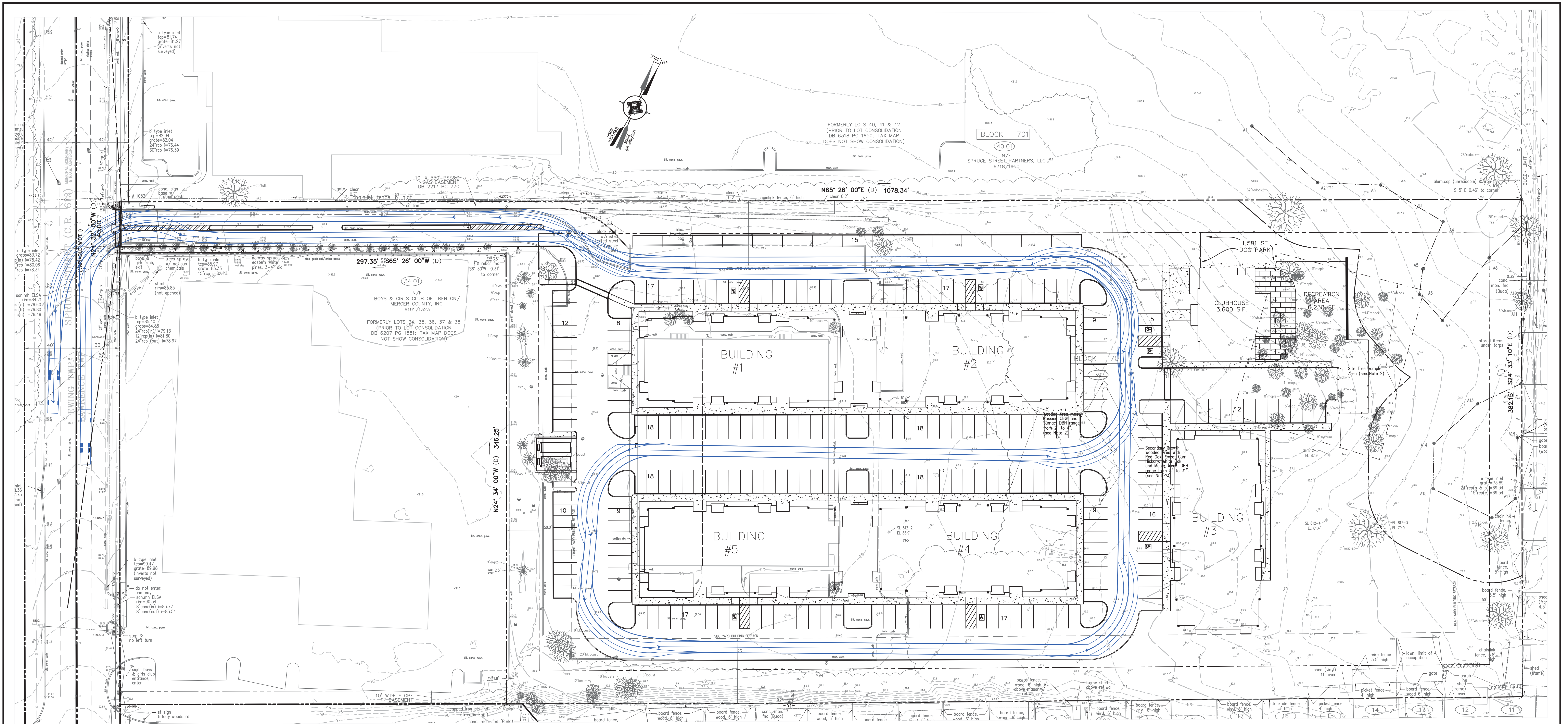
DATE: 11/18/21  
 SCALE: 1" = 30'  
 PROJ: AWS / RMS  
 DWG: 1107537C / 11" NA  
 REV: SPO1537C - VPS1

**RUSSELL M. SMITH**  
 No. GE33065  
 PROFESSIONAL ENGINEER

Digitally signed by  
 Russell M Smith  
 Date: 2021.11.23  
 10:26:38 -05'00'

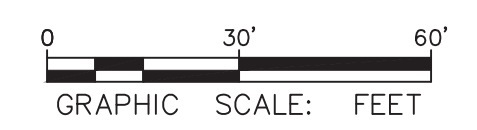
Sheet 12 of 14

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD



LAWRENCE TWSP FIRE TRUCK

Width	: 8.00 feet
Track	: 8.50 feet
Lock to Lock Time	: 6.0 sec
Steering Angle	: 24.1°



CAUTION: If this document does not contain the raised impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
 ENGINEERS, PLANNERS & LAND SURVEYORS  
 1600 Reed Road, Suite A  
 Pennington, NJ 08534-0002  
 Tel: 609-745-6800  
 Fax: 609-745-6807  
 www.hopewellvalleyengineering.com

**FIRE TRUCK CIRCULATION PLAN**  
 FOR  
**SPRUCE STREET APARTMENTS**  
 LOT 39 IN BLOCK 701  
 SITUATE IN  
 LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

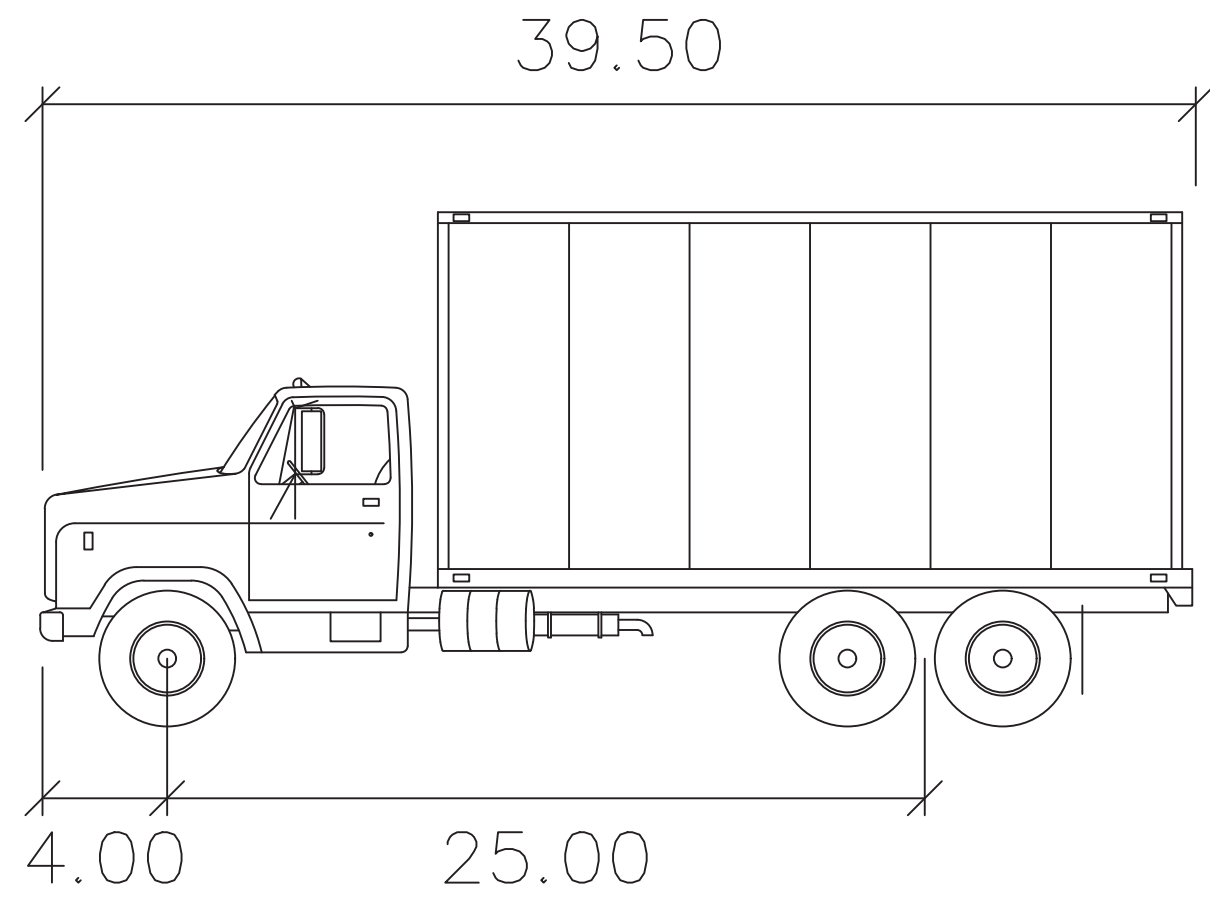
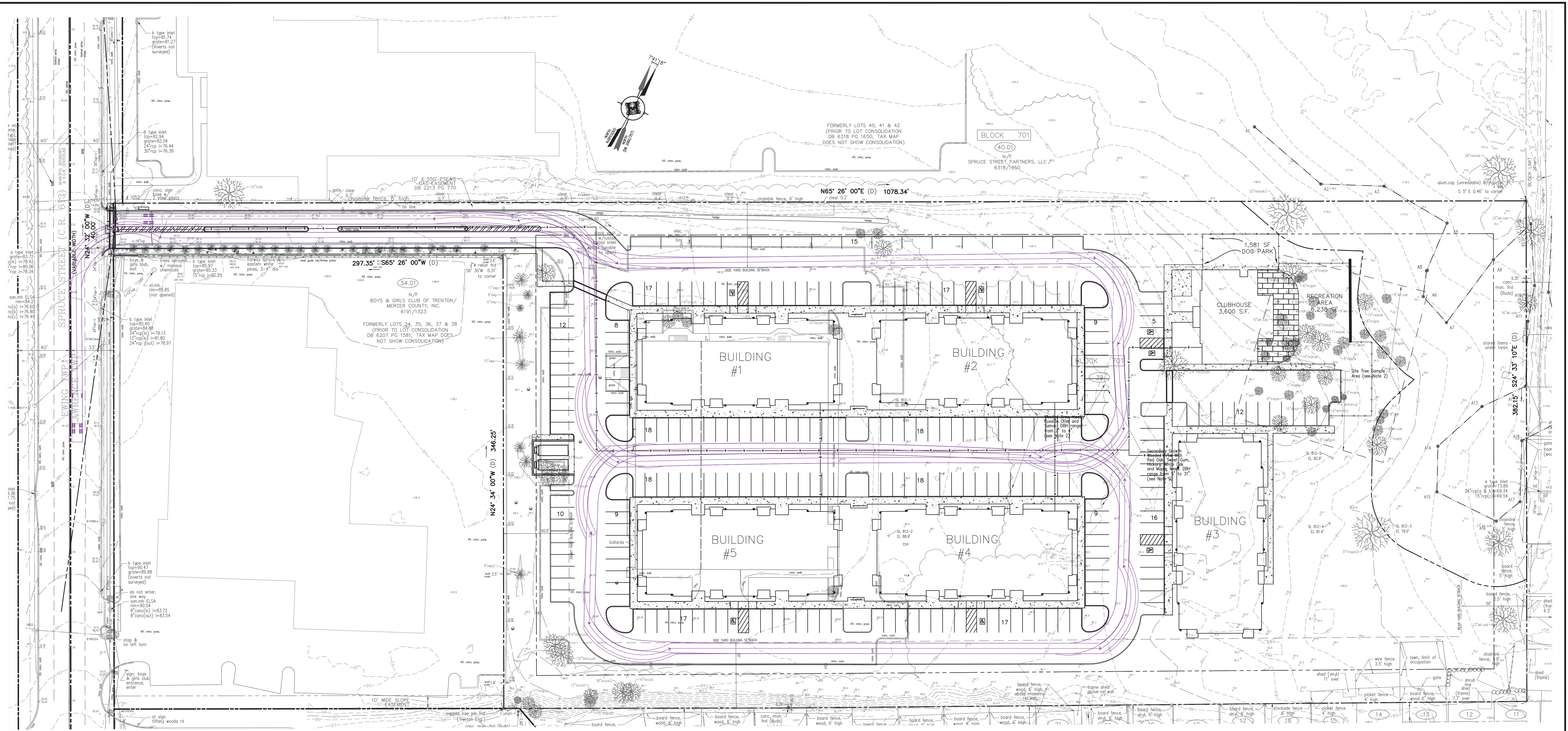
DATE: 11/18/21  
 PROJECT: 1" = 30'  
 DRAWN: AWS / RMS  
 CHECKED: 1107537C / 11 NA  
 APPROVED: SPO1537C - VPS1

Digitally signed by  
 Russell M Smith  
 Date: 2021.11.23  
 102522-0500

**RUSSELL M. SMITH**  
 N.J. PROFESSIONAL ENGINEER No. 03065

Sheet 13 of 14

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD



SU-40

Width : 8.00 feet  
 Track : 8.00 feet  
 Lock to Lock Time : 6.0 sec  
 Steering Angle : 31.8°

GRAPHIC SCALE: FEET

CAUTION: If this document does not contain the related impression seal of the professional or this digital document signature is reported as invalid, it is not an authorized original document and should not be relied upon.

**HOPEWELL VALLEY ENGINEERING, PC**  
 ENGINEERS, PLANNERS & LAND SURVEYORS

1600 Reed Road, Suite A  
 Pennington, NJ 08534-0002  
 Tel: 609-745-5800  
 Fax: 609-745-5807  
 www.hopewellvalleyengineering.com

**Moving Truck Circulation Plan**  
 FOR  
**SPRUCE STREET APARTMENTS**  
 LOT 39 IN BLOCK 701

SITUATE IN  
 LAWRENCE TOWNSHIP, MERCER COUNTY, NEW JERSEY

Digitally signed by  
**Russell M. Smith**  
 Date: 2021.11.23  
 10:27:22 -05'00'

**RUSSELL M. SMITH**  
 N.J. PROFESSIONAL ENGINEER No. 030665

Sheet 14 of 14

NO.	DATE	DESCRIPTION OF REVISION	BY	CHKD.