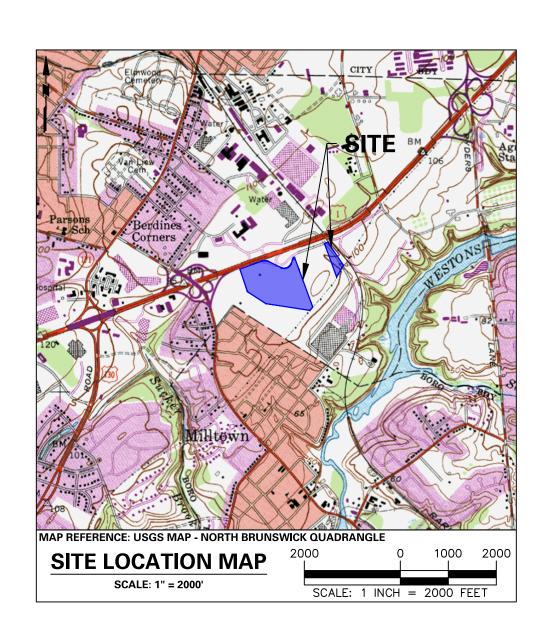
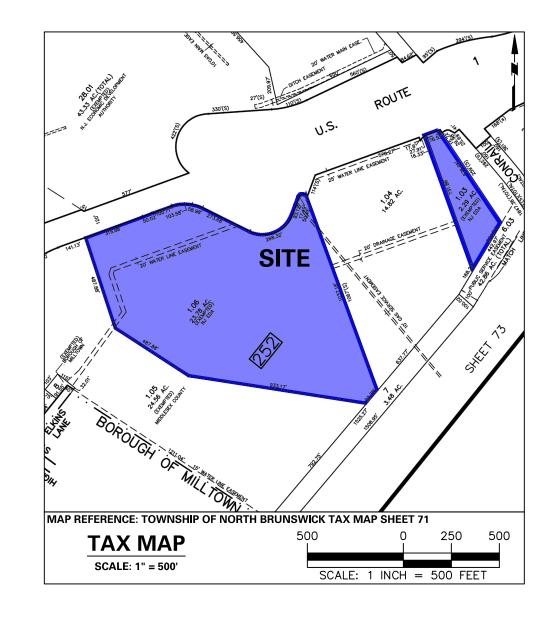
NORTH BRUNSWICK EXECUTIVE PARK USE VARIANCE APPLICATION

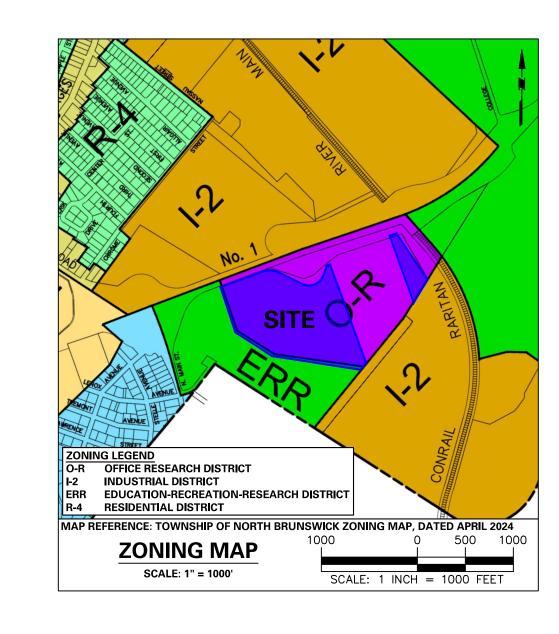
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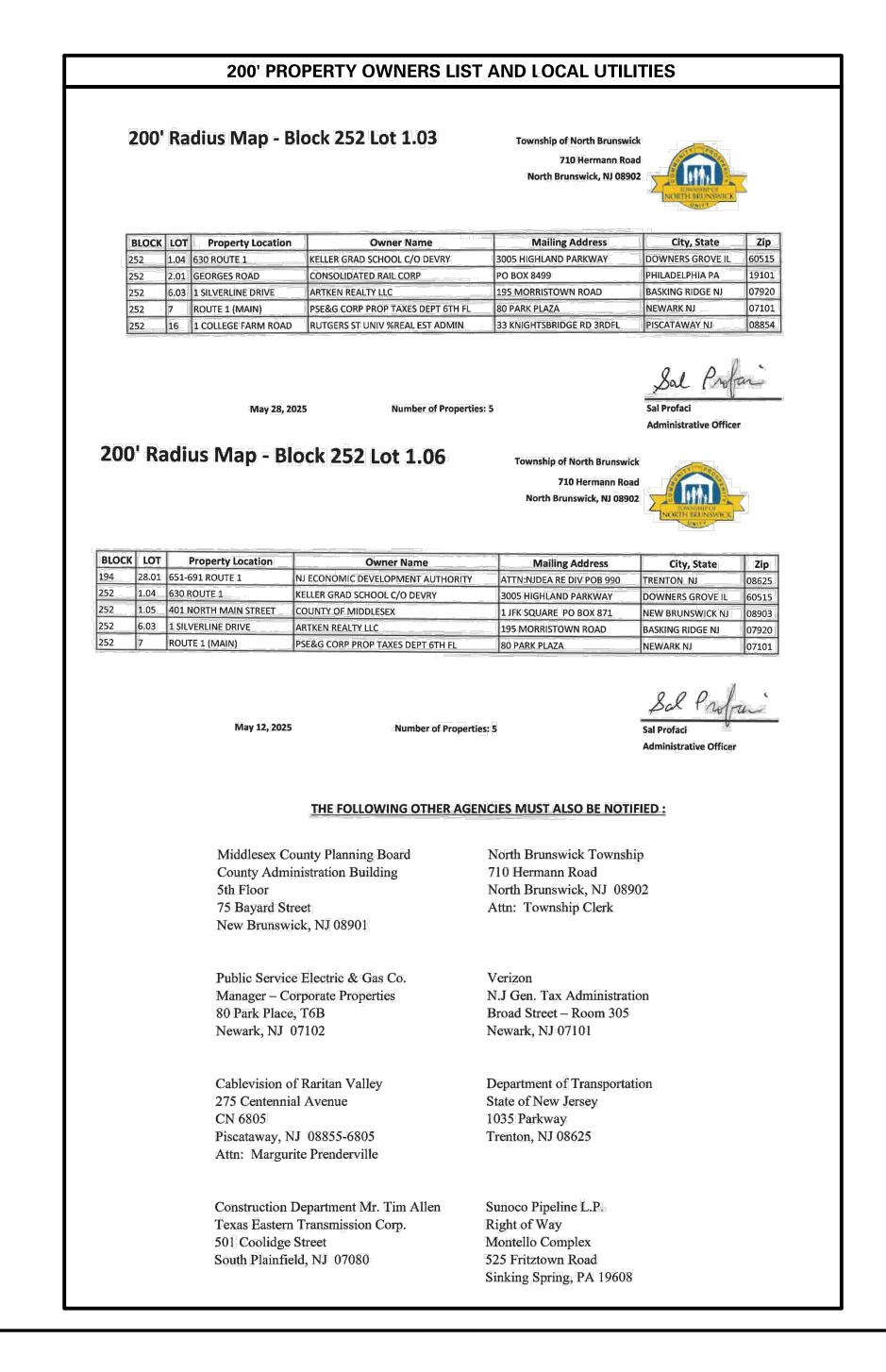
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TOWNSHIP OF NORTH BRUNSWICK, MIDDLESEX COUNTY, NEW JERSEY

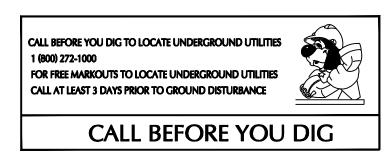




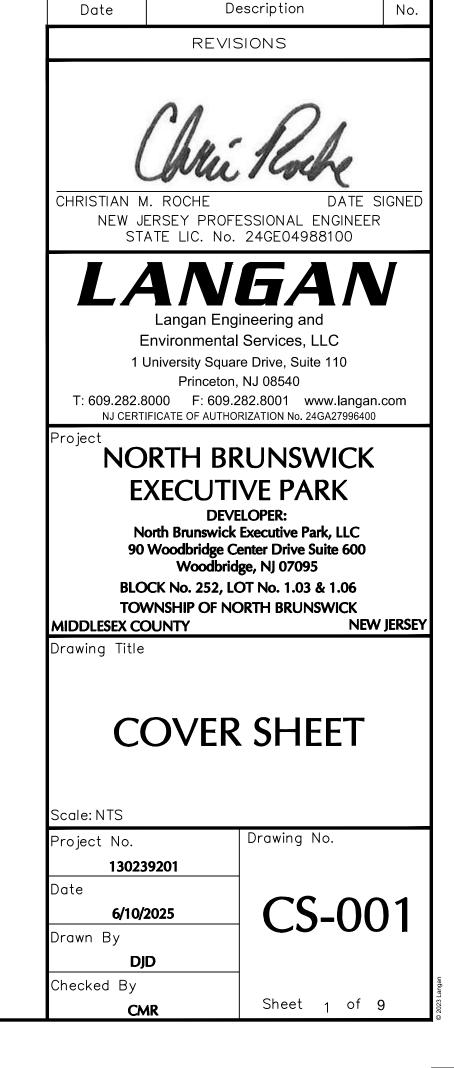


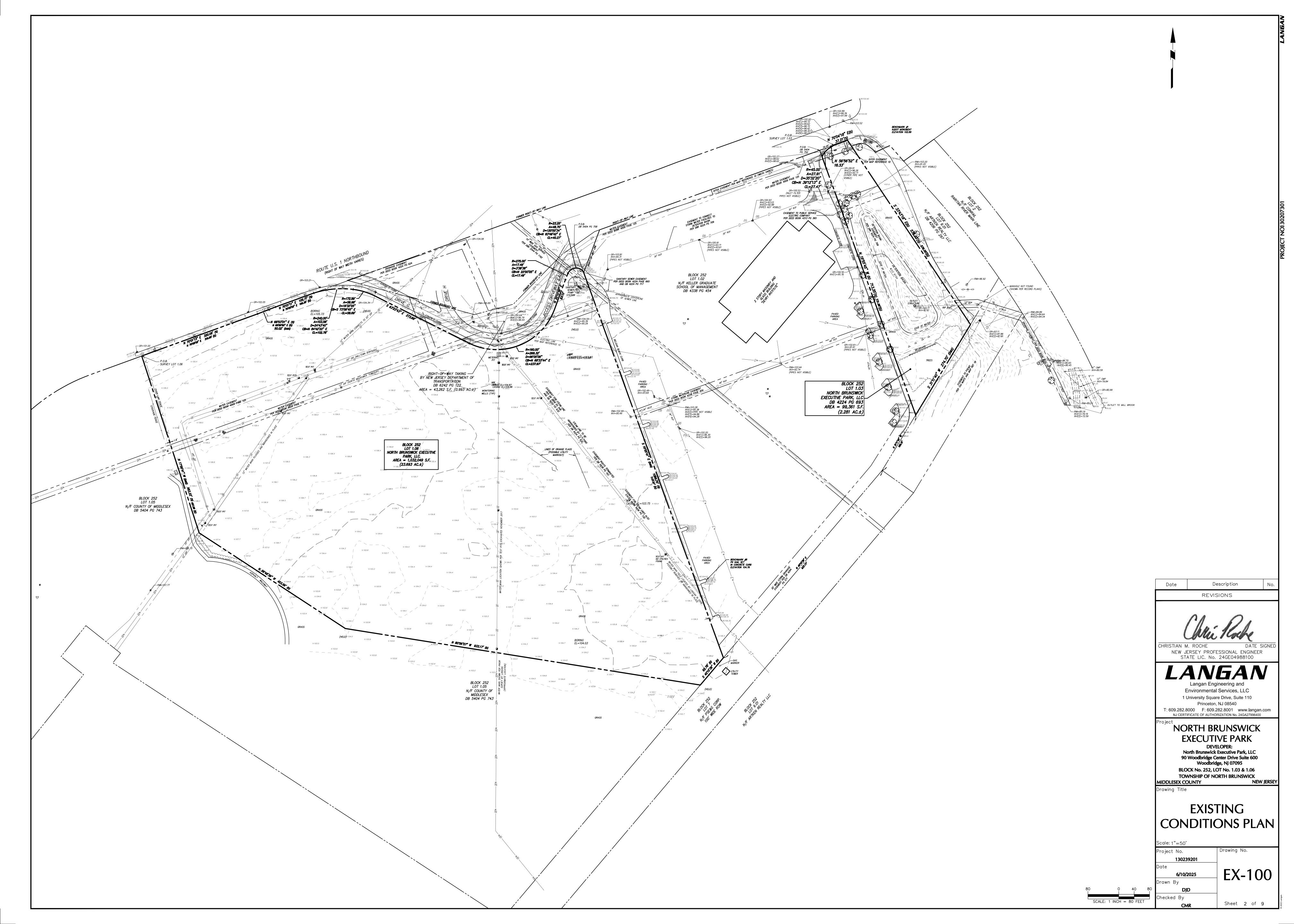


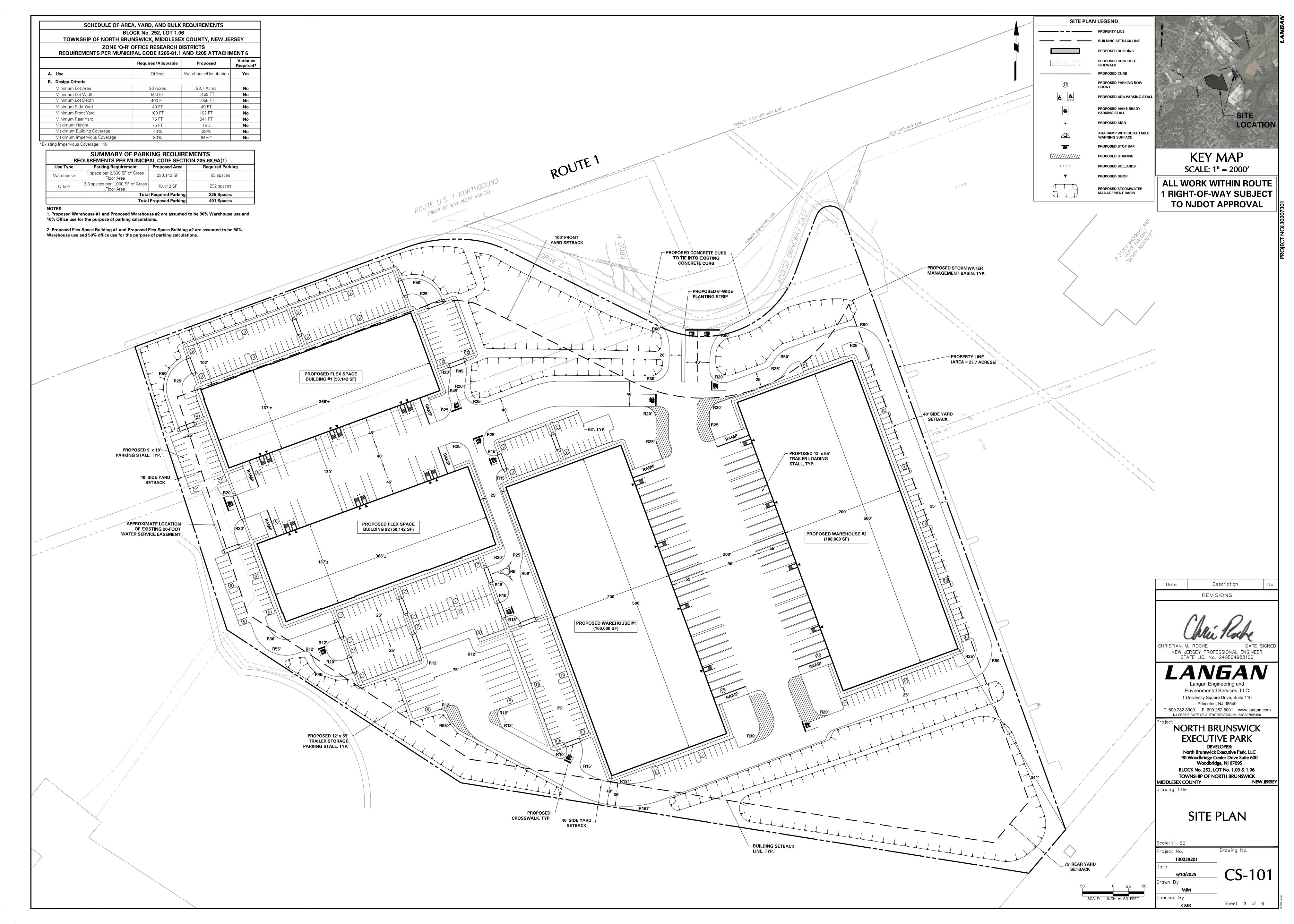


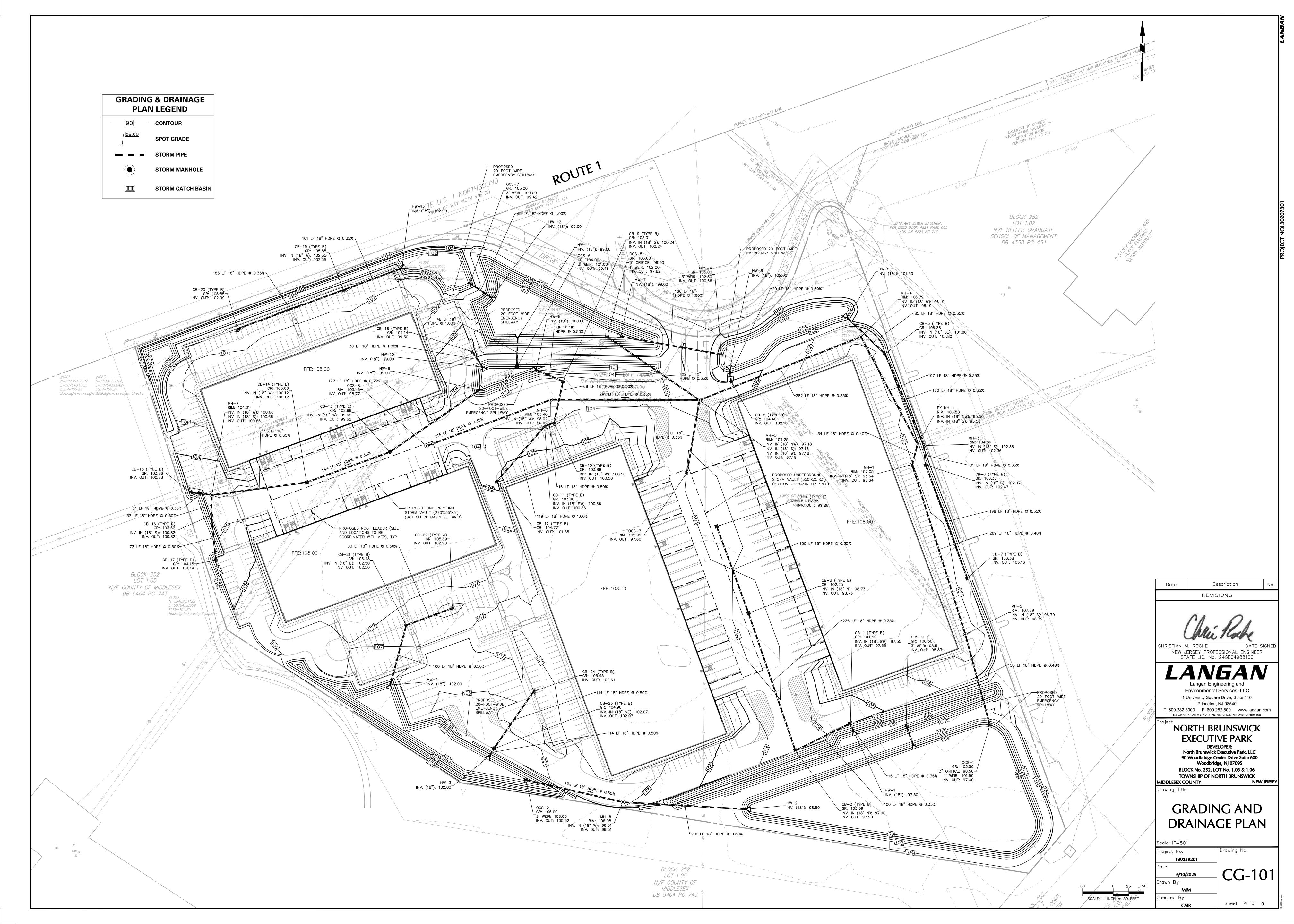


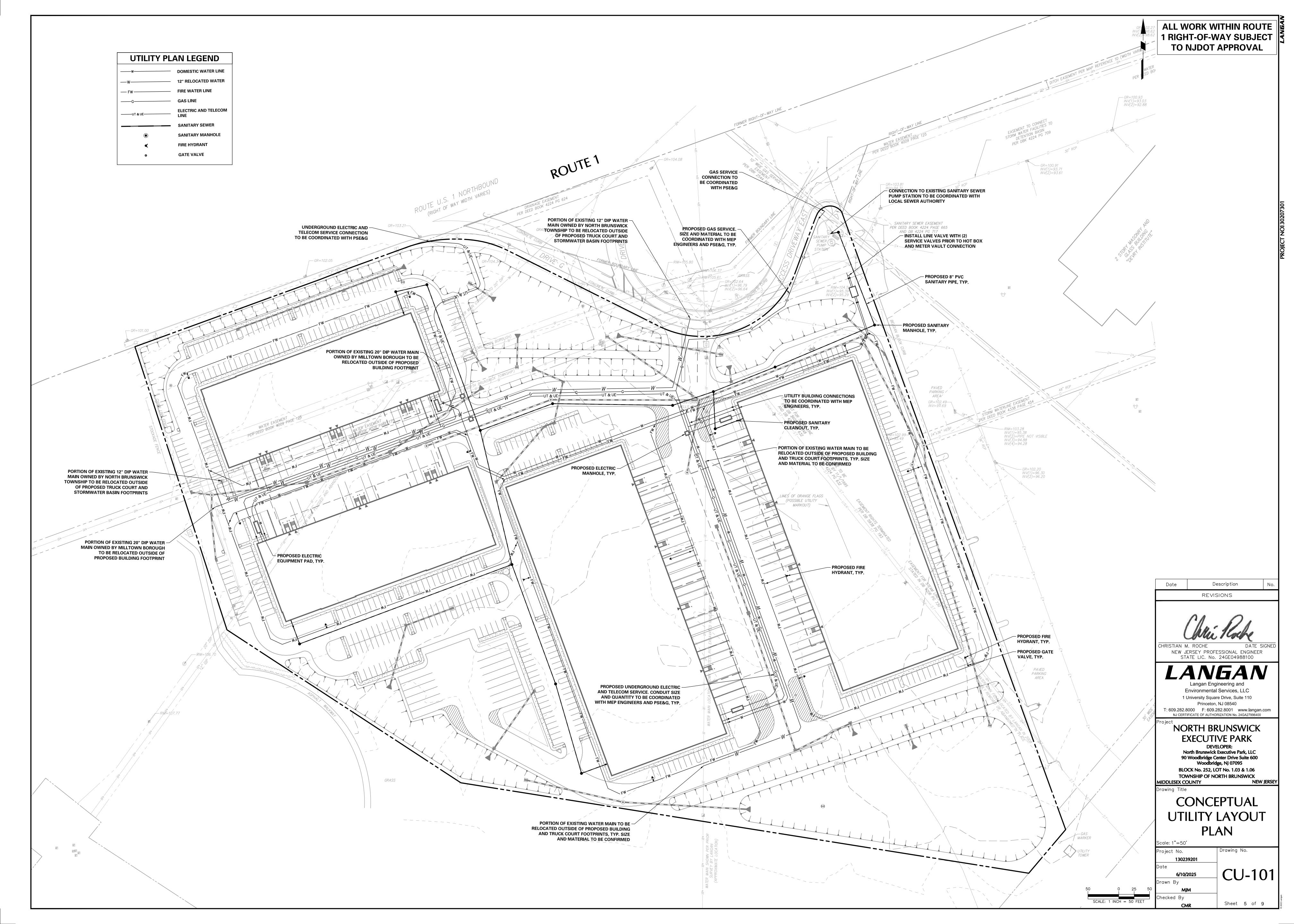
SITE PLAN DRAWING LIST						
DRAWING NUMBER	DRAWING TITLE					
CS-001	COVER SHEET					
EX-100	EXISTING CONDITIONS PLAN					
CS-101	SITE PLAN					
GR-101	CONCEPTUAL GRADING AND DRAINAGE PLAN					
CU-101	CONCEPTUAL UTILITY LAYOUT PLAN					
LP-101	LANDSCAPE PLAN					
LP-102	LANDSCAPE NOTES & DETAILS					
LL-101	LIGHTING PLAN					
LL-102	LIGHTING NOTES & DETAILS					
ARCHITE	ARCHITECTURAL PLANS (BOUND SEPARATELY)					
SUI	SURVEY PLAN (BOUND SEPARATELY)					

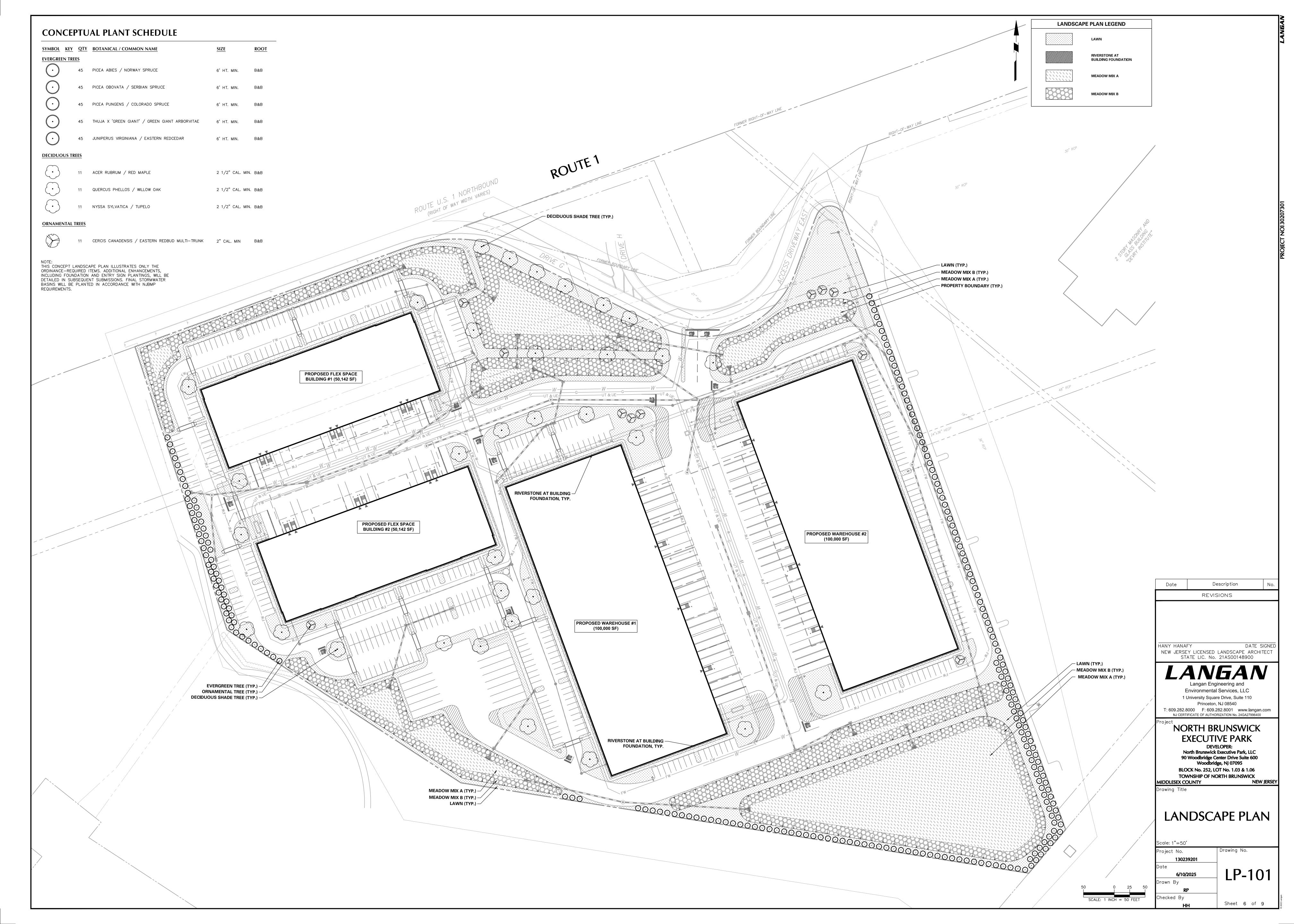












2. STANDARDS FOR TYPE, SPREAD, HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT

3. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SI SHOULD BE SIMILAR IN SHAPE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES. ALL TREES SHALL HAVE A STRAIGHT TRUNK AND FULL HEAD AND MEET ALL REQUIREMENTS SPECIFIED. ANY TREE THAT LOSES THE MAIN LEADER SHALL BE REPLACED.

4. THE BACKFILL MIXTURE AND SOIL MIXES TO BE INSTALLED PER THE SPECIFICATIONS.

5. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND SUBGRADE DRAINAGE OR PERCOLATION CHARACTERISTICS, WHETHER THE SUBGRADE SOILS ARE EXISTING TO REMAIN OR IMPORTED AND PLACED. CONTRACTOR TO ENSURE POSITIVE VERTICAL DRAINAGE THROUGHOUT PLANTED AREAS. DISCREPANCIES SHALL BE ADDRESSED WITH THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PURCHASING PLANT MATERIALS. 6. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE FINISH GRADING HAS BEEN COMPLETED AND

APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER. 7. ALL PLANT INSTALLATIONS SHALL BE COMPLETED EITHER BETWEEN APRIL 1 - JUNE 15 OR AUGUST 15 -NOVEMBER 1, UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT. SEE LAWN SEEDING DATES IN SEEDING NOTES.

8. ALL FENCE AND GUIDE RAIL INSTALLATIONS SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, LAWN AND GRASSES, OR IRRIGATION WORK. 9. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND

UTILITY AND SEWER LINES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF CONSTRUCTION. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.

10. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF TI CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA 2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE

11. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE. THE CONTRACTOR SHALL SUBMIT PROOF OF NON-AVAILABILITY TO THE LANDSCAPE ARCHITEC AND OWNER, TOGETHER WITH A WRITTEN PROPOSAL FOR USE OF AN EQUIVALENT MATERIAL. THE TOWNSHIP ENGINEER SHALL APPROVE ALL LANDSCAPE SUBSTITUTIONS AND RELOCATIONS PRIOR TO INSTALLATION. 12. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS, FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL AND

LOCÁTION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT UNLESS OTHERWISE

13. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION. THE LANDSCAPE ARCHITECT MAY REVIEW PLANT MATERIALS AT THE SITE FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AS DIRECTED BY THE LANDSCAPE

14. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, MISSING, 25% OR MORE DEAD, WHICH DO NOT DEVELOP FROM PLANTING STOCK, THAT APPEAR UNHEALTHY OR UNSIGHTLY AND/OR HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES DEAD, OR REJECTED FOR ANY OTHER REASON (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME

15. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING PER SPECIFICATIONS TO MAINTAIN HEALTHY PLANT CONDITIONS.

SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS

A PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.

B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. COVERING DURING TRANSIT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR

GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED FROM THE TOP OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.

C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER

D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

17. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STUMPS, TRASH AND OTHER UNSIGHTLY DEBRIS. ALL FINE GRADED AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CLUMPS AND UNEVEN SURFACES PRIOR TO PLANTING OR MULCHING.

18. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES

19. CONTRACTOR'S GUARANTEE: ALL PLANTINGS AND PLANTING AREAS SHALL BE PERMANENTLY MAINTAINEE NEW PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, PRUNING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE DURATION OF THE GUARANTEED PERIOD. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THIS PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

20. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF-SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.

21. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24— HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH.

22. AFTER PLANT IS PLACED IN TREE PIT LOCATION, ALL TWINE HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO 1/3 OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.

23. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE. AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED. SHALL BE COVERED BY A NATURAL MULCH FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE MANNER THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST. MULCH SHALL BE A FIBROUS SHREDDED HARDWOOD MULCH. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. FOR ANY DISCREPANCIES BETWEEN THE PLANT SCHEDULE AND PLANTING PLAN THE GRAPHIC QUANTITY SHOWN SHALL GOVERN. 25. LANDSCAPE PUNCH LIST SITE VISITS TO BE PERFORMED BY THE PROJECT LANDSCAPE ARCHITECT, IF UNDER

CONTRACT FOR SUCH WORK, WILL NOT BE SCHEDULED UNTIL CONFIRMATION IS RECEIVED THAT ALL PROPOSED LANDSCAPE ITEMS HAVE BEEN INSTALLED, OR DEFICIENCIES NOTED IN THE PRIOR PUNCH LIST REPORT HAVE BEEN CORRECTED. THE PUNCH LIST SITE VISIT WILL THEN BE PERFORMED WITHIN 10 26. SHADE AND ORNAMENTAL TREES SHALL BE PROTECTED THROUGH WINTER WITH RIGID, PLASTIC OPEN MESH TREE GUARDS, OR APPROVED EQUAL, PROTECTION LENGTH TO BE FROM BELOW THE LOWEST BRANCH AND DOWN TO WITHIN A FEW INCHES OF THE GROUND. THE GUARDS CAN BE REMOVED IN SPRING AND SAVED

FOR RE-INSTALLATION DURING FOLLOWING WINTERS AS PART OF A MAINTENANCE PROGRAM. ANY TREI REPLACEMENT REQUIRED BASED ON ANIMAL DAMAGE WILL BE COMPLETED AT NO ADDITIONAL COST TO THE 27. ALL SLOPES 3:1 OR GREATER AND ALL SIDE SLOPES OF BASINS SHALL REQUIRE AN EROSION CONTROL BLANKET: ERONET SC150 BY NORTH AMERICAN GREEN, OR APPROVED EQUAL.

LANDSCAPE MAINTENANCE NOTES

. MAINTENANCE OPERATIONS BEFORE APPROVAL:

A. PLANT CARE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS SATISFACTORILY INSTALLED AND SHALL CONTINUE THROUGHOUT THE LIFE OF THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE PROJECT. B. CARE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY ROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING

STAKES AND GUYS AS ORIGINALLY INSTALLED, WATERING WHEN NEEDED OR DIRECTED, AND PERFORMING

ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION. C. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEAD, DEFECTIVE AND/OR REJECTED PLANTS AS REQUIRED BEFORE FINAL ACCEPTANCE.

2. MAINTENANCE DURING CONSTRUCTION: A. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE WATERED, MULCHED WEEDED, PRUNED, SPRAYED, FERTILIZED, CULTIVATED, AND OTHERWISE MAINTAINED AND PROTECTED UNTIL PROVISIONAL ACCEPTANCE. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE AND POSITION, PLANTING SAUCER RESTORED AND DEAD MATERIAL REMOVED. STAKES AND WIRES SHALL E TIGHTENED AND REPAIRED. DEFECTIVE WORK SHALL BE CORRECTED AS SOON AS POSSIBLE AFTER IT BECOMES APPARENT AND WEATHER AND SEASON PERMIT

B. IF A SUBSTANTIAL NUMBER OF PLANTS ARE SICKLY OR DEAD AT THE TIME OF INSPECTION. ACCEPTANCE SHALL NOT BE GRANTED AND THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF ALL PLANTS SHALL BE EXTENDED FROM THE TIME REPLACEMENTS ARE MADE OR EXISTING PLANTS ARE DEEMED ACCEPTABLE BY THE LANDSCAPE ARCHITECT.

C. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE SPECIFIED ON THE PLANT LIST OR THAT WHICH WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE BORNE BY THE CONTRACTOR. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM

PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY

LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER. D. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER INSPECTION AND PROVISIONAL

E. AT THE END OF THE ESTABLISHMENT PERIOD, INSPECTION SHALL BE MADE AGAIN. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR UNSATISFACTORY TO THE LANDSCAPE ARCHITECT OR OWNER SHALL BE REMOVED FROM THE SITE AND REPLACED DURING THE NORMAL PLANTING

LAWN MAINTENANCE:

A. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH PORTION OF LAWN IS PLANTED AND CONTINUE FOR 8 WEEKS AFTER ALL LAWN PLANTING IS COMPLETED.

B. WATER TO KEEP SURFACE SOIL MOIST, REPAIR WASHED OUT AREAS BY FILLING WITH TOPSOIL, LIMING FERTILIZING AND RE-SEEDING; MOW TO 2 1/2 - 3 INCHES AFTER GRASS REACHES 3 1/2 INCHES IN HEIGHT, AND MOW FREQUENTLY ENOUGH TO KEEP GRASS FROM EXCEEDING 3 1/2 INCHES. WEED BY LOCAL SPOT APPLICATION OF SELECTIVE HERBICIDE ONLY AFTER GRASS IS WELL-ESTABLISHED.

IRRIGATION CONTRACTOR NOTE: ALL LANDSCAPE AREAS SHALL BE PERMANENTLY IRRIGATED VIA AUTOMATIC SYSTEM.

PLANTING SOIL SPECIFICATIONS

1. PLANTING SOIL, ALTERNATELY MAY BE REFERRED TO AS TOPSOIL, SHOULD BE FRIABLE, FERTILE, WELL DRAINED, FREE OF DEBRIS, TOXINS, TRASH AND STONES OVER 1" DIA., IT SHOULD HAVE A HIGH ORGANIC CONTENT SUITABLE TO SUSTAIN HEALTHY PLANT GROWTH AND SHOULD LOOK AESTHETICALLY PLEASING HAVING NO NOXIOUS

REUSE SURFACE SOILS STOCKPILED ON SITE, VERIFYING COMPLIANCE WITH PLANTING SOIL AND TOPSOIL CRITERIA IN THIS SPECIFICATION THROUGH TESTING. CLEAN SURFACE SOIL OF ALL ROOTS. PLANTS, SOD, AND GRAVEL OVER 1" IN DIAMETER AND DELETERIOUS MATERIALS. IF ON-SITE SOILS ARE TO BE USED FOR PROPOSED PLANTING, THE CONTRACTOR SHALL DEMONSTRATE, THROUGH SOIL TESTING, THAT ON-SITE SOILS MEET THE SAME CRITERIA AS INDICATED IN NOTES PLANS AND SPECIFICATIONS.

SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN TOPSOIL AND PLANTING SOIL QUANTITIES ARE INSUFFICIENT. OBTAIN SOIL DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4" DEEP. DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, MARSHES OR

CONTRACTOR SHALL TEST SOILS AND FURNISH SAMPLES UPON REQUEST. PACKAGED MATERIALS SHALL BE UNOPENED BAGS OR CONTAINERS, EACH BEARING A NAME, GUARANTEE, AND TRADEMARK OF THE PRODUCER, MATERIAL COMPOSITION, MANUFACTURER'S CERTIFIED ANALYSIS, AND THE WEIGHT OF THE MATERIALS. SOIL OR AMENDMENT MATERIALS SHALL BE STORED ON SITE TEMPORARILY IN STOCKPILES PRIOR TO PLACEMENT AND

BE COVERED WITH A TARPAULIN UNTIL TIME OF ACTUAL USE.

e. TOXIC SUBSTANCE ANALYSIS

AT A MINIMUM, PLANTING SOILS MEETING THESE SPECIFICATIONS MAY BE OBTAINED FROM WECARE DENALI,

ALL PLANTING SOILS SHALL BE SUBMITTED FOR TESTING TO THE STATE COOPERATIVE EXTENSION SERVICE, OR APPROVED EQUAL, PRIOR TO DELIVERY TO THE SITE. CONTRACTOR SHALL FURNISH SOIL SAMPLES AND SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER AT A RATE OF ONE SAMPLE PER 500 CUBIC YARDS TO ENSUR CONSISTENCY ACROSS THE TOTAL VOLUME OF PLANTING SOIL REQUIRED. TEST RESULTS SHALL EVALUATE FOR AL CRITERIA LISTED IN THIS SPECIFICATION. IF TESTING AGENCY DETERMINES THAT THE SOILS ARE DEFICIENT IN ANY MANNER AND MAY BE CORRECTED BY ADDING AMENDMENTS, THE CONTRACTOR SHALL FOLLOW STATES RECOMMENDATIONS FOR SOIL IMPROVEMENT AND FURNISH SUBMITTALS FOR ALL AMENDMENTS PRIOR TO DELIVERY OF SOIL TO THE PROJECT SITE

SHALL BE PROTECTED FROM INTRUSION OF CONTAMINANTS AND EROSION. AFTER MIXING, SOIL MATERIALS SHALL

THE FOLLOWING TESTING SHOULD BE PERFORMED AND RESULTS GIVEN TO THE LANDSCAPE ARCHITECT FOR APPROVAL BEFORE INSTALLATION:

A. WHERE A PERMANENT IRRIGATION SYSTEM IS PLANNED: a. PARTICLE SIZE ANALYSIS - LOAMY SAND: 60-75% SAND, 25-40% SILT, AND 5-15% CLAY. b. GRAVEL CONTENT (2mm): LESS THAN 10% c. FERTILITY ANALYSIS: pH (5.5-6.5), SOLUBLE SALTS (0.2 to 1.5 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM d. ORGANIC MATTER CONTENT: 2.5-5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS

MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED

g. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE

g. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE

B. WHERE NO PERMANENT IRRIGATION IS PLANNED: a. PARTICLE SIZE ANALYSIS - LOAM: 40-65% SAND, 25-60% SILT, AND 5-20% CLAY. b. GRAVEL CONTENT (2mm): LESS THAN 10% c. FERTILITY ANALYSIS: pH (5.5-6.5), SOLUBLE SALTS (0.2 to 1.5 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM d. ORGANIC MATTER CONTENT: 2.5-5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS e. TOXIC SUBSTANCE ANALYSIS f. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED

C. SOILS FOR BASINS (BIO-RETENTION, INFILTRATION, ETC.) AND BIOSWALES SHALL BE TESTED FOR COMPLIANCE WITH THE CIVIL ENGINEERING SPECIFICATIONS, OR OTHERWISE THE BEST MANAGEMENT PRACTICES MANUAL FOR THE RESPECTIVE STATE IN WHICH THE PROJECT IS LOCATED.

3. <u>SOIL AMENDMENT FOR PLANT MATERIAL</u>:
IF SOIL ORGANIC CONTENT IS INADEQUATE, SOIL SHALL BE AMENDED WITH COMPOST OR ACCEPTABLE, WEED FREE, ORGANIC MATTER. ORGANIC AMENDMENT SHALL BE WELL COMPOSTED, PH RANGE OF 6-8; MOISTURE CONTENT 35-55% BY WEIGHT 100% PASSING THROUGH 1" SIEVE; SOLUBLE SALT CONTENT LESS THAN 0.5 MM HOS/CM; MEETING ALL APPLICABLE ENVIRONMENTAL CRITERIA FOR CLEAN FILL A. ORGANIC MATTER AS A SOIL AMENDMENT: LEAF MOLD WITH 60-90% ORGANIC CONTENT BY WEIGHT. SHREDDED LEAF LITTER, COMPOSTED FOR A MINIMUM OF 1 YR. SHOULD BE FREE OF DEBRIS, STONES OVER

B. SOIL IN BEDS AND PLANTING ISLANDS OTHER THAN BACKFILL MATERIAL AND TOPSOIL, SHOULD BE FRIABLE, WELL DRAINED, AND FREE OF DEBRIS, INCLUDING STONES AND TRASH.

C. AMENDMENTS FOR BACK FILL IN TREE AND SHRUB PITS: a. GROUND LIMESTONE (WITH A MIN. OF 88% OF CALCIUM AND MAGNESIUM CARBONATES) USED PENDING - BRING pH LEVELS TO 5.5 MIN. TO 6.5 FOR NON-ERICACEOUS PLANTS - BRING PH LEVELS TO 4.5 MIN. TO 5.5 FOR ERICACEOUS PLANTS b. TERRA-SORB BY 'PLANT HEALTH CARE' 800-421-9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN PLANTER BACKFILL MIXTURE WITH TREES AND SHRUBS.

c. MYCOR-ROOT SAVER BY 'PLANT HEALTH CARE' 800-421-9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN BACKFILL MIXTURE WITH TREES. 4. WHERE PLANTING AREAS ARE PROPOSED FOR FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC

5. <u>CLEAN SOIL FILL IN LANDSCAPE AREAS:</u>
LANDSCAPE FILL MATERIAL, BELOW PLANTING SOILS, SHALL HAVE THE PHYSICAL PROPERTIES OF A SANDY LOAM WITH AN ORGANIC CONTENT OF LESS THAN 2% AND A PH BETWEEN 5-7.

CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN

A. CONTRACTOR TO PROVIDE SIX INCHES (6") MINIMUM DEPTH PLANTING SOIL LAYER IN LAWN AREAS, TWELVE INCHES (12") MINIMUM DEPTH PLANTING SOIL LAYER IN GROUNDCOVER AND PERENNIAL AREAS, EIGHTEEN INCHES (18") MINIMUM DEPTH PLANTING SOIL LAYER IN SHRUB AREAS, AND THIRTY-SIX INCHES (36") MINIMUM DEPTH PLANTING SOIL LAYER IN TREE PLANTING AREAS.

B. SCARIFY AND/OR TILL COMPACTED SUBSOILS TO A MINIMUM DEPTH OF 6 INCHES. THOROUGHLY MIX A 6 INCH DEPTH LAYER OF PLANTING SOIL INTO THE SUBSOIL PRIOR TO PLACING PLANTING SOIL AT THE DEPTHS INDICATED ABOVE. PLANTING SOIL SHALL BE PLACED IN 12-18" LIFTS AND WATER THOROUGHLY BEFORE INSTALLING NEXT LIFT. REPEAT UNTIL DEPTHS AND FINISH GRADES HAVE BEEN ACHIEVED. NO SOILS SHALL BE PLACED IN A FROZEN OR MUDDY CONDITION.

C. PLANTING SOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON-SITE PLANTING SOIL UTILIZED IN ALL PLANTING AREAS.

SOIL CONDITIONING:

A. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM. LOWER pH USING ELEMENTAL SULFUR ONLY. PEAT MOSS OR COPPER SULFATE MAY NOT BE USED. GROUND LIMESTONE AS A SOIL AMENDMENT MATERIAL WILL ONLY BE USED PENDING RESULTS OF SOIL ANALYSIS. PROVIDE WITH MINIMUM 88% CALCIUM AND MAGNESIUM CARBONATES AND SHALL HAVE TOTAL 100% PASSING THE 10 MESH SIEVE, MINIMUM 90% PASSING 20 MESH SIEVE, AND MINIMUM 60% PASSING 100 MESH SIEVE. B. ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S

C. SOIL MODIFICATIONS (PENDING RESULTS OF SOIL ANALYSIS): a. THOROUGHLY TILL ORGANIC MATTER (LEAF COMPOST) INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE AVOID MATERIAL WITH A pH HIGHER THAN 7.0. PEAT MOSS MAY NOT BE USED AS ORGANIC MATTER

b. MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.

c. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY,

LAWN SEEDING NOTES

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 1/2"

2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

3. SCD SEED MIX #14 SEEDING RATE AT 305 POUNDS PER ACRE: 10% DEEPBLUE KENTUCKY BLUEGRASS

SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

40% DAKOTA TALL FESCUE 40% TAOS TALL FESCUE 10% FRONTIER PERENNIAL RYEGRASS

4. SEEDING DATES FOR THIS MIXTURE SHALL BE BETWEEN APRIL 1ST TO JUNE 1ST OR SEPTEMBER 1ST TO

5. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL A STAND OF COVER IS ESTABLISHED AND FOUND ACCEPTABLE TO THE OWNER. SEE LAWN WATERING

GENERAL SEEDING NOTES:

1. FINAL SEED MIXTURES, RATES & SPECIES TO BE DETERMINED BASED ON SCD REVIEW. SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 1) OR THE FALL (SEPTEMBER 1 TO OCTOBER 1

ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A BROAD-SPECTRUM NON-SELECTIVE HERBICIDE PER MANUFACTURER'S SPECIFICATIONS 4. IT IS RECOMMENDED THAT CONTRACTOR INSTALL SEED MIXTURE USING A NO-TILL TRUAX-TYPE DRILL WHERE 5. MULCHING/TACKING IS REQUIRED ON ALL SEEDING IN ACCORDANCE WITH THE STANDARDS.

LAWN WATERING SCHEDULE (seed)

IHE FOLLOWING WATERING SCHEDULE COVERS ROUGHLY 8 WEEKS TO ESTABLISH A HEALTHY STAND OF GRASS FROM SEED. THE CONTRACTOR SHALL BE OBLIGATED TO ENSURE A HEALTHY STAND OF GRASS AT THE END OF THE MAINTENANCE/BOND PERIOD. ANY BARE OR DEAD AREAS IN THE LAWN SHALL BE PREPARED, RESEEDED AND REESTABLISHED PRIOR TO THE END OF THE MAINTENANCE/BOND PERIOD AND TO THE SATISFACTION OF THE PROJECT LANDSCAPE ARCHITECT AND THE OWNER.

MPORTANT ASPECTS TO ATTAINING AND SUSTAINING A HEALTHY STAND OF GRASS ARE THE INSTALLATION OF TOPSOIL, SEED BED PREPARATION, ATTAINING OPTIMAL pH FOR THE INTENDED PLANT SPECIES, FERTILIZING, MULCH COVERING, AND SUFFICIENT WATERING PER THESE NOTES AND/OR PROJECT SPECIFICATIONS. SEEDING SHALL BE DONE DURING THE SEASONS SPECIFIED IN THE LAWN SEED MIX NOTES AND/OR PROJECT

2. AFTER THE SEEDBED IS PREPARED, SEED IS INSTALLED, AND MULCH IS APPLIED, WATER LIGHTLY TO KEEP THE TOP 2 INCHES OF SOIL CONSISTENTLY MOIST, NOT SATURATED. AT NO TIME SHOULD WATER BE APPLIED TO THE POINT

3 DEPENDING ON SOIL TEMPERATURES IT MAY TAKE SEVERAL WEEKS FOR GERMINATION TO OCCUR DIFFERENT SPECIES WITHIN THE MIX GERMINATE AT DIFFERENT TIMES AND THEREFORE CONTRACTOR SHOULD CONTINUE THE LIGHT WATERING, AS DESCRIBED ABOVE, UNTIL THERE IS AT LEAST 2 INCHES OF GROWTH THROUGHOUT.

4. AT THIS POINT, WATERING FREQUENCY MAY BE REDUCED TO EVERY 3 TO 5 DAYS. WATER SHALL BE APPLIED TO WET A 6 INCH MINIMUM SOIL DEPTH TO PROMOTE HEALTHY DEEP ROOTS.

5. BEGIN MOWING ONCE PER WEEK AFTER THE GRASS HAS REACHED 3 INCHES HEIGHT, MOW TO A HEIGHT OF NO LESS THAN 2-1/2 INCHES. AFTER 2 TO 3 WEEKS OF MOWING, CONTINUE TO WATER TO A 6 INCH MINIMUM SOIL DEPTH AS NECESSARY PER WEATHER CONDITIONS, AND SOIL MOISTURE SENSORS IF APPLICABLE.

MEADOW SEED MIXES

1.00% RUDBECKIA HIRTA

1. <u>MEADOW SEED MIX A</u> ERNST SEED MIX ERNMX-127 "RETENTION BASIN FLOOR SEEDING MIX" 20% AGROSTIS STOLONIFERA 25% ALOPECURUS ARUNDINACEUS GARRISON CREEPING FOXTAIL VIRGINIA WILD RYE 5% FESTUCA RUBRA CREEPING RED FESCUE 5% BIDENS CERNUA ODDING BUR-MARIGOLD 4% SPARGANIUM EURYCARPUM GIANT BUR-REED 4% SCIRPUS ATROVIRENS GREEN BULRUSH 4% SCIRPUS POLYPHYLLUS MANY LEAVED BULRUSH RILIF VFRVAIN 3% VERBERA HASTATA 3% SCIRPUS CYPERINUS WOOLGRASS 1% MIMULUS RINGENS MONKEY FLOWER ROUGH LEAF GOLDENROD 1% SOLIDAGO PATULA

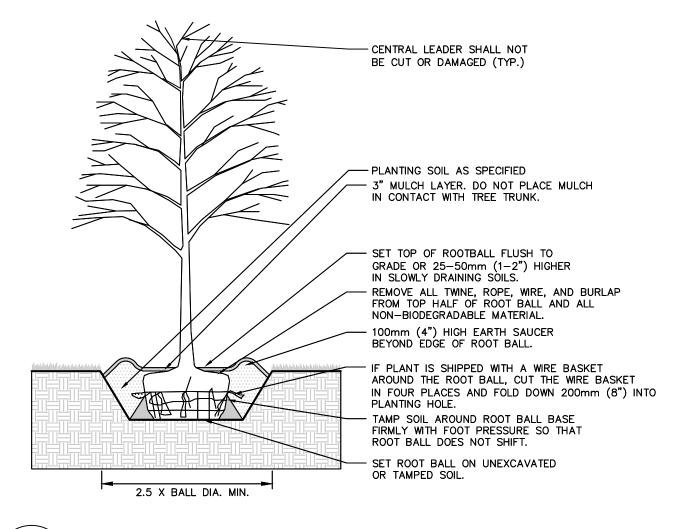
90% FRNMX-127 10% NURSE CROP OF ANNUAL RYEGRASS 3. APPLY ALL SEED AT A RATE OF 20 LBS. / ACRE OF 100% PURE LIVE SEED. MIX ALL SEEDS TOGETHER AND SPRAY DOWN WITH A SPRAY-MULCH WITH TACKIFIERS OR COMPOST.

2. MEADOW SEED MIX B ERNST SEED MIX ERNMX-181 "NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS"

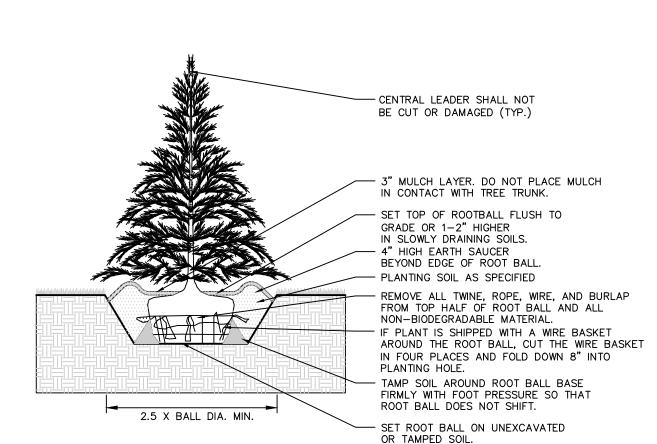
BLACKEYED SUSAN

20.00% LOLIUM MULTIFLORUM ANNUAL RYEGRASS 15.00% TRIDENS FLAVUS PURPLETOP RIVERBANK WILD RYE 14.00% ELYMUS RIPARIUS 12.00% FESTUCA RUBRA CREEPING RED FESCUE 12.00% SORGHASTRUM NUTANS INDIANGRASS 5.00% ANDROPOGON GERARDII 'PRIAIRE VIEW' BIG BLUESTEM 'PRAIRIE VIEW' VIRGINIA WILD RYE 4.00% FLYMUS VIRGINICUS 4.00% AGROSTIS SCABRA TICKLEGRASS 4.00% AGROSTIS PERENNANS AUTUMN BENTGRAS: 2.00% ECHINACEA PURPUREA PURPLE CONEFLOWER 2.00% CHAMAECRISTA FASCICULATA PARTRIDGE PEA .00% MONARDA FISTULOSA WILD BERGAMO .00% COREOPSIS LANCEOLATA LANCELEAF COREOPSIS TALL WHITE BEARDTONGUE 1.00% PENSTEMON DIGITALIS 1.00% LIATRIS SPICATA MARSH BLAZING STAR 1.00% HELIOPSIS HELIANTHOIDES OXEYE SUNFLOWER

1. SEED AT A RATE OF 15 LBS. /ACRE OF 100% PURE LIVE SEED. 2. FOR SPRING SEEDING, APPLY A NURSE CROP OF OATS AT A RATE OF 20 LBS./ ACRE. 3. FOR FALL SEEDING, APPLY A NURSE CROP OF BARLEY AT A RATE OF 20 LBS./ ACRE.

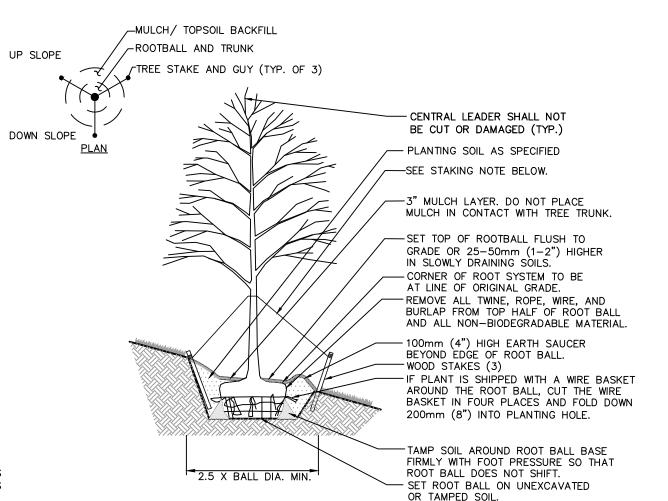


DECIDUOUS TREE PLANTING



EVERGREEN TREE PLANTING

NTS



TREE STAKING SHOULD BE CONSIDERED FOR TREES PLANTED ON SLOPES GREATER THAN 3:1 AND/OR ON WINDY SITES PER THE FOLLOWING: STAKE TREES WITH 2.5" X 2.5" CEDAR OR PRESSURE TREATED STAKES TALL ENOUGH TO REACH ABOVE THE FIRST SET OF BRANCHES (3 PER TREE). STAKES SHALL BE PLACED ON EITHER SIDE OF THE TREE PERPENDICULAR TO THE SLOPE AND ARE TO BE DRIVEN AT LEAST 12 INCHES INTO THE GROUND OUTSIDE OF THE TREE PIT AND ANGLED SLIGHTLY AWAY FROM THE TREE SECURE STAKES TO TREE USING ARBORTIES BY LOOSELY LOOPING THE TIES AROUND TREE ABOVE THE FIRST SET OF BRANCHES AND ALLOWING ENOUGH SLACK FOR TRFF MOVEMENT IN THE WIND. AND NAIL TO STAKES, FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ARBORTIES, OR APPROVED EQUAL, AT GEMPLERS 1-800-332-6744 OR GEMPLERS.COM. ALL STAKING MATERIALS SHALL BE

DECIDUOUS TREE PLANTING ON SLOPE > 3:1

NTS

NTS

-MULCH/ TOPSOIL BACKFILL ROOTBALL AND TRUNK UP SLOPE TREE STAKE AND GUY (TYP. OF 3) — SEE STAKING NOTE BELOW. DOWN SLOPE • --- 3" MULCH LAYER. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. - SET TOP OF ROOTBALL FLUSH TO GRADE OR 25-50mm (1-2") HIGHER IN SLOWLY DRAINING SOILS. CORNER OF ROOT SYSTEM TO BE AT LINE OF ORIGINAL GRADE.

- REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP HALF OF ROOT BALL AND ALL NON-BIODEGRADABLE MATERIAL. 100mm (4") HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL. — WOOD STAKES (3) - IF PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, CUT THE WIRE BASKET IN FOUR PLACES AND FOLD DOWN 200mm (8") INTO

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT

- SET ROOT BALL ON UNEXCAVATED

ROOT BALL DOES NOT SHIFT.

OR TAMPED SOIL.

2.5 X BALL DIA. MIN. TREE STAKING SHOULD BE CONSIDERED FOR TREES PLANTED ON SLOPES GREATER THAN 3:1 AND/OR ON WINDY SITES PER THE FOLLOWING: STAKE TREES WITH 2.5" X 2.5" CEDAR OR PRESSURE TREATED STAKES TALL ENOUGH TO REACH ABOVE THE FIRST SET OF BRANCHES (3 PER TREE). STAKES SHALL BE PLACED ON EITHER SIDE OF THE TREE PERPENDICULAR TO THE SLOPE AND ARE TO BE DRIVEN AT LEAST 12 INCHES INTO THE GROUND OUTSIDE OF THE TREE PIT AND ANGLED SLIGHTLY AWAY FROM THE TREE

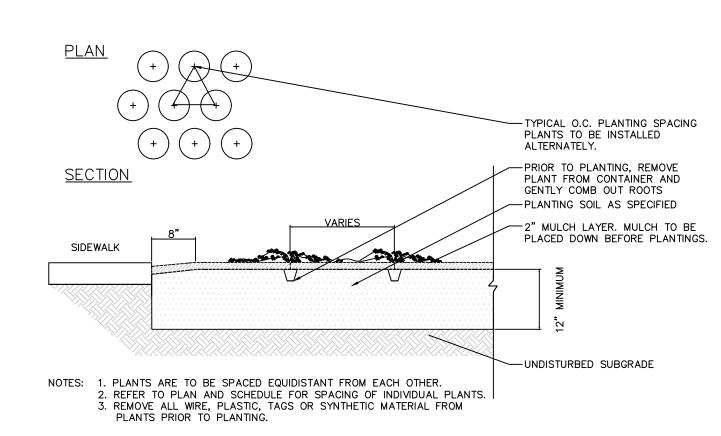
SECURE STAKES TO TREE USING ARBORTIES BY LOOSELY LOOPING THE TIES AROUND TREE ABOVE THE FIRST SET OF BRANCHES

RECOMMENDATIONS FOR ARBORTIES, OR APPROVED EQUAL, AT GEMPLERS 1-800-332-6744 OR GEMPLERS.COM. ALL STAKING

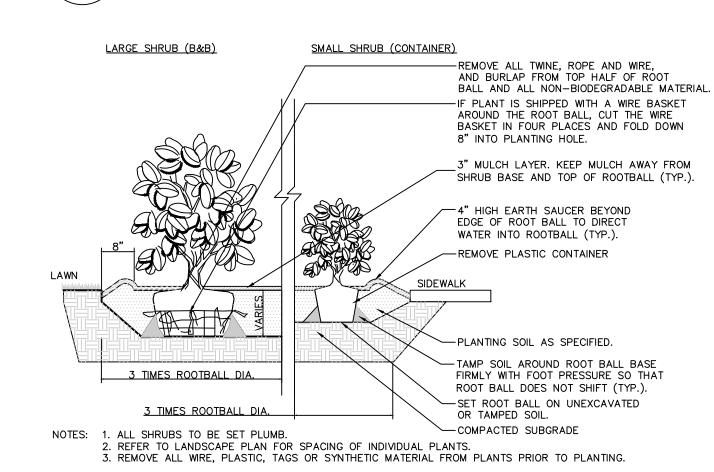
EVERGREEN TREE PLANTING ON SLOPE > 3:1

AND ALLOWING ENOUGH SLACK FOR TREE MOVEMENT IN THE WIND, AND NAIL TO STAKES. FOLLOW MANUFACTURER'S

MATERIALS SHALL BE REMOVED FOLLOWING THE PLANT GUARANTEE PERIOD.



