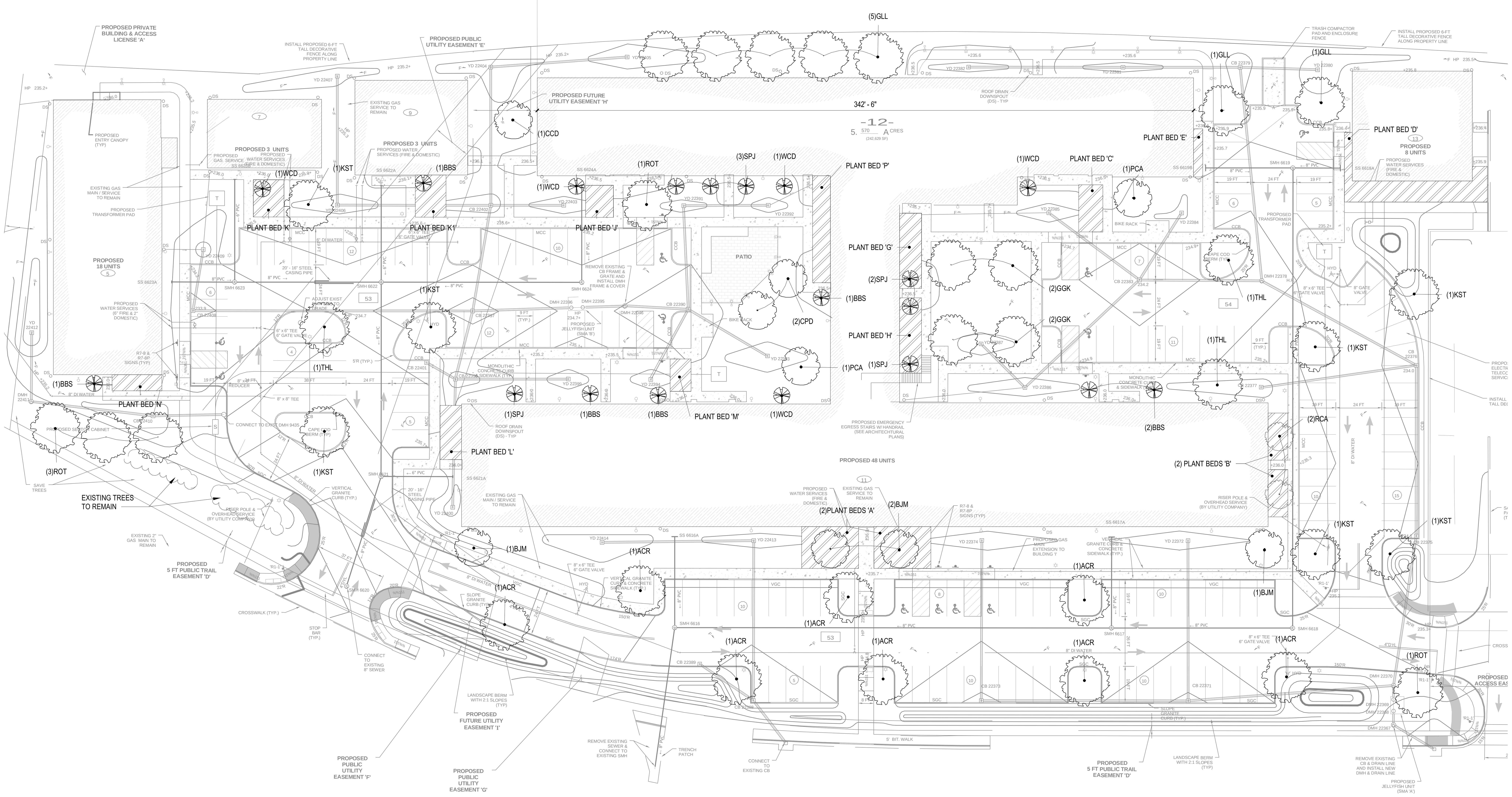
I, Jonathan Halle, hereby Certify that I am the designer of this Landscape Plan and that I am a Professional Landscape Architect Licensed by the State of New Hampshire.

Jonathan Halle, PLA, AIA

IN COMPLIANCE WITH SECTION 28-4-2 OF THE CITY OF CONCORD ZONING CODE, THE FOLLOWING REQUIREMENTS WILL BE FULFILLED WITH:
(b) (1) The minimum buffer width is met with 15', due to the fact that the building does not exceed a height of 20' (average height of the highest pitched roof)
(d) Buffer landscape and Improvement Standards: (2) Buffer Option has been employed. There is a combination of existing and new plants. The NE corner of the site has existing trees and shrubs that already provide screening from the residential neighborhood behind. While there are also some plants along the back edge of the site, we have added (3) Diciduous trees, and (3) Evergreen trees, as shown. This will provide adequate screening for the residential areas behind the bank, with varying densities and heights.



SITE PLAN REQUIREMENTS

TOTAL PAVED AREA = 86,980 SF
1. TREES PLANTED 20' TO 40' APART. (WAIVER)
2. EVERGREENS PLANTED TO SCREEN PREVAILING WINDS. (6' MIN)
3. NO TREES TO BE PLANTED WITHIN 10' UNDERGROUND UTILITIES.
4. MAJORITY OF PLANTINGS DECIDUOUS (2 1/2 - 3" CAL MIN.)
5. BUMP OUTS AND ISLANDS TO HAVE MIN. (1) TREE.
6. NO MORE THAN 25% OF ONE SPECIES. NO MORE THAN 25% ORNAMENTALS.
7. ANY CHANGES TO THE FINAL APPROVED PLANS REQUIRE APPLICABLE CITY APPROVALS PRIOR TO INSTALLATION OF CONSTRUCTION OF SAID CHANGES.

GENERAL NOTE:
ALL DISTURBED AREAS TO RECEIVE 6" LOAM AND FINE LAWN SEED (SFL) UNLESS OTHERWISE NOTED.

CITY OF CONCORD LANDSCAPE ORDINANCE 28-7-10 (d)
(1) LARGE SHADE OR ORNAMENTAL TREE PER 2000 SF OF PARKING AREA, <50' APART, MIN 2" CAL.

86,980 SF PAVEMENT / 2000 = 44 TREES REQUIRED
TREES PROVIDED = 44 OF WHICH (9) ARE ORNAMENTAL.

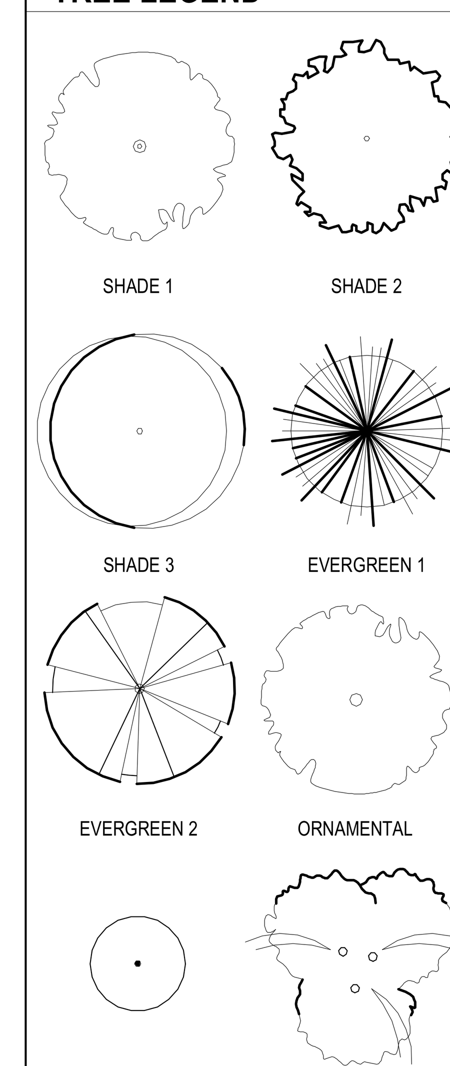
1 SITE PLAN
1" = 30'-0"

SIGN LEGEND

TEXT
SEE MUTCD FOR TEXT DIMENSIONS

IDENTIFICATION NUMBER	SIZE WIDTH/HEIGHT
TEXT DIMENSIONS	
RESERVED PARKING	
R1-1	30"/30"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
STOP	
R7-8	12"/18"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
VAN ACCESSIBLE	
R7-8P	18"/9"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	

TREE LEGEND



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TITLE 2
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P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
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PROJECT TITLE / ADDRESS:
LOFTS II
5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED | DWN BY: Author
PROJECT #: 1234 | CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:31 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE SITE PLAN

LA101

SHEET NUMBER: 1 OF 9 LANDSCAPE

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TEMPLATE DATE: 11/25/2019

LANDSCAPE PLANTING SCHEDULE

Landscape Plant Schedule-Lofts II Concord 04-09-2025

Photo	Type	Sym	Qty	Common Name	Botanical Name	Hardiness Zone	Habit of Growth		Sun Exposure	Drought Tolerant	Native	Toxicity	Installed Size	Type	Use	Description & Notes (Height, Exposure, Bloom, Color)
							Height	Spread								
	Deciduous Large Tree	ACR	10	Red Maple	Acer rubrum October Glory	4-9	40-60'	20-50'	Full Sun	YES	YES	4 to horses only	3"-3 1/2" cal 10-12ft	B&B	Street Tree	Vibrant color and rich reds are synonymous with the American Red Maple Tree. The Red Maple truly earns its name, with its red flowers in early spring, red twigs of new growth, and spectacular red leaves in fall. Its dazzling fall show is further diversified with a few orange or gold shades under certain weather conditions. Even better, the American Red Maple adapts to any environment. The American Red Maple Tree is one of the most populous trees in the eastern U.S. because it adapts so well to many different environments. It is quite drought tolerant, but will grow in wet boggy areas, especially in the Southern portion of its range.
	Deciduous Large Tree	GGK	4	Gingko Tree	Biloba 'Autumn Gold'	4-8	40-50'	25-30'	Full Sun	YES	NO	4	3"-3 1/2" cal 10-12ft	B&B	Street Tree	The strong, full growth of the Ginkgo is incomparable: From its thick, full and vibrantly green foliage to its easy-growing shade. With the Autumn Gold, you get these classic benefits and the perk of dazzling gold in the fall. And the Autumn Gold's open branching means you see more color than with other varieties. This bigger size means that it's even more colorful and carefree since larger trees rely on less water and sun. The Ginkgo is the world's oldest tree for good reason...it survives and thrives, long after others fade. It's tolerant of pollution, disease, insects and more, so whether you're a city dweller or rural homeowner, the Autumn Gold is perfect for you.
	Deciduous Large Tree	GLL	7	Greenspire Littleleaf Linden	Tilia cordata 'greenspire'	3-8	60'-70'	20'-40'	Full-Partial Sun	NO	NO	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	This tree has been a staple in American neighborhoods for generations and in European streetscapes for centuries. Naturally shaped like a rounded pyramid, it adds a definite sense of scale and proportion to your yard. The glossy, dark green leaves are heart-shaped and grow densely, making this an exceptional shade tree.
	Deciduous Large Tree	KST	7	Katsura Tree	Cercidiphyllum Japonicum	4-8	40'-60'	20'-30'	Full Sun	NO	NO	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	Prized for its beautiful shape and attractive foliage, award-winning Cercidiphyllum japonicum (Katsura Tree) is an elegant, single or multi-trunked, deciduous tree with an upright, pyramidal form when young, becoming more rounded with age. The dense foliage of broadly heart-shaped leaves, up to 4 in. long (10 cm), emerges a beautiful reddish purple in spring, matures to blue-green in summer and warms up to attractive shades of gold, orange and red in fall. Katsura Tree remains attractive even after the leaves drop, thanks to its graceful, pyramidal silhouette and its brown, slightly shaggy bark. A great landscape tree for shade that is lovely through the seasons.
	Deciduous Large Tree	ROT	5	Northern Red Oak Tree	Quercus rubra	4-8	50-75'	50-75'	Full Sun	YES	YES	1	3"-3 1/2" cal 10-12ft	B&B	Street Tree	If you're looking for a huge shade tree that you don't have to worry about, the Northern Red Oak is the way to go. Long-lasting, incredibly hardy and fast growing, this tree is the perfect investment for nearly every American family. It grows in even the worst conditions. From wide open pastures, dense forests and polluted city sidewalks, the Northern Red Oak can thrive in nearly every condition imaginable. If you have poor soil, compact space, wet sand, dry clay or urban air, you can grow this tree as well as someone with perfect soil and a wide-open pasture.
	Deciduous Large Tree	THL	3	Thornless Honeylocust	Glediysia triacanthos inermis	4-10	30-60'	30-60'	Full-Partial Sun	YES	YES	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	The Thornless Honey Locust is a large, deciduous, shade tree that is a "thornless" variety of the species, *Gleditsia triacanthos*, commonly known as the Honey Locust. It is a member of the Fabaceae or legume family and grows 30 to 40 feet tall and 25 to 40 feet wide with an upright oval or rounded habit. This variety can be found growing in the wild and reaches the same height as its thorny species trees. Many of the cultivars of this variety are sold in commerce and typically do not have thorns and many times do not have seedpods. This tree has pinnate to bipinnately compound. dark green leaves with ovate leaflets. In the fall, the leaves turn yellow.
	Deciduous Accent Flowering Small Tree	BJM	4	Coral Bark Japanese Maple	Acer palmatum 'Sango-kaku'	5-9	15-25'	10-12'	Full-Partial Sun	YES	NO	4 to horses only	3"-3 1/2" cal 10-12ft	B&B	Street Tree	This beautiful small tree has brilliant red-coral bark on its young branches with color that intensifies in the winter. Deeply cut, pale green leaves display attractive red margins and turn a vibrant, golden yellow in fall. Thrives in bright dappled shade in warmer regions, or in full sun in cooler regions. Deciduous.
	Deciduous Accent Flowering Small Tree	CCD	1	Cherokee Chief Dogwood Tree	Cornus florida 'Cherokee Chief'	5-9	15-30'	15-30'	Full-Partial Sun	YES	YES	0	6'-7' hgt.	B&B	Accent Tree	The Cherokee Chief Dogwood is cold hardy to growing zone 5, where other dogwood varieties can't handle the cold. By being one of the first trees to bloom in spring, Cherokee Chief Dogwoods fill the landscape with fiery red blossoms while other trees are still dormant. Once their dark, green leaves fill in they act as a backdrop for the bright flowers to pop against. The colorful show doesn't stop there because the long, oval shaped leaves fill in to create a thick and attractive canopy that provides shade in the summer. When the leaves first emerge they have a burgundy to bronze tint that fades to green as they mature. Then in the fall the green leaves turn a dark shade of red.
	Deciduous Accent Flowering Small Tree	CPD	2	Cherokee Princess Dogwood Tree	Cornus florida 'Cherokee Princess'	5-9	15-30'	25-35'	Full-Partial Sun	YES	YES	2 to pets only	6'-7' hgt.	B&B	Accent Tree	Prolific, large, pure white, overlapping petal-like blooms in spring, dark green foliage in the summer, reddish-purple leaves in the fall, red berries in winter make this dogwood a lovely ornamental tree for all seasons.
	Deciduous Accent Flowering Small Tree	PCA	2	Prairifire Crab Apple	Malus x 'Prairifire'	4-8	15-20'	15-25'	Full-Partial Sun	YES	YES	1	2 1/2"-3" cal	B&B	Street Tree	The Prairifire Crabapple is showy all year long. Plant several along your driveway and create a grand entrance for your guests, no matter what time of year they arrive. You'll get a rush of warm color in the spring. The spring months deliver gorgeous purple and red leaves to the Prairifire Crabapple, while tons of pink-magenta flowers welcome vibrant color. While your neighbors' yards fade in the summer heat, your Prairifire will still bring magnificent warm hues to your landscape.
	Deciduous Accent Flowering Small Tree	RCA	2	Robinson Crab Apple	Malus 'Robinson'	4-8	15-20'	15-25'	Full-Partial Sun	YES	YES	2 to pets only	2 1/2"-3" cal	B&B	Street Tree	Everyone loves the incredible color of the Robinson Crabapple. You get huge, soft pink blooms in the spring, decorative fruit in the fall and textured bark. The new Robinson Crabapple resists many diseases and pest problems that some of the older varieties of crabapples were plagued by. You also get to enjoy some of the first blooms of spring! The Robinson Crabapple is an early season bloomer... soft pink blossoms and conspicuous fruit make this an ideal specimen tree. You'll love how this fast-growing flowering tree attracts wildlife... birds and butterflies just can't resist its berries.
	Deciduous Accent Flowering Small Tree	STM	1	Star Magnolia "Royal Star"	Stellata "Royal Star"	4-9	15'-20'	10'-15'	Full Sun	NO	NO	0	7'-8' hgt.	B&B	Accent Tree	The impact is accentuated by the weeping, twisted branches tipping towards the ground. This tiny tree explodes in the spring with electric lavender flower clusters cascading along the bare, weeping branches in early spring. The Royal Star Magnolia is one of the most impressive and striking Magnolia trees. It comes to life in spring with huge, 4-inch double blossom flowers whose unique beauty is hard to put into words. Unlike any flower you've ever seen, these star-shaped beauties are such prolific bloomers they nearly cover the tree completely.
	Deciduous Flowering Shrubs	CKV	18	Compact Korean Spice Viburnum	viburnum carlesii 'korean spice baby'	5-7	3-4'	3-4'	Full-Partial Sun	NO	NO	1	3 Gal	CTN	NA	Amazing sweet scent from heavenly blush pink blossoms in the spring make this a must if you love fragrance wafting on the spring breezes. Ball shaped and medium in height, this deer resistant beauty should be in every landscape.
	Deciduous Flowering Shrubs	MWB	2	Minuet Weigela Bush	PL-Weigela-Minuet	4-8	3-4'	3-5'	Full Sun	YES	NO	0	3 Gal.	CTN	NA	Minuet Weigela is a dwarf shrub with showy flowers and foliage. These would make an attractive, small hedge in your landscape, or use one as a colorful accent in your perennial beds Your Minuet Weigela is a colorful plant even when not in full bloom. The elliptic leaves have a slight purple hue, lending them an attractive color all season long. In spring, yellow-throated, hot-pink flowers with a trumpet-like appearance appear for a dramatic display in your yard. As an added bonus, the flowers sporadically bloom again throughout summer, an extra boon for your wildlife. Minuet Weigela has a dense, rounded form and is hardier than some other dwarf cultivars. In fact, it was developed in Canada, and has improved cold tolerance.
	Deciduous Flowering Shrubs	RSH	1	Red Sensation Hydrangea	Hydrangea macrophylia "red sensation'	5-9	2-3'	3-5'	Partial shade-full shade	NO	NO	4	5 gal	CTN	NA	The Red Sensation Hydrangea is a top-choice shrub, which grows vigorously in partial or full shade. It flowers from mid-summer through fall, just when other plants are finishing their bloom. This specially-selected variety will bloom even on new shoots from the base, as well as on older wood, so it is a great choice for gardeners in colder areas. Plant it under trees to fill awkward spaces with dense foliage and bright flowers. The exact flower color will depend on your soil type. In acidic soil (below pH 5.5) they will be blue-violet, but in other soils they will be red-violet. In either case, the unique rich coloring is a terrific contrast to the lighter, more typical blue or pink flowers.
	Deciduous Flowering Shrubs	SAW	8	Anthony Waterer Spirea	Spirea x Bumalda 'Anthony Waterer'	4-9	2-3'	3-4'	Full Sun-Partial Shade	YES	NO	0	-	-	NA	The Anthony Waterer Spirea (Spiraea japonica 'Anthony Waterer') is a charming deciduous shrub that adds a splash of color to any landscape. This plant features delicate, willowy leaves that emerge reddish-purple in spring, mature to a blue-green hue during summer, and transform into vibrant shades of yellow and reddish-purple in the fall. From late spring to midsummer, it produces abundant domed clusters of deep rosy-pink flowers, which attract butterflies and other pollinators. Ideal for borders, foundation plantings, cottage gardens, and even slopes, it is generally ignored by deer and has good resistance to pests and diseases.
	Evergreen Low Ground Cover	BCJ	10	Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	3-9	12'	4'-6'	Full-Partial Sun	YES	YES	1	5 Gal	CTN	NA	Blue Chip Juniper is a tough, low-growing evergreen shrub that is known for its beautiful silver-blue foliage and spreading habit. The deer-resistant foliage holds its blue color all year long. It's a durable, tough groundcover shrub for edging driveways or planted on slopes or along retaining walls for erosion control. Blue Chips are very drought tolerant and thrive in full sun.
	Evergreen Low Ground Cover	BDJ	8	Broadmoor Juniper	Juniperus sabina "Broadmoor'	3-7	2-3'	4-6'	Full Sun	YES	NO	0	3 Gal	CTN	NA	This dense mound of graceful, spreading branches is an excellent choice for a large scale groundcover or an accent to a rock garden. The bright green foliage has excellent wind resistance, and is ideal for coastal conditions. Though persistent winds bother some plants, Broadmoor takes them in stride. Plant as a filler in beds and borders, use in a single mass for erosion control or in poor soils. Unusual bright green plant spreads well enough to be treated as groundcover. Just high enough to create a windscreen for exposed patios and decks. Also a good choice on top of low retaining walls, where it will spread enough to engulf them.
	Evergreen Low Ground Cover	BSJ	32	Blue Star Juniper Creeper	Juniperus squamata 'Blue Star'	4-8	1-3'	1-4'	Full Sun	YES	NO	2 to pets only	5 Gal 18"-24"	CTN	NA	Attractive sparkling blue foliage on dense, spreading branches. Creates a colorful contrast to purple and green foliage plants. Use in a rock garden or as a low border plant. Ideal for mass plantings in minimal-care landscapes. Evergreen.
	Evergreen Low Ground Cover	DMP	4	Dwarf Mugo Pine	Pinus Mugo var. pumilio	2-7	3-5'	3-6'	Full-Partial Sun	YES	NO	2	5 Gal	CTN	NA	A popular dwarf conifer displaying dark green needles on dense branches. A very useful, slow growing evergreen for rock gardens, mass plantings, and in mixed groupings with broadleaf plants. Makes a great container specimen.
	Evergreen Low Ground Cover	PAB	18	Pancake Arborvitae	Thuja occidentalis 'Concesarini' PP #24,013	4-7	1'	2'	Full Sun	YES	YES	3	5 gal	CTN	NA	Finely textured, sage-green evergreen with a low, dense rounded habit. Foliage tints slightly blue in fall and winter. Hardy and easy to maintain. Thrives in full sun and resists burning but will tolerate some shade. Attractive as low border, hedge or in rock gardens
	Evergreen Low Ground Cover	SCC	8	Siberian Carpet Cypress	Microbiota decussata	3-7	2'	2-8'	Full-Partial Sun	NO	NO	0	5 Gal 18"-24"	CTN	NA	A dwarf evergreen conifer. Forms a feathery groundcover with a graceful branch pattern. Genus name comes from the Greek micro meaning small and Biota an obsolete name for Platycladus. Foliage turns bronze to burgundy in winter when grown in sun; feathery dull green foliage with graceful branch pattern; small scale-like awl-shaped leaflet; branchlets arranged in flattened sprays; bright green needles are scale-like; soft texture; bronzy-purple to brown in winter. Full sun to part shade; moist well-drained soil; More shade tolerant than groundcover junipers.
	Evergreen Low Ground Cover	TAM	35	Tam Juniper	Juniperus sabina 'tamariscifolia'	4	1.5'	10'	Full Sun	YES	NO	4	5 Gal 18"-24"	CTN	NA	A densely branched, low-growing conifer that gracefully spreads to form mounds of soft, scale-like, rich green foliage. An excellent conifer for use as a large scale groundcover, on banks and slopes, or as a rock garden accent. Evergreen.
	Evergreen Accent Tree	BBS	7	Baby Blue Spruce	Picea pungens 'Baby Blue'	2-8	15-30'	15'	Full-Partial Sun	YES	YES	0	6'-7' hgt.	B&B	NA	Slower growing than the native Colorado spruce, this semi-dwarf selection is useful for smaller landscapes and confined spaces. Dense, eye-catching silvery blue-green foliage holds its color well. Growing only a few inches per year, it develops a broad, pyramidal form. Evergreen.
	Evergreen Accent Tree	GWY	1	Greenwave Spreading Yew	Taxus cuspidata 'green wave'	4-6	3'-4'	6'-10'	Full-Partial Sun	YES	NO	3	18"-24"	CTN	NA	This low-mounded, spreading, evergreen shrub will reach only 3-4' in height and spread to 6-8'. Rich, dark green foliage keeps its color all year. Good plant for low hedges or mass planting. Does well in both sun and shade, moist, well-drained soil. Does not tolerate wet soil.
	Evergreen Accent Tree	HCJ	7	Hetz Columnar Juniper	Juniperus chinensis 'Hetzi Columnaris'	3-9	15'-20'	4'-5'	Full-Partial Sun	YES	NO	3	6'-7' hgt.	B&B	NA	The Hetzi Columnar Juniper is a very handsome evergreen conifer. We're not sure why it was named 'Columnaris' because its natural form is somewhat more of a narrow pyramid than a column. Regardless, this is one tough yet attractive juniper with many uses in the landscape. The foliage is a nice rich green color and aromatic, and bluish berries add extra appeal.
	Evergreen Accent Tree	SPJ	7	Spartan Juniper Tree	Juniperus chinensis 'Spartan'	4-9	15-20'	5-10'	Full-Partial Sun	YES	NO	3	6'-7' hgt.	B&B	NA	A handsome, fast growing evergreen that forms a stately, dark green, densely branched column well-suited for use as a formal accent, screen or windbreak. In its natural form, the symmetrical, pyramidal shape rarely needs pruning. An excellent specimen for formal topiary. Tolerates heat, cold and drought.
	Evergreen Accent Tree	WCD	4	White Cedar	Thuja occidentalis	2-7	25-60'	10-15'	Full-Partial Sun	YES	YES	1	6'-7' hgt.	B&B	NA	The Northern White Cedar is often called the American Arborvitae. This cedar has flattened branches with green, scaly, fan-like foliage. This selection displays good cold hardiness and heat tolerance and is very popular for landscape, hedge rows, and wildlife plantings. The Northern White Cedar is adaptable to most soil types and is somewhat shade tolerant. This cedar will grow in average moisture conditions, but will also do well in those wetter or swampy areas of your property.
	Evergreen Flowering	ECT	2	Evergreeen perennial Candytuft	Iberis sempervirens 'White Out'	3-9	12"	16"	Full-Partial Sun	YES	NO	4	3 Gal	CTN	NA	Evergreen Candytuft is a spring blooming favourite, often seen cascading over rocks and walls, or used as a groundcover. The glossy, evergreen foliage forms a compact mound. This selection offers loads of large white flowers for several weeks, on a plant of medium size. Prune lightly right after blooming, but otherwise leave plants alone in fall and early spring. Drought tolerant, once established. Prefers a well-drained site, so avoid heavy clay soils that stay wet in winter. Not easily divided
	Evergreen Flowering Small Bush	AEG	8	Azelea Exbury Gibraltar	Rhododendron 'Gibraltar'	5-8	4-6'	6-8'	Full-Partial Sun	NO	NO	4	3 Gal	CTN	NA	The large flowers on this striking azalea are brilliant in color, elegantly frilled, and their subtle fragrance will delight any passers-by including pollinators. Protect it from strong wind, and it's excellent for privacy and screening, growing to a mature height of 4-6'. It also makes a welcome addition to woodland gardens or borders, where it will add a fiery pop of color. It will thrive in full sun to part shade but be sure it's protected from hot afternoon sun in warmer climates.
	Evergreen Flowering Small Bush	RRE	10	Roseum' Rhododendron	Rhododendron x 'Roseum Elegans'	4-8	3'-6'	3'-5'	Full-Partial Sun	YES	NO	4	5 Gal	CTN	NA	A vigorous-growing, medium-sized evergreen shrub, valued for its large trusses of rose-lilac-colored flowers. Thrives in cooler regions but benefits from protection from winter winds. An outstanding choice for foundation plantings or for use as an accent specimen.
	Evergreen Flowering Small Bush	SCR	1	scintillation' Rhododendron	Rhododdendron x 'scintillation'	5-8	4-5'	4-5'	Partial Sun	YES	NO	4	5 Gal	CTN	NA	Dense-growing, broad evergreen shrub valued for its large trusses of showy, lightly scented flowers. Prefers cooler regions but some protection from winter wind is helpful. Very effective as an acce
	Evergreen Flowering Small Bush	STA	1	Stewartstonian Azalea	Rhododendron x gable 'Stewartsonian' Azalea Hybrids	5-8	4-5'	4-5'	Full-Partial Sun	YES	YES	4	3 gal.	CTN	NA	Upright growth, brilliant red fowers 1" across, grow to 5' with rounded shape, blooms very late, very hardy, wine-red winter color.
	Grasses	BLG	6	Little Bluestem Ornamental Grass	Schizachyrium scoparium 'The Blues'	3-9	2-3'	2'	Full-Partial Sun	YES	YES	0	3 Gal	CTN	NA	Elijah Blue Fescue Grass is one of the few plants boasting that unique turquoise/silvery-blue color that will grow just about anywhere in the United States. Blue Fescue is an extremely tough and colorful grass that's tolerant of drought, heat and humidity, as well as being notably cold-hardy down to minus 30°F. This dwarf grass retains its ever blue foliage throughout the year in milder winters and adds especially fine texture within the garden scheme with neatly mounded, blade-shaped needles. The luminous silver-blue leaves blend with the like-colored blooms, until the tall, upright plumes turn tan as they mature. It reaches a height and spread of about 12 in. at maturity.
	Grasses	FRG	2	Feather Reed Grass	Calamagrostis 'x' acutiflora 'Karl Foerster'	4-9	18-24"	4-6'	Full Sun	YES	NO	0	3 Gal	CTN	NA	Easily grown in average, medium to wet soils in full sun. Blooms well in light shade, and actually appreciates some part afternoon shade in hot summer climates such as the St. Louis area, but generally tends to produce fewer flowers and develop floppier foliage as the amount of shade increases. Prefers rich, consistently moist soils that do not dry out. Reportedly does well in heavy clay soils, unlike many other kinds of ornamental grasses. Cut clumps to the ground in late winter just before the new spring shoots appear.
	Grasses	GOG	16	Grey Ornamental Grass	Festuca glauca 'Boulder Blue'	4-9	6-12"	6-12"	Full Sun	YES	YES	4	3 Gal	CTN	NA	Regarded by some as the bluest blue fescue, this plant forms compact, cascading mounds of foot-tall, intensely blue, narrow leaves that are attractive in all seasons. Blooms are generally secondary to the foliage, but this cultivar blooms more heavily than most, with spikelets in summer. This cultivar is long-lived and very hardy. Grow in groups in a border or rock garden, or as a groundcover
	Grasses	SBB	11	Blue Bluestem	Schizachyrium scoparium 'The Blues'	3-9	3'	15"	Full Sun	YES	YES	0	1 yr. potted	1 gal.	NA	Blue Bluestem (Schizachyrium scoparium), also known as Little Bluestem, is a native North American perennial grass that adds texture and color to any landscape. Growing 2-4 feet tall, it features fine, blue-green foliage that turns shades of burgundy and purple in the fall. In late summer and early autumn, it produces airy, purplish-bronze flowers that transform into fluffy, silvery-white seed heads. This drought-tolerant grass thrives in full sun and well-drained soils, making it ideal for low-maintenance gardens. Its deep root system helps stabilize soil, making it valuable for erosion control, while also providing habitat and food for wildlife.
	Grasses	SHD	14	Prairie Dropseed	Sporobolus Heterolepsis	2-9	2-3'	2-3'	Full Sun	YES	NO	0	1 yr. potted	1 gal.	NA	Prairie Dropseed (Sporobolus heterolepis) is a graceful perennial bunchgrass native to North American prairies. It forms neat clumps of fine, hair-like green leaves that turn golden-orange in fall, adding visual interest year-round. This grass grows 2-3 feet tall and wide, producing airy, delicate flower panicles in late summer that release a pleasant, popcorn-like fragrance. Preferring full sun and well-drained soils, Prairie Dropseed is drought-tolerant and low-maintenance, making it an excellent choice for naturalistic plantings, borders, and erosion control. Its dense foliage provides habitat for wildlife and adds texture and movement to the garden.
	Grasses	SWG	4	Switch Grass	Panicum virgatum 'Heavy Metal'	4-9	2-3'	1-2'	Full Sun	YES	YES	2 to horses only	3 Gal	CTN	NA	Panicum virgatum 'Heavy Metal' is a switch grass selection with a dramatically vertical habit. Foliage and stems are erect with metallic blue blades. In summer airy pinkish flower panicles seem to dance in the evening light. Foliage turns golden in autumn and develops a golden brown winter color. 'Heavy Metal' thrives in prairie type settings or in sunny gardens with moist, average or dry soils.
	Perennial	AFR	12	Astilbe Fanal Red	Astilbe arendsii 'Federsee'	4-8	24-36"	24"	Partial Sun-Full Shade	NO	YES	0	1 yr. potted	1 gal.	NA	Red.Astilbe produces masses of feathery flower plumes in hues of bright red, dark pink, light pink, lavender and white. Lacy, deep green foliage complement the flowers. Great for use in the perennial border or in bed plantings in shade or semi-shade. Ideal for perennializing, plants come back year after year!
	Perennial	CHP	17	Coreopsis 'Hot Paprika'	Threadleaf Coreopsis, Tickseed	5-9	15-18"	20"	Full Sun	YES	YES	0	1 yr. potted	2 qt.	NA	Spicy-red flowers with gold button centers heat up the summer garden atop a compact, rounded mound of bright green threadleaf foliage. The fiery red captures attention to give any sunny garden that extra boost of vibrant midsummer color. A great perennial for beginners – Tickseed is an easy perennial to grow and requires little care. Create beautiful petite nosegays for long-lasting summer bouquets. The dainty finely-cut foliage of Coreopsis Hot Paprika adds texture and interesting contrast to surrounding perennials. With the ever-expanding color choices on the market, Coreopsis can be used in just about any garden color scheme.
	Perennial	EFS	8	Erika False Spirea	Astilbe 'Erika'	4-8	24-36"	24"	Partial Sun-Full Shade	YES	NO	4	1 yr. potted	1 gal.	NA	Medium pink flowers appear between early June and July. Astilbes are long-lived perennials for massing, border, or specimen. They have fern-like ornamental foliage and showy blooms. Will tolerate sun with ample moisture, but they are happiest in some shade. Bloom time is June through August. (Flowering times are broken down below after "bloom" as early, middle, and late.) One of our Wicked Ruggeds, a list with our choices for perennials that stand the test of time... rugged, hardy and durable.
	Perennial	HFS	21	Daylily	Hemerocallis flava - 'Stella De Oro Dwarf'	4-11	36"	18"	Full-Partial Sun	YES	NO	4	1 yr. potted	2 qt.	NA	Sensational, award-winning selection that blooms with heavy clusters of 2-1/2 in. yellow blooms. Reblooms freely into early fall. This easy to care for plant forms neat, compact clumps. Herbaceous. S/PSh, June/July, Lemon Yellow - Planted in front of southern evergreen screen.
	Perennial	HKS	4	Hosta King Size	Hosta plantaginea	3-9	24"	40-55"	Part Shade-Full shade	NO	NO	3	1 yr. potted	1 gal.	NA	Species native to China with bright green, waxy foliage and large fragrant white flowers. Well-known hosta that has been around for hundreds of years and has led to many superb hybrids and sports. Furthest south growing hosta in the wild. Also one of the best hostas to grow in the southern states due to its love of heat. In the north, Hosta plantaginea can be troublesome. It prefers a longer growing season and also emerges early making it susceptible to late freezes. Large fragrant white flowers appear in late summer. It is a night bloomer with the flowers opening late in the afternoonS/PSh, Aug/Sept, White
	Perennial	HWF	6	Hosta White Feather	Hosta 'White Feather'	3-9	20-24"	24"	Full Shade	NO	NO	3	1 yr. potted	1 gal.	NA	The intriguing white leaves that emerge in the spring transform into a blend of green and cream as the plant matures. As an added bonus, lavender flowers bloom above the foliage to add grace to your garden.
	Perennial	LEA	6	Lambs Ear	Stachys byzantina	3-9	12-18"	12-18"	Full Sun-Partial Shade	YES	NO	0	1 yr. potted	1 gal.	NA	Lamb's Ear is an herbaceous perennial ground cover from the middle east featuring thick, soft, velvety, silver-gray leaves that form a rapidly spreading groundcover. They are evergreen in warmer climates. In summer, tiny, purplish-pink flowers appear that are best removed to enhance the foliage. The leaves emit a pleasant scent when crushed and the plant is deer resistant and moderately drought tolerant. Lamb's Ear grows well in average, dry to medium, well-drained soils in full sun partial shade.
	Perennial	LIL	10	Lily Bulbs Summer (6 count)	Lilium asiatic 'Lollypop'	3-8	24-30"	18"	Full Sun-Partial Shade	YES	NO	1	-	-	NA	Dwarf variety with bold, two-toned blooms. Delightful in the landscape or as cut flowers, Lollypop is unlike most other lilies because it performs well in containers, due to its relatively short stature. Its up-facing, 7" blooms are white with raspberry tips, and look fantastic growing next to other white or pink flowers. You'll want to snip some for indoor arrangements, so remember to plant a few in your cutting garden.
	Perennial	PCE	20	Purple Cornflower	Echinacea purpurea 'Bright Star'	3-9	1-3'	1-3'	Full-Partial Sun	YES	YES	0	1 yr. potted	2 qt.	NA	This native cultivar with daisy-like flowers blooms from early summer into early autumn. 'Bright Star' has prominent, copper-orange central cones surrounded by red-purple ray petals (to 5 inches across), and grows to less than 3 feet tall. Attracts butterflies, bees, and birds in winter if cones are left on plant. Grow in deep, well-drained soil in full sun. It is tolerant of drought, heat, humidity, and poor soilsS/PSh, June/Sept, Rose Pink - Planted in front of southern evergreen screen.
	Perennial	RBK	6	Black Eyed Susan	Rudbeckia Fulgida "Goldsturm'	3-9	24-36"	24-36"	Full Sun-Partial Shade	YES	NO	2	1 yr. potted	2 qt.	NA	Black-Eyed Susan (Rudbeckia hirta) is a vibrant perennial wildflower known for its cheerful, daisy-like blooms. Each flower features bright yellow to orange petals surrounding a dark brown or black central cone. Growing to a height of 1-3 feet, this hardy plant thrives in full sun and well-drained soils, blooming from early summer to fall. Black-Eyed Susan is relatively drought-tolerant once established and attracts pollinators like butterflies and bees. Though not native to New Hampshire, it has been widely naturalized across the region, adding a splash of color to various garden settings and naturalized areas.
	Perennial	WSB	3	Weiglea Sonic Bloom Pink	Weigela florida 'Bokrasopin'	4-8	48-60"	48-60"	Full Sun	YES	NO	0	-	-	NA	Create an explosion of color with this fantastic new re-blooming selection. Loads of hot pink flowers in spring are followed by waves of blooms until frost! Mounded growth habit with deep green foliage. Reblooms without deadheading, providing season-long color in foundation plantings and borders. Attracts hummingbirds. Deciduous.
	Seasonal Color	BNS	2	Birds Nest Spruce	Picea Abies 'Nidiformis'	2-8	3-5'	4-6'	Full Sun-Partial Sun	YES	NO	0	1 yr. potted	2 gal	NA	Birds Nest Spruce Shrubs are a versatile, dwarf conifer that is an excellent choice for a low evergreen border, accent. Birds nest spruce makes a great evergreen container plant on deck, patios, or porches. The short curving branches are covered with dense, dark green needles that create an interesting bird's nest effect. Its tight, compact shape requires little maintenance and is very deer resistant. Use as a groundcover or as a low divider or hedge between driveways, walkways or along sidewalks.
	Seasonal Color	HWF	4	Hosta	Hosta plantaginea 'White Feather'	3-9	18-20"	30"	Full Shade	YES	NO	2 to pets only	1 yr. potted	1 gal.	NA	Unique, colour-changing leaves. The intriguing white leaves that emerge in the spring transform into a blend of green and cream as the plant matures. As an added bonus, lavender flowers bloom above the foliage to add grace to your garden.
	Seasonal Color	SBI	8	Siberian irises	Iris Sibirica	3-9	2-4'	18-24"	Full Sun-Partial Shade	YES	NO	4	1 yr. potted	1 gal.	NA	Such a wonderful plant. These will multiply over the years in a round circle. The foliage is a nice accent in any garden. The flowers are just as nice addition of accent color of a deep purple with a yellow and white center These will grow 15-24 inches tall. They prefer full sun instead of shade. Maintenance free. Blooms in July and August.
	Seed Lawns	SFL	1	Seeded Ornamental Fine Lawn Mix	(Kentucky Bluegrass and Creeping Red Fescue Blend) 1lb/1000sf @ $19/lb	3-9	8"	NA	Full Sun-Partial Shade	YES	YES	0	Seed Mix	Bag	NA	Lofts Seed Company' or approved equal. Species: 70% tall fescue - Festuca arundinacea. 30% creeping red fescue - festuca rubra. Fine Grade, fertilize, seed and Hydromulch. Seed Rate: 5 lbs/1,000 sf add 10% if hydroseed. Seed Dates April 15 - June 30 and August 15 - October 15 unless approved otherwise.

General Planting Notes

USDA Plant Hardiness Zones - NH North of Laconia Zone 4 - Southern NH Zone 5 - Western Massachusetts Zone 5, - Eastern Massachusetts Zone 6.

Toxicity Levels: To differentiate the differences in toxicity, experts established a numeric 4-scale system: They assigned a score of 1 to a plant with major toxicity — the potential to cause serious illness or death if ingested; 2 for plants with minor toxicity where ingestion may cause vomiting or diarrhea when ingested; 3 for plants where the juice or sap contain needle-shaped oxalate crystals that can irritate skin, mouth, tongue and throat that can result in throat swelling, breathing difficulties, burning pain and stomach upset; and 4 for plants where contact can cause skin rash, irritation. Some plants have a score of 1 or 2 and 4, meaning that they could pose both and ingestion and skin sensitization hazard.

1. The above selection of plants is provided for design intent. Trees, Shrubs, Ground Cover, Flowers, Bedding and Seeding - See Specification and General Notes and Details on the Accompanying Drawings. It is understood that the final installation and implementation of this plan is subject to plant availability, substitutions, time of year, phasing and cost.

2. It is understood, that the majority of nursery plants are to some degree toxic to humans and pets, whether the root, stock, bark, leaf, fruit or juice. The owner and installer should become acquinted to the potential toxicity of the ultimate selection of all nursery plants. Warrenstreet has provided common toxicuty labels of plant materials selected and in noway warranties against the potentuial affects of any plants selected and installed.

3. All planting beds shall be mulched with a minimum of 2" of shredded cedar "BLACK" bark mulch. All sod and/or seeded lawn areas to have minimum 6" topsoil blanket. All fall bulbs shall be planted in the fall, plan accordingly, retainage will be held until plantings occur. All mass planted shrubs beds and planters around building shall have minumum 18" deep topsoil blanket to compensate for the New England very sandy granular sub-grade material.

4. All plant material to conform to current AAN, American Standard for Nursery Stock, ANSI Z60.1-2014. All plantings shall be warranteed for (1) one year from planting date. The landscape Contractor shall be responsible for two (2) lawn mowings and weedings prior to final acceptance of installation.

Revised 10/2024

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

Autodesk Docs://3958 Hayner/3958 STICKNEY AVE.LA.rvt
TEMPLATE DATE: 11/25/2019

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

Warrenstreet
Planning | Landscapes | Architecture | Interiors

WARRENSTREET ARCHITECTS, INC.
4 CRESCENT STREET, UNIT 2
CONCORD, NEW HAMPSHIRE 03303
40 STARK STREET
MANCHESTER, NEW HAMPSHIRE 03103
P. (603) 225-0640
WWW.WARRENSTREET.COOP

SEAL:
LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
110
STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:
LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED DWN BY: Author
PROJECT #: 1234 CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:33 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

PLANTING SCHEDULE

LA102

SHEET NUMBER: 2 OF 9 LANDSCAPE

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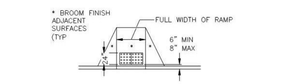
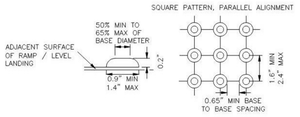


DETECTABLE WARNING PLACEMENT



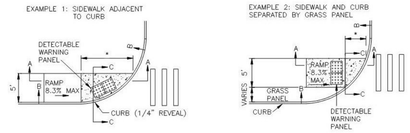
DETECTABLE WARNING DETAILS

NOTES:

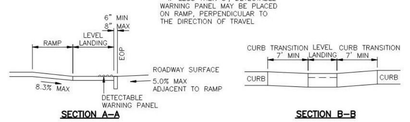
1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON WITHIN THE CITY R.O.W.
2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH.
3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.
4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

1 DETECTABLE WARNING PANEL DETAILS

SINGLE WALK STRAIGHT APPROACH TO PARALLEL RAMP

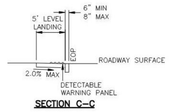


* IF LESS THEN 5', DETECTABLE WARNING PANEL MAY BE PLACED ON RAMP, PERPENDICULAR TO THE DIRECTION OF TRAVEL



SECTION A–A

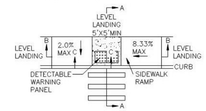
SECTION B–B



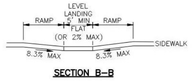
SECTION C–C

2 SIDEWALK RAMP TYPE 1

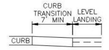
EXAMPLE 5: SINGLE RAMP ON TANGENT: SIDEWALK ADJACENT TO CURB



SECTION A–A

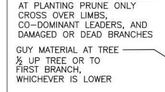


SECTION B–B



SECTION C–C

3 SIDEWALK RAMP TYPE 6, EXAMPLE 5 & TYPE 6 SECTIONS



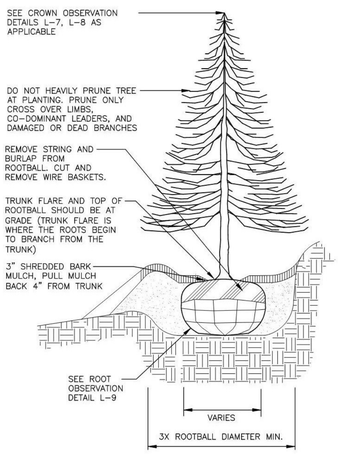
NOTES:

1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT–OF–WAY, NEED TO BE PLANTED A MINIMUM OF 10 FEET FROM THE EDGE OF THE CITY SIDEWALK.
7. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

4 DECIDUOUS TREE PLANTING

NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY AND SUITABLE FOR GUYING TREES) OR EQUIVALENT GUYING MATERIAL.

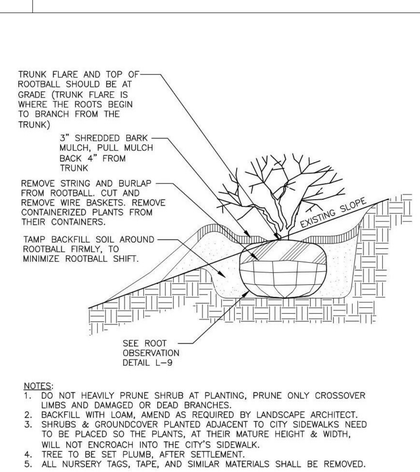
5 DECIDUOUS TREE - GUYING & STAKING



NOTES:

1. DO NOT STAKE EVERGREEN TREES.
2. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
3. TAMP BACKFILL SOIL AROUND ROOTBALL FIRMLY TO MINIMIZE ROOTBALL SHIFT.
4. TREE TO BE SET PLUMB, AFTER SETTLEMENT
5. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

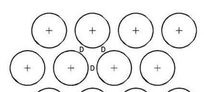
6 EVERGREEN PLANTING



NOTES:

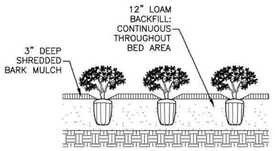
1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCROACH INTO THE CITY'S SIDEWALK.
4. TREE TO BE SET PLUMB, AFTER SETTLEMENT.
5. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

7 SHRUB PLANTING



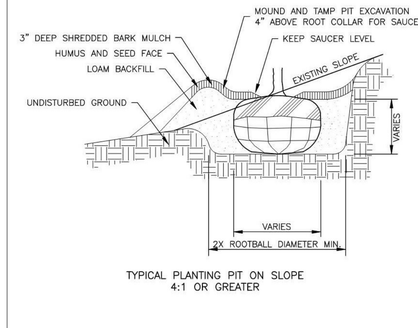
TYPICAL BED PLANT SPACING

D = DIMENSION OF PLANT SPACING (SHRUB OR GROUNDCOVER AS INDICATED ON PLANS)



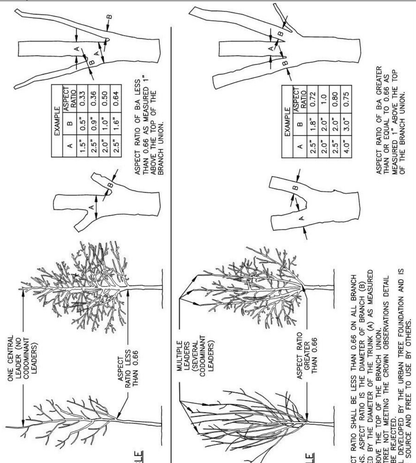
GROUNDCOVER BED PLANTING

8 GROUNDCOVER PLANTING



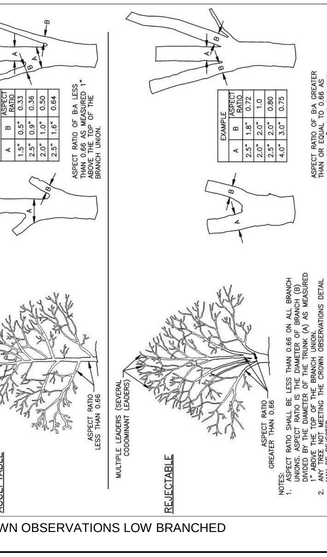
TYPICAL PLANTING PIT ON SLOPE
4:1 OR GREATER

9 TREE PLANTING ON SLOPE



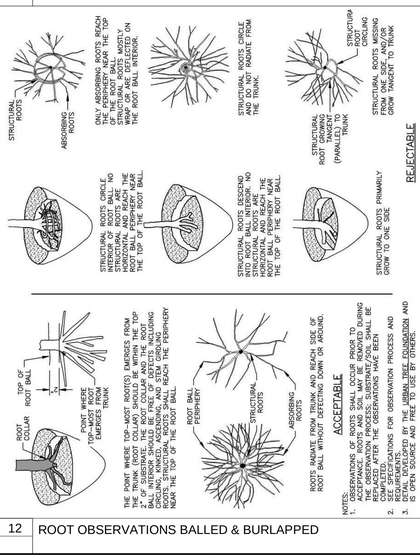
NOTES:
1. ASPECT RATIO SHALL BE LESS THAN 0.66 ON ALL BRANCH UNIONS. ASPECT RATIO IS THE DIAMETER OF BRANCH (B) DIVIDED BY THE DIAMETER OF THE TRUNK (A) AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.
2. ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL ARE REJECTED BY THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

10 CROWN OBSERVATIONS HIGH BRANCHED



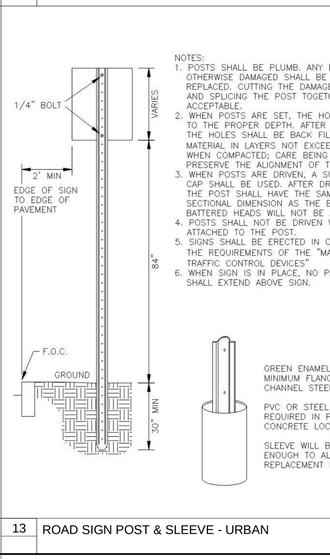
NOTES:
1. ASPECT RATIO SHALL BE LESS THAN 0.66 ON ALL BRANCH UNIONS. ASPECT RATIO IS THE DIAMETER OF BRANCH (B) DIVIDED BY THE DIAMETER OF THE TRUNK (A) AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.
2. ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL ARE REJECTED BY THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

11 CROWN OBSERVATIONS LOW BRANCHED



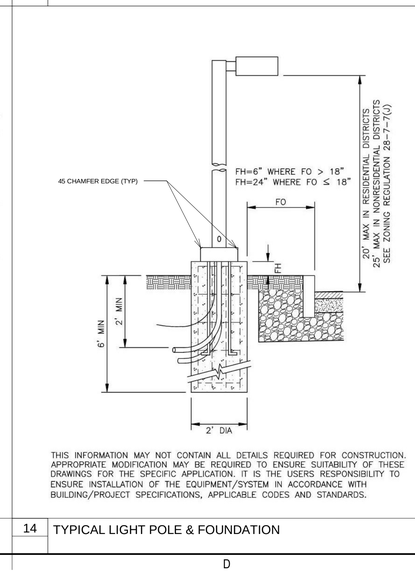
NOTES:
1. OBSERVATIONS OF ROOTS SHALL OCCUR PRIOR TO PLANTING. IF ROOTS ARE OBSERVED AFTER PLANTING THEY SHALL BE REPLACED AFTER THE OBSERVATIONS HAVE BEEN COMPLETED.
2. SEE SPECIFICATIONS FOR OBSERVATION PROCESS AND ACE OBSERVATION PROCESS. SUBSTITUTE FOAMY PLUGGING MATERIALS FOR SOIL SHALL NOT BE ALLOWED.
3. ANY TREE NOT MEETING THE OBSERVATIONS DETAIL AND SEE SPECIFICATIONS FOR THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

12 ROOT OBSERVATIONS BALLED & BURLAPPED



NOTES:
1. POSTS SHALL BE PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. CUTTING THE DAMAGED PORTION OUT AND SPLICING THE POST TOGETHER IS NOT ACCEPTABLE.
2. WHEN POSTS ARE SET, THE HOLES SHALL BE DUG TO THE PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 6" DEEP WHEN COMPACTED; CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING, THE TOP OF THE POST SHALL HAVE THE SAME CROSS–SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"
6. WHEN SIGN IS IN PLACE, NO PART OF THE POST SHALL EXTEND ABOVE SIGN.

13 ROAD SIGN POST & SLEEVE - URBAN



THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USERS RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.

14 TYPICAL LIGHT POLE & FOUNDATION

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TELEPHONE

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TELEPHONE

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TELEPHONE

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MANCHESTER, NEW HAMPSHIRE 03103
P. (603) 225-0640
WWW.WARRENSTREET.COOP

SEAL:

NEW HAMPSHIRE LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
1110

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
DWN BY: Author
PROJECT #: 1234
CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:33 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE DETAILS

LA103

SHEET NUMBER: 3 OF 9 LANDSCAPE

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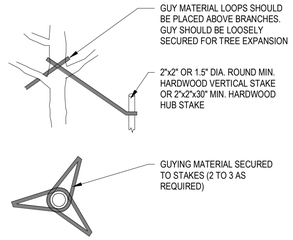
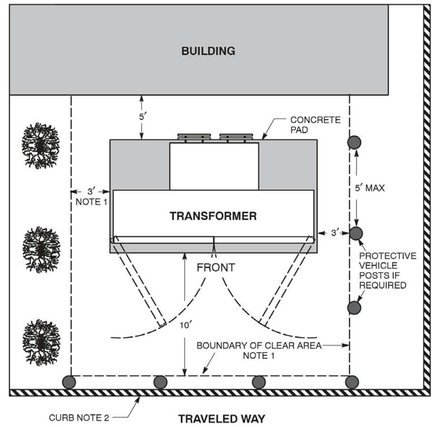
TEMPLATE DATE: 11/25/2019



NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY & SUITABLE FOR GUYING TREES) OR EQUAL GUYING MATERIAL.

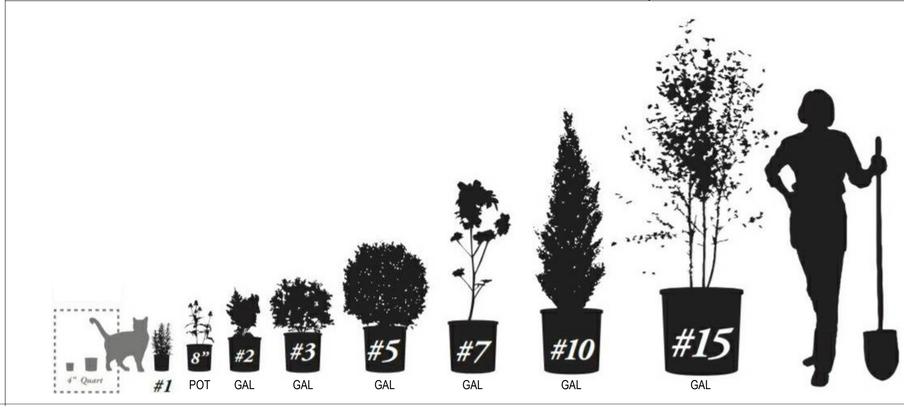
1 DECIDUOUS TREE - GUYING & STAKING
3/4" = 1'-0"



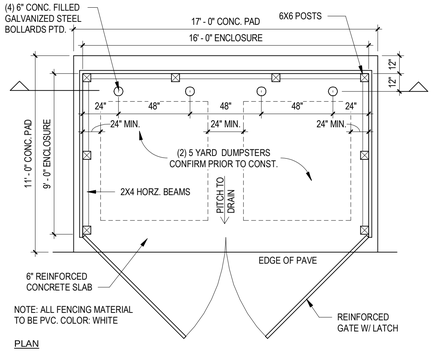
Notes

1. To inspect, provide access, operate elbow connectors and ventilate the transformer, the above specified clear area distances to buildings or shrubs shall be maintained. The distance from the building is to the concrete transformer pad. Property line shall be considered an obstruction, since fences, shrubs, etc. may be installed at a future date by adjacent property owners. Because of the possibility of cooling fins overhanging the pad, side clearances to be increased to 5 feet for transformers 1000 kVA and larger.
2. If no curb exists, or transformer is located closer than 10 feet to the traveled way, protective vehicle posts (●) shall be installed as specified in **DTR 42.061**.
3. Top of transformer pad shall be installed 3 inches above final grade.
4. Transformer shall not be located on steep grades where access to or elbow operation is made difficult.
5. Transformer shall meet the minimum distances to doors, windows, fire escapes, air intakes and walls as specified in **DTR 42.061**.
6. Transformer ***is not*** to be located with its doors facing the building.
7. Refer to **DTR 58.301** for specific instructions on the installation of the transformer pad.
8. Refer to **DSEM Section 06.32** and **DTR 58.311** (NH) for information on environmental considerations.

TRANSFORMER PAD & CLEARANCES



PLANTING RECEPTACLE SIZES

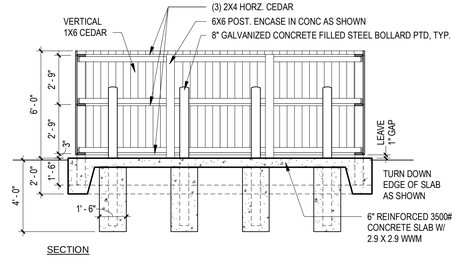


2 PVC PANEL FENCING
3/4" = 1'-0"

NOTES:

1. DUMPSTER PADS AND ASSOCIATED SCREENING SHALL BE PLACED WHERE THE REFUSE BINS CAN BE UNLOADED WITH A SINGLE TURNING MOVEMENT WITH A 35' FRONT LOADING TRUCK. THE WIDTH OF THE GATE SHOULD BE TAKE INTO ACCOUNT WHEN REVIEWING TURNING MOVEMENTS.
2. GATES SHALL BE PROVIDED UNLESS THE DUMPSTER IS BLOCKED FROM VIEW FROM THE PUBLIC RIGHT-OF-WAY AND ABUTTING PROPERTIES BY BUILDINGS OR WALLS.
3. TRASH CONTAINERS SHALL BE LOCATED A MINIMUM DISTANCE OF 25' FROM ANY DRAINAGE STRUCTURE, INLET OR STORMWATER FACILITY.

PLAN



SECTION

3 LA - DUMPSTER ENCLOSURE
1/4" = 1'-0"

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TELEPHONE

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TELEPHONE

MECHANICAL/PLUMBING
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SEAL:
JONATHAN R. HALLE
1/10

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED DWN BY:
PROJECT #: 1234 CHK BY: JH
PRINT DATE: 4/11/2025 10:48:33 AM

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LANDSCAPE STANDARD DETAILS

LA104

SHEET NUMBER: 4 OF 9 LANDSCAPE

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

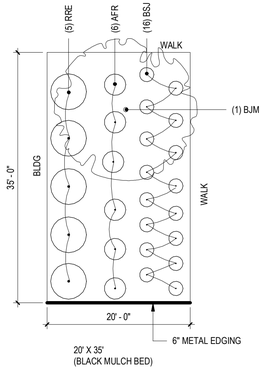
Autodesk Docs://3568 Hayner/3568 STICKNEY AVE LA.rvt
TEMPLATE DATE: 11/25/2019

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

Autodesk Docs://3958 Hayner/3958 STICKNEY AVE LA.rvt
TEMPLATE DATE: 11/25/2019

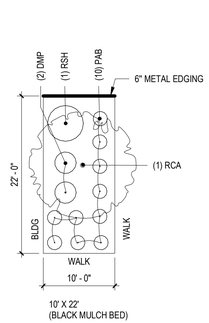
A B C D E

1 2 3 4



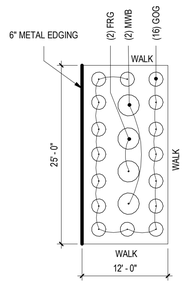
20' X 35'
(BLACK MULCH BED)

1 BED 'A' (X2)
1" = 10'-0"



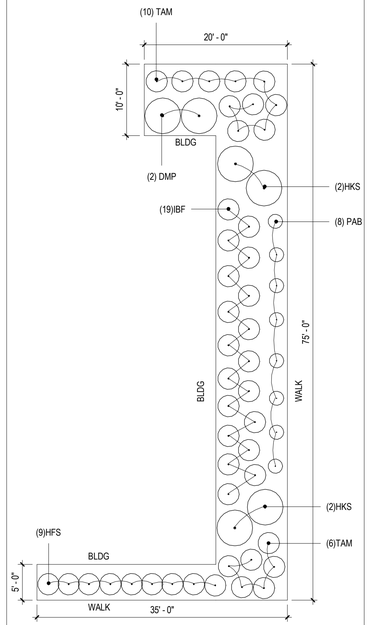
10' X 22'
(BLACK MULCH BED)

2 BED 'B' (X2)
1" = 10'-0"



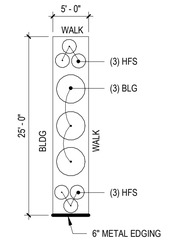
12' X 25'
(2" MINUS RIVER ROCK BED)

3 BED 'C'
1" = 10'-0"



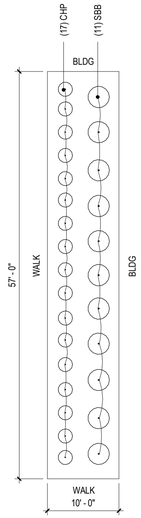
10' X 75'
5' X 25'
10' X 10'
(BLACK MULCH BED)

4 BED 'D'
1" = 10'-0"



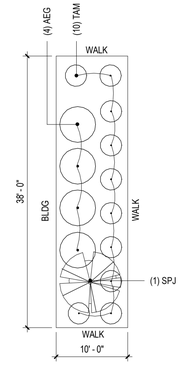
5' X 25'
(BLACK MULCH BED)

5 BED 'E'
1" = 10'-0"



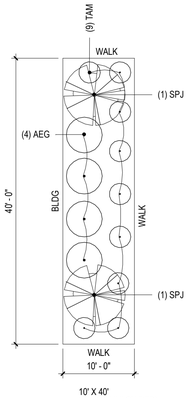
10' X 57'
(BLACK MULCH BED)

6 BED 'F'
1" = 10'-0"



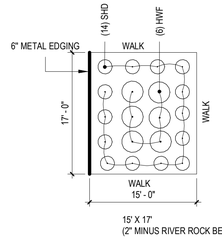
10' X 38'
(BLACK MULCH BED)

7 BED 'G'
1" = 10'-0"



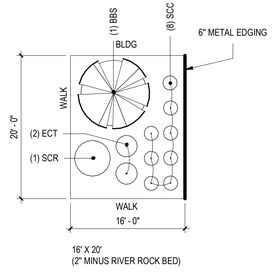
10' X 40'
(BLACK MULCH BED)

8 BED 'H'
1" = 10'-0"



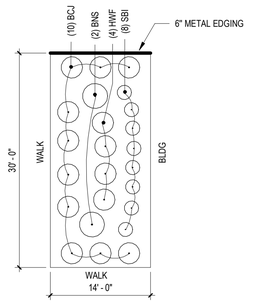
15' X 17'
(2" MINUS RIVER ROCK BED)

9 BED 'J'
1" = 10'-0"



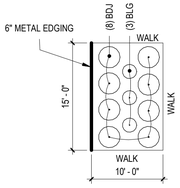
16' X 20'
(2" MINUS RIVER ROCK BED)

10 BED 'K' (X2)
1" = 10'-0"



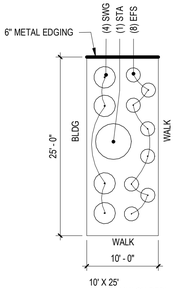
14' X 30'
(BLACK MULCH BED)

11 BED 'L'
1" = 10'-0"



10' X 15'
(2" MINUS RIVER ROCK BED)

12 BED 'M'
1" = 10'-0"



10' X 25'
(BLACK MULCH BED)

13 BED 'N'
1" = 10'-0"

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SEAL:

PROJECT TITLE / ADDRESS:

LOFTS II

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CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
PROJECT #: 1234
PRINT DATE:
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LANDSCAPE PLANTING BEDS

LA105

SHEET NUMBER: 5 OF 9 LANDSCAPE

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LANDSCAPE GENERAL SPECIFICATIONS

SECTION 02955 - TREES, SHRUBS AND GROUND COVERS

PART 1: G E N E R A L

1.1 GENERAL REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION I SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION. SEE DRAWINGS FOR LOCATIONS AND DETAILS.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.

1.2 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING ALL PLANTS, MATERIALS, SUPPLIES, LABOR, EQUIPMENT, AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING AND PLACEMENT OF TOPSOIL AND PLANTING MIXTURE, PLANTING OF ALL TREES, SHRUBS AND PERENNIAL GROUND COVERS, PRUNING/MULCHING/WATERING OF PLANTS, MAINTENANCE, GUARANTEE AND FINAL CLEAN-UP.
B. RELATED SECTIONS: THE FOLLOWING SECTIONS CONTAIN REQUIREMENTS THAT RELATE TO THIS SECTION:
SECTION 02300 "EARTHWORK"
SECTION 02930 "SEEDING AND SODDING"
LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS.
ALL NECESSARY CONSTRUCTION PERMITS.

1.3 SUBMITTALS

A. SAMPLES: BEFORE ANY BARK MULCH IS DELIVERED TO THE JOB SITE, SUBMIT A SAMPLE TO THE LANDSCAPE ARCHITECT FOR THEIR APPROVAL.
B. MATERIALS LIST:
1. BEFORE ANY PLANTING MATERIALS ARE DELIVERED TO THE JOB SITE, SUBMIT TO THE LANDSCAPE ARCHITECT A COMPLETE LIST OF ALL PLANTS AND OTHER ITEMS PROPOSED TO BE INSTALLED
2. INCLUDE COMPLETE DATA ON SOURCE, SIZE, AND QUALITY.
3. DEMONSTRATE COMPLETE CONFORMANCE WITH THE REQUIREMENTS OF THIS SECTION. THIS SHALL IN NO WAY BE CONSTRUED AS PERMITTING SUBSTITUTION FOR SPECIFIC ITEMS DESCRIBED IN THE PLANS OR THESE SPECIFICATIONS UNLESS THE SUBSTITUTION HAS BEEN APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.
C. AS-BUILT DRAWINGS: DURING THE COURSE OF THE INSTALLATION, CAREFULLY RECORD IN RED LINE ON A PRINT OF THE PLANTING PLANS ALL CHANGES MADE TO THE PLANTING LAYOUT DURING INSTALLATION.
D. CERTIFICATES: ALL CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY SHIPMENTS. UPON COMPLETION OF THE INSTALLATION, DELIVER ALL CERTIFICATES TO THE LANDSCAPE ARCHITECT.

1.4 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.
B. MATERIAL STANDARDS:
1. ALL PLANTS AND PLANTING MATERIAL SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND COUNTY LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. QUALITY AND SIZE SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF CURRENT EDITION OF ANSI Z60.1 AMERICAN STANDARD FOR NURSERY STOCK, FOR NUMBER ONE GRADE NURSERY STOCK AS ADOPTED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. ALL PLANTS SHALL BE TRUE TO NAME AND ONE OF EACH BUNDLE OR LOT SHALL BE TAGGED WITH THE NAME AND SIZE OF THE PLANTS IN ACCORDANCE WITH THE STANDARDS OF PRACTICE OF THE AMERICAN ASSOCIATION OF NURSERYMEN. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES.

1.5 DELIVERY, STORAGE, HANDLING

A. DELIVERY AND STORAGE:
1. DELIVER ALL ITEMS TO THE SITE IN THEIR ORIGINAL CONTAINERS WITH ALL LABELS INTACT AND LEGIBLE AT TIME OF LANDSCAPE ARCHITECT INSPECTION.
2. IMMEDIATELY REMOVE FROM THE SITE ALL PLANTS WHICH ARE NOT TRUE TO NAME AND ALL MATERIALS WHICH DO NOT COMPLY WITH THE PROVISIONS OF THIS SECTION OF THESE SPECIFICATIONS.
3. ROOT PROTECTION:
a. HANDLE PLANTS AT ALL TIMES IN ACCORDANCE WITH THE BEST HORTICULTURAL PRACTICES SO THAT THE ROOTS OR BALLS ARE ADEQUATELY PROTECTED FROM THE SUN AND DRYING WINDS. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT WOULD DAMAGE THE BARK, BREAK THE BRANCHES, OR DESTROY ITS NATURAL SHAPE.
4. HANDLING:
a. LIFT AND HANDLE PLANTS FORM THE BOTTOM OF THE BALL OR CONTAINER ONLY. PLANTS HANDLED OTHERWISE WILL BE SUBJECT TO REJECTION. PLANT NO BALLED AND BURLAPPED PLANT WHICH HAS THE BALL CRACKED OR BROKEN WILL BE ACCEPTED. NO BALLED AND BURLAPPED PLANTS USING PLASTIC/POLYESTER BURLAP WILL BE ACCEPTED. PLANT NO CONTAINERIZED OR TUBE-PAK PLANT WHOSE ROOT SYSTEM HAS SEPARATED FROM THE SOIL IN ITS CONTAINER.
5. PROTECTION DURING DELIVERY:
a. TRANSPORT PLANT MATERIAL IN CLOSED VEHICLES OR IN OPEN VEHICLES WITH THE ENTIRE LOAD PROPERLY COVERED FOR PROTECTION FROM DRYING WINDS.
6. PROTECTION AFTER DELIVERY:
a. PLANT TREES AND SHRUBS AS SOON AS POSSIBLE AFTER DELIVERY. PLANTS THAT CANNOT BE PLANTED IMMEDIATELY SHALL HAVE THEIR ROOTS KEPT MOIST AND ADEQUATELY PROTECTED UNTIL PLANTED.
b. COVER THE BALLS OF BALLED AND BURLAPPED, CONTAINERIZED, AND TUBE-PAK PLANTS WITH TOPSOIL OR AN APPROVED MULCH, AND KEEP CONSTANTLY MOIST UNTIL PLANTED.
c. STORE ALL PLANTS IN THE SHADE, OUT OF DIRECT SUNLIGHT AND DRYING WIND.
d. OWNER'S REPRESENTATIVE WILL SELECT STORAGE OR HOLDING AREA AND UPON DELIVERY OF PLANTS, DESIGNATE WHERE CONTRACTOR CAN PROTECT AND MAINTAIN THESE PLANT MATERIALS UNTIL THEY ARE PLANTED.

1.6 SCHEDULES

A. PLANTING SEASON:
a. PLANTING OPERATIONS FOR DECIDUOUS MATERIALS SHALL TAKE PLACE DURING MARCH 15 TO JUNE 30 FOR SPRING PLANTING AND AUGUST 15TH TO OCTOBER 1 OR UNTIL GROUND FREEZES FOR FALL PLANTING. BARE ROOT DECIDUOUS PLANTINGS SHALL BE LIMITED TO PLANTING BETWEEN MARCH 15 TO MAY 1.
b. PLANTING OPERATIONS FOR EVERGREEN MATERIAL SHALL BE DURING MARCH 1 THROUGH JUNE 30 FOR SPRING PLANTING AND AUGUST 1 THROUGH SEPTEMBER 15 FOR FALL PLANTING.

1.7 INSPECTION

A. INSPECTION OF PLANTS:
1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH AND UPON DELIVERY FOR CONFORMITY TO SPECIFIED QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION UPON DELIVERY AT THE SITE OR WHILE WORK IS IN PROGRESS.
2. THE CONTRACTOR WILL INFORM THE LANDSCAPE ARCHITECT THREE BUSINESS DAYS (3) PRIOR TO THE PROPOSED ARRIVAL OF PLANT MATERIAL ON THE JOB SITE.
3. DURING THE TIME PLANT MATERIAL IS BEING INSPECTED, THE CONTRACTOR SHALL PROVIDE A COMPLETE STAKED LAYOUT AND HAVE MANPOWER AND EQUIPMENT AVAILABLE TO UNLOAD, OPEN AND HANDLE PLANT MATERIAL DURING INSPECTION.

PART 2: M A T E R I A L S

2.1 PLANT MATERIALS

A. GENERAL:
1. PLANT MATERIALS SHALL MEAN TREES AND PLANTS OF ALL DESCRIPTIONS REQUIRED TO BE FURNISHED FOR THE PROJECT, IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL PLANT MATERIAL MUST BE TRUE TO NAME, WHICH SHALL CONFORM TO STANDARDIZED PLANT NAMES OF THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE, AND SHALL BE LEGIBLY TAGGED WITH THE NAME AND SIZE OF THE MATERIAL ACCORDING TO THE GENERAL NURSERY PRACTICE AS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
2. ALL PLANTS SHALL BE FIRST-CLASS REPRESENTATIVES OF THEIR NORMAL SPECIES OR VARIETIES. PLANTS SHALL BE SOUND, HEALTHY, AND VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. UNLESS OTHERWISE SPECIFIED, PLANTS SHALL HAVE AVERAGE OR NORMALLY DEVELOPED BRANCH SYSTEMS AND VIGOROUS ROOT SYSTEMS. PLANTS SHALL BE FREE FROM SCALE, DISFIGURING KNOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, OR OTHER OBJECTIONABLE BLEMISHES. WEAK PLANTS WILL NOT BE ACCEPTED. PLANTS MUST SHOW APPEARANCE OF NORMAL HEALTH AND VIGOR IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS. ALL STOCK SHALL BE NURSERY GROWN.
3. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE GROWN IN THE CONTAINER FOR AT LEAST ONE (1) GROWING SEASON. CONTAINERS SHALL BE OF A SIZE LARGE ENOUGH TO PROVIDE AN EARTH-ROOT MASS OF ADEQUATE DIAMETER AND DEPTH OF THE STEM DIAMETER AND PLANT HEIGHTS OR SPREAD, AS ESTABLISHED BY ACCEPTED NURSERY PRACTICE. PLANTS, OVER ESTABLISHED IN THE CONTAINER, AS EVIDENCED BY POT BOUND ROOT ENDS, WILL NOT BE ACCEPTED. BARE ROOT MATERIAL WILL BE ACCEPTED ONLY FOR SPRING PLANTING. BARE ROOT STOCK SHALL BE HANDLED ACCORDING TO STANDARD HORTICULTURAL PRACTICE WITH SPECIAL ATTENTION BEING PAID TO PREVENTING PLANT ROOTS FROM DRYING AND PLANTS BEING APPROPRIATELY STORED.
4. PLANTS LARGER THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE LANDSCAPE ARCHITECT.
5. THE HEIGHT OF TREES, MEASURED FROM THE CROWN OF THE ROOTS TO THE TOP OF THE TOP BRANCH, AND CALIPER OF THE TRUNK SHALL BE TAKEN 6 INCHES ABOVE THE GROUND UP TO AND INCLUDING 4 INCH CALIPER SIZE, AND 12 INCHES ABOVE THE GROUND FOR LARGER SIZES, AND SHALL NOT BE LESS THAN THE MINIMUM SPECIFIED ON THE PLANT LIST. EXCEPT WHEN A CLUMP IS DESIGNATED, THE TRUNK OF EACH TREE SHALL BE A SINGLE TRUNK GROWING FROM A SINGLE UNMUTILATED CROWN OF ROOTS. NO PART OF THE TRUNK SHALL BE CONSPICUOUSLY CROOKED AS COMPARED TO NORMAL TREES OF THE SAME VARIETY. THE TRUNK SHALL BE FREE FROM SUN SCALD, FROST CRACKS OR WOUNDS RESULTING FROM ABRASIONS, FIRE, OR OTHER CAUSES. NO PRUNING WOUNDS SHALL BE PRESENT HAVING A DIAMETER OF MORE THAN TWO (2") INCHES AND SUCH WOUNDS MUST SHOW VIGOROUS BARK ON ALL EDGES. EVERGREEN TREES SHALL BE BRANCHED TO WITHIN ONE FOOT OF THE GROUND.
6. SHRUBS AND PERENNIALS SHALL COMPLY WITH THE SPECIFIED SPREAD, HEIGHT OR CONTAINER SIZE AS SPECIFIED ON THE PLANT LIST. THE MEASUREMENTS FOR HEIGHT ARE TO BE TAKEN FROM THE GROUND LEVEL TO THE AVERAGE HEIGHT OF THE TOP OF THE SHRUB AND NOT THE LONGEST BRANCH. THE THICKNESS OF EACH SHRUB SHALL CORRESPOND TO THE TRADE CLASSIFICATION "NO. 1". SINGLE STEMMED OR THIN PLANTS WILL NOT BE ACCEPTED. THE SIDE BRANCHES MUST BE GENEROUS, WELL-TWIGGED, AND THE PLANT AS A WHOLE WELL-BRANCHED TO THE GROUND. THE PLANTS MUST BE IN A MOIST VIGOROUS CONDITION, FREE FROM DEAD WOOD, BRUISES OR OTHER ROOT OR BRANCH INJURIES.
7. ALL PLANT MATERIAL SHALL COMPLY WITH STATE AND FEDERAL LAWS WITH RESPECT TO INSPECTION FOR PLANT DISEASE AND INFECTION. ANY INSPECTION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT, INVOICE, OR ORDER OF STOCK.
8. ALL PLANT MATERIAL IS SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL AND INSPECTION AT ANY PLACE, BEFORE DURING AND/OR AFTER PLANTING. ANY PLANT MATERIAL NOT APPROVED BY THE LANDSCAPE ARCHITECT SHALL BE IMMEDIATELY REMOVED FOR THE SITE.
9. NO PLANT MATERIAL SHALL BE ACCEPTED WITH LOOSE OR BROKEN BALLS, BROKEN CONTAINERS OR TUBE-PAKS

2.3 MULCH

A. BARK MULCH: ALL BARK MULCH SHALL BE SHREDDED PINE BARK AS LOCALLY OR REGIONALLY MANUFACTURED, OR AN EQUAL APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.

2.4 PLANTING MIXTURE

A. TOPSOIL: MOST TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL. SHOULD ADDITIONAL TOPSOIL BE NEEDED, IT SHALL BE IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE. ITSHALL BE LOOSE, FRIABLE, AND SHALL CONTAIN ORDINARY AMOUNT OF HUMUS. IT SHALL CONTAIN NO LUMPS OF SOIL, ROCKS LARGER THAN 1 INCH, OR STOCKS, OR ROOTS, AND OTHER DEBRIS. IT SHALL BE SUFFICIENTLY FERTILE TO SUSTAIN NORMAL HEALTHY PLANT GROWTH AND SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THAN 6.5. THE TOPSOIL SHALL BE DELIVERED IN AN UNFROZEN AND NON-MUDDY CONDITION AND MUST MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT.
B. PEAT: PEAT SHALL BE SPHAGNUM PEAT, SEDGE PEAT MOSS. FURNISH AIR-DRIED, FINELY SHREDDED, ORPH BETWEEN 5.5 AND 6.5, CONTAINING NO MORE THAN THIRTY-FIVE (35%) PERCENT MOISTURE BY WEIGHT.
C. COMPOSTED BARK MULCH:COMPOSTED BARK MULCH SHALL BE 1/4" MINUS, FINE TEXTURED AND WELL COMPOSTED MULCH SUITABLE FOR USE AS A PLANTING MIX AMENDMENT. IT SHALL BE LOCALLY OR REGIONALLY MANUFACTURED, OR AN EQUAL APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.
D. TREES/SHRUB PLANTING MIX: TOPSOIL USED AS FILL AROUND PLANTS SHALL BE MIXED WITH PEAT MOSS AT THE RATE OF THREE PARTS TOPSOIL TO ONE PART PEAT.
E. PERENNIAL/GROUND COVER PLANTING MIX: TOPSOIL USED AS FILL AROUND THESE PLANTS SHALL BE MIXED WITH PEAT MOSS AND COMPOSTED BARK MULCH AT THE RATE OF TWO PARTS TOPSOIL TO ONE PART PEAT TO ONE PART COMPOSTED BARK MULCH. THE ABOVE MIXTURE IS MIXED WITH MAG AMP (W. R. GRACE AND COMPANY, P.O. BOX 338, WEST CHICAGO, ILLINOIS) AT THE RATE OF 10 OUNCES PER CUBIC YARD OF PLANTING MIX.
F. "ROOTS" - ROOT GROWTH ENHANCER: THIS PRODUCT SHALL BE A NATURAL, ORGANIC BIOSTIMULANT THAT PROMOTES ROOT GROWTH AND STRESS TOLERANCE IN PLANTS. APPLY TO ALL TREES, SHRUBS, AND PERENNIALS PER MANUFACTURER'S RECOMMENDATIONS.
G. SUPERSORB C - WATER ABSORBENT GRANULES: THIS PRODUCT SHALL BE A COPOLYMER WATER ABSORBENT IN GRANULAR FORM TO BE INCORPORATED IN THE SPECIFIED PLANTING MIXES FOR BOTH TREE/SHRUBS AND PERENNIALS. IT'S PURPOSE IS TO IMPROVE THE TOPSOIL'S WATER HOLDING CAPACITY.
H. AGRIFORM FERTILIZER TABLETS: TREES AND SHRUBS SHALL BE FERTILIZED WITH TWO (2) FERTILIZER TABLETS PER PLANTING HOLE. TABLETS SHALL BE 21 GRAM SIZE, OF 20-10-5 ANALYSIS AS MANUFACTURED BY AGRIFORM.

2.5 MISCELLANEOUS MATERIALS

A. WOOD STAKES: STAKES FOR TREE SUPPORT SHALL BE 2" X 2" X 8'0", WOOD STAKES.
B. GUYING WIRE: WIRE SHALL BE NUMBER 12 GAUGE GALVANIZED SOFT STEEL WIRE.
C. HOSE: HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER. (PLASTIC 'CINCH-TIES' OR EQUIVALENT FASTENING DEVICE MAY BE AN ACCEPTABLE GUY WIRE AND HOSE PROTECTOR SUBSTITUTE)
D. TREE PAINT: TREE PAINT SHALL BE WATERPROOF, ASPHALT BASE PAINT WITH ANTISEPTIC PROPERTIES, MANUFACTURED FOR USE ON TREE WOUNDS; R.I.W. TREE SURGERY PAINT BY TOCH BROS., NEW YORK; SHERWIN WILLIAMS PRUNING COMPOUND OR APPROVED EQUAL.
E. ANTI-DESSICAT: ANTI-DESSICANT SHALL BE AN EMULSION PERMEABLE ENOUGH TO PERMIT TRANSPIRATION, AND WILL BE USED TO RETARD EXCESS WATER LOSS. MIX IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
F. TREE WRAP: TREE WRAPPING PAPER SHALL BE WATERPROOFED CREPE TREE WRAPPING PAPER, AT LEAST 2-1/2 INCHES IN WIDTH, MADE UP OF TWO LAYERS OF CREPE KRAFT PAPER, WEIGHING NOT LESS THAN 30 POUNDS PER REAM, CEMENTED TOGETHER WITH ASPHALT.
G. TWINE: WRAPPING TWINE USED IN TREE WRAPPING SHALL BE COMPOSED OF A MINIMUM OF TWO PLY JUTE MATERIAL. SYNTHETIC MATERIALS SUCH AS NYLON OR PLASTIC WILL NOT BE PERMITTED.

PART 3: E X E C U T I O N

3.1 SURFACE CONDITIONS

A. INSPECTION: PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE TO ANY INSTALLEDUTILITIES.
B. LOCATION:
1. VERIFY THAT PLANTING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS. STAKE OUT LOCATIONS OF ALL PLANTS AND SECURE THE LANDSCAPE ARCHITECT APPROVAL BEFORE EXCAVATING PLANT PITS.
2. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, LEDGE, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY THE LANDSCAPE ARCHITECT BEFORE PLANTING.
C. DISCREPANCIES:
1. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.
2. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 TREE PROTECTION AND REMOVAL

A. REMOVAL OF TREES:
1. TREE REMOVAL UNDER THIS CONTRACT SHALL BE ACCOMPLISHED AS REQUIRED TO ACCOMODATE THE SCOPE OF WORK AS INDICATED ON THE SITE PLANS AS PREPARED BY SHERMAN, GREINER,HALLE',LTD. AND PROVAN & LORBER, INC. SITE GRADING AND GRUBBING WILL BE ACCOMPLISHED AS DIRECTED IN SECTION 02212 "SITE GRADING". ALL TREES AND STUMPS SHALL BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE NEW PLAYFILEDS, ROADS, SURFACED AREAS AND PLANTED AREAS. REMOVAL OF TREES OUTSIDE THESE AREAS SHALL ONLY BE THOSE AS NOTED, MARKED AND APPROVED BY THE LANDSCAPE ARCHITECT.
2. NO OTHER TREES MAY BE CUT EXCEPT BY PERMISSION OF THE LANDSCAPE ARCHITECT. ALL STUMPS SHALL BE REMOVED.
B. PROTECTION OF TREES:
1. GENERAL PROTECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF TOPS, TRUNKS, AND ROOTS OF EXISTING TREES ON THE SITE THAT ARE TO REMAIN. EXISTING TREES SUBJECT TO CONSTRUCTION DAMAGE SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED BEFORE ANY WORK IS STARTED; REMOVE BOXING WHEN DIRECTED. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD. REMOVE INTERFERING BRANCHES WITHOUT INJURY TO TRUNKS AND COVER SCARS WITH TREE PAINT.
2. GRADING AROUND TREES: WHERE EXCAVATION, FILL OR GRADING IS REQUIRED WITHIN THE BRANCH SPREAD OF TREES THAT ARE TO REMAIN, THE WORK SHALL BE PERFORMED AS FOLLOWS:
C. TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT BUT THE TRENCH SHALL BE TUNNELED UNDER AND AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO THE ROOTS.
D. RAISING GRADES: WHEN THE EXISTING GRADE AT TREE IS BELOW THE NEW FINISHED GRADE, AND FILL NOT EXCEEDING 12 INCHES IS REQUIRED, CLEAN WASHED GRAVEL GRADED FROM 1 INCH TO 2 INCH SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES AND FINISH APPROXIMATELY 2 INCHES ABOVE THE FINISHED GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNKS OF ANY TREES REQUIRING FILL.
E. TREES MARKED FOR PRESERVATION THAT ARE BURIED IN FILLS OVER 12" DEEP SHALL HAVE AN OPEN DRY WELL OF DURABLE MASONRY (WITHOUT MORTAR SITUATED AT LEAST 24" FROM THE TREE TRUNK. ALL WELLS ARE TO BE PROPERLY DRAINED. BEFORE FILLS OF OVER 12" ARE MADE UPON THE TREE ROOT AREAS, IT IS ADVISABLE TO SPREAD AT LEAST A 6" LAYER OF BROKEN STONE OR COARSE GRAVEL COVERED BY INVERTED SODS TO FACILITATE PROPER DRAINAGE AND AERATION.
F. LOWERING GRADES: EXISTING TREES IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE REGRADING WORK DONE BY HAND TO ELEVATION AS INDICATED. ROOTS AS REQUIRED SHALL BE CUT CLEANLY 3 INCHES BELOW FINISHED GRADE AND SCARS ARE COVERED WITH TREE PAINT. TREES MARKED FOR PRESERVATION THAT ARE LOCATED MORE THAN 6" ABOVE PROPOSED GRADES SHALL STAND ON BROAD ROUNDED MOUNDS AND BE GRADED SMOOTHLY INTO THE LOWER LEVEL. EXPOSED OR BROKEN ROOTS SHALL BE CUT CLEAN AND COVERED WITH TOPSOIL.

3.3 PLANTING TREES, SHRUBS AND GROUND COVERS

A. GENERAL:
1. PLANT NURSERY STOCK IMMEDIATELY UPON DELIVERY TO THE SITE AND APPROVAL BY THE LANDSCAPE ARCHITECT EXCEPT THAT, IF THIS IS NOT FEASIBLE, HEAL-IN ALL BALLED MATERIAL WITH DAMP SOIL AND PROTECT FROM SUN AND WIND.
2. REGULARLY WATER ALL NURSERY STOCK IN CONTAINERS AND TUBE-PAKS AND PLACE THEM IN A COOL AREA PROTECTED FROM SUN AND DRYING WINDS.
B. EXCAVATION OF PLANT HOLES:
1. TREE PITS SHALL HAVE SUBSTANTIALLY VERTICAL SIDES AND HORIZONTAL BOTTOMS. DEPTH OF PIT BELOW FINISH GRADE SHALL BE AT LEAST 9 INCHES (FOR TREES) AND 6 INCHES (FOR SHRUBS) GREATER THAN THE DEPTH OF THE BALL. IN NO CASE SHALL DEPTH OF TREE PITS BE LESS THAN 24 INCHES BELOW FINISHED GRADE. DIAMETER OF PITS FOR ALL TREES SHALL BE AT LEAST 9 INCHES GREATER THAN THE MAXIMUM DIAMETER OF THE TREE BALL OR ROOT SYSTEM AND FOR SHRUBS 6 INCHES.
2. PLANTING POCKETS FOR TUBE-PAK, ONE GALLON CONTAINER SHRUBS, CONTAINERIZED PERENNIAL PLANTS & 1" CALIPER TREES INTENDED FOR "NATURALIZING" FILL AND DISTURBED SLOPES, SHALL BE EXCAVATED SIMILAR AS DESCRIBED ABOVE, BUT TO A DEPTH OF 6" BELOW THE BOTTOM OF THE TUBE-PAK OR CONTAINER AND A MINIMUM OF 12" IN DIAMETER.
C. PLANTING OPERATION:
1. TREES AND SHRUBS SHALL BE SUPPLIED IN SIZES SHOWN ON THE PLANTING PLANS WITH ALL PLANTS BALLED AND BURLAPPED, CONTAINERIZED, OR IN TUBE-PAKS.
2. DURING PLANTING OPERATIONS, THE NURSERY STOCK SHALL NOT BE EXPOSED TO THE SUN, DRYING WINDS, OR WINTER FREEZING.
3. THE SOIL IN THE BOTTOM OF THE HOLE, WHICH HAS BEEN EXCAVATED TO THE PRESCRIBED REQUIREMENTS, SHALL BE LOOSENED TO A DEPTH OF 3 INCHES AND MIXED WITH AN EQUAL AMOUNT OF TOPSOIL. A COMPACTED MOUND OF SOIL SHALL BE FORMED IN THE CENTER OF THE HOLE TO SUPPORT THE ROOTS OF THE PLANT. THE PLANT SHALL BE PLACED ON THIS MOUND OF SOIL AND HELD IN A VERTICAL POSITION. THE PLANT SHALL BE SO SET, BY ADJUSTING THE ELEVATION OF THE MOUND, THAT AFTER SETTLEMENT THE PLANT WILL STAND AT APPROXIMATELY THE SAME DEPTH IT STOOD IN THE NURSERY OR FIELD.
4. THE PLANT HOLE SHALL BE BACKFILLED WITH TOPSOIL, PEAT AND MAG AMP MIXTURE PLACED IN LAYERS AROUND THE ROOTS. EACH LAYER SHALL BE CAREFULLY TAMPED TO FILL ALL VOIDS AND PLACED IN MANNER TO AVOID INJURY TO THE TREE OR DISTURBING THE POSITION OF THE PLANT.
5. ALL BURLAP, ROPES OR WIRES SHALL BE COMPLETELY REMOVED FROM THE ROOT BALLS. TREES WITH WIRE BASKETS SHALL HAVE THE WIRE BASKET COMPLETELY REMOVED IF PRACTICAL. REMOVAL OF BASKET WIRE SHALL BE DONE WITH BOLT CUTTER OR SIMILAR DEVICE AND NOT BEFORE THE BOTTOM HALF OF PLANT HOLE HAS BEEN BACKFILLED AND TAMPED SO AS TO PREVENT THE BALL FROM BREAKING APART OR LOOSENING DURING THIS OPERATION. UNTIE AND REMOVE ALL ROPES AROUND TRUNK.
6. WHEN APPROXIMATELY TWO-THIRDS OF THE PLANT HOLE HAS BEEN BACKFILLED, THE HOLE SHALL BE FILLED WITH WATER AND THE SOIL ALLOWED TO SETTLE AROUND THE ROOTS. AFTER THE WATER HAS BEEN ABSORBED, THE PLANT HOLE SHALL BE FILLED WITH TOPSOIL AND TAMPED LIGHTLY TO GRADE. ANY SETTLEMENT SHALL BE BROUGHT TO GRADE WITH TOPSOIL.
7. ALL PLANTS SHALL BE SET PLUMB AND STRAIGHT, AND AT SUCH A LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP OF THE TRUNK CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. PLANTS SHALL BE LOCATED IN THE CENTER OF THE PIT. THE SURFACE ABOUT THE PLANT SHALL BE SMOOTH AND FORMED TO A CUP-SHAPED DEPRESSION ABOUT THE STEM OR TRUNK SO AS TO HOLD WATER. ONCE THIS CUP-SHAPED DEPRESSION HAS BEEN FORMED, THEN APPLY THE "ROOTS" GROWTH ENHANCER/BIOSTIMULANT, PER MANUFACTURER'S RECOMMENDATIONS, TO ALL TREES, SHRUBS AND PERENNIALS PRIOR TO MULCHING. UPON COMPLETION OF THE PLANTING, ALL SURPLUS SUBSOIL AND WASTE MATERIALS SHALL BE REMOVED.
8. FOR PLANTS ON LEVEL GROUND OR SLIGHT SLOPES, THE CONTRACTOR SHALL FORM AND LEAVE A SHALLOW BASIN A LITTLE LARGER THAN THE DIAMETER OF THE PLANT AROUND EACH PLANT. AFTER PLANTING, CULTIVATE THE SOIL IN THE SHRUB BED BETWEEN TREE/SHRUB PITS, RAKE SMOOTH AND OUTLINE AS PER PLANS.
9. IN CASE OF PLANTING IN THE OPEN ON HOT DAYS, SHORTEN THE TIME BETWEEN PLANTING AND WATERING.

3.4 SEED BED PREPARATION

A. SUB GRADE PREPARATION: SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED. THE GROUND SHALL BE HAND OR MACHINE RAKED SO AS TO REMOVE ALL DEBRIS, CLODS, STONES, OR OTHER FOREIGN MATTER LARGER THAN 1 INCH, TO A DEPTH OF 4 INCHES. PRIOR TO DUMPING AND SPREADING OF TOPSOIL, THE SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 2 INCHES TO FACILITATE BONDING OF TOPSOIL TO SUB GRADE SOIL. WHERE SUB GRADES HAVE BEEN COMPACTED ARTIFICIALLY SCARIFY TO A DEPTH OF 6 INCHES. PRIOR TO SPREADING TOPSOIL, ALL SUB GRADES SHALL BE GRADED EVENLY ACCORDING TO THE CONTRACT DOCUMENTS. SUCH DEBRIS, CLODS, ROCKS, AND OTHER MATERIAL SO REMOVED SHALL BE DISPOSED OF AS APPROVED BY THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE. SEED BED PREPARATION SHALL NOT COMMENCE UNTIL THE MOISTURE CONDITIONS MAKE THE GROUND AREA AND SOIL FRIABLE.
B. PREPARING UNDISTURBED AREAS: AREAS TO BE SEEDED, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOP SOILING OPERATIONS. TILLAGE OF THE EXISTING VEGETATION INTO THE GROUND WILL NOT BE ACCEPTED.

3.5 TOPSOIL PLACEMENT

A. SPREADING: TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION. SPREADING SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN OR EXCESSIVELY WET. AFTER SPREADING, ANY LARGE, STIFF CLODS OR HARD LUMPS SHALL BE BROKEN UP AND THE GROUND SHALL BE HAND OR MACHINE RAKED TO REMOVE ALL DEBRIS, STONES, AND FOREIGN MATTER LARGER THAN 1 INCH TO A DEPTH OF 4 INCHES.
B. FINISH GRADING: GRADE THE AREAS TO FINISH GRADES FILLING AS NEEDED OR REMOVING SURPLUS DIRT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE. ALL LAWN AREAS SHALL SLOPE TO DRAIN. WHERE NO GRADES ARE SHOWN, AREAS SHALL HAVE A SMOOTH AND CONTINUAL GRADE BETWEEN EXISTING OR FIXED CONTROLS (SUCH AS WALKS, CURBS, OR WALLS). RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE EVEN LAWN SURFACES. ALL FINISH GRADES SHALL MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE SEED IS SOWN OR SOD IS PLACED.
C. SEED BED PREPARATION: AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED, AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEED BED NOT MORE THAN 48 HOURS AFTER THE SEED BED HAS BEEN PREPARED.
D. WATER: IF THERE HAS BEEN A TIME LAPSE BETWEEN THE PLACEMENT OF TOPSOIL AND SEEDING OPERATIONS TO ALLOW IT TO BECOME SETTLED AND COMPACTED ON THE SURFACE, THE AREA TO BE PLANTED WITH SEED SHALL BE THOROUGHLY HARROWED, WORKED TO A DEPTH OF 4 INCHES SO AS TO PROVIDE A SURFACE OF SUCH CONDITION THAT IT WILL ALLOW HAND RAKING AND APPLICATION OF THE SEED IN COMPLIANCE WITH THESE SPECIFICATIONS.
E. FERTILIZER/SOIL AMENDMENTS: APPLICATION OF FERTILIZER WILL BE IN 2 STAGES. TWO WEEKS PRIOR TO APPLICATION OF SEED, FERTILIZER SHALL BE APPLIED AT THE RATE OF 3 LBS/1000 S.F. FOR TURF AREAS. FERTILIZER SHALL BE APPLIED BY BROADCASTING OR DRILL METHODS; IT SHALL BE APPLIED SEPARATELY FROM THE SEED AND MIXED INTO THE SOIL TO A MINIMUM DEPTH OF 2 INCHES AND MAY BE INCORPORATED AS PART OF THE TOPSOIL PLACEMENT AND SEED BED PREPARATION OPERATIONS. SPRINKLE IMMEDIATELY AFTER INITIAL APPLICATION OF THE FERTILIZER WITH A FINE SPRAY UNTIL GROUND IS THOROUGHLY SATURATED, WITH PARTICULAR CARE TO AVOID RUNOFF ON SLOPING AREAS.
1. THE 2ND APPLICATION WILL FOLLOW THE FOLLOWING SEASON WITHIN THE SPECIFIED WARRANTY PERIOD AT A RATE DETERMINED BY SOIL TEST RESULTS FOR BOTH TURF AND NATIVE GRASS/ WILDFLOWER AREAS.
2. APPLICATION OF SUPERPHOSPHATE AND GROUND LIMESTONE SHALL BE APPLIED AT RATES DETERMINED BY SOILS TEST RESULTS.
3. SEEDING: IMMEDIATELY PRIOR TO THE APPLICATION OF THE SEED, THE SOIL SHALL BE LOOSE TO A DEPTH OF AT LEAST 1 INCH AND FREE FROM ALL MATERIAL AS SPECIFIED. IF SOIL IS TOO LOOSE OR DRY FOR GOOD HANDLING, IT SHOULD BE MOISTENED AND ROLLED LIGHTLY.
4. SEEDING SHALL BE DONE WITHIN THE SPECIFIED TIME PERIODS AND AT THE FOLLOWING RATES:
a. FINE LAWN SEED SHALL BE SOWN AT A RATE OF 3.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
b. NATIVE SEED MIX SHALL BE SOWN AT A RATE OF 5.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
5. METHODS: SEEDING BY DRILL IS PREFERABLE, HOWEVER, HYDRAULIC SEEDING OR BROADCASTING WILL BE PERMITTED. BROADCAST SEEDING AND HYDRAULIC SEEDING SHALL NOT BE USED DURING ADVERSE WEATHER. AREAS SOWN BY HYDRAULIC OR BROADCAST METHODS WILL BE VISUALLY INSPECTED FOR UNIFORMITY OF APPLICATION. AREAS WHICH FAIL TO REVEAL AN AVERAGE OF TWO SEEDS PER SQUARE INCH WILL BE RE-SOWN AT NO ADDITIONAL EXPENSE TO THE OWNER. THE APPLIED SEED, REGARDLESS OF APPLICATION, SHALL NOT BE COVERED BY A SOIL THICKNESS NO GREATER THAN 1/2 INCH.
a. SEEDING BY DRILL: SEEDING EQUIPMENT USED FOR APPLYING GRASS SEED MUST BE DESIGNED, MODIFIED, OR EQUIPPED TO REGULATE THE APPLICATION RATE AND PLANTING DEPTH OF GRASS SEED. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING THE DRILLING OPERATION. ALL GRASS ESTABLISHMENT EQUIPMENT SHALL BE OPERATED PERPENDICULAR TO THE SLOPE DRAINAGE. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA WHICH IT IS TO OPERATE. THE ROWS OF PLANTED SEEDS SHALL BE A MAXIMUM OF 8 INCHES APART AND SHALL BE AT RIGHT ANGLES TO THE FINISHED SLOPES.
b. BROADCAST SEEDING: WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED. SEEDING SHALL BE DONE ON A STILL DAY USING A HOPPER TYPE SEEDER WITH ONE HALF OF THE SEED FOR EACH AREA BEING SOWN AT RIGHT ANGLES TO THE OTHER HALF. SEED DISTRIBUTION BY BROADCASTING SHALL BE COVERED WITH 1/4 TO 1/2 INCH OF SOIL. THE SEED MAY BE COVERED BY RAKING, DRAGGING, OR BY APPROPRIATE MECHANICAL MEANS.
c. HYDRAULIC SEEDING: WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING SEED PREPARATION:
6. THE CONTRACTOR MUST PROVIDE ONE POUND OF MULCH PER EACH THREE GALLONS OF WATER IN THE HYDROSEEDER AS A CUSHION AGAINST SEED DAMAGE. THE MULCH USED AS A CUSHION MAY BE PART OF THE TOTAL REQUIRED MULCH WITH THE REMAINDER APPLIED AFTER THE SEED IS METERING DURING APPLICATION.
7. THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWED BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
8. THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED. THE SLURRY SHALL BE SPRAYED OVER THE SOIL IN A UNIFORM COAT. ALL HYDRAULICALLY SEED AREAS SHALL BE HYDROMULCHED UPON COMPLETION.
F. WATERING: WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES. AVOID RUNOFF ON SLOPING AREAS. THE SURFACE LAYER OF THE SOIL MUST BE KEPT DAMP BY FREQUENT LIGHT WATERING DURING THE GERMINATION PERIOD AND UNTIL PLANTS ARE FIRMLY ROOTED.
G. PROTECTION: PROTECT ALL SEEDED AREAS BY ERECTING TEMPORARY FENCES, BARRIERS, SIGNS, ETC. AS NECESSARY TO PREVENT TRAMPLING. THEY SHALL REMAIN IN PLACE FOR AT LEAST SIX WEEKS UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE LANDSCAPE ARCHITECT.
H. MULCHING:
1. MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS. TOPSOIL OR SEED WHICH WASHES OUT FOR REASONS ATTRIBUTABLE TO THE CONTRACTOR'S ACTIVITIES OR FAILURE TO TAKE PROPER PRECAUTIONS, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
a. ALL STRUCTURES SHALL BE PROTECTED FROM HYDRAULIC APPLICATION OF MULCH MATERIAL AND MATERIAL DEPOSITED ON FACILITIES SHALL BE REMOVED.
b. MULCH SHALL NOT BE APPLIED IN THE PRESENCE OF FREE SURFACE WATER, BUT MAY BE APPLIED ON DAMP GROUND.
2. APPLICATION OF ORGANIC MULCH
a. WET APPLICATION: ORGANIC MULCH SHALL BE MIXED WITH WATER AT A RATE OF ONE POUND MULCH (DRY WEIGHT) TO ONE GALLON OF WATER HYDRAULICALLY APPLIED AS PER MANUFACTURERS RECOMMENDATIONS AT A MINIMUM RATE OF 2000 POUNDS PER ACRE.
b. DRY APPLICATION: ORGANIC MULCH SHALL BE BROADCAST AT A MINIMUM RATE OF 2000 POUNDS PER ACRE, AND SHALL BE ROLLED LIGHTLY TO SET FIRMLY INTO THE SOIL

3.6 MULCHING

A. MULCHING:
1. ALL TREES AND SHRUB BEDS WILL BE CULTIVATED FOLLOWING THE GENERAL SHAPE OF THE BEDS AS INDICATED ON THE PLANS. FORM A SAUCER AROUND THE TOP OF THE PLANTING PIT TO HELP HOLD WATER DURING WATERING AND FORM THE OUTLINE FOR MULCHING.
2. APPLY THE SHREDDED BARK MULCH TO A DEPTH OF 4", EVENLY SPREAD OVER THE ENTIRE AREA OF EACH PLANTING PIT.
3. THOROUGHLY SOAK ALL MULCH AREAS. AFTER WATERING, RAKE MULCHED AREAS AND LEAVE IN A COMPLETED AND FINISHED CONDITION.THOROUGHLY SOAK ALL MULCH AREAS. AFTER WATERING, RAKE MULCHED AREAS AND LEAVE IN A COMPLETED AND FINISHED CONDITION.

3.7 STAKING, GUYING, AND WRAPPING

A. STAKING AND GUYING:
1. TREES, GREATER THAN 1-1/2" IN CALIPER, SHALL BE STAKED IMMEDIATELY AFTER PLANTING. GUY WIRES SHALL BE ENCASED IN HOSE TO PREVENT DIRECT CONTACT WITH BARK OF THE TREE OR IT SHALL BE PLACED AROUND THE TRUNK IN A SINGLE LOOP. WIRES SHALL BE TIGHTENED AND KEPT TAUNT BY TWISTING THE STRANDS TOGETHER OR WITH TURNBUCKLES.
2. WRAP TREES IMMEDIATELY AFTER PLANTING, BUT NOT BEFORE THE CONDITION OF THE TRUNKS HAS BEEN INSPECTED AND APPROVED. CAREFULLY WRAP THE TRUNKS OF DECIDUOUS TREES WITH TREE WRAPPING PAPER. BEGIN THE WRAPPER AT THE BASE OF THE TRUNK JUST ABOVE THE ROOTS AND BELOW THE NORMAL GROUND LINE, AND EXTEND WRAPPING UPWARD IN SPIRAL MANNER WITH AN OVERLAP OF ONE-HALF (1/2) THE WIDTH OF THE PAPER STRIP. COVER WITH SOIL THE PORTION OF THE WRAPPING BELOW THE FINISHED GRADE. THE PAPER SHALL BE HELD IN PLACE WITH APPROVED TWINE OR TAPE. TIE THE TWINE AROUND THE TREE IN AT LEAST THREE PLACES, IN ADDITION TO THE TOP AND BOTTOM.
3. TREE GUYING AND STAKING SHALL BE AS DETAILED AS PER PROJECT PLANS AND COMPLETED IMMEDIATELY AFTER PLANTING.

3.8 PRUNING

A. GENERAL:
1. EACH TREE SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. THE OBJECTIVE IS TO PRESERVE A SHAPE AND FORM REPRESENTATIVE OF THE SPECIES. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
B. PRUNING:
1. ALL DEAD WOOD, SUCKERS, BADLY BRUISED OR BROKEN BRANCHES SHALL BE REMOVED. THE TOPS OF DECIDUOUS PLANTS SHALL BE PRUNED EITHER BEFORE OR AFTER PLANTING TO BALANCE ROOT LOSS DUE TO TRANSPLANTING. THIS SHALL CONSIST OF REMOVING ONE-FORTH OF THE CROWN BY THINNING OUT AND/OR HEADING BACK THE STEMS AND TOP BRANCHES, AND SHALL BE DONE SO THAT THE PLANT RETAINS ITS NATURAL FORM. EXCEPT WHEN HEADING BACK, ALL CUTS SHALL BE MADE FLUSH WITH THE TRUNK OR BRANCH. NEVER CUT A LEADER.
2. CUTS OVER 1/2 INCH IN DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT. PAINT SHALL COVER ALL EXPOSED CAMBIUM AS WELL AS OTHER EXPOSED LIVING TISSUE. PAINT SHALL BE WATERPROOF, ADHESIVE AND ELASTIC, ANTISEPTIC, FREE FROM KEROSENE, COAL TAR CREOSOTE OR ANY OTHER MATERIAL INJURIOUS TO THE LIFE OF THE TREE AND SHALL BE APPROVED BEFORE IT IS USED. USE "WOODTAR" OR APPROVED EQUAL.
3. TREES THAT HAVE BEEN SO BADLY PRUNED AS TO SPOIL THEIR REPRESENTATIVE FORM AND USEFULNESS SHALL BE REMOVED AND REPLACED.

3.9 WATERING

A. ALL PLANTS SHALL BE WATERED TWICE WITHIN THE FIRST 24 HOURS OF THE TIME OF PLANTING, AND ALL PLANTS DURING THE MAINTENANCE PERIOD SHALL BE WATERED AT LEAST TWICE EACH WEEK. AT EACH WATERING THE SOIL AROUND EACH TREE OR SHRUB SHALL BE THOROUGHLY SATURATED. IF SUFFICIENT MOISTURE IS RETAINED IN THE SOIL, AS DETERMINED BY THE LANDSCAPE ARCHITECT, THE REQUIRED WATERING MAY BE REDUCED.

3.10 INSPECTION FOR ACCEPTANCE AND CLEAN-UP

A. INSPECTION:
1. IN ADDITION TO THE NORMAL PROGRESS INSPECTIONS, SCHEDULE AND CONDUCT THE FOLLOWING FORMAL INSPECTIONS, GIVING THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS PRIOR NOTICE OF READINESS FOR INSPECTION.
2. INSPECTION OF PLANTS IN CONTAINERS PRIOR TO PLANTING.
3. INSPECTION OF PLANT LOCATIONS, TO VERIFY COMPLIANCE WITH THE PLANS.
4. FINAL INSPECTION AFTER COMPLETION OF PLANTING. SCHEDULE THIS INSPECTION SUFFICIENTLY IN ADVANCE, AND IN COOPERATION WITH THE LANDSCAPE ARCHITECT SO THAT FINAL INSPECTION MAY BE CONDUCTED WITHIN 24 HOURS AFTER COMPLETION OF PLANTING.
5. FINAL INSPECTION AT THE END OF THE MAINTENANCE PERIOD, PROVIDED THAT ALL PREVIOUS DEFICIENCIES HAVE BEEN CORRECTED.
6. THE LANDSCAPE ARCHITECT WILL INSPECT ALL WORK FOR ACCEPTANCE UPON WRITTEN REQUEST OF THIS SUBCONTRACTOR
7. ACCEPTANCE OF LAWNS SHALL BE GRANTED FOR THE WORK IN ITS ENTIRETY. NO PARTIAL ACCEPTANCE SHALL BE GIVEN.
8. SOD AND FINE LAWNS SHALL EXHIBIT A UNIFORM, THICK, WELL-DEVELOPED STAND OF GRASS WHICH HAS RECEIVED A MINIMUM OF THREE CUTTINGS. LAWN AREAS SHALL
9. NATIVE GRASS AREAS SHALL EXHIBIT A UNIFORM, THICK, WELL DEVELOPED STAND OF GRASS WHICH HAS RECEIVED A MINIMUM OF THREE CUTTINGS. NATIVE GRASS ‑E AREAS SHALL HAVE NO BARE SPOTS IN EXCESS OF FOUR (4") INCHES IN DIAMETER AND BARE SPOTS SHALL COMPRISE NO MORE THAN TWO PERCENT (2%) OF THE TOTAL AREA OF THE LAWN.
10. NO LAWN AREAS SHALL EXHIBIT SIGNS OF DAMAGE FROM EROSION, WASHOUTS, GULLIES OR OTHER CAUSES.
11. BUILDING AND PAVEMENT SURFACES ADJACENT TO LAWN AREAS SHALL BE CLEAN AND FREE OF SPILLS OR OVERSPRAY FROM PLACING OR HANDLING OF TOPSOIL AND SEEDING OPERATIONS.
B. ACCEPTANCE:
1. UPON WRITTEN REQUEST OF THE CONTRACTOR, THE LANDSCAPE ARCHITECT SHALL INSPECT ALL LAWN AREAS TO DETERMINE COMPLETION OF THE CONTRACT WORK. THIS REQUEST MUST BE SUBMITTED AT LEAST FIVE (5) DAYS PRIOR TO THE ANTICIPATED INSPECTION DATE AND AFTER THE THIRD MOWING OF FINE LAWNS.
2. IF THE LAWNS ARE NOT ACCEPTABLE, THE LANDSCAPE ARCHITECT SHALL INDICATE CORRECTIVE MEASURES TO BE TAKEN, AND SHALL EXTEND THE MAINTENANCE PERIOD AS NECESSARY FOR THE COMPLETION OF WORK. THE CONTRACTOR SHALL BE REQUIRED TO REQUEST A SECOND INSPECTION OF THE LAWNS AS DESCRIBED ABOVE. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL THE LAWN AREA IN QUESTION HAS RECEIVED AT LEAST ONE ADDITIONAL CUTTING. THIS PROCESS SHALL BE REPEATED UNTIL THE TOTAL AREA OF THE LAWN BEING INSPECTED IS ACCEPTABLE.
3. IF THE LAWN AREAS ARE ACCEPTABLE TO THE LANDSCAPE ARCHITECT, HE SHALL ARRANGE A MEETING OF THE CONTRACTOR AND THE OWNER TO ACCEPT THE LAWN WORK. A FINAL INSPECTION SHALL BE PART OF THIS MEETING TO INSURE ACCEPTABILITY. AT THIS MEETING, THE CONTRACTOR SHALL BE FURNISHED WITH A WRITTEN ACCEPTANCE FOR THE LAWN SECTION BEING APPROVED. THE CONTRACTOR SHALL HAND OVER MAINTENANCE OF THE LAWN TO THE OWNER AT THIS MEETING, AND SHALL PROVIDE THE OWNER WITH THREE COPIES OF THE MAINTENANCE MANUAL FOR THE LAWN AS DESCRIBED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND CORRECTIVE WORK UNTIL THE CONCLUSION OF THIS MEETING.
C. CLEAN-UP:
1. FOLLOWING THE ACCEPTANCE OF LAWNS, THE CONTRACTOR SHALL IMMEDIATELY REMOVE FROM THE SITE ALL MATERIALS AND EQUIPMENT NOT REQUIRED FOR OTHER PLANTING OR MAINTENANCE WORK. MATERIALS AND EQUIPMENT REMAINING ON THE SITE SHALL BE STORED IN LOCATIONS WHICH DO NOT INTERFERE WITH THE OWNER'S MAINTENANCE OF ACCEPTED LAWNS OR OTHER OPERATIONS.

SECTION 02930 - SEEDING AND SODDING

PART 1: GENERAL

1.1 GENERAL REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION. SEE DRAWINGS FOR LOCATIONS AND DETAILS.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.

1.2 SUMMARY

A. WORK IN THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING ALL MATERIALS, SUPPLIES, LABOR, EQUIPMENT AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FINISH GRADING OF TOPSOIL, AND PREPARATION THEREOF FOR SEEDING, LAYING OF SOD, FERTILIZING, LIMING, HYDRO-MULCHING, EROSION CONTROL, MAINTENANCE AND PROTECTION OF ALL PLANTED AND PAVED AREAS AND CLEAN-UP.
B. RELATED SECTIONS (AS MAY BE PROVIDED BY CIVIL ENGINEER):
SECTION 02300 "EARTHWORK"
SECTION 02955 "TREES, SHRUBS AND GROUND COVERS"
LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS.
ALL NECESSARY CONSTRUCTION PERMITS.

1.3 SUBMITTALS

A. SAMPLES & CERTIFICATES:
1. CERTIFICATES ATTESTING THAT THE FOLLOWING MATERIAL MEET THE REQUIREMENTS SPECIFIED, SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR THEIR SELECTION AND APPROVAL IN ACCORDANCE WITH THE REQUIREMENTS OF GENERAL CONDITIONS.
a. SEED
b. FERTILIZER
c. LIME
2. MANUFACTURER'S LITERATURE/PRODUCT DATA MANUFACTURER'S LITERATURE ON THE FOLLOWING MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT.
a. MULCH
b. HYDROMULCH BINDER
c. EROSION CONTROL FABRIC

1.4 QUALITY ASSURANCE

A. QUALIFICATIONS OF WORKMEN:
1. PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.

1.5 DELIVERY, STORAGE, HANDLING

A. SEED: SEED SHALL BE DELIVERED IN ORIGINAL SEALED PACKAGES BEARING THE PRODUCER'S GUARANTEED ANALYSIS FOR PERCENTAGES OF MIXTURES, PURITY, GERMINATION, WEED SEED CONTENT, AND INERT MATERIAL. SEED SHALL BE LABELED IN CONFORMANCE WITH THE U.S. DEPARTMENT OF AGRICULTURAL RULES AND REGULATIONS AND APPLICABLE STATE SEED LAWS. SEED THAT HAS BECOME WET, MOLDY, OR DAMAGED, WILL NOT BE ACCEPTABLE.

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

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TEMPLATE DATE: 11/25/2019

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
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SEAL:
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PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED DWN BY:
PROJECT #: 1234 CHK BY: JH
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NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE SPECIFICATIONS

LA106

SHEET NUMBER: 6 OF 9 LANDSCAPE

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LANDSCAPE GENERAL SPECIFICATIONS, CONT.

B. SOD: UPON DELIVERY OF SOD TO THE WORK SITE, USE ALL MEANS NECESSARY TO PROTECT AND MAINTAIN THE SOD BEFORE, DURING AND AFTER INSTALLATION. DELIVERY OF SOD SHALL BE CAREFULLY COORDINATED SO ITS PLACEMENT CAN PROCEED DIRECTLY AFTER ITS ARRIVAL. SOD SHALL BE INSTALLED ON SITE NO MORE THAN 24 HOURS AFTER CUTTING.

C. FERTILIZER/LIME: FERTILIZER AND LIME SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL, UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED CHEMICAL ANALYSIS, NAME, TRADE NAME, TRADEMARK, AND CONFORMANCE WITH STATE AND FEDERAL LAWS. IN LIEU OF CONTAINERS, BOTH MATERIALS MAY BE FURNISHED IN BULK AND A CERTIFICATE INDICATING THE ABOVE INFORMATION SHALL ACCOMPANY EACH DELIVERY.

D. STORAGE: SEED, HYDROMULCH, HYDROMULCH BINDER, FERTILIZER AND LIME SHALL BE KEPT IN DRY STORAGE AWAY FROM CONTAMINANTS. THEY SHALL BE UNIFORM IN COMPOSITION, DRY, UNFROZEN AND FREE FLOWING. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY MATERIAL WHICH HAS BECOME CAKED FOR OTHERWISE DAMAGED OR DOES NOT MEET SPECIFIED REQUIREMENTS.

E. REPLACEMENTS: IN THE EVENT OF REJECTION OF THE SEED, IMMEDIATELY MAKE ALL REPLACEMENTS NECESSARY TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.

F. SCHEDULES:
1. SEASONAL LIMITATIONS CONDUCT SEEDING OPERATIONS DURING THE SPECIFIED TIME PERIODS. IF SPECIAL CONDITIONS EXIST THAT MAY WARRANT A VARIANCE IN THE SPECIFIED PLANT DATES OR CONDITIONS, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT STATING THE SPECIAL CONDITIONS AND PROPOSED VARIANCE.

G. NOTICE TO PROCEED:
1. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING AND SOD PLACEMENT OPERATIONS UNTIL THE IRRIGATION SYSTEM HAS BEEN TESTED AND APPROVED.

PART 2: M A T E R I A L S

2.1 TOPSOIL
A. TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL WHICH WILL BE PLACED BY THE SITE CONTRACTOR. SHOULD ADDITIONAL TOPSOIL BE NEEDED TO BRING LANDSCAPE AREAS UP TO GRADE, THEN IT SHALL BE FURNISHED AND PLACED BY THE SITE CONTRACTOR, WITH IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE.

B. TOPSOIL SHALL BE A 'FINE SANDY LOAM' OR A 'SANDY LOAM' AS DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "USDA" CLASSIFICATION SYSTEM. IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL, LOOSE, FRIABLE, AND SHALL CONTAIN ORDINARY AMOUNT OF HUMUS. IT SHALL CONTAIN NO LUMPS OF SOIL, ROCKS LARGER THAN 1 INCH, OR STOCKS, OR ROOTS, AND OTHER DEBRIS. IT SHALL BE SUFFICIENTLY FERTILE TO SUSTAIN NORMAL HEALTHY LAWN GROWTH AND SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THAN 6.5 THE TOPSOIL SHALL BE DELIVERED IN AN UNFROZEN AND NON-MUDDY CONDITION AND MUST MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT.

C. THE LOAM PLACED IN LANDSCAPE AREAS ON THE SITE MUST BE TESTED AND AMENDED AS RECOMMENDED BY SOIL TESTING FOR LAWNS AND PLANTING. THE COST OF ANY AMENDMENT TO THE LOAM AND TOPSOIL SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY. THE SITE CONTRACTOR SHALL FURNISH ADDITIONAL TOPSOIL AS REQUIRED.

2.2 SEED
A. GENERAL:
1. CONTRACTOR SHALL SUBMIT CERTIFICATION TAGS FOR APPROVAL. ALL GRASS SEED SHALL BE:
- FREE FROM NOXIOUS WEED SEEDS AND RECLEANED GRADE A RECENT CROP SEED
- TREATED WITH APPROPRIATE FUNGICIDE
- DELIVERED TO THE SITE IN SEALED CONTAINERS WITH DEALER GUARANTEED ANALYSIS.

B. FINE LAWN SEED MIXTURE:
1. ALL SEEDED, FINE LAWN AREAS AND INTENDED FOR THE PLAYFIELD AREAS AS DESIGNATED ON THE PLANS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:

NAME OF GRASS	PROPORTION BY WEIGHT
CLASSIC KENTUCKY BLUEGRASS	20%
KENTUCKY BLUEGRASS	20%
PERENNIAL RYEGRASS	20%
SR4200 PERENNIAL RYEGRASS	15%
SHADOW E CHEWINGS FESCUE	10%
SHADEMASTER RED FESCUE	10%
SR5000 CHEWINGS FESCUE	5%

C. NATIVE SEED MIXTURE:
1. FOR ALL TURF AREAS NOT DESIGNATED ON THE PLANS FOR USE AS FINE LAWN ON THE PLAYFIELD AREAS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:

NAME OF GRASS	PROPORTION BY WEIGHT
TALL FESCUE	53%
CREEPING RED FESCUE	41%
REDTOP	6%

2. ALL SEED USED SHALL MEET THE FOLLOWING MINIMUM STANDARDS:

PURITY	95%
GERMINATION	85%

2.3 SOD
A. ALL SOD SHALL BE WELL ESTABLISHED MOWN, LAWN GRASS. IT SHALL BE VIGOROUS, WELL ROOTED, HEALTHY TURF FREE FROM DISEASE, INSECT PESTS, WEEDS AND OTHER GRASSES, STONES AND ANY OTHER HARMFUL OR DELETERIOUS MATTER.

B. IT SHALL HAVE BEEN GROWN FROM A SEED MIXTURE IDENTICAL TO THAT SPECIFIED FOR THE FINE LAWN SEED MIXTURE SPECIFIED ABOVE. THIS SOD IS AVAILABLE FOR GOLD STAR SOD FARMS, CANTERBURY, NH. NOT MORE THAN 5% WEED AND UNDESIRABLE GRASSES SHALL BE ALLOWED.

C. SOD SHALL BE A MINERAL BACKED SOD GROWN IN THE NEW ENGLAND REGION. IT SHALL BE CUT IN UNIFORMLY WIDE STRIPS, 3/4" IN THICKNESS WITH CLEAN, CUT EDGES. SOD SHALL BE ROLLED OR FOLDED PRIOR TO LIFTING AND HANDLING TO PREVENT TEARING, BREAKING, DRYING AND ANY OTHER DAMAGE.

2.4 SOIL AMENDMENTS
A. FERTILIZER:
1. FERTILIZER TO BE SPREAD ON AREAS TO BE SEEDED SHALL BE COMMERCIALLY PREPARED AND SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT:
LAWN SEED AND SOD AREAS:
16% NITROGEN
16% PHOSPHORIC ACID
16% POTASH
.5% ZINC
2. USE FERTILIZER PERCENTAGE FOR ESTIMATING PURPOSES ONLY. AFTER ON-SITE, STOCKPILED TOPSOIL HAS BEEN PLACED, THE CONTRACTOR SHALL SUBMIT A LABORATORY CHEMICAL ANALYSIS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND DETERMINATION OF A FERTILIZER ANALYSIS AND APPLICATION RATE. THIS CHEMICAL ANALYSIS SHALL BE OBTAINED FROM A MINIMUM OF FOUR (4) RANDOM SOIL SAMPLES SELECTED AND TAKEN IN THE FIELD PER LANDSCAPEARCHITECT'S/OWNER'S REPRESENTATIVE APPROVAL.
3. THE TOPSOIL ANALYSIS SHALL INCLUDE THE FOLLOWING CHEMICAL PARAMETERS:

PH	-
NITRATE	NPPM
ORGANIC MATTER	%
PHOSPHOROUS (OLSON)	PPM
POTASSIUM	PPM
SODIUM	MEQ/100G
SULFATE	PPM
CONDUCTIVITY	MMHGS/CM

4. COMMERCIAL FERTILIZER SHALL BE COMPLETE, UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THE FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL WATERPROOF CONTAINERS, EACH BEARING THE MANUFACTURER'S STATEMENT OF ANALYSIS.

D. SUPERPHOSPHATE:
1. INCORPORATE SUPERPHOSPHATE INTO THE TOPSOIL WITH THE FIRST APPLICATION OF COMMERCIAL FERTILIZER AT THE RATE OF TWENTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS.

C. GROUND LIMESTONE:
1. INCORPORATE GROUND LIMESTONE INTO THE TOPSOIL AFTER IT HAS BEEN SPREAD AT THE RATE OF FIFTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS TO ACHIEVE A PH OF 6.0 TO 6.5.

D. MULCH:
1. WHERE A SPECIFIC TYPE OF MULCH IS REQUIRED, THE TYPE WILL BE DESCRIBED IN THE EXECUTION SECTION. WHERE MULCHING REQUIREMENTS CAN BE MET EQUALLY WELL BY ONE OF SEVERAL TYPES, THE CONTRACTOR SHALL HAVE THE OPTION OF SELECTING ONE OF THE ACCEPTABLE TYPES.
a. ORGANIC MULCH: JACKLIN ORGANIC MULCH AS MANUFACTURED BY THE VAUGHAN-JACKLIN CORPORATION, EAST 8803 SPRAGUE, SPOKANE, WASHINGTON 99213 - (TELEPHONE (509) 926-6241), OR APPROVED EQUAL.
b. VEGETATIVE MULCH: VEGETATIVE MULCH MATERIAL SHALL BE COMPOSED OF WHEAT STRAW, RYE STRAW OR BARLEY STRAW, IN THAT ORDER OF PREFERENCE AND SHALL BE FREE OF NOXIOUS WEED SEEDS, STONES, DIRT, ROOTS, STUMPS, OR OTHER FOREIGN MATERIAL.
c. CELLULOSE FIBER MULCH: WOOD CELLULOSE FIBER MULCH SHALL CONSIST OF VIRGIN WOOD FIBERS MANUFACTURED FROM WHOLE WOOD CHIPS AND SHALL BE PROCESSED IN SUCH A MANNER THAT IT WILL NOT CONTAIN ANY GROWTH OR GERMINATION INHIBITING FACTORS. THE MULCH SHALL BE DYED AN APPROPRIATED COLOR TO FACILITATE VISUAL METERING DURING APPLICATION. UPON APPLICATION, THE MATERIAL SHALL PRODUCE A MAT ABSORPTION AND PERCOLATION AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL. THE WOOD CELLULOSE FIBERS MUST MAINTAIN UNIFORM SUSPENSION IN WATER UNDER AGITATION.

E. MULCH TACKIFIERS:
1. TACKIFIERS MIXED WITH OR APPLIED OVER STRAW SHALL BE TERRA-TACK AR, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION. TACKIFIERS USED TO ANCHOR VEGETATIVE OR CELLULOSE FIBER MULCH SHALL BE TERRA TACK III, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION.

F. WATER:
1. WATER SHALL BE AVAILABLE FROM MUNICIPAL SYSTEM THROUGH CONTRACTOR.

G. EROSION CONTROL BLANKET:
1. EROSION CONTROL FABRIC MAY BE REQUIRED AS AN ADDITIONAL MEASURE TO PREVENT EROSION ON SLOPES GREATER THAN 2:1 AND IN DRAINAGE SWALES. IF THIS MATERIAL IS NECESSARY AND AUTHORIZED WHILE WORK IS IN PROGRESS, THEN THE MATERIAL SHALL BE CURLEX' EROSION CONTROL BLANKET CONSISTING OF A DENSE MAT OF CURLED AND SEASONED ASPEN WOOD EXCELSIOR BOUND WITH A TOUGH, PHOTO-DEGRADABLE, EXTRUDED PLASTIC MESH AS MANUFACTURED BY AMERICAN EXCELSIOR CO., ARLINGTON, TEXAS OR APPROVED EQUAL.

PART 3: E X E C U T I O N

3.1 SURFACE CONDITIONS
A. INSPECTION:
1. PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE. VERIFY THAT SEEDING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS.

B. DISCREPANCIES:
1. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.
2. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 SEED BED PREPARATION
A. SUBGRADE PREPARATION:
1. SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED. THE GROUND SHALL BE HAND OR MACHINE RAKED SO AS TO REMOVE ALL DEBRIS, CLODS, STONES, OR OTHER FOREIGN MATTER LARGER THAN 1 INCH, TO A DEPTH OF 4 INCHES. PRIOR TO DUMPING AND SPREADING OF TOPSOIL, THE SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 2 INCHES TO FACILITATE BONDING OF TOPSOIL TO SUBGRADE SOIL. WHERE SUBGRADES HAVE BEEN COMPACTED ARTIFICIALLY SCARIFY TO A DEPTH OF 6 INCHES. PRIOR TO SPREADING TOPSOIL, ALL SUBGRADES SHALL BE GRADED EVENLY ACCORDING TO THE CONTRACT DOCUMENTS.
2. SUCH DEBRIS, CLODS, ROCKS, AND OTHER MATERIAL SO REMOVED SHALL BE DISPOSED OF AS APPROVED BY THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE. SEED BED PREPARATION SHALL NOT COMMENCE UNTIL THE MOISTURE CONDITIONS MAKE THE GROUND AREA AND SOIL FRIABLE.

B. PREPARING UNDISTURBED AREAS:
1. AREAS TO BE SEEDED, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOPSOILING OPERATIONS. TILLAGE OF THE EXISTING VEGETATION INTO THE GROUND WILL NOT BE ACCEPTED.

3.3 TOPSOIL PLACEMENT
A. SPREADING:
1. TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION. SPREADING SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN OR EXCESSIVELY WET. AFTER SPREADING, ANY LARGE, STIFF CLODS OR HARD LUMPS SHALL BE BROKEN UP AND THE GROUND SHALL BE HAND OR MACHINE RAKED TO REMOVE ALL DEBRIS, STONES, AND FOREIGN MATTER LARGER THAN 1 INCH TO A DEPTH OF 4 INCHES.

B. FINISH GRADING:
1. GRADE THE AREAS TO FINISH GRADES FILLING AS NEEDED OR REMOVING SURPLUS DIRT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE. ALL LAWN AREAS SHALL SLOPE TO DRAIN. WHERE NO GRADES ARE SHOWN, AREAS SHALL HAVE A SMOOTH AND CONTINUAL GRADE BETWEEN EXISTING OR FIXED CONTROLS (SUCH AS WALKS, CURBS, OR WALLS). RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE EVEN LAWN SURFACES. ALL FINISH GRADES SHALL MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE SEED IS SOWN OR SOD IS PLACED.

C. SEED BED PREPARATION:
1. AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED, AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEED BED NOT MORE THAN 48 HOURS AFTER THE SEED BED HAS BEEN PREPARED.
2. IF THERE HAS BEEN A TIME LAPSE BETWEEN THE PLACEMENT OF TOPSOIL AND SEEDING OPERATIONS TO ALLOW IT TO BECOME SETTLED AND COMPACTED ON THE SURFACE, THE AREA TO BE PLANTED WITH SEED SHALL BE THOROUGHLY HARROWED, WORKED TO A DEPTH OF 4 INCHES SO AS TO PROVIDE A SURFACE OF SUCH CONDITION THAT IT WILL ALLOW HAND RAKING AND APPLICATION OF THE SEED IN COMPLIANCE WITH THESE SPECIFICATIONS.

D. FERTILIZER/SOIL AMENDMENTS:
1. APPLICATION OF FERTILIZER WILL BE IN 2 STAGES. TWO WEEKS PRIOR TO APPLICATION OF SEED, FERTILIZER SHALL BE APPLIED AT THE RATE OF 3 LBS/1000 S.F. FOR TURF AREAS. FERTILIZER SHALL BE APPLIED BY BROADCASTING OR DRILL METHODS, IT SHALL BE APPLIED SEPARATELY FROM THE SEED AND MIXED INTO THE SOIL TO A MINIMUM DEPTH OF 2 INCHES AND MAY BE INCORPORATED AS PART OF THE TOPSOIL PLACEMENT AND SEED BED PREPARATION OPERATIONS. SPRINKLE IMMEDIATELY AFTER INITIAL APPLICATION OF THE FERTILIZER WITH A FINE SPRAY UNTIL GROUND IS THOROUGHLY SATURATED, WITH PARTICULAR CARE TO AVOID RUNOFF ON SLOPING AREAS.
2. THE 2ND APPLICATION WILL FOLLOW THE FOLLOWING SEASON WITHIN THE SPECIFIED WARRANTY PERIOD AT A RATE DETERMINED BY SOIL TEST RESULTS FOR BOTH TURF AND NATIVE GRASS/ WILDFLOWER AREAS.
3. APPLICATION OF SUPERPHOSPHATE AND GROUND LIMESTONE SHALL BE APPLIED AT RATES DETERMINED BY SOILS TEST RESULTS.

E. SEEDING:
1. IMMEDIATELY PRIOR TO THE APPLICATION OF THE SEED, THE SOIL SHALL BE LOOSE TO A DEPTH OF AT LEAST 1 INCH AND FREE FROM ALL MATERIAL AS SPECIFIED. IF SOIL IS TOO LOOSE OR DRY FOR GOOD HANDLING, IT SHOULD BE MOISTENED AND ROLLED LIGHTLY.
2. SEEDING SHALL BE DONE WITHIN THE SPECIFIED TIME PERIODS AND AT THE FOLLOWING RATES:
a. FINE LAWN SEED SHALL BE SOWN AT A RATE OF 3.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
b. NATIVE SEED MIX SHALL BE SOWN AT A RATE OF 5.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.

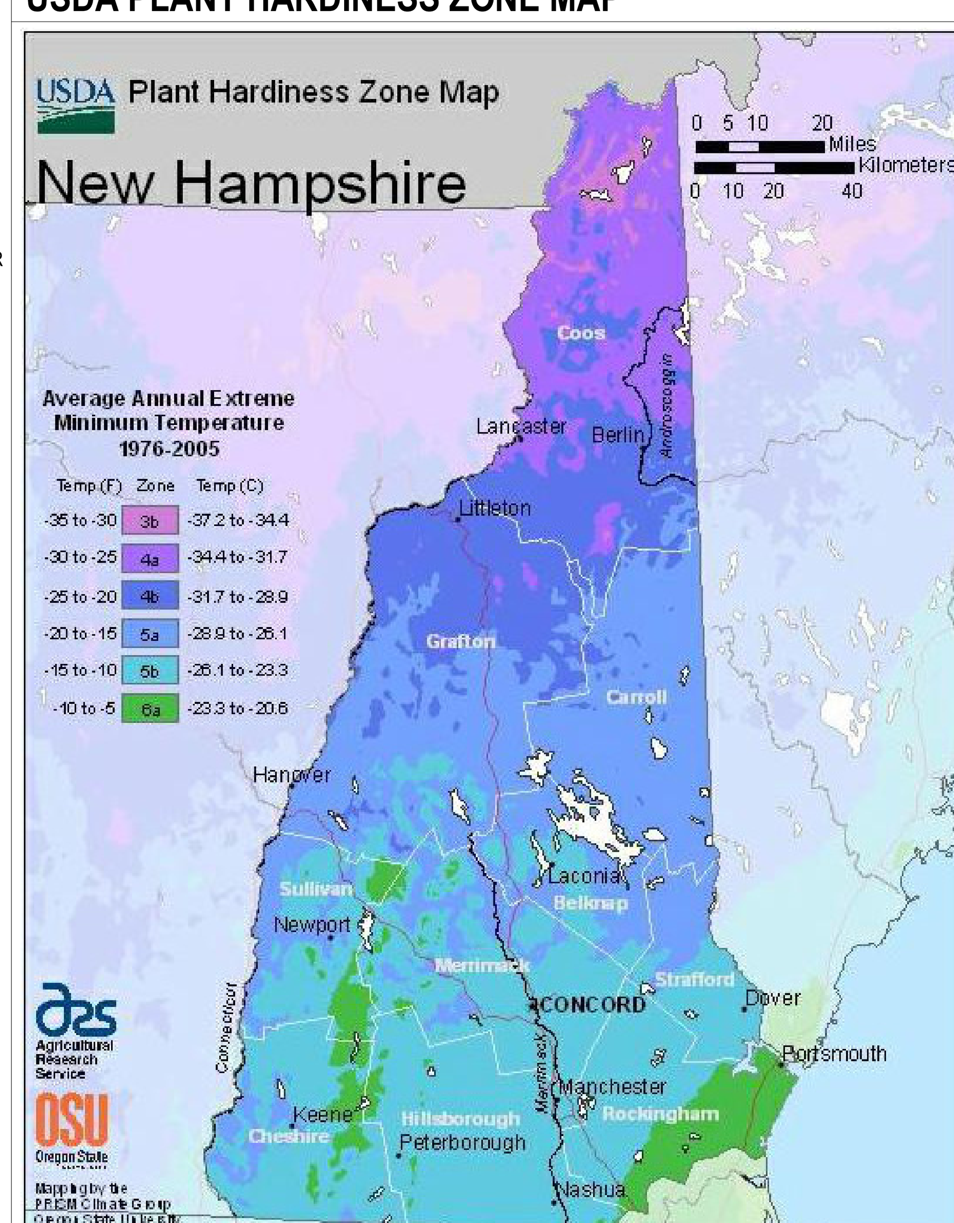
F. METHODS:
1. SEEDING BY DRILL IS PREFERABLE, HOWEVER, HYDRAULIC SEEDING OR BROADCASTING WILL BE PERMITTED. BROADCAST SEEDING AND HYDRAULIC SEEDING SHALL NOT BE USED DURING ADVERSE WEATHER.
2. AREAS SOWN BY HYDRAULIC OR BROADCAST METHODS WILL BE VISUALLY INSPECTED FOR UNIFORMITY OF APPLICATION. AREAS WHICH FAIL TO REVEAL AN AVERAGE OF TWO SEEDS PER SQUARE INCH WILL BE RESOWN AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. THE APPLIED SEED, REGARDLESS OF APPLICATION, SHALL NOT BE COVERED BY A SOIL THICKNESS NO GREATER THAN 1/2 INCH.
4. SEEDING BY DRILL:
a. SEEDING EQUIPMENT USED FOR APPLYING GRASS SEED MUST BE DESIGNED, MODIFIED, OR EQUIPPED TO REGULATE THE APPLICATION RATE AND PLANTING DEPTH OF GRASS SEED. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING THE DRILLING OPERATION. ALL GRASS ESTABLISHMENT EQUIPMENT SHALL BE OPERATED PERPENDICULAR TO THE SLOPE DRAINAGE. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA WHICH IT IS TO OPERATE. THE ROWS OF PLANTED SEEDS SHALL BE A MAXIMUM OF 8 INCHES APART AND SHALL BE AT RIGHT ANGLES TO THE FINISHED SLOPES.
5. BROADCAST SEEDING:
a. WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED. SEEDING SHALL BE DONE ON A STILL DAY USING A HOPPER TYPE SEEDER WITH ONE HALF OF THE SEED FOR EACH AREA BEING SOWN AT RIGHT ANGLES TO THE OTHER HALF. SEED DISTRIBUTION BY BROADCASTING SHALL BE COVERED WITH 1/4 TO 1/2 INCH OF SOIL. THE SEED MAY BE COVERED BY RAKING, DRAGGING, OR BY APPROPRIATE MECHANICAL MEANS.
6. HYDRAULIC SEEDING:
a. WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING.
- THE CONTRACTOR MUST PROVIDE ONE POUND OF MULCH PER EACH THREE GALLONS OF WATER IN THE HYDROSEEDER AS A CUSHION AGAINST SEED DAMAGE. THE MULCH USED AS A CUSHION MAY BE PART OF THE TOTAL REQUIRED MULCH WITH THE REMAINDER APPLIED AFTER THE SEED IS METERING DURING APPLICATION.
- THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWED BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
- THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED. THE SLURRY SHALL BE SPRAYED OVER THE SOIL IN A UNIFORM COAT. ALL HYDRAULICALLY SEED AREAS SHALL BE HYDROMULCHED UPON COMPLETION.

G. WATERING:
1. WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES. AVOID RUNOFF ON SLOPING AREAS.
2. THE SURFACE LAYER OF THE SOIL MUST BE KEPT DAMP BY FREQUENT LIGHT WATERING DURING THE GERMINATION PERIOD AND UNTIL PLANTS ARE FIRMLY ROOTED.

H. PROTECTION:
1. PROTECT ALL SEEDED AREAS BY ERECTING TEMPORARY FENCES, BARRIERS, SIGNS, ETC. AS NECESSARY TO PREVENT TRAMPLING. THEY SHALL REMAIN IN PLACE FOR AT LEAST SIX WEEKS UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE LANDSCAPE ARCHITECT.

I. MULCHING:
1. GENERAL
a. MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS. TOPSOIL OR SEED WHICH WASHES OUT FOR REASONS ATTRIBUTABLE TO THE CONTRACTOR'S ACTIVITIES OR FAILURE TO TAKE PROPER PRECAUTIONS, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
b. ALL STRUCTURES SHALL BE PROTECTED FROM HYDRAULIC APPLICATION OF MULCH MATERIAL AND MATERIAL DEPOSITED ON FACILITIES SHALL BE REMOVED.
c. MULCH SHALL NOT BE APPLIED IN THE PRESENCE OF FREE SURFACE WATER, BUT MAY BE APPLIED ON DAMP GROUND.
2. APPLICATION OF ORGANIC MULCH
a. WET APPLICATION: ORGANIC MULCH SHALL BE MIXED WITH WATER AT A RATE OF ONE POUND MULCH (DRY WEIGHT) TO ONE GALLON OF WATER HYDRAULICALLY APPLIED AS PER MANUFACTURERS RECOMMENDATIONS AT A MINIMUM RATE OF 2000 POUNDS PER ACRE.
b. DRY APPLICATION: ORGANIC MULCH SHALL BE BROADCAST AT A MINIMUM RATE OF 2000 POUNDS PER ACRE, AND SHALL BE ROLLED LIGHTLY TO SET FIRMLY INTO THE SOIL.
3. APPLICATION OF WOOD CELLULOSE FIBER MULCH
a. WOOD CELLULOSE FIBER MULCH SHALL BE APPLIED HYDRAULICALLY. IT SHALL BE MIXED WITH WATER AT THE RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE MIXED IN STANDARD HYDRAULIC MULCHING EQUIPMENT TO FORM A HOMOGENEOUS SLURRY. THE SLURRY SHALL BE SPRAYED UNIFORMLY OVER THE SURFACE AT A MINIMUM RATE OF 1800 POUNDS PER ACRE.
4. APPLICATION OF VEGETABLE MULCH
a. MULCH SHALL BE APPLIED IN A UNIFORM MANNER WITH A MULCH SPREADER AT A MINIMUM RATE OF 1-1/2 TONS PER ACRE WHERE REQUIRED MULCH SHALL BE ANCHORED INTO THE SEED BED BY TUCKING OR APPLICATION OF A TACKIFYING AGENT.
5. ANCHORING MULCH
a. GENERAL: ANCHOR MULCH IN ALL AREAS SEEDED WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION.
b. APPLICATION: MULCH TACKIFIERS SHALL BE MIXED WITH WATER AT A RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE APPLIED AT A MINIMUM RATE OF 40 POUNDS PER ACRE.
6. 'CURLEX' EROSION CONTROL BLANKETS
a. GENERAL: FURNISH AND INSTALL 'CURLEX' BLANKETS TO SLOPES WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION AND ITS OCCURRENCE CANNOT BE PREVENTED BY ANY OTHER MEANS.
b. APPLICATION: BLANKETS WILL BE APPLIED VERTICALLY TO THE SLOPE AND ATTACHED TO THE SLOPE WITH U-SHAPED METAL STAPLES, WITH LEGS 6" IN LENGTH AND 1" CROWN. SIZE, GAUGE AND NUMBER OF STAPLES WILL VARY WITH GROUND CONDITIONS, SLOPE, ETC.

USDA PLANT HARDINESS ZONE MAP



NH INVASIVE SPECIES WATCH LIST

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

THE NH INVASIVE PLANT SPECIES WATCH LIST IS A NON-REGULATORY REFERENCE TOOL THAT SERVES TO:
1. IDENTIFY POTENTIALLY INVASIVE NON-NATIVE PLANT SPECIES BASED ON DEGREE OF INVASIVE QUALITIES (E.G., AGGRESSIVE GROWTH, RAPID REPRODUCTION, AND/OR LACK OF NATURAL HERBIVORES) AND PRESENCE (BUT NOT NECESSARILY ABUNDANCE) IN NH AND/OR NEARBY ELSEWHERE IN NEW ENGLAND
2. INFORM PREVENTION (E.G., EARLY DETECTION/RAPID RESPONSE), MONITORING, AND MANAGEMENT DECISION-MAKING FOR SPECIES THAT MAY IMPACT NH'S ECOSYSTEMS OR ECONOMY
3. INCREASE AWARENESS OF INVASIVE PLANT SPECIES.

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
ABUTILON THEOPHRASTI MEDIK.		VELVETLEAF INDIAN-MALLOW
ACER GINNALA MAXIM.		AMUR MAPLE
ACER PLATANOIDES L.	ACER PLATANOIDES VAR. SCHWEDLERI NICHOLS.	NORWAY MAPLE
ACHYRANTHES JAPONICA (MIQ.) NAKAI	ACHYRANTHES JAPONICA (MIQ.) NAKAI VAR HACHIJEONSIS HONDA	JAPANESE CHAFF FLOWER
AEGOPODIUM PODAGRARIA L.	AEGOPODIUM PODAGRARIA VAR. VARIEGATA BAILEY	BISHOP'S GOUTWEED
AGROSTEMMA GITHAGO L. VAR. GITHAGO	LYCHNIS GITHAGO (L.) SCOP.	COMMON CORNCOCKLE
AILANTHUS ALTISSIMA (P. MILL.) SWINGLE	AILANTHUS GLANDULOSA DESV.	TREE OF HEAVEN
AIRA CARYOPHYLLEA L. VAR. CARYOPHYLLEA	ASPRIS CARYOPHYLLEA (L.) NASH	COMMON SILVER-HAIRGRASS
ALDROVANDA VESICULOSA L.		WATERWHEEL PLANT
ALLIARIA PETIOLATA (BIEB.) CAVARA & GRANDE	ALNUS ALNUS (L.) BRITT.; ALLIARIA OFFICINALIS ANDRZ. EX BIEB.; ERYSIMUM ALLIARIA L.; SISYMBRIUM ALLIARIA (L.) SCOP.	GARLIC MUSTARD
ALLIUM VINEALE L.		CROW GARLIC
ALNUS GLUTINOSA (L.) GAERTN.	ALNUS ALNUS (L.) BRITT.; BETULA ALNUS L. VAR. GLUTINOSA L.	EUROPEAN BLACK ALDER
AMORPHA FRUTICOSA L.	AMORPHA FRUTICOSA L. VAR. ANGUSTIFOLIA PURSH; A. FRUTICOSA L. VAR. OBLONGIFOLIA PALMER; A. FRUTICOSA L. VAR. TENNESSEENSIS (SHUTTLW. EX KUNZE) PALMER	FALSE INDIGO-BUSH
AMPELOPSIS GLANDULOSA (WALLICH) MOMIY. VAR. BREVIPEDUNCULATA (MAXIM.) MOMIY.	AMPELOPSIS BREVIPEDUNCULATA (MAXIM.) TRAUTV.; AMPELOPSIS HETEROPHYLLA (THUNB.) SIEB. & ZUCC. VAR. AMURENSIS PLANCH.; AMPELOPSIS HETEROPHYLLA (THUNB.) SIEB & ZUCC. VAR. BREVIPEDUNCULATA C.L. LI; CISSUS BREVIPEDUNCULATA MAXIM.; VITIS BREVIPEDUNCULATA (MAXIM.) DIPPEL	AMUR PEPPERVINE
ANTHRISCUS SYLVESTRIS (L.) HOFFMANN	CHAEROPHYLLUM SYLVESTRE L.	WILD CHERVIL
ARALIA ELATA (MIQ.) SEEM.	DIMORPHANTHUS ELATUS MIQ.	JAPANESE ANGELICA-TREE
ARTEMISIA VULGARIS L. VAR. VULGARIS	ARTEMISIA VULGARIS VAR. GLABRA LEDEB.; ARTEMISIA VULGARIS VAR. LATILOBA LEDEB.	COMMON WORMWOOD
ARTEMISIA LACTIFLORA		WHITE MUGWORT GRASS
BARBAREA VULGARIS AIT. F.	BARBAREA ARCUATA (OPIZ EX J. & K. PRESL) REICHENB.; B. STRICTA, OF AUTHORS NOT ANDRZ.; B. VULGARIS VAR. ARCUATA (OPIZ EX J. & K. PRESL) FRIES; CAMPE BARBAREA (L.) W. WIGHT EX PIPER; C. STRICTA, OF AUTHORS NOT (ANDRZ.) W. WIGHT EX PIPER; ERYSIMUM BARBAREA L.	GARDEN YELLOW-ROCKET
BASSIA SCOPARIA (L.) A.J. SCHOTT	CHENOPODIUM SCOPARIUM L.; KOCHIA SCOPARIA (L.) SCHRAD.; KOCHIA SCOPARIA VAR. PUBESCENS FENZL; KOCHIA SCOPARIA VAR. SUBVILLOSA MOQ.	FIREBUSH SMOTHERWEED
BERBERIS THUNBERGII DC.		JAPANESE BARBERRY
BERBERIS VULGARIS L.		EUROPEAN BARBERRY
BRASSICA JUNCEA (L.) CZERN.	BRASSICA JUNCEA (L.) CZERN. VAR. CRISPIFOLIA BAILEY; SINAPIS JUNCEA L.	CHINESE MUSTARD
BRASSICA NIGRA (L.) W.D.J. KOCH	SINAPIS NIGRA L.	BLACK MUSTARD
BROMUS CATHARTICUS VAHL	BROMUS UNIOLOIDES KUNTH; BROMUS WILLDENOWII KUNTH	RESCUEGRASS
BROMUS TECTORUM L.	ANISANTHA TECTORUM (L.) NEVSKI	CHEAT BROME
BUTOMUS UMBELLATUS L.		FLOWERING RUSH
CABOMBA CAROLINIANA GRAY (AND ALL OTHER CABOMBA SPECIES)	CAMBOMBA CAROLINIANA VAR. PULCHERRIMA HARPER; CABOMBA PULCHERRIMA (HARPER) FASSETT	FANWORT
CALLITRICHE STAGNALIS SCOP.		POND WATER-STARWORT
CARDAMINE IMPATIENS L.		NARROW-LEAVED BITTER-CRESS
CARDUUS NUTANS L.	CARDUUS NATANS SSP. LEIOPHYLLUS (PETROVIC) STOJANOV & STEF.; CARDUUS NUTANS VAR. LEIOPHYLLUS (PETROVIC) ARÉNES	NODDING PLUMELESS-THISTLE
CELASTRUS ORBICULATUS THUNB.		ORIENTAL BITTERSWEET
CENTAUREA DIFFUSA LAM.	ACOSTA DIFFUSA (LAM.) SOJÁK; ACROLOPHUS DIFFUSES (LAM.) A. & D. LÖVE	WHITE KNAPWEED
CENTAUREA JACEA L.	CENTAUREA DEBEAUXII GREN. & GODR. SSP. THUILLIERI DOSTÁL; C. JACEA L. SSP. DECIPIENS (THUILL.) ČELAK.; C. JACEA L. SSP. PRATENSIS ČELAK.; C. PRATENSIS THUILL.; C. THUILLIERI (DOSTÁL) J. DUVIGN. & LAMBINON; CYANUS JACEA (L.) P. GAERTN.; JACEA PRATENSIS LAM.	BROWN KNAPWEED
CENTAUREA NIGRA L.	JACEA NIGRA (L.) HILL	BLACK KNAPWEED
CENTAUREA SOLSTITIALIS L.		YELLOW KNAPWEED
CENTAUREA STOEBE L. SSP. MICRANTHOS (GUGLER) HAYÈK	CENTAUREA BIEBERSTEINNI DC.; CENTAUREA MACULOSA LAM., MISAPPLIED; CENTAUREA MACULOSA LAM. SSP. MICRANTHOS GUGLER	SPOTTED KNAPWEED
CHASMANTHIUM LATIFOLIUM		NORTHERN SEA OATS GRASS
CHELIDONIUM MAJUS L.	CHELIDONIUM MAJUS L. VAR. LACINIATUM (P. MILL.) SYME; C. MAJUS L. VAR. PLENUM WEHRHAHN	GREATER CELANDINE
CICERBITA MURALIS (L.) WALLR.	LACTUCA MURALIS (L.) FRESEN.; MYCELIS MURALIS (L.) DUMORT.; PRENANTHES MURALIS L.	WALL-LETTUCE
CIRCIUM ARVENSE (L.) SCOP.	BREEA ARVENSIS LESS.; CARDUUS ARVENSIS (L.) ROBSON; CIRSIUM ARVENSE VAR. HORRIDUM WIMMER & GRAB.; CIRSIUM ARVENSE VAR. INTEGRIFOLIUM WIMMER & GRAB.; CIRSIUM ARVENSE VAR. MITE WIMMER & GRAB.; SERRATULA ARVENSIS L.	CANADA THISTLE
CIRSIUM PALUSTRE (L.) SCOP.	CARDUUS PALUSTRIS L.	MARSH THISTLE
CIRSIUM VULGARE (SAVI) TEN.	CARDUUS LANCEOLATUS L.; C. VULGARIS SAVI; CIRSIUM LANCEOLATUM (L.) SCOP.	COMMON THISTLE
CLEMATIS TERNIFLORA DC.	CLEMATIS DIOSCOREIFOLIA LEVL. & VANIOT; CLEMATIS DIOSCOREIFOLIA LEVL. & VANIOT VAR. ROBUSTA (CARR.) REHD.; CLEMATIS PANICULATA THUNB.	YAM-LEAVED VIRGIN'S - BOWER
CONVOLVULUS ARVENSIS L.	STROPHOCAULOS ARVENSIS (L.) SMALL	FIELD BINDWEED
COTONEASTER APICULATA		CRANBERRY COTONEASTER
CRASSULA HELMSII (T. KIRK) COCKAYNE	CRASSULA RECURVA (HOOK. F.) OSTENF.; TILLAEA RECURVA (J.D. HOOK.); TILLAEA HELMSII KIRK; BULLIARDA RECURVA (HOOK. F.)	SWAMP STONECROP
CUSCUTA APPROXIMATA BAB.	CUSCUTA APPROXIMATA VAR. URCEOLATA (KUNZE) YUNCKER; CUSCUTA EPITHYMUM SSP. APPROXIMATA (BAB.) ROUY; CUSCUTA PLANIFLORA TEN.	ALFALFA DODDER
CYTISUS SCOPARIUS (L.) LINK VAR. SCOPARIUS	SPARTIUM SCOPARIUM L.	SCOTCH BROOM
DATURA STRAMONIUM L.	DATURA INERMIS JUSS. EX JACQ.; DATURA STRAMONIUM VAR. INERMIS (JUSS. EX JACQ.) FERN.; DATURA STRAMONIUM VAR. TATULA (L.) TORR.; DATURA TATULA L.	THORN-APPLE
DIGITARIA SANGUINALIS (L.) SCOP.	PANICUM SANGUINALE L.	HAIRY CRABGRASS
DIOSCOREA POLYSTACHYA TURCZ.	DIOSCOREA BATATAS DCNE.	CHINESE YAM
ECHINOCHLOA COLONA (L.) LINK	PANICUM COLONUM L.	AWNLESS BARNYARD GRASS
EGERIA DENSA PLANCH.	ANACHARIS DENSA (PLANCH.) VICTORIN	BRAZILIAN ELODEA
EICHHORNIA CRASSIPES (MART.) SOLMS-LAUBACH	EICHHORNIA SPECIOSA KUNTH; PIAROPUS CRASSIPES (MART.) RAF.	COMMON WATER-HYACINTH
ELAEAGNUS ANGUSTIFOLIA L.		RUSSIAN OLIVE
ELAEAGNUS UMBELLATA THUNB. VAR. PARVIFOLIA (ROYLE) SCHNEID.		AUTUMN OLIVE
ELYMUS REPENS (L.) GOULD	AGROPYRON REPENS (L.) GOULD; ELYTRIGIA REPENS (L.) DESV. EX B.D. JACKSON; TRITICUM REPENS L.	CREEPING WILD-RYE
EPILOBIUM HIRSUTUM L.		HAIRY WILLOW-HERB
EPIPACTIS HELLEBORINE (L.) CRANTZ	EPIPACTIS LATIFOLIA (L.) ALL.; SERAPIAS HELLEBORINE L.	BROAD-LEAVED HELLEBORINE
EUONYMUS ALATUS (THUNB.) SIEB.	CELASTRUS ALATUS THUNB.	BURNING BUSH
EUONYMUS EUROPAEUS L.		EUROPEAN SPINDLE-TREE
EUONYMUS FORTUNEI (TURCZ.) HAND.-MAZZ	EUONYMUS FORTUNEI (TURCZ.) HAND.-MAZZ VAR. RADICANS (SIEB. EX MIQ.) REHD.; E. FORTUNEI (TURCZ.) HAND.-MAZZ VAR. VEGETUS (REHD.) REHD.; E. RADICANS SIEB. EX MIQ.; E. RADICANS SIEB. EX MIQ. VAR. VEGETUS REHD.	CLIMBING SPINDLE-TREE
EUPHORBIA CYPARISSIAS L.	GALARHOEUS CYPARISSIAS (L.) SMALL EX RYDB.; TITHYMALUS CYPARISSIAS (L.) HILL	CYPRESS SURGE
EUPHORBIA ESULA L.	EUPHORBIA INTERCEDENS PODP.; FALARHOEUS ESULA (L.) RYDB.; TITHYMALUS ESULA (L.) HILL	LEAFY SPURGE

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SCALE: AS NOTED DWN BY:
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PRINT DATE: 4/11/2025 10:48:34 AM

ISSUE DATE: 00/00/2019
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SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE SPECIFICATIONS, CONT. & INVASIVE SPECIES LIST

LA107

SHEET NUMBER: 7 OF 9 LANDSCAPE

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NH INVASIVE SPECIES WATCH LIST (CONT.)

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

THE NH INVASIVE PLANT SPECIES WATCH LIST IS A NON-REGULATORY REFERENCE TOOL THAT SERVES TO:
1. IDENTIFY POTENTIALLY INVASIVE NON-NATIVE PLANT SPECIES BASED ON DEGREE OF INVASIVE QUALITIES (E.G., AGGRESSIVE GROWTH, RAPID REPRODUCTION, AND/OR LACK OF NATURAL HERBIVORES) AND PRESENCE (BUT NOT NECESSARILY ABUNDANCE) IN NH AND/OR NEARBY ELSEWHERE IN NEW ENGLAND
2. INFORM PREVENTION (E.G., EARLY DETECTION/RAPID RESPONSE), MONITORING, AND MANAGEMENT DECISION-MAKING FOR SPECIES THAT MAY IMPACT NH'S ECOSYSTEMS OR ECONOMY
3. INCREASE AWARENESS OF INVASIVE PLANT SPECIES.

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
FESTUCA FILIFORMIS POURRET	FESTUCA CAPILLATA LAM.; F. OVINA L. VAR. CAPILLATA (LAM.) ALEF.; F. TENUIFOLIA SIBTHORP	FINE-LEAVED SHEEP FESCUE
FICARIA VERNA HUDS. SSP. FERTILIS (LAWRALRÉE EX LAEGAARD) STACE	FICARIA VERNA HUDS. SSP. BULBIFERA A. & D. LÖVE; RANUNCULUS FICARIA L. SSP. BULBILIFER LAMBINON; R. FICARIA L. SSP. BULBIFERA (MARSDEN-JONES) LAWALREE, AN ILLEGITIMATE NAME; R. FICARIA VAR. BULBIFERA MARSDEN-JONES	FIG-CROWFOOT
FRANGULA ALNUS P. MILL.	RHAMNUS FRANGULA L.	GLOSSY BUCKTHORN
FROELICHIA GRACILIS (HOOK.) MOQ.	OPLOTHECA GRACILIS MOQ.	SLENDER COTTON-WEED
GALIUM MOLLUGO L.		WHORLED BEDSTRAW
GLECHOMA HEDERACEA L.	GLECHOMA HEDERACEA L. VAR. MICRANTHA MORIC.; G. HEDERACEA L. VAR. PARVIFLORA (BENTH.) HOUSE; NEPETA HEDERACEA (L.) TREVISAN	GILL-OVER-THE-GROUND
GLYCERIA MAXIMA (HARTMAN) HOLMB.	GLYCERIA SPECTABILIS MERT. & KOCH; MOLINIA MAXIMA HARTMAN	RED SWEET GRASS
GYPSOPHILLA PANICULATA		BABY'S BREATH
HERACLEUM MANTEGAZZIANUM SOMMIER & LEVIER		GIANT HOGWEED
HESPERIS MATRONALIS L.		DAME'S ROCKET
HUMULUS JAPONICUS SIEB. & ZUCC.		JAPANESE HOP
HYDRILLA VERTICILLATA (L. F.) ROYLE	SERPICULA VERTICILLATA L. F.	HYDRILLA
HYDROCHARIS MORSUS-RANGE L.		EUROPEAN FROGBIT
HYGROPHILA POLYSPERMA (ROXB.) T. ANDERS	JUSTICIA POLYSPERMA (ROXB.); HEMIDELPHIS POLYSPERMA (ROXB.) NEES IN WALL.	EAST INDIAN HYGROPHILA
HYLOTELEPHIUM TELEPHIUM (L.) H. OHBA SSP. TELEPHIUM	SEDUM PURPUREUM (L.) J.A. SCHULTES; S. PURPURASCENS W.D.J. KOCH; S. TELEPHIUM L.	PURPLE ORPINE
IMPATIENS GLANDULIFERA ROYLE	IMPATIENS ROYLEI WALP.	ORNAMENTAL JEWELWEED
IPOMOEA AQUATICA FORRSK.	IPOMOEA REPTANS AUCT.	WATER SPINACH
KALOPANAX SEPTEMLOBUS (THUNB.) KOIDZ	ACANTHOPANAX RICINIPOLIUS (SIEB. & ZUCC.) SEEM.; KALOPANAX PICTUS (THUNB.) NAKAI	CASTOR-ARALIA
KOCHIA SCOPARIA (L.) SCHRAD.	BASSIA SCOPARIA (L.) A.J. SCOTT; CHENOPODIUM SCOPARIUM L.; KOCHIA SCOPARIA (L.) SCHRAD. VAR. PUBESCENS FENZL; K. SCOPARIA (L.) SCHRAD. VAR. SUBVILLOSA MOQ.	SUMMER-CYPRESS
LAGAROSIPHON MAJOR (RIDL.) MOSS	ELODEA CRISPA HORT. EX HENKEL; LAGAROSIPHON MUSCOIDES HARV. VAR. MAJOR RIDL.	AFRICAN OXYGEN WEED
LAMIUM AMPLEXICAULE L. VAR. AMPLEXICAULE		COMMON HENBIT
LAMIUM PURPUREUM L.	LAMIUM DISSECTUM WITH.; L. HYBRIDUM, OF AUTHORS NOT VILL.	RED HENBIT
LEPIDIUM LATIFOLIUM L.	CARDARIA LATIFOLIA (L.) SPACH	PERENNIAL PEPPERWEED
LESPENDEZA BICOLOR TURCZ.		TWO-COLORED BUSH-CLOVER
LIGUSTRUM OBTUSIFOLIUM SIEB. & ZUCC. VAR. OBTUSIFOLIUM	LIGUSTRUM OBTUSIFOLIUM VAR. LEIOCALYX (NAKAI) H. HARA	BLUNT-LEAVED PRIVET
LIGUSTRUM VULGARE L.		COMMON PRIVET
LIMNIRIS PSEUDACORUS (L.) FUSS	IRIS PSEUDACORUS L.	YELLOW IRIS
LIMNOPHILA SESSILIFLORA (VAHL) BLUME	HOTTONIA SESSILIFLORA (VAHL); TEREBINTHINA SESSILIFLORA (VAHL) KUNTZE	AMBULIA
LONICERA FRAGRANTISSIMA LINDL. & PAXTON	XYLOSTEON FRAGRANTISSIMUM (LINDL. & PAXTON) SMALL	SWEET BREATH OF SPRING
LONICERA JAPONICA THUNB.	NINTOOA JAPONICA (THUMB.) SWEET	JAPANESE HONEYSUCKLE
LONICERA MAACKII (RUPR.) HERDER		AMUR HONEYSUCKLE
LONICERA MORROWII GRAY		MORROW'S HONEYSUCKLE
LONICERA TATARICA L.		TARTARIAN HONEYSUCKLE
LONICERA XBELLA ZABEL	LONICERA MORROWII X L. TATARICA	BELLA HONEYSUCKLE
LONICERA XYLOSTEUM L.		FLY HONEYSUCKLE
LUPINUS POLYPHYLLUS LINDL. VAR. POLYPHYLLUS	LUPINUS PALLIDIPES HELLER; L. POLYPHYLLUS LINDL. VAR. ALBIFLORUS L.H. BAILEY; L. POLYPHYLLUS LINDL. VAR. PALLIDIPES (HELLER) C.P. SM.	BLUE LUPINE
LYCHNIS FLOS-CUCULI L. SSP. FLOS-CUCULI	CORONARIA FLOS-CUCULI (L.) A. BRAUN; SILENE FLOS-CUCULI (L.) CLAIRVILLE	RAGGED ROBIN LYCHNIS
LYSIMACHIA ARVENSIS (L.) U. MANNS & A. ANDERB.	ANAGALLIS ARVENSIS L.; A. ARVENSIS L. VAR. CAERULEA (SCHREB.) GREN. & GODR.; A. CAERULEA SCHREB.	SCARLET PIMPERNEL
LYSIMACHIA NUMMULARIA L.		MONEYWORT
LYSIMACHIA VULGARIS L.		GARDEN YELLOW-LOOSESTRIFE
LYTHRUM SALICARIA L.	LYTHRUM SALICARIA VAR. GRACILIOR TURCZ.; LYTHRUM SALICARIA VAR. TOMENTOSUM (P. MILL.) DC.	PURPLE LOOSESTRIFE
MARSILEA QUADRIFOLIA L.		WATER FERM
MICROSTEGIUM VIMINEUM (TRIN.) A. CAMUS	ANDROPOGON VIMINEUM TRIN.; EULALIA VIMINEA (TRIN.) KUNTZE	JAPANESE STILT GRASS
MICROTHLASPI PERFOLIATUM (L.) F.K. MEY.	THLASPI PERFOLIATUM L.	THOROUGHWORT PENNYCRESS
MISCANTHUS SINENSIS ANDERSS.	MISCANTHUS SINENSIS ANDERSS. VAR. GRACILLIMUS A.S. HITCHC.	CHINESE SILVERGRASS, JAPANESE SILVERGRASS
MISCANTHUS SINESIS VARIEGATUS		MAIDEN GRASS
MYCELIS MURALIS (L.) DUMORT.	LACTUCA MURALIS (L.) FRESEN.	WALL-LETTUCE
MYOSOTIS SCORPIOIDES L.	MYOSOTIS PALUSTRIS (L.) HILL	WATER FORGET-ME-NOT
MYRIOPHYLLUM AQUATICUM (VELL.) VERDC.	ENYDRIA AQUATICA VELL.; MYRIOPHYLLUM BRASILIENSE CAMB., MYRIOPHYLLUM PROSERPINACOIDES GILLIES EX HOOK. & ARN.	PARROT FEATHER
MYRIOPHYLLUM HETEROPHYLLUM MICHX.		VARIABLE MILFOIL
MYRIOPHYLLUM SPICATUM L.		EURASIAN WATER-MILFOIL
NAJAS MINOR ALL.	CAULINIA MINOR (ALL.) COSS. & GERM.	EUROPEAN NAIAD
NASTURTIUM MICROPHYLLUM BOENN. EX REICHENB.	NASTURTIUM OFFICINALE AIT. F. VAR. MICROPHYLLUM (BOENN. EX REICHENB.) THELLUNG; RORIPPA MICROPHYLLA (BOENN. EX REICHENB.) HYL. EX A. & D. LÖVE	ONE-ROWED WATER-CRESS
NASTURTIUM OFFICINALE AIT. F.	BAEUMERTA NASTURTIUM-AQUATICUM (L.) HAYEK; RORIPPA NASTURTIUM AQUATICUM (L.) HAYEK; SISYMBRIUM NASTURTIUM-AQUATICUM L.	TWO-ROWED WATER-CRESS
NYMPHOIDES PELTATA (GMEL.) KUNTZE	LIMNANTHEMUM PELTATUM GMEL.; NYPHOIDES NYMPHAEOIDES (L.) BRITT.	YELLOW FLOATING HEART
OENANTHE JAVANICA (BLUME) DC		JAVA WATER DROPWORT
PASTINACA SATIVA L.	PASTINACA SATIVA VAR. PRATENSIS PERS.	WILD PARSNIP
PAULOWNIA TOMENTOSA (THUNB.) SIEB. & ZUCC. EX STEUD.	BIGNONIA TOMENTOSA THUNB.	EMPRESS-TREE
PERSICARIA LONGISETA (BRUIJN) KITAGAWA	PERSICARIA CAESPITOSA (BLUME) NAKAI VAR. LONGISETA (BRUIJN) REED; POLYGONUM CAESPITOSUM BLUME VAR. LONGISETUM (BRUIJN) STEWARD; P. LONGISETUM BRUIJN	ORIENTAL LADY'S-THUMB SMARTWEED
PERSICARIA PERFOLIATA (L.) H. GROSS	AMPELYGONUM PERFOLIATUM (L.) ROBERTY & VAUTIER; POLYGONUM PERFOLIATUM L.	MILE-A-MINUTE WEED
PHALARIS ARUNDINACEA L.	PHALARIS ARUNDINACEA VAR. PICTA L.; PHALAROIDES ARUNDINACEA (L.) RAEUSCH.; PHALAROIDES ARUNDINACEA VAR. PICTA (L). TZVELEV	REED CANARY GRASS
PHELLODENDRON AMURENSE RUPR.	PHELLODENDRON AMURENSE RUPR. VAR. SACHALINENSE F. SCHMIDT; P. JAPONICUM MAXIM.; P. SACHALINENSE (F. SCHMIDT) SARG.	AMUR CORKTREE
PHRAGMITES AUSTRALIS (CAV.) TRIN. EX STEUD.	PHRAGMITES COMMUNIS TRIN.	COMMON REED
PINUS SYLVESTRIX L.		SCOTCH PINE

NH INVASIVE SPECIES WATCH LIST (CONT.)

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
PISTIA STRATIODES L.		WATER LETTUCE
POA COMPRESSA L.		FLAT-STEMMED BLUE GRASS
POA NEMORALIS L.		WOOD BLUE GRASS
POPULUS ALBA L.	POPULUS ALBA L. VAR. BOLLEANA LAUCHE	WHITE POPLAR
POTAMOGETON CRISPUS L.		CURLY-LEAF PONDWEED
PUERARIA MONTANA (LOUR.) MERR. VAR. LOBATA (WILLD.) MAESEN & S. ALMEIDA	DOLICHOS LOBATUS WILLD.; PUERARIA LOBATA (WILLD.) OHWI; PUERARIA THUNBERGIANA (SIEB. & ZUCC.) BENTH	KUDZU
PYRACANTHA COCCINEA M. ROEM.	COTONEASTER PYRACANTHA (L.) SPACH; MESPILUS PYRACANTHA L.	SCARLET FIRETHORN
PYRUS CALLERYANA DCNE.		BRADFORD PEAR
RANUNCULUS REPENS L.	RANUNCULUS REPENS L. VAR. DEGENERATES SCHUR; R. REPENS L. VAR. ERECTUS DC.; R. REPENS L. VAR. GLABRATUS DC.; R. REPENS L. VAR. PLENIFLORUS FERN.; R. REPENS L. VAR. VILLOSUS LAMOTTE	SPOT-LEAVED CROWFOOT
RAPHANUS RAPHANISTRUM L. SSP. RAPHANISTRUM		WILD RADISH
RAPISTRUM RUGOSUM (L.) ALL. SSP. RUGOSUM	MYAGRUM RUGOSUM L.	ANNUAL BASTARD-CABBAGE
REYNOUTRIA JAPONICA HOUTT. VAR. JAPONICA	FALLOPIA JAPONICA (HOUTT.) R. DECR.; PLEUROPTERUS CUSPIDATUS (SIEB. & ZUCC.) MOLDENKE; POLYGONUM CUSPIDATUM SIEB. & ZUCC.	JAPANESE KNOTWEED
REYNOUTRIA SACHALINENSIS (F. SCHMIDT EX MAXIM.) NAKAI	FALLOPIA SACHALINENSIS (F.S. PETROP. EX MAXIM.) R. DECR.; POLYGONUM SACHALINENSE F. SCHMIDT EX MAXIM.	GIANT KNOTWEED
REYNOUTRIA X BOHEMICA CHRTEK & CHRTKOVÁ	FALLOPIA JAPONICA X F. SACHALINENSIS; FALLOPIA X BOHEMICA (CHRTEK & CHRTKOVÁ) J.P. BAILEY; POLYGONUM X BOHEMICUM (CHRTEK & CHRTKOVÁ) P.F. ZIKA & A.L. JACOBSON	BOHEMIA KNOTWEED
RHAMNUS CATHARTICA L.		COMMON BUCKTHORN
RHINANTHUS MINOR L. SSP. MINOR	RHINANTHUS CRISTA-GALLI L., IN PART; R. CRISTA-GALLI L. VAR. FALLAX (WIMMER & GRAB.) DRUCE; R. STENOPHYLLUS (SCHUR) SCHINZ & THELLUNG	LITTLE YELLOW-RATTLE
ROBINIA PSEUDOACACIA L.		BLACK LOCUST
ROSA MULTIFLORA THUNB. EX MURR.		MULTIFLORA ROSE
ROSA RUGOSA THUNB.		BEACH ROSE
RUMEX ACETOSELLA L. SSP. PYRENAICUS (POURRET EX LAPEYR.) AKEROYD	ACETOSELLA VULGARIS (KOCH) FOURR. SSP. PYRENAICA (POURRET EX LAPEYR.) Á. LÖVE; RUMEX ACETOSELLA L. VAR. PYRENAICUS (POURRET EX LAPEYR.) TIMBAL-LAGRAVE; R. PYRENAICUS POURRET EX LAPEYR.	SHEEP DOCK
SAGITTARIA SSAGITTIFOLIA L.	SAGITTARIA JAPONICA (HORT.); SAGITTARIA SAGITTIFOLIA VAR. EDULIS SIEBOLD EX MIQ.; SAGITTARIA SAGITTIFOLIA VAR. LEUCOPETALA MIQ.; SAGITTARIA SINENSIS SIMS; SAGITTARIA TRIFOLIA L.; SAGITTARIA TRIGOLIA VAR. EDULIS (SIEBOLD EX MIQ.); SAGITTARIA TRIFOLIA VAR. SINENSIS (SIMS) MAKINO	GIANT SAGITTARIA
SALVINIA MOLESTA MITCHELL		GIANT SALVINIA
SECURIGERA VARIA (L.) LASSEN	CORONILLA VARIA L.	PURPLE CROWN-VETCH
SILPHIUM PERFOLIATUM L.		CUP-PLANT ROSINWEED
SINAPIS ARVENSIS L.	BRASSICA ARVENSIS RABENH.; B. KABER (DC.) L.C. WHEELER; B. KABER (DC.) L.C. WHEELER VAR. PINNATIFIDA (STOKES) L.C. WHEELER	CORN CHARLOCK
SOLANUM CAROLINENSE L. VAR. CAROLINENSE		CAROLINA NIGHTSHADE
SOLANUM DULCAMARA L.		CLIMBING NIGHTSHADE
SONCHUS ARVENSIS L.	SONCHUS ARVENSIS L. SSP. ULIGINOSUS (BIEB.) NYMAN; S. ULIGINOSUS BIEB.	FIELD SOW-THISTLE
SORBARIA SORBIFOLIA (L.) A. BRAUN	SCHIZONOTUS SORBIFOLIUS (L.) LINDL.; SPIRAEA SORBIFOLIA L.	FALSE SPIRAEA
SPIREA JAPONICA VAR. GOLDFLAME		JAPANESE SPIREA
TANACETUM VULGARE L.	CHRYSANTHEMUM ULIGINOSUM PERS.; C. VULGARE (L.) BERNH.	COMMON TANSY
TRAPA NATANS L. (AND ALL OTHER TRAPA SPECIES)		WATER CHESTNUT
TRIBULUS TERRESTRIS L.		PUNCTURE-VINE
TUSSILAGO FARFARA L.		COLTSFOOT
TYPHA GRACILIS JORD.	TYPHA LUGDUNENSIS P. CHABERT	SLENDER CATTAIL
TYPHA LAXMANII LEPECH.		DRAWF CATTAIL
TYPHA MINIMA FUNCK EX HOPPE	ROHRBACHIA MINIMA [FUNCK EX HOPPE] MAVRODIEV	MINIATURE CATTAIL
TYPHA ×GLAUCA GODR.		HYBRID CATTAIL
ULMUS PUMILA L.		SIBERIAN ELM
UTRICULARIA INFLATA WALT.	PLECTOMA INFLATA (WALT.) RAF.; UTRICULARIA CERATOPHYLLA MICHX.	SWOLLEN BLADDERWORT
VALERIANA OFFICINALIS L.		COMMON VALERIAN
VERBASCUM THAPSUS		GREAT MULLELIN SEED
VINCA MAJOR L.	VINCA MAJOR VAR. VARIEGATA LOUD.	GREATER PERIWINKLE
VINCA MINOR L.		LESSER PERIWINKLE
VINCETOXICUM NIGRUM (L.) PERS.	CYNANCHUM LOUISEAE KARTESZ & GANDHI; CYNANCHUM NIGRUM (L.) PERS.	BLACK SWALLOWWORT
VINCETOXICUM ROSSICUM (KLEOPOW) BARBARICH	CYNANCHUM MEDIUM, OF AUTHORS NOT R. BR.; CYNANCHUM ROSSCUM KLEOPOW IN HILL; VINCETOXICUM MEDIUM, OF AUTHORS NOT (R. BR.) DCNE.	PALE SWALLOWWORT
WISTERIA SINENSIS		CHINESE WISTERIA, BLUE WISTERIA

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

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SEAL:

JONATHAN R. HALLE 1110 REGISTERED LANDSCAPE ARCHITECT

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

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SHEET NUMBER: 8 OF 9 LANDSCAPE

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LANDSCAPE GENERAL SPECIFICATIONS

SECTION 32 84 00 - PLANTING IRRIGATION
PART 1 - GENERAL
1.1 SUMMARY
A. THE INTENT IS THAT THE LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGN-BUILT AND THAT ALL LAWN AND PLANTING AREAS FOR THIS PROJECT RECEIVE FULL COVERAGE OF THE IRRIGATION SYSTEM.
B. SECTION INCLUDES:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES.
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
1.2 ACTION SUBMITTALS
A. PRODUCT DATA:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES.
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
9. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.
B. WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING.
C. DELEGATED DESIGN SUBMITTAL: FOR IRRIGATION SYSTEMS ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
1.3 INFORMATIONAL SUBMITTALS
A. COORDINATION DRAWINGS: IRRIGATION SYSTEMS, DRAWN TO SCALE, ON WHICH COMPONENTS ARE INDICATED AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED. ALSO INCLUDE ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS.
B. ZONING CHART: INDICATE EACH IRRIGATION ZONE AND ITS CONTROL VALVE.
C. CONTROLLER TIMING SCHEDULE: INDICATE TIMING SETTINGS FOR EACH AUTOMATIC CONTROLLER ZONE.
D. FIELD QUALITY-CONTROL SUBMITTALS:
1. FIELD QUALITY-CONTROL REPORTS.
1.4 CLOSEOUT SUBMITTALS
A. OPERATION AND MAINTENANCE DATA.
1.5 QUALITY ASSURANCE
A. QUALIFICATIONS:
1. INSTALLERS: ENTITY THAT EMPLOYS A CERTIFIED IRRIGATION DESIGNER - LANDSCAPE QUALIFIED BY THE IRRIGATION ASSOCIATION.
B. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

PART 2 - PRODUCTS
2.1 PERFORMANCE REQUIREMENTS
A. IRRIGATION ZONE CONTROL: AUTOMATIC OPERATION WITH CONTROLLER AND AUTOMATIC CONTROL VALVES.
B. LOCATION OF SPRINKLERS AND SPECIALTIES: DESIGN LOCATION IS APPROXIMATE. MAKE MINOR ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS. MAINTAIN 100 PERCENT IRRIGATION COVERAGE OF ALL LAWN AND PLANTING AREAS INDICATED.
C. DELEGATED DESIGN: DESIGN 100 PERCENT COVERAGE IRRIGATION SYSTEM, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA TO BE DETERMINED BASED UPON FINAL SITE DISTURBANCE.
1. AVAILABLE LAND RECORDS INDICATE THE FOLLOWING SOIL CONDITIONS: TBD
D. MINIMUM WORKING PRESSURES: THE FOLLOWING ARE MINIMUM PRESSURE REQUIREMENTS FOR PIPING, VALVES, AND SPECIALTIES UNLESS OTHERWISE INDICATED:
1. IRRIGATION MAIN PIPING: 200 PSIG.
2. CIRCUIT PIPING: 150 PSIG.
2.2 PIPES, TUBES, AND FITTINGS
A. COMPLY WITH REQUIREMENTS IN "PIPING SCHEDULE" ARTICLE FOR APPLICATIONS OF PIPE, TUBE, AND FITTING MATERIALS, AND FOR JOINING METHODS FOR SPECIFIC SERVICES, SERVICE LOCATIONS, AND PIPE SIZES.
B. PE PIPE WITH CONTROLLED ID: ASTM D2239, PE 3408 COMPOUND; SIDR 15.
1. INSERT FITTINGS FOR PE PIPE: ASTM D2609, NYLON OR PROPYLENE PLASTIC WITH BARBED ENDS. INCLUDE BANDS OR OTHER FASTENERS.
C. PVC PIPE: ASTM D1785, PVC 1120 COMPOUND, SCHEDULES 40 AND 80.
1. PVC SOCKET FITTINGS: ASTM D2466, SCHEDULES 40 AND 80.
2. PVC THREADED FITTINGS: ASTM D2464, SCHEDULE 80.
3. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET ENDS.
D. PVC PIPE, PRESSURE RATED: ASTM D2241, PVC 1120 COMPOUND, SDR 26.
1. PVC SOCKET FITTINGS: ASTM D2467, SCHEDULE 80.
2. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET OR THREADED ENDS.
2.3 PIPING JOINING MATERIALS
A. PIPE-FLANGE GASKET MATERIALS: AWWA C110, RUBBER, FLAT FACE, 1/8 INCH THICK UNLESS OTHERWISE INDICATED; FULL-FACE OR RING TYPE UNLESS OTHERWISE INDICATED.
B. METAL, PIPE-FLANGE BOLTS AND NUTS: ASME B18.2.1, CARBON STEEL UNLESS OTHERWISE INDICATED.
C. BRAZING FILLER METALS: AWS A5.8/A5.8M, BCUP SERIES, COPPER-PHOSPHORUS ALLOYS FOR GENERAL-DUTY BRAZING UNLESS OTHERWISE INDICATED.
D. SOLDER FILLER METALS: ASTM B32, LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX IN ACCORDANCE WITH ASTM B813.
E. SOLVENT CEMENTS FOR JOINING PVC PIPING: ASTM D2564. INCLUDE PRIMER IN ACCORDANCE WITH ASTM F656.
F. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER UNLESS OTHERWISE INDICATED.
2.4 MANUAL VALVES
A. CURB VALVES:
1. DESCRIPTION:
A. STANDARD: AWWA C800.
B. NPS 1 AND SMALLER PRESSURE RATING: 150 PSIG.
C. NPS 1-1/4 TO NPS 2 PRESSURE RATING: 150 PSIG.
D. BODY MATERIAL: BRASS OR BRONZE WITH BALL OR GROUND-KEY PLUG.
E. END CONNECTIONS: MATCHING PIPING.
F. STEM: WITH WIDE-TEE HEAD.
B. CURB-VALVE CASING:
1. STANDARD: SIMILAR TO AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: TELESCOPING, OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF CURB VALVE.
3. BARREL: APPROXIMATELY 3-INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
C. SHUTOFF RODS FOR CURB-VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE SHUTOFF ROD(S) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SLOTTED END MATCHING CURB VALVE FOR PROJECT.
D. BRASS BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: FORGED BRASS.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRASS.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL
E. BRONZE BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: BRONZE.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRONZE.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL
F. IRON BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-72.
B. CWP RATING: 200 PSIG.
C. BODY DESIGN: SPLIT BODY.
D. BODY MATERIAL: ASTM A126, GRAY IRON.
E. ENDS: FLANGED.
F. SEATS: PTFE OR TFE.
G. STEM: STAINLESS STEEL.
H. BALL: STAINLESS STEEL.
I. PORT: FULL.
G. PLASTIC BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-122.
B. PRESSURE RATING: 150 PSIG.
C. BODY MATERIAL: PVC.
D. TYPE: UNION.
E. END CONNECTIONS: SOCKET OR THREADED.
F. PORT: FULL.
H. IRON GATE VALVES, RESILIENT SEATED:
1. DESCRIPTION:
A. STANDARD: AWWA C509.
B. PRESSURE RATING: 200 PSIG MINIMUM.
C. BODY MATERIAL: DUCTILE OR GRAY IRON WITH BRONZE TRIM.
D. END CONNECTIONS: MECHANICAL JOINT OR PUSH-ON JOINT.
E. INTERIOR COATING: COMPLY WITH AWWA C550.
F. BODY DESIGN: NONRISING STEM.
G. OPERATOR: STEM NUT.
H. DISC: SOLID WEDGE WITH RESILIENT COATING.
I. IRON GATE VALVE CASINGS:
1. STANDARD: AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: ADJUSTABLE EXTENSION OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF VALVE.
3. BARREL: APPROXIMATELY 5-INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
J. OPERATING WRENCHES FOR IRON GATE VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE OPERATING WRENCH(ES) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SOCKET MATCHING VALVE OPERATING NUT FOR PROJECT.
2.5 AUTOMATIC CONTROL VALVES
A. BRONZE, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: CAST-BRONZE BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
B. PLASTIC, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: MOLDED-PLASTIC BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
2.6 AUTOMATIC DRAIN VALVES
A. DESCRIPTION: SPRING-LOADED-BALL TYPE OF CORROSION-RESISTANT CONSTRUCTION AND DESIGNED TO OPEN FOR DRAINAGE IF LINE PRESSURE DROPS BELOW 2-1/2 TO 3 PSIG.
2.7 SPRINKLERS
A. GENERAL REQUIREMENTS: DESIGNED FOR UNIFORM COVERAGE OVER ENTIRE SPRAY AREA INDICATED AT AVAILABLE WATER PRESSURE.
B. PLASTIC, EXPOSED, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CONSTRUCTION: ABS AND CORROSION-RESISTANT METALS.
B. MOUNTING: ABOVEGROUND, EXPOSED ON RISER.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. ARC: FULL OR HALF CIRCLE.
C. RADIUS: 20 FEET.
D. INLET: NPS 3/4.
C. PLASTIC, POP-UP, GEAR-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: ABS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
D. PLASTIC, POP-UP, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CASE: ABS.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. SPRINKLER CONSTRUCTION: ABS AND OTHER CORROSION-RESISTANT METALS.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
E. PLASTIC, SURFACE SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20T FEET.
E. INLET: NPS 3/4.
F. PLASTIC, SURFACE, POP-UP SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. POP-UP HEIGHT: 4 INCHES
B. NOZZLE: BRASS.
C. FLOW: 150 GPM.
D. ARC: FULL OR HALF CIRCLE.
E. RADIUS: 20 FEET.
F. INLET: NPS 3/4.
G. PLASTIC, POP-UP SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: BRASS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
E. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
D. ARC: FULL OR HALF CIRCLE.
E. RADIUS: 20 FEET.
F. INLET: NPS 3/4.
H. PLASTIC SHRUB SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS OR OTHER PLASTIC.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. ARC: HALF CIRCLE.
C. RADIUS: 10 FEET.
D. MOUNTING HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
E. INLET: NPS 3/4.
2.8 QUICK COUPLERS
A. DESCRIPTION: FACTORY-FABRICATED, BRONZE OR BRASS, TWO-PIECE ASSEMBLY. INCLUDE COUPLER WATER-SEAL VALVE; REMOVABLE UPPER BODY WITH SPRING-LOADED OR WEIGHTED, RUBBER-COVERED CAP; HOSE SWIVEL WITH ASME B1.20.7, 3/4-11.5NH THREADS FOR GARDEN HOSE ON OUTLET; AND OPERATING KEY.
1. LOCKING-TOP OPTION: VANDAL-RESISTANT LOCKING FEATURE. INCLUDE (2) TWO MATCHING KEY(S).
2.9 CONTROLLERS
A. DESCRIPTION:
1. CONTROLLER STATIONS FOR AUTOMATIC CONTROL VALVES: EACH STATION IS VARIABLE FROM APPROXIMATELY 5 TO 60 MINUTES. INCLUDE SWITCH FOR MANUAL OR AUTOMATIC OPERATION OF EACH STATION.
2. EXTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 4, WEATHERPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS; INCLUDE PROVISION FOR GROUNDING.
A. BODY MATERIAL: MOLDED PLASTIC.
B. MOUNTING: SURFACE TYPE FOR WALL.
3. INTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 12, DRIPPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS.
A. BODY MATERIAL: MOLDED PLASTIC.
B. MOUNTING: SURFACE TYPE FOR WALL.
4. CONTROL TRANSFORMER: 24 V SECONDARY, WITH PRIMARY FUSE.
5. TIMING DEVICE: ADJUSTABLE, 24-HOUR, 14-DAY CLOCK, WITH AUTOMATIC OPERATIONS TO SKIP OPERATION ANY DAY IN TIMER PERIOD, TO OPERATE EVERY OTHER DAY, OR TO OPERATE TWO OR MORE TIMES DAILY.
A. MANUAL OR SEMIAUTOMATIC OPERATION: ALLOWS THIS MODE WITHOUT DISTURBING PRESET AUTOMATIC OPERATION.
B. NICKEL-CADMIUM BATTERY AND TRICKLE CHARGER: AUTOMATICALLY POWERS TIMING DEVICE DURING POWER OUTAGES.
C. SURGE PROTECTION: METAL-OXIDE-VARISTOR TYPE ON EACH STATION AND PRIMARY POWER.
6. MOISTURE SENSOR: ADJUSTABLE FROM ONE TO SEVEN DAYS, TO SHUT OFF WATER FLOW DURING RAIN.
7. SMART CONTROLLERS: USE ET, TESTED IN ACCORDANCE WITH IA SWAT CLIMATOLOGICAL BASED CONTROLLERS 8TH DRAFT TESTING PROTOCOL AND COMPLIANT WITH ASHRAE 189.1.
8. WIRING: UL 493, TYPE UF MULTICONDUCTOR, WITH SOLID-COPPER CONDUCTORS; INSULATED CABLE; SUITABLE FOR DIRECT BURIAL.
A. FEEDER-CIRCUIT CABLES: NO. 12 AWG MINIMUM, BETWEEN BUILDING AND CONTROLLERS.
B. LOW-VOLTAGE, BRANCH-CIRCUIT CABLES: NO. 14 AWG MINIMUM, BETWEEN CONTROLLERS AND AUTOMATIC CONTROL VALVES; COLOR-CODED DIFFERENT FROM FEEDER-CIRCUIT-CABLE JACKET COLOR; WITH JACKETS OF DIFFERENT COLORS FOR MULTIPLE-CABLE INSTALLATION IN SAME TRENCH.
C. SPLICING MATERIALS: MANUFACTURER'S PACKAGED KIT CONSISTING OF INSULATING, SPRING-TYPE CONNECTOR OR CRIMPED JOINT AND EPOXY RESIN MOISTURE SEAL; SUITABLE FOR DIRECT BURIAL.
9. CONCRETE BASE: REINFORCED PRECAST CONCRETE NOT LESS THAN 36 BY 24 BY 4 INCHES THICK, AND 6 INCHES GREATER IN EACH DIRECTION THAN OVERALL DIMENSIONS OF CONTROLLER. INCLUDE OPENING FOR WIRING.
2.10 BOXES FOR AUTOMATIC CONTROL VALVES
A. PLASTIC BOXES:
1. DESCRIPTION: BOX AND COVER, WITH OPEN BOTTOM AND OPENINGS FOR PIPING; DESIGNED FOR INSTALLING FLUSH WITH GRADE.
A. SIZE: AS REQUIRED FOR VALVES AND SERVICE.
B. SHAPE: SQUARE.
C. SIDEWALL MATERIAL: ABS
D. COVER MATERIAL: ABS
2. LETTERING: "IRRIGATION"
B. DRAINAGE BACKFILL: CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 INCH MINIMUM TO 3 INCHES MAXIMUM.

PART 3 - EXECUTION
3.1 EARTHWORK
A. EXCAVATING, TRENCHING, AND BACKFILLING ARE SPECIFIED IN SECTION 31 20 00 "EARTH MOVING."
B. INSTALL WARNING TAPE DIRECTLY ABOVE PRESSURE PIPING, 12 INCHES BELOW FINISHED GRADES, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.
C. DRAIN POCKETS: EXCAVATE TO SIZES INDICATED. BACKFILL WITH CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 TO 3 INCHES TO [12 INCHES BELOW GRADE. COVER GRAVEL OR CRUSHED STONE WITH SHEET OF ASPHALT-SATURATED FELT AND BACKFILL REMAINDER WITH EXCAVATED MATERIAL.
D. PROVIDE MINIMUM COVER OVER TOP OF UNDERGROUND PIPING ACCORDING TO THE FOLLOWING:
1. IRRIGATION MAIN PIPING: MINIMUM DEPTH OF 48 INCHES BELOW FINISHED GRADE, OR NOT LESS THAN 18 INCHES BELOW AVERAGE LOCAL FROST DEPTH, WHICHEVER IS DEEPER.
2. CIRCUIT PIPING: 12 INCHES
3. DRAIN PIPING: 12 INCHES
4. SLEEVES: 24 INCHES
3.2 INSTALLATION OF PIPING
A. LOCATION AND ARRANGEMENT: DRAWINGS INDICATE LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS ARE APPROVED ON COORDINATION DRAWINGS.
B. INSTALL PIPING AT MINIMUM UNIFORM SLOPE OF 0.5 PERCENT DOWN TOWARD DRAIN VALVES.
C. INSTALL PIPING FREE OF SAGS AND BENDS.
D. INSTALL GROUPS OF PIPES PARALLEL TO EACH OTHER, SPACED TO PERMIT VALVE SERVICING.
E. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
F. INSTALL UNIONS ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2 OR SMALLER PIPE CONNECTION.
G. INSTALL FLANGES ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2-1/2 OR LARGER PIPE CONNECTION.
H. INSTALL UNDERGROUND THERMOPLASTIC PIPING IN ACCORDANCE WITH ASTM D2774.
I. INSTALL EXPANSION LOOPS IN CONTROL-VALVE BOXES FOR PLASTIC PIPING.
J. LAY PIPING ON SOLID SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS OR DEPRESSIONS.
K. INSTALL DUCTILE-IRON PIPING IN ACCORDANCE WITH AWWA C600.
L. INSTALL PVC PIPING IN DRY WEATHER WHEN TEMPERATURE IS ABOVE 40 DEG F. ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURES ABOVE 40 DEG F BEFORE TESTING.
3.3 JOINT CONSTRUCTION
A. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.
B. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.
C. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS IN ACCORDANCE WITH ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:
1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.
D. FLANGED JOINTS: SELECT RUBBER GASKET MATERIAL OF SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS.
E. DUCTILE-IRON PIPING GASKETED JOINTS: COMPLY WITH AWWA C600 AND AWWA M41.
F. COPPER-TUBING BRAZED JOINTS: CONSTRUCT JOINTS IN ACCORDANCE WITH CDA'S "COPPER TUBE HANDBOOK," USING COPPER-PHOSPHORUS BRAZING FILLER METAL.
G. COPPER-TUBING SOLDERED JOINTS: APPLY ASTM B813 WATER-FLUSHABLE FLUX TO TUBE END UNLESS OTHERWISE INDICATED. CONSTRUCT JOINTS IN ACCORDANCE WITH ASTM B828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY (0.20 PERCENT MAXIMUM LEAD CONTENT) COMPLYING WITH ASTM B32.
H. PE PIPING FASTENER JOINTS: JOIN WITