

PERMANENT SEEDING SPECIFICATIONS

- SITE PREPARATION**
 - INSTALL EROSION CONTROL MEASURES AND FACILITIES SUCH AS SILT FENCE, DIVERSIONS, SEDIMENT BASINS, CHANNEL STABILIZATION, ETC. SEE STANDARDS B THROUGH 4.
 - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDING PREPARATION, SEEDING, MULCH APPLICATION, MULCH ANCHORING AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE STANDARDS FOR LAND GRADING.
- SEEDING PREPARATION**
 - APPLY A UNIFORM 5 INCHES (UNSETTLED) OF TOPSOIL IN ACCORDANCE WITH THE STANDARDS FOR TOPSOILING OVER ALL DISTURBED AREAS. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING PH OF 5.0 OR MORE IN ACCORDANCE WITH THE STANDARDS FOR MANAGEMENT OF HEAVY ACID PRODUCTION SOIL.
 - TOPSOIL SHOULD BE HANDLED ONLY WHEN DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
 - APPLY GRIND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE ANALYSES ARE AVAILABLE FROM THE LOCAL RUTGERS CO-OPERATIVE EXTENSION OFFICES. FERTILIZERS SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQUARE FEET OF 10-20-20 OR EQUIVALENT WITH 50% WATER INSOLUBLE PHOSPHORUS. A SOIL TEST INDICATES OTHERWISE, APPLY LIMESTONE IN ACCORDANCE WITH THE TABLE BELOW AND THE RESULTS OF SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE TABLE BELOW IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION RATES.

LIMESTONE APPLICATION RATE BY SOIL TEXTURE	TONS/ACRE	LBS/1,000 SQ. FT.
SOIL TEXTURE		
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	3	150
GRAVELY LOAM, LOAM, SILT LOAM	2	100
LOAMY SAND, SAND	1	50

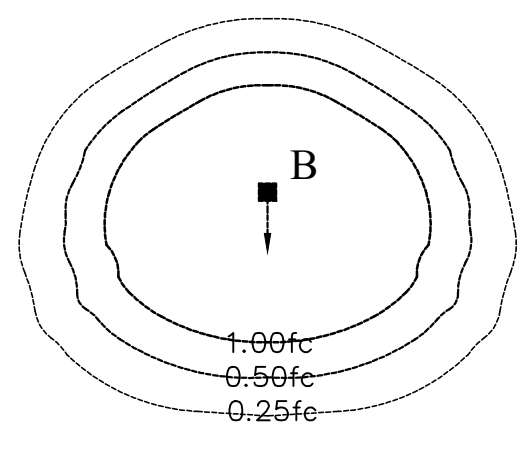
 - IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION THE SURFACE SHOULD BE SCARIFIED 1/2" TO 1" WHERE THERE IS NO SOIL. COMPACTION THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC).
 - WORK LINE AND FERTILIZER INTO THE SOIL TO A DEPTH OF APPROXIMATELY 4 INCHES. THE FINAL HARROWING OR DISC OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE FILLING UNTIL A RELATIVELY UNIFORM SURFACE IS PREPARED.
 - REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION AND OTHER DEBRIS SUCH AS WIRE, TREE ROOTS, PIECES OF CONCRETE, CLUMPS, LUMPS OR OTHER UNSUITABLE MATERIAL.
 - FERTILIZER TYPES, RATES AND TIMING OF APPLICATIONS SHALL BE IN CONFORMANCE WITH THE NEW JERSEY STATE LAW PREVAILING AT TIME OF INSTALLATION OF TURF.
- SEEDING**
 - SELECT AN APPROVED MIXTURE FROM THOSE LISTED BELOW OR AN APPROVED EQUAL AS SPECIFIED IN TABLE OF SOIL EROSION AND SEDIMENT CONTROL STANDARD AND APPLY AS NOTED BELOW WITHIN THE DATES SPECIFIED IN THE STANDARD.

LOCATION	ACCEPTABLE SEED MIXES
LAWN	MIX #1 - HARD FESCUE 100 LBS/ACRE PERENNIAL RYE GRASS 90 LBS/ACRE KENTUCKY BLUE GRASS (BLEND) 40 LBS/ACRE
	MIX #2 - TALL FESCUE 140 LBS/ACRE PERENNIAL RYE GRASS (BLEND) 90 LBS/ACRE KENTUCKY BLUE GRASS (BLEND) 20 LBS/ACRE

 - CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLOPE (CENTRIFUGAL) SEEDER, PROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDER OR ULTRAPACK SEEDERS SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDING PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH BY RAKING OR BRADING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
 - HYDROSEEDING IS A BROADCAST SEEDING METHOD INVOLVING A TRUCK OR TRAILER MOUNTED TANK WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRINKLING THE MIX ONTO THE UNDERSEED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4 MULCHING BELOW) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
 - AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD WHEN PERFORMED ON THE CONTOUR. SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- MULCHING**
 - MULCHING IS REQUIRED ON ALL SEEDING.
 - STRAW OR HAY - UNWETTED SHALL BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (10 TO 30 POUNDS PER 1,000 SQUARE FEET) EXCEPT THAT WHERE A GRASSER IS USED INSTEAD OF A LIQUID MULCH-PAPER (ACKNIFYING OR ADHESIVE ACTION) THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER PLACEMENT USING PDS AND TWINE. MULCH NETTING MECHANICAL GRADER OR LIQUID MULCH DISPENSER IN ACCORDANCE WITH THE STANDARD.
 - WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS. USED AT THE RATE OF 1500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMAL SEEDING PERIODS IN SPRING AND FALL.