GROUNDCOVER/ PERENNIAL PLANTING



SHRUB PLANTING

NTS

18" MIN.; SEE PLAN —— BUILDING WALL ----1-3" DIAMETER RIVERSTONE -3/16"X4" METAL EDGING — FINISHED GRADE -TOPSOIL — WEED BARRIER FABRIC -18" STAKE INTO UNDISTURBED -GROUND EVERY 30" O.C.

RIVER STONE TO BE INSTALLED WHERE SHOWN ON THE LANDSCAPE PLAN. **RIVERSTONE STRIP AT BUILDING**

GENERAL NOTES:

NTS

NTS

I. WHERE PLANTING AREAS ARE PROPOSED AT FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND. AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.

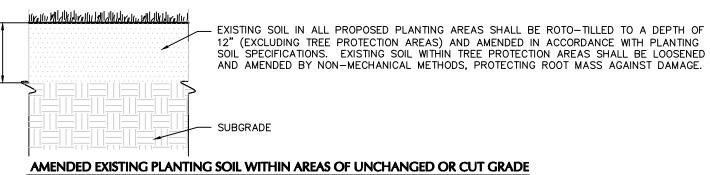
2. SIMILARLY, DUE TO GENERAL CONSTRUCTION ACTIVITIES AND ADJACENT SITE COMPACTION REQUIREMENTS, SUBGRADE SOILS WITHIN PROPOSED PLANTING AREAS TEND TO BECOME HIGHLY COMPACTED. IN ORDER TO CREATE A HEALTHY GROWTH MEDIUM TO ALLOW PROPOSED PLANTINGS TO ESTABLISH A VIGOROUS ROOT MASS, THIS SUBGRADE SOIL MUST UNDERGO A RESTORATION PROCESS. IN ADDITION, IMPORTED OR AMMENDED EXISTING SOILS SHALL BE MIXED WITH SUBGRADE SOILS WHERE THEY MEET IN ORDER TO CREATE A TRANSITIONAL GRADIENT TO ALLOW FOR PROPER DRAINAGE.

- 6" IMPORTED PLANTING SOIL (OR AMENDED - SUBGRADE WITHIN 2'-6" OF FINISH GRADE IN PLANTING

EXISTING PLANTING SOIL) SHALL BE ROTO-TILLED INTO SUBGRADE TO A DEPTH OF 12". - PRIOR TO PLACEMENT OF 6" DEPTH PLANTING SOIL LAYER, THE CONTRACTOR SHALL APPLY 3" OF COMPOST AND ROTO-TILL INTO SUBGRADE TO A MIN. DEPTH OF

AREAS SHALL CONSIST OF FREE DRAINING SANDY SOIL FILL *EXISTING SOIL PREVIOUSLY STRIPPED FROM FORMER LANDSCAPE AREAS CAN BE USED FOR PLANTING SOIL UPON APPROVAL BY THE PROJECT LANDSCAPE ARCHITECT. CONTRACTOR SHALL REFER TO PLANTING SOIL SPECIFICATIONS FOR REQUIRED SUBMITTALS.

IMPORTED OR AMENDED EXISTING PLANTING SOIL WITHIN AREAS OF RAISED GRADE



1. CONTRACTOR IS RESPONSIBLE TO SEND SAMPLES OF EXISTING SOILS INTENDED FOR USE IN PLANTING AREAS (1 PER 500 CY.) TO TESTING LABORATORY OR UNIVERSITY COOPERATIVE EXTENSION FOR TESTING. ALL TESTING COSTS ARE AT THE CONTRACTOR'S EXPENSE. 2. IMPORTED FILL SHALL CONTAIN NO CONTAMINATION IN EXCEEDENCE OF THE PROJECT STATE ENVIRONMENTAL REVIEW

AGENCY STANDARDS AND MEET THE ENVIRONMENTAL REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF COMPLIANCE PRIOR TO DELIVERY OF ANY FILL TO THE SITE. 3. CONTRACTOR TO LIGHTLY COMPACT ALL PLACED PLANTING SOILS AND RAISE GRADES ACCORDINGLY TO ALLOW FOR FUTURE SETTLEMENT OF PLANTING SOILS (TYP.)

4. NO STONES, WOOD CHIPS, OR DEBRIS LARGER THAN 1/2" SHALL BE ACCEPTABLE WITHIN PLANTING AREAS.

 ${f igcelowbreak 8}\setminus {\sf PLANTING}$ SOIL

Description REVISIONS

DATE SIGNED NEW JERSEY LICENSED LANDSCAPE ARCHITECT STATE LIC. No. 21AS00148900

Langan Engineering and Environmental Services, LLC 1 University Square Drive, Suite 110 Princeton, NJ 08540

NORTH BRUNSWICK **EXECUTIVE PARK**

T: 609.282.8000 F: 609.282.8001 www.langan.com

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

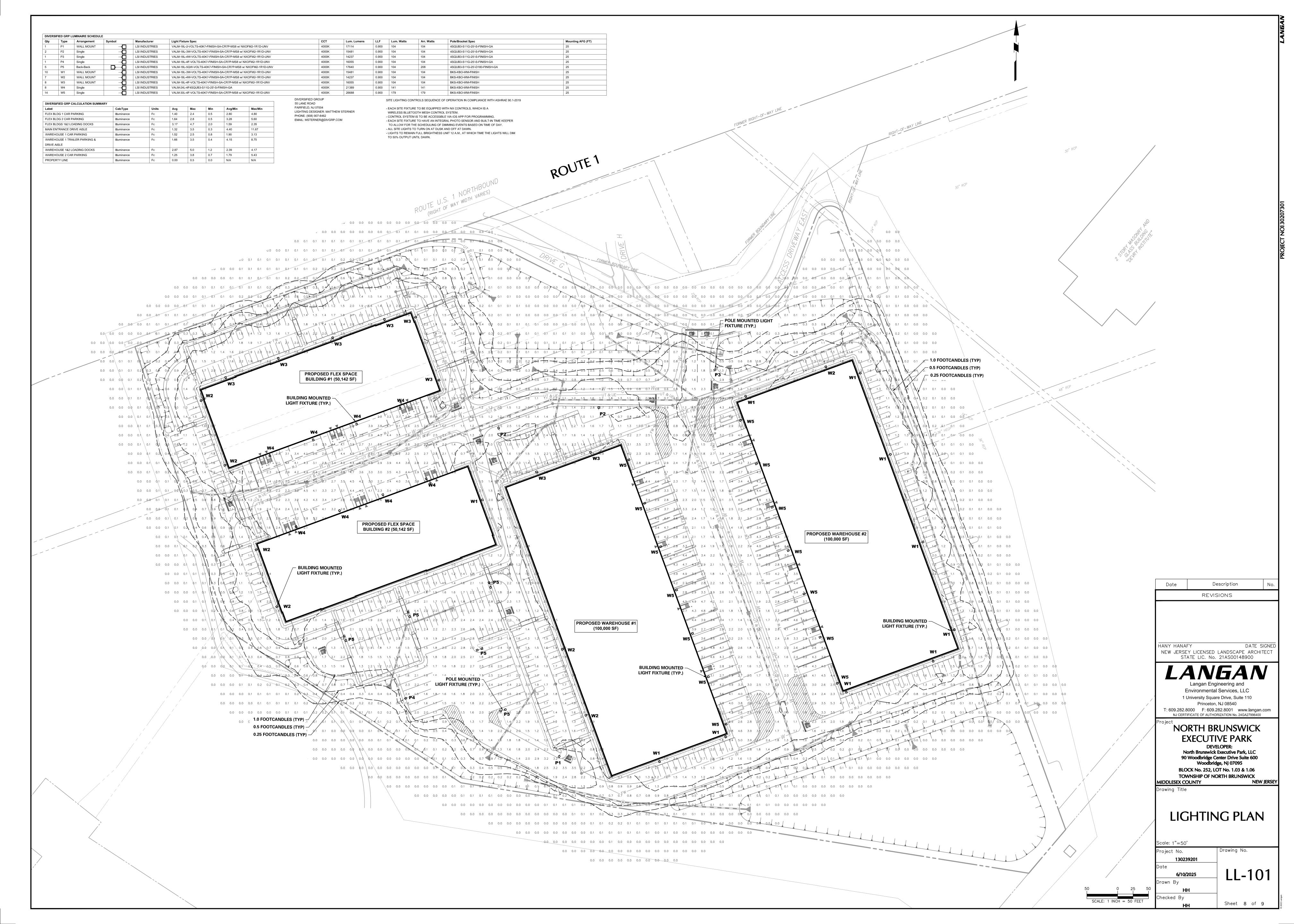
DEVELOPER: North Brunswick Executive Park, LLC 90 Woodbridge Center Drive Suite 600 Woodbridge, NJ 07095

BLOCK No. 252, LOT No. 1.03 & 1.06 TOWNSHIP OF NORTH BRUNSWICK MIDDLESEX COUNTY Orawing Title

LANDSCAPE NOTES & DETAILS

Scale: NTS Drawing No. roject No. 130239201 LP-501 6/10/2025

Drawn By Checked By Sheet 7 of 9



GENERAL

- 1. POINT-BY-POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP/ DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS-BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE
- 2. LIGHT LEVEL POINT SPACING IS 20 FT. LEFT TO RIGHT AND 20 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.

COMPLIANCE

- 3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
- 4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

COORDINATION

- 5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY AND SAFELY.
- 6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.
- 7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
- 8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.
- 9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

POLES AND FOOTINGS

- 10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST-IN-PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, SUCH AS PRECAST, MAY CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.
- 11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.
- 12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.
- 13. ALL POLES HIGHER THAN 25 FT. SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

WALL MOUNTED FIXTURES

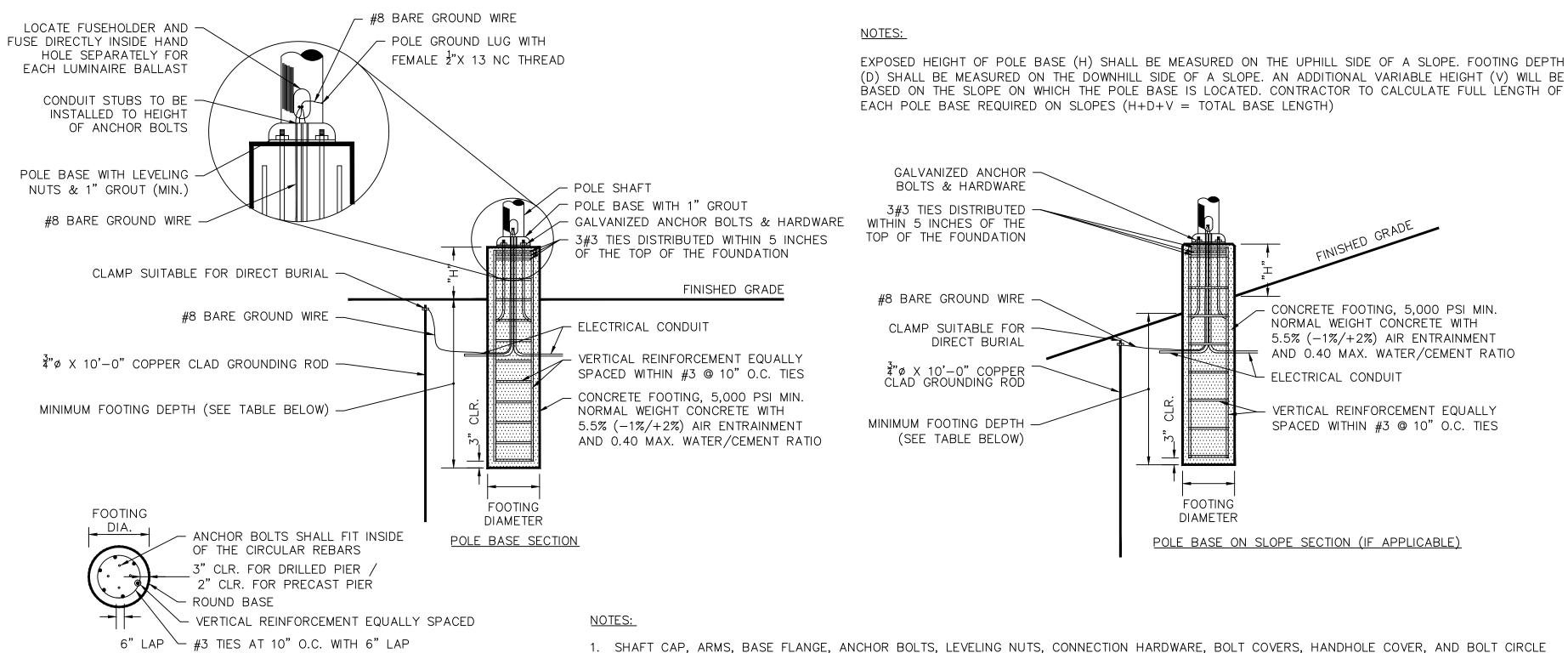
- 14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.
- 15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

ADJUSTMENT AND INSPECTION

PLANS.

- 16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.
- 17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR
- 18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE

NO ALTERNATES WILL BE ACCEPTED



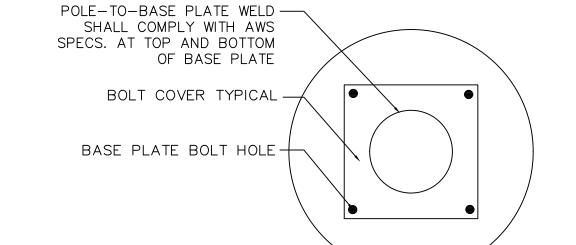
MOUNTING	FOOTING	FOOTING	EXPOSED	VERTICAL
HEIGHT	DEPTH	DIAMETER	HEIGHT "H"	REINFORCEMENT
25'-0"	4'-6"	2'-0"	3'-0"	

<u>PLAN</u>

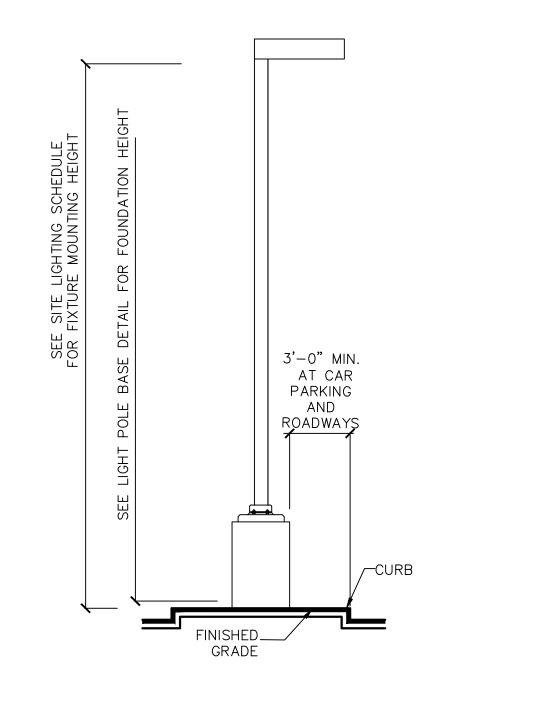
LIGHT POLE BASE

- TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER. 2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER
- 250-86, N.E.C. 3. CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF ACI 318. CAST-IN-PLACE SHALL HAVE UNCONFINED COMPRESSIVE STRENGTH OF AT
- LEAST 5,000 PSI AT 28-DAYS. DEFORMED REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. 4. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL.
- 5. IF POLE BASE IS CAST-IN-PLACE, POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND-RUBBED SMOOTH. 6. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT.
- 7. CONTRACTOR TO CONFIRM GROUNDING DESIGN WITH MEP.

THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.



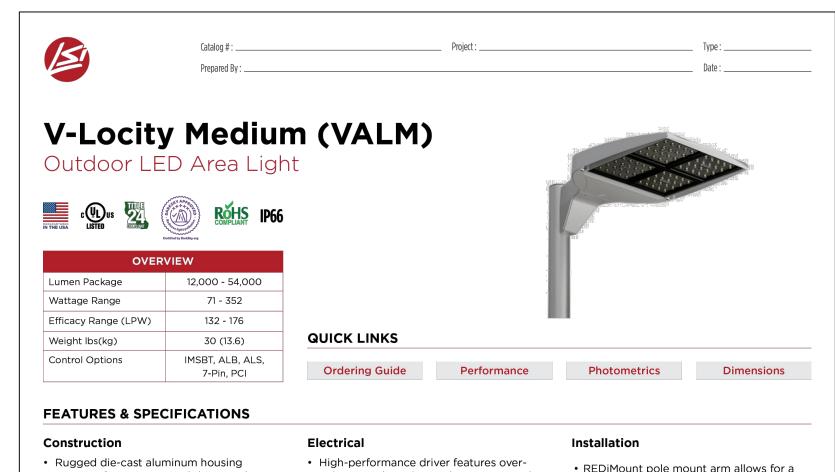
<u>PLAN</u>



<u>SECTION</u>

LOCATED PER THE LIGHTING PLANS.

1. CURB LOCATION IS SHOWN FOR SCHEMATIC PURPOSE. LIGHT POLES SHALL BE



voltage, under voltage, short-circuit and

• 0-10 volt dimming (10% - 100%) standard,

over temperature protection.

(-40°F to +122°F).

Power factor: >.90

L70 Calculated Life: >60k Hours

Total harmonic distortion: <20%

• Input power stays constant over life.

• Field replaceable 10kV surge protection

operation (per ANSI/IEEE C62.41.2).

components can easily be accessed.

device meets a minimum Category C Low

contains factory prewired driver and optical units. Cast aluminum wiring access door located underneath.

- Self-contained optic, board and heat sink assembly can be rotated or replaced in the Fixtures are finished with LSI's DuraGrip®
- polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory. Shipping weight: TBD lbs in carton.

Optical System State-of-the-Art acrylic optics delivers industry leading optical control with an integrated gasket to provide IP66 rated

Proprietary refractor optics available in 15

different distribution (types 2, 3M, 3W, 4M,

4W, 4F, FTM, 5QN, 5QM, 5Q, 5QW, AM, WF and LC/RC). See photometric section for • Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377 as well as phosphor

converted amber.

5000K and 4000K).

Factory or field installable integra

- Optional integral passive infrared Bluetooth™ motion and photocell sensor. • Minimum CRI of 80 (optional 70 CRI for
- Fixtures operate independently and can be commissioned via iOS or Android configuration app. shielding available for enhanced spill light LSI's AirLink™ wireless control system Zero Uplight (excludes adjustable arms).

to square or round poles. must specify EXT option for dimming Pole mount arms can accommodate pole leads to be extended to fixture exterior. drill patterns from 2.4 to 5" on center and Standard Universal Voltage (120-277 VAC) utilize LSI's reduced B3 or traditional B5 Input 50/60 Hz or optional High Voltage (347-480 VAC). Additional mounting options are available • Operating temperature: -40°C to +50°C

including a mast arm or adjustable slip fitter that allow for luminaire attachment to a 2 3/8" tenon or mast arm. Adjustable arms allow for 65° of tilt (-5° below horizontal to +60° above horizontal) in 5° increments.

true one person installation.

• Side arm pole mount designed to mount

 LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp. High-efficacy LEDs mounted to metal-core warranty/ for more information.

circuit board to maximize heat dissipation Driver is fully encased in potting material for moisture resistance and complies with Listed to UL 1598 and UL 8750. FCC standards. Driver and key electronic

- Meets Buy American Act requirements. DarkSky approved with 3000K or warmer color temperature selection (side arm pole and mast arm mounting only). Title 24 Compliant; see local ordinance for
- IP66 rated Luminaire per IEC 60598-1. options reduce energy and maintenance • 3G rated for ANSI C136.31 high vibration

qualification information.

costs while optimizing light quality 24/7.

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LIGHT POLE



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2 LIGHT FIXTURE AND POLE