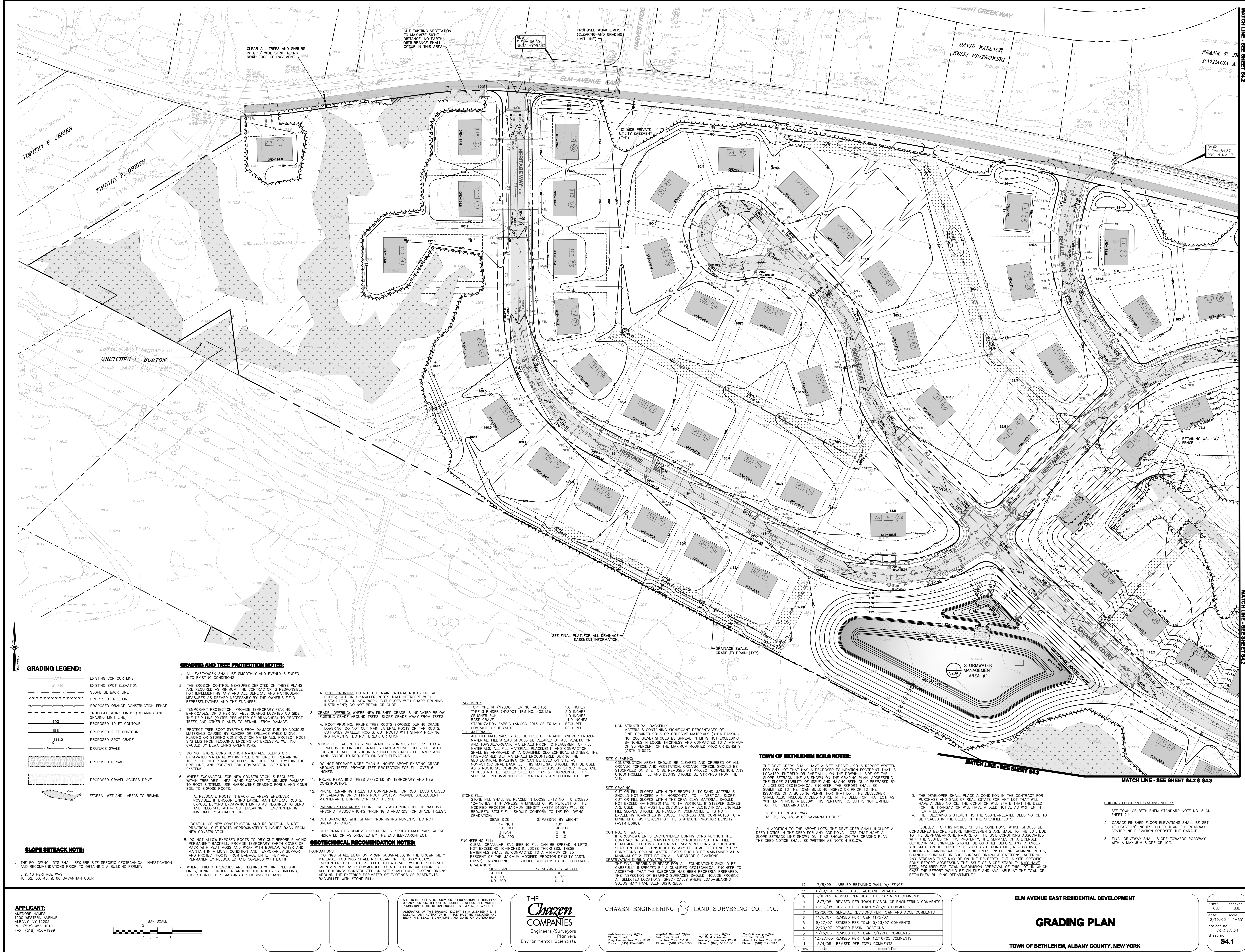




- GRADING LEGEND:**
- EXISTING CONTOUR LINE
 - EXISTING SPOT ELEVATION
 - SLOPE SETBACK LINE
 - PROPOSED TREE LINE
 - PROPOSED ORANGE CONSTRUCTION FENCE
 - PROPOSED WORK LIMITS (CLEARING AND GRADING LIMIT LINE)
 - PROPOSED 2 FT CONTOUR
 - PROPOSED SPOT GRADE
 - DRAINAGE SWALE
 - PROPOSED RIPRAP
 - PROPOSED GRAVEL ACCESS DRIVE
 - FEDERAL WETLAND AREAS TO REMAIN
- SLOPE SETBACK NOTE:**
- THE FOLLOWING LOTS SHALL REQUIRE SITE SPECIFIC GEOTECHNICAL INVESTIGATION AND RECOMMENDATIONS PRIOR TO OBTAINING A BUILDING PERMIT:
6 & 10 HERITAGE WAY
18, 32, 36, 46, & 60 SAVANNAH COURT

- GRADING AND TREE PROTECTION NOTES:**
- ALL EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS.
 - THE EROSION CONTROL MEASURES DEPICTED ON THESE PLANS ARE REQUIRED AS MINIMUM. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ANY AND ALL GENERAL AND PARTICULAR MEASURES AS DEEMED NECESSARY BY THE OWNER'S FIELD REPRESENTATIVES AND THE ENGINEER.
 - TEMPORARY PROTECTION:** PROVIDE TEMPORARY FENCING, BARRICADES, OR OTHER SUITABLE GUARDS LOCATED OUTSIDE THE DRAIN LINE (OUTER PERIMETER OF BRANCHES) TO PROTECT TREES AND OTHER PLANTS TO REMAIN FROM DAMAGE.
 - PROTECT TREE ROOT SYSTEMS FROM DAMAGE DUE TO NOXIOUS MATERIALS CAUSED BY RUNOFF OR SPILLAGE WHILE MIXING, PLACING OR STORING CONSTRUCTION MATERIALS. PROTECT ROOT SYSTEMS FROM FLOODING, EROSION OR EXCESSIVE WETTING CAUSED BY DEWATERING OPERATIONS.**
 - DO NOT STORE CONSTRUCTION MATERIALS, DEBRIS OR EXCAVATED MATERIAL WITHIN TREE DRIP LINE OF REMAINING TREES. DO NOT PERMIT VEHICLES OR FOOT TRAFFIC WITHIN THE DRAIN LINE AND PREVENT SOIL COMPACTION OVER ROOT SYSTEMS.**
 - WHERE EXCAVATION FOR NEW CONSTRUCTION IS REQUIRED WITHIN TREE DRIP LINES, HAND EXCAVATE TO MINIMIZE DAMAGE TO ROOT SYSTEMS. USE NARROWING SPACING FORKS AND COMB SOIL TO EXPOSE ROOTS.**
 - RELOCATE ROOTS IN BACKFILL AREAS WHEREVER POSSIBLE. IF ENCOUNTERING LARGE, MAIN LATERAL ROOTS, EXPOSE BEYOND EXCAVATION LIMITS AS REQUIRED TO BEND AND RELOCATE WITH-- CUT BREAKING, IF ENCOUNTERING IMMEDIATELY ADJACENT TO**
- LOCATION OF NEW CONSTRUCTION AND RELOCATION IS NOT PRACTICAL, CUT ROOTS APPROXIMATELY 3 INCHES BACK FROM NEW CONSTRUCTION.
- B. DO NOT ALLOW EXPOSED ROOTS TO DRY OUT BEFORE PLACING PERMANENT BACKFILL. PROVIDE TEMPORARY EARTH COVER OR PACK WITH PEAT MOSS AND WATER WITH BURLAP. WATER AND MAINTAIN IN A MOST CONDITION AND TEMPORARILY SUPPORT AND PROTECT ROOTS FROM DAMAGE UNTIL THEY ARE PERMANENTLY RELOCATED AND COVERED WITH EARTH.**

7. WHERE UTILITY TRENCHES ARE REQUIRED WITHIN TREE DRIP LINES, TUNNEL UNDER OR AROUND THE ROOTS BY DRILLING, AUGER BORING PIPE JACKING OR DIGGING BY HAND.

- GEOTECHNICAL RECOMMENDATION NOTE:**
- FOUNDATIONS:**
- FOOTINGS SHALL BEAR ON VIRGIN SUBGRADINGS. IN THE BROWN SILTY SAND SUBGRADE, FOOTINGS SHALL NOT BEAR ON THE GRAY CLAY SUBGRADE ENCOUNTERED 10- TO 12- FEET BELOW GRADE WITHOUT SUBGRADE IMPROVEMENTS AS RECOMMENDED BY A GEOTECHNICAL ENGINEER. ALL BUILDINGS CONSTRUCTED ON SITE SHALL HAVE FOOTING DRAINS AROUND THE EXTERIOR PERIMETER OF FOOTINGS OR BASEMENTS, BACKFILLED WITH STONE FILL.
- PAVEMENT:**
- TOP TYPE OF (NYSDOT ITEM NO. 403.18): 1.0 INCHES
TYPE 3 BINDER (NYSDOT ITEM NO. 403.13): 3.0 INCHES
CRUSHER RUN: 4.0 INCHES
BASE GRAVEL: 14.0 INCHES
STABILIZATION FABRIC (AMOCO 2016 OR EQUAL): REQUIRED
COMPACTED SUBGRADE: REQUIRED
- FILL MATERIALS:**
- ALL FILL MATERIALS SHALL BE FREE OF ORGANIC AND/OR FROZEN MATERIAL. FILL AREAS SHOULD BE CLEARED OF ALL VEGETATION AND TOPSOIL/ORGANIC MATERIALS PRIOR TO PLACEMENT OF FILL MATERIALS. ALL FILL MATERIAL, PLACEMENT, AND COMPACTION SHALL BE APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER. THE GEOTECHNICAL INVESTIGATION CAN BE USED ON SITE AS NON-STRUCTURAL BACKFILL. THIS MATERIAL SHOULD NOT BE USED AS STRUCTURAL COMPONENTS UNDER ROADS OR STRUCTURES, AND SHOULD NOT BE SLOPED STEEPER THAN 3:1 HORIZONTAL TO 1:1 VERTICAL. RECOMMENDED FILL MATERIALS ARE OUTLINED BELOW:
- STONE FILL:**
- STONE FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES IN THICKNESS. A MINIMUM OF 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DENSITY (ASTM D1557) WILL BE REQUIRED. STONE FILL SHOULD CONFORM TO THE FOLLOWING GRADATION:
- | SIZE | % PASSING BY WEIGHT |
|------------|---------------------|
| 1 1/2 INCH | 90-100 |
| 3/4 INCH | 0-15 |
| 0-10 | 0-10 |
- ENGINEERING FILL:**
- CLEAN, GRANULAR, ENGINEERING FILL CAN BE SPREAD IN LIFTS NOT EXCEEDING 10-INCHES IN LOOSE THICKNESS. THESE MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DENSITY (ASTM D1557). ENGINEERING FILL SHOULD CONFORM TO THE FOLLOWING GRADATION:
- | SIZE | % PASSING BY WEIGHT |
|---------|---------------------|
| NO. 20 | 100 |
| NO. 40 | 70 |
| NO. 200 | 0-10 |

- TOWN OF BETHLEHEM SOILS NOTES:**
- THE DEVELOPERS SHALL HAVE A SITE-SPECIFIC SOILS REPORT WRITTEN FOR ANY LOT THAT HAS A PROPOSED FOUNDATION FOOTPRINT THAT IS LOCATED ENTIRELY OR PARTIALLY ON THE DOWN-SIDE OF THE SLOPE SETBACK LINE AS SHOWN ON THE GRADING PLAN, ADDRESSING THE SLOPE STABILITY OF ISSUE AND HAVING BEEN DULY PREPARED BY A LICENSED GEOTECHNICAL ENGINEER. THE REPORT SHALL BE SUBMITTED TO THE TOWN BUILDING INSPECTOR PRIOR TO THE ISSUANCE OF A BUILDING PERMIT FOR THAT LOT. THE DEVELOPER SHALL ALSO INCLUDE A DEED NOTICE IN THE DEED FOR THAT LOT, AS WRITTEN IN NOTE 4 BELOW. THIS PERTAINS TO, BUT IS NOT LIMITED TO, THE FOLLOWING LOTS:
6 & 10 HERITAGE WAY
18, 32, 36, 46, & 60 SAVANNAH COURT
 - IN ADDITION TO THE ABOVE LOTS, THE DEVELOPER SHALL INCLUDE A DEED NOTICE IN THE DEED FOR ANY ADDITIONAL LOTS THAT HAVE A SLOPE SETBACK LINE SHOWN ON IT AS SHOWN ON THE GRADING PLAN. THE DEED NOTICE SHALL BE WRITTEN AS NOTE 4 BELOW.
 - THE DEVELOPER SHALL PLACE A CONDITION IN THE CONTRACT FOR PURCHASE AND SALE OF REAL ESTATE FOR ANY LOT THAT WILL HAVE A DEED NOTICE. THE CONDITION WILL STATE THAT THE DEED FOR THE TRANSACTION WILL HAVE A DEED NOTICE AS WRITTEN IN ITEM 4 BELOW.
 - THE FOLLOWING STATEMENT IS THE SLOPE-RELATED DEED NOTICE TO BE PLACED IN THE DEEDS OF THE SPECIFIED LOTS:
"SUBJECT TO THIS NOTICE OF SITE CONDITIONS, WHICH SHOULD BE CONSIDERED BEFORE FUTURE IMPROVEMENTS ARE MADE TO THE LOT DUE TO THE SURFACE-PRONE NATURE OF THE SOIL CONDITIONS ASSOCIATED WITH THE SLOPES ON THIS PROPERTY, THE SLOPE FILL, RE-GRADING, GEOTECHNICAL ENGINEERING SHOULD BE OBTAINED BEFORE ANY CHANGES ARE MADE ON THE PROPERTY, SUCH AS PLACING, RE-GRADING, BUILDING RETAINING WALLS, CUTTING TREES, INSTALLING SWIMMING POOLS, CHANGING SURFACE OR SUB-SURFACE DRAINAGE PATTERNS, ALTERING ANY STREAMS THAT MAY BE ON THE PROPERTY, ETC. A SITE-SPECIFIC SOILS REPORT ADDRESSING THE ISSUE OF SLOPE STABILITY MAY HAVE BEEN REQUIRED FOR TOWN SUBDIVISION APPROVAL OF THIS LOT, IN WHICH CASE THE REPORT WOULD BE ON FILE AND AVAILABLE AT THE TOWN OF BETHLEHEM BUILDING DEPARTMENT."

- BUILDING FOOTPRINT GRADING NOTES:**
- SEE TOWN OF BETHLEHEM STANDARD NOTE NO. 5 ON SHEET 2.1.
 - GARAGE FINISHED FLOOR ELEVATIONS SHALL BE SET AT LEAST 18" INCHES HIGHER THAN THE ROADWAY CENTERLINE ELEVATION OPPOSITE THE GARAGE.
 - FINAL DRIVEWAY SHALL SLOPE TOWARDS ROADWAY WITH A MAXIMUM SLOPE OF 10%.

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ELM AVENUE EAST RESIDENTIAL DEVELOPMENT

GRADING PLAN

TOWN OF BETHLEHEM, ALBANY COUNTY, NEW YORK

drawn: CJB checked: JML
date: 12/19/03 scale: 1"=50'
project no.: 30337.00
sheet: **S4.1**