GENERAL PLANTING NOTES

- THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. CONTRACTOR SHALL EXAMINE ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, AND STRUCTURES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING INSTALLATION.
- PLANT MATERIAL SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN OR THE PLANT MATERIAL WILL BE UNACCEPTABLE. ALL PLANT MATERIAL SHALL BE TRUE TO SPECIES, VARIETY, SIZE AND BE CERTIFIED DISEASE AND INSECT FREE. THE OWNER AND/OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
- NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO SIZE, SPECIES OR VARIETY WITHOUT WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT OR TOWNSHIP OFFICIALS. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABILITY MUST BE DOCUMENTED.
- THE LANDSCAPE PLAN SHALL BE THE CONTROLLING DOCUMENT WITH RESPECT TO THE LOCATION OF PLANT MATERIAL. THE FINAL LOCATION OF THE PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE BOROUGH ENGINEER. NO SHADE TREE, STREET TREE, ORNAMENTAL FLOWERING TREE OR EVERGREEN TREE SHALL BE PLANTED CLOSER THAN 10' FROM ANY SIDEWALK, DRIVEWAY, CURB, OR UTILITY LOCATION UNLESS SPECIFICALLY DIMENSIONED ON THE LANDSCAPE PLAN.
- ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHALL NOT BE PLANTED LOWER THAN 7'-0" ABOVE GRADE. ALL PLANT MATERIAL LOCATED WITHIN SEET TRANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 20' ABOVE THE ELEVATION OF THE ADJACENT CURB. ALL STREET TREES PLANTED IN SIGHT TRIANGLE EASEMENTS SHALL BE PRUNED TO NOT HAVE BRANCHES BELOW 8'-0".
- THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE UNLESS ANY PLANT QUANTITY DISCREPANCIES OCCUR.
- ALL PLANT MATERIAL SHALL BE PROPERLY SIZED, STAKED, WRAPPED AND PLANTED IN CONFORMANCE WITH THE TYPICAL PLANTING DETAILS. SAW WIRES SHALL BE ATTACHED TO THE TREE AT A HEIGHT OF TWO-THIRDS THE HEIGHT OF THE TREE AND SHOULD BE LOCATED AT POINTS SO AS NOT TO SPLIT THE TRUNKS OF MULTI-STEMMED TREES. PROVIDE THREE TREE STAKES PER TREE UNLESS NOTED OTHERWISE. INSTALL ALL PLANT MATERIAL ON UNDISTURBED GRADE. PROVIDE BURLAP WRAPPING WITH A 50% OVERLAP. CUT AND REMOVE BURLAP FROM TOP ONE-THIRD OF THE ROOT BALL.
- BRANCHES OF DECIDUOUS TREES SHALL BE PRUNED BACK BY NO MORE THAN ONE QUARTER (1/4) TO BALANCE THE TOP GROWTH WITH ROOTS AND TO PRESERVE THEIR CHARACTER AND SHAPE. THE CENTRAL LEADER OF TREE SHALL NOT BE PRUNED.
- PROVIDE PLANTING PITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING PITS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND PARENT MATERIAL. IF WET SOIL CONDITIONS EXIST THEN PLANTING PITS SHALL BE EXCAVATED AN ADDITIONAL 12" AND FILLED WITH GRUBBED STONE.
- PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT NURSERY.
- NEWLY INSTALLED PLANT MATERIAL SHALL BE WATERED AT THE TIME OF INSTALLATION. REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT, GROWTH AND SURVIVAL OF ALL PLANTS.
- PLANT MATERIAL SHALL BE GUARANTEED FOR TWO YEAR AFTER THE DATE OF FINAL ACCEPTANCE. ANY PLANT MATERIAL THAT DIES WITHIN THAT TIME PERIOD SHALL BE REMOVED, INCLUDING THE STUMP, AND REPLACED BY A PLANT OF SIMILAR SIZE AND SPECIES AT THE EXPENSE OF THE DEVELOPER.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM 6" LAYER OF TOPSOIL IN ALL LAWN AREAS AND A MINIMUM OF 12" OF TOPSOIL IN ALL PLANTING AREAS. A FULL SOIL ANALYSIS SHALL BE CONDUCTED AFTER CONSTRUCTION AND PRIOR TO PLANTING TO DETERMINE THE EXTENT OF SOIL AMENDMENT REQUIRED.
- DISTURBED LAWN AREAS SHALL BE STABILIZED WITH EITHER SOIL OR SEED AS INDICATED ON THE LANDSCAPE PLANS. SOIL SHALL CONSIST OF A NEW JERSEY CERTIFIED MIXTURE. SEED SHALL BE IN ACCORDANCE WITH THE LOCAL SOIL EROSION AND SEDIMENT CONTROL DISTRICTS SEED SPECIFICATIONS AS NOTED ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN. ALL DISTURBED LAWN AREAS SHALL BE TOPSOILED, LIMED, FERTILIZED FINE GRADED PRIOR TO LAWN INSTALLATION. FERTILIZER TYPES, RATES AND TIMING OF APPLICATIONS SHALL BE IN CONFORMANCE WITH THE NEW JERSEY STATE LAW PREVAILING AT TIME OF INSTALLATION OF PLANT MATERIAL.
- PLANTING BEDS SHALL RECEIVE 5" OF DOUBLE SHREDDED NON-DYED HARDWOOD MULCH.
- SHRUB MASSSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS.
- EXISTING TREES AND SHRUBS TO BE PRESERVED ON SITE SHALL BE PROTECTED AGAINST CONSTRUCTION DAMAGE BY SNOW FENCING. FENCING SHALL BE PLACED OUTSIDE THE INDIVIDUAL TREE CANOPY. TREES TO REMAIN SHALL BE IDENTIFIED IN THE FIELD PRIOR TO COMMENSAL CONSTRUCTION. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO COMMENSAL CONSTRUCTION, GRADING OR CLEARING. EXISTING VEGETATION BEING PRESERVED AND LOCATED AT THE EDGE OF THE NEW TREELINE, SHALL BE PRUNED AND TRIMMED TO REMOVE ALL DEAD, DISEASED, OR DAMAGED BRANCHES.
- PLANTING BEDS (WIRE, TWINE, RUBBER HOSE, BACKFILL ETC) SHALL BE REMOVED FROM THE SITE AFTER PLANTING IS COMPLETE. PROJECT SITE SHALL BE LEFT IN A NEAT ORDERLY CONDITION IN ACCORDANCE WITH ACCEPTED PLANTING PRACTICES.
- TREES DALLED WITH WIRE BASKETS SHALL BE PROHIBITED ON THIS PROJECT SITE. TREES DALLED WITH WIRE BASKETS TEND TO HAVE A HIGH MORTALITY RATE, ESPECIALLY AFTER SEVERAL YEARS OF GROWTH.



LIGHT FIXTURE ISOLUX PATTERNS

LUMINAIRE SCHEDULE

SYMBOL	QUANTITY	LABEL	ARRANGEMENT	DESCRIPTION
[Symbol]	3	B	SINGLE	STERNBERG LIGHTING CATALOG NO. PT-SL760-24L30T3-MDL018-SV1/RS14-4-A500-P3-2401-5/BKT COLOR TEMPERATURE: 35(00)K

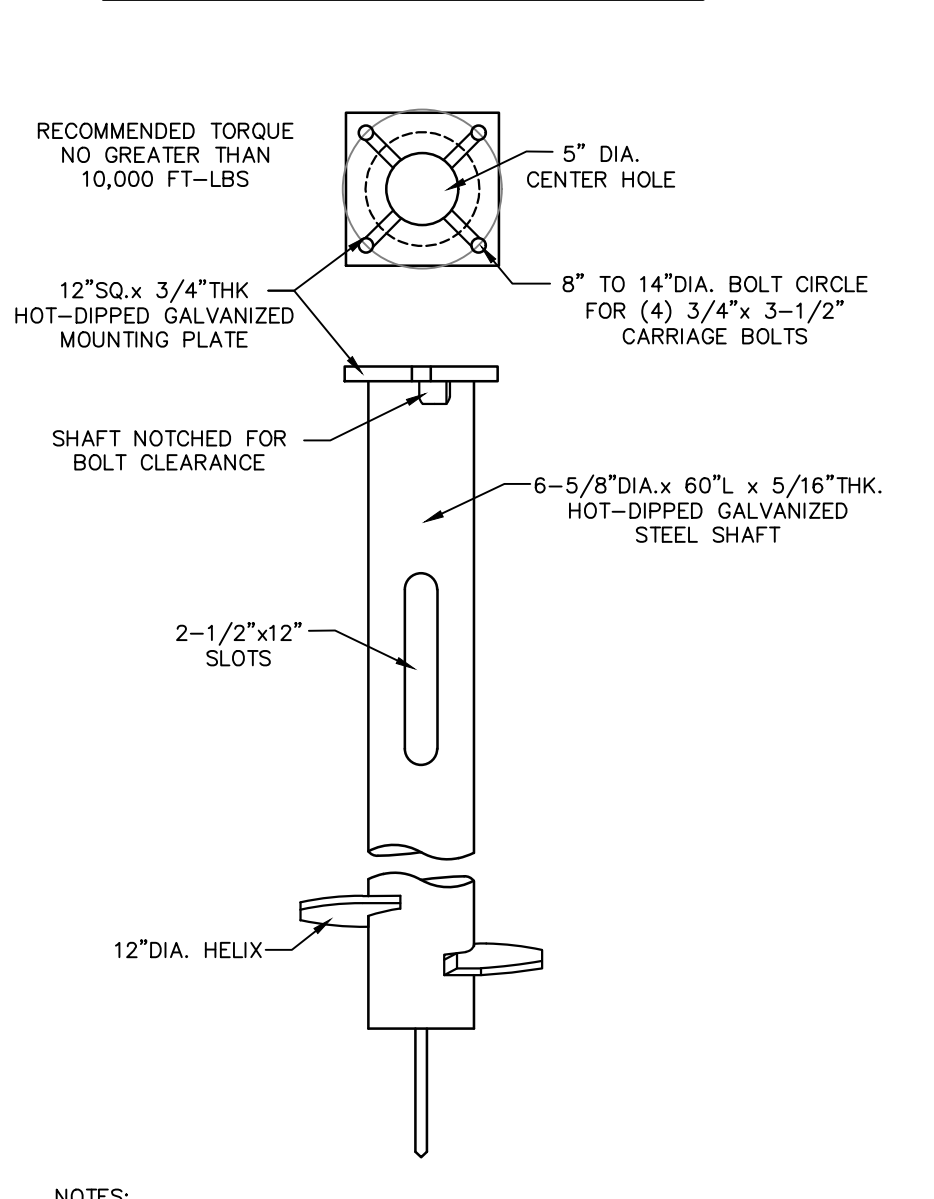


- PRODUCT FEATURES:**
- LUMILEDS LED, high luminous efficiency and long working life.
 - High efficiency LED Driver, the wide range input voltage AC120-277V ;
 - Cast alloy design, better cooling, light quality, LED Tj < 85°C.
 - Optical design, greatly improved the light utilization and evenness

WALL PACK LIGHT FIXTURE DETAIL

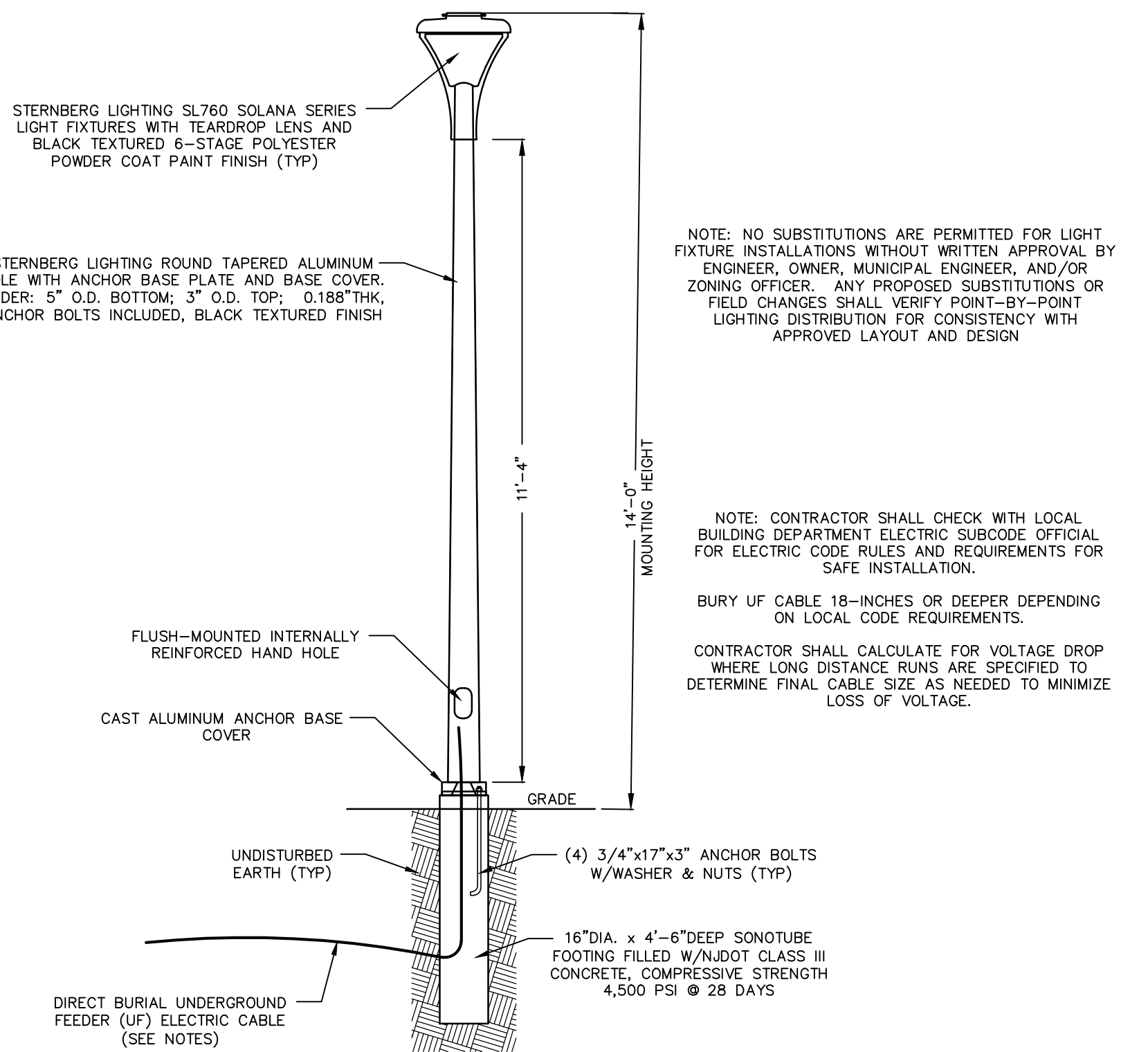
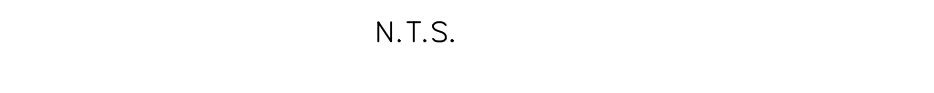


ALTERNATE FOOTING



- NOTES:
- HOT-DIPPED GALVANIZED STEEL HELICAL LIGHT POLE FOUNDATION MODEL NO. T112-0671 CHANCE ANCHOR AS SUPPLIED BY HUBBELL POWER SYSTEMS.
 - INSTALL LIGHT POLE FOUNDATION ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

HELICAL FOUNDATION FOR POLE MOUNTED LIGHT FIXTURES

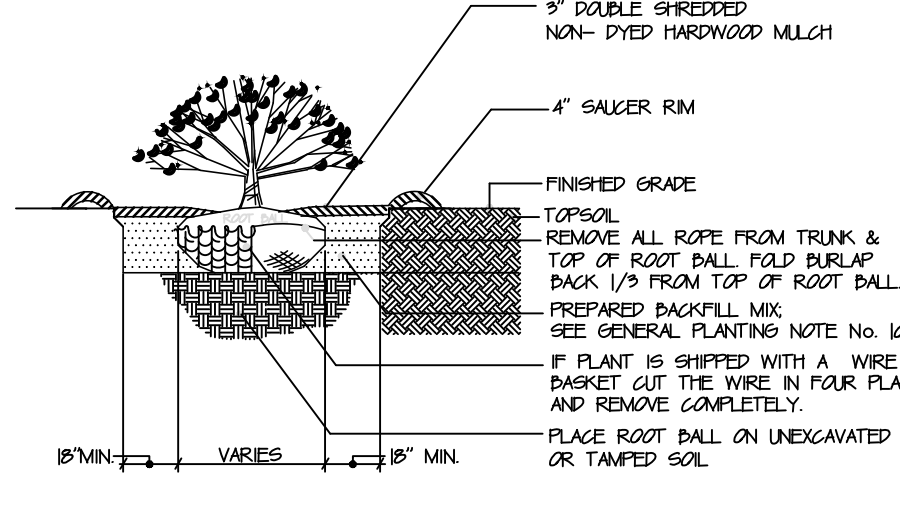


POLE MOUNTED LIGHT FIXTURE DETAIL



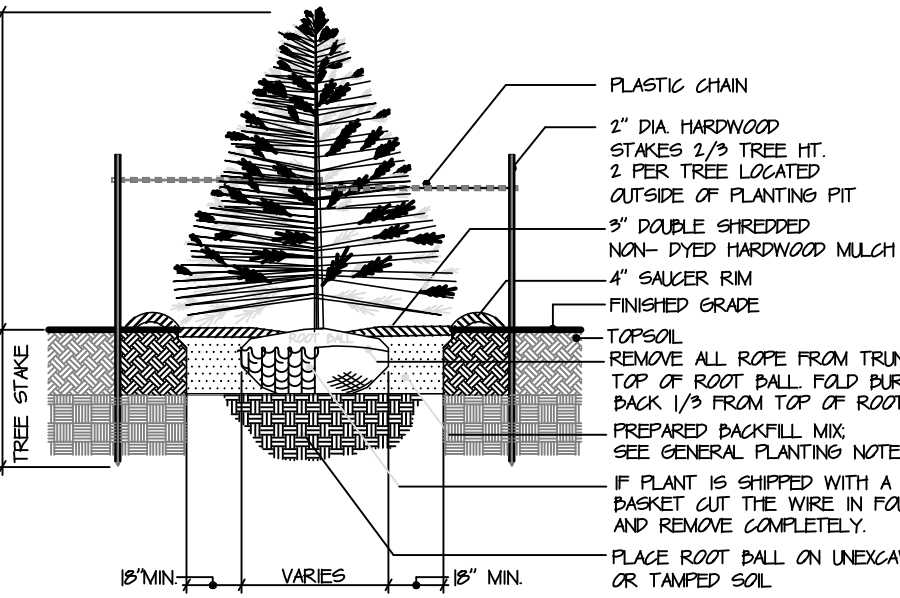
PLANT SCHEDULE

Key	Qty	COMMON NAME	BOTANICAL NAME	SIZE	COMMENTS
SHADE TREES					
ARog	11	October Glory Red Maple	Acer rubrum "October Glory"	3" Cal. @ 6" Hgt.	Full Specimen
PA	4	London Plane Tree	Platanus x acerifolia	3" Cal. @ 6" Hgt.	Full Specimen
ORNAMENTAL TREES					
CC	3	Eastern Redbud	Cercis Canadensis	2" Cal. @ 6" Hgt	Full Specimen, Single
AC	4	Shadblow Serviceberry	Amelanchier canadensis	2" Cal. @ 6" Hgt	Full Specimen
EVERGREEN TREES					
JS	10	WICHITA BLUE JUNIPER	Juniperus scopulorum "Wichita Blue"	7-8'	Full Specimen
PAS	21	Norway Spruce	Picea Abies	7-8'	Full Specimen
SHRUBS					
CS	30	Green Carpet Cottoneaster	Cottoneaster salicifolia	18-24"	Full Specimen
IGC	11	Compact Inkberry Holly	Ilex glabra compacta	24-30"	Full Specimen
SJ	24	"Little Princess" Spiraea	Spiraea japonica "Little Princess"	18-24"	Full Specimen
VD	3	Arrowwood Viburnum	Viburnum Pentatum	24-30"	Full Specimen
DS	35	Boxwood Hedge	Buxus sempervirens 'suffruticosa'	36"	Full Specimen
FL	19	Schipka Laurel	Prunus Laurocerasus 'Shipkaensis'	60"	Full Specimen



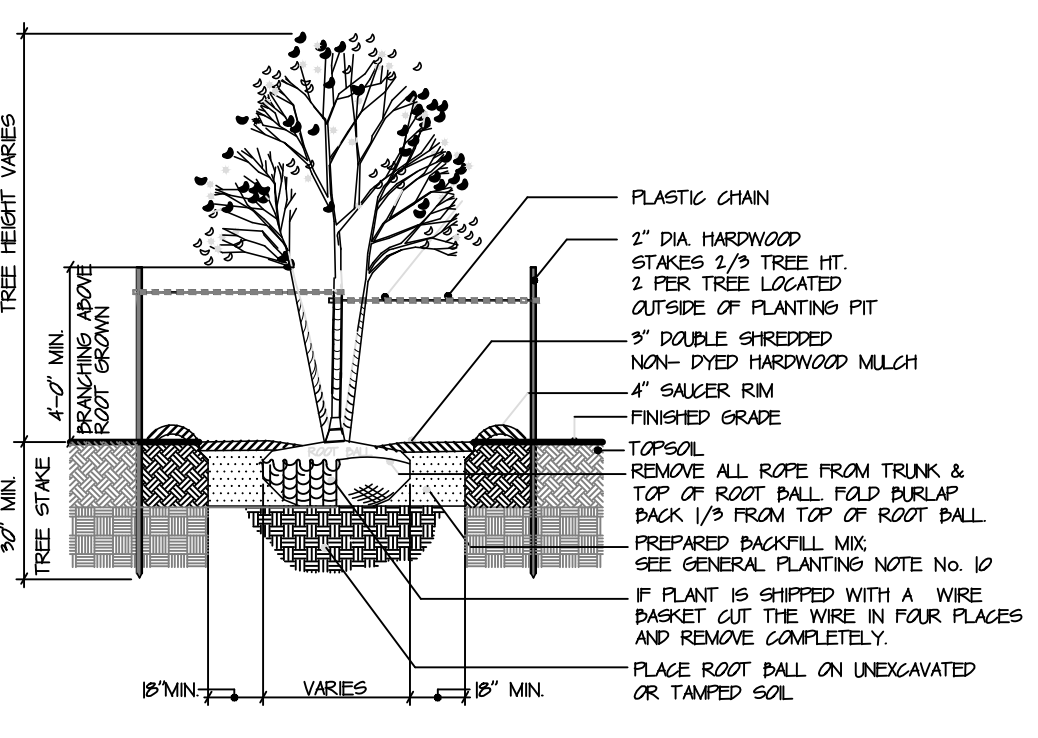
SHRUB PLANTING DETAIL

- NOTES:
- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
 - PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
 - DO NOT USE PLANT MATERIAL DALLED IN WIRE BASKETS.



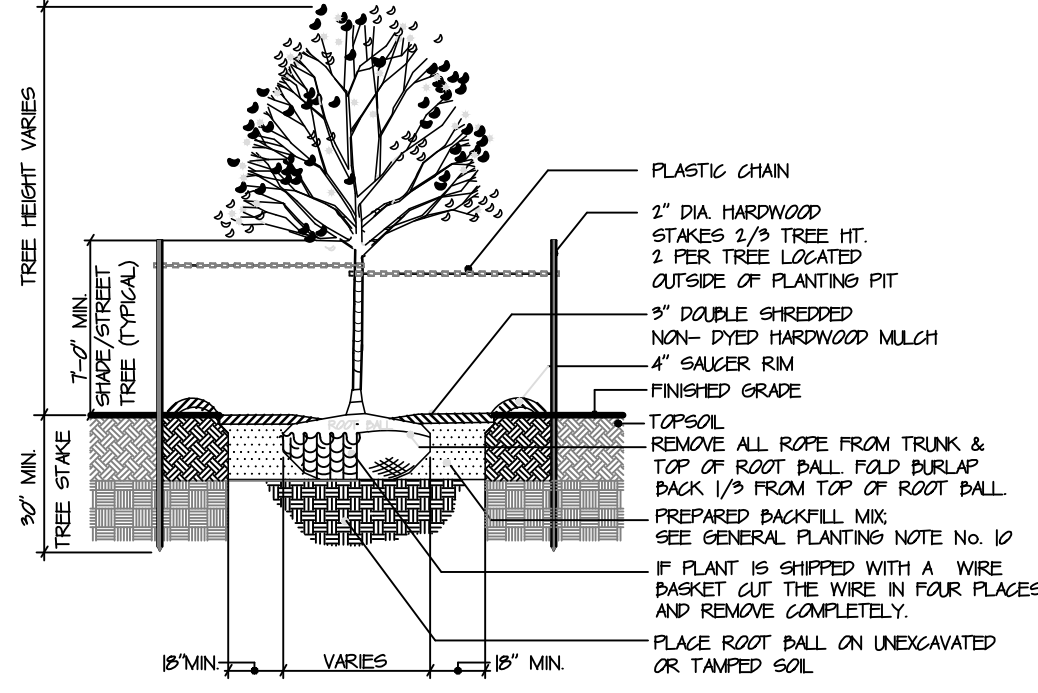
EVERGREEN TREE PLANTING DETAIL

- NOTES:
- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
 - PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
 - DO NOT USE PLANT MATERIAL DALLED IN WIRE BASKETS.



MULTI-STEM TREE PLANTING DETAIL

- NOTES:
- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
 - PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
 - DO NOT USE PLANT MATERIAL DALLED IN WIRE BASKETS.



DECIDUOUS TREE PLANTING DETAIL

- NOTES:
- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
 - PLANTING DEPTH SHALL BE THE SAME OR HIGHER AS GROWN IN NURSERY.
 - DO NOT USE PLANT MATERIAL DALLED IN WIRE BASKETS.

No.	DATE	REVISION	BY
4	6-01-24	REV. FOR TOWNSHIP LAND USE BOARD - RESOLUTION COMPLIANCE	ARS
3	12-01-23	REV. FOR TOWNSHIP LAND USE BOARD - RESOLUTION COMPLIANCE	ARS
2	7-22-22	REV. PER TOWNSHIP ENGINEER'S 6-30-21 COMPLETENESS REVIEW	ARS
1	10-01-21	REV. PER TOWNSHIP ENGINEER'S 6-30-21 COMPLETENESS REVIEW	ARS

EASTERN CIVIL ENGINEERING, LLC
 CIVIL ENGINEERING - SURVEYING & MAPPING - LAND USE PLANNING - SITE DESIGN
 31 GRAND TOUR , HIGHLANDS NJ 07732 PHONE: 732.872.7736

LANDSCAPING AND LIGHTING NOTES AND DETAILS FOR
MICHAEL MARGARELLA
 BLOCK 47 LOTS 2, 3, 5 & 6
 TAX MAP SHEET NO. 15
 HAZLET TOWNSHIP, MONMOUTH COUNTY, NEW JERSEY

ANDREW R. STOCKTON
 PROFESSIONAL ENGINEER & LAND SURVEYOR
 NEW JERSEY LIC. NO. 35405

DATE:	SCALE:	DESIGN BY:	PROJECT NO.:	SHEET NO.:
3-01-21	AS SHOWN	ARS	2001813	6 of 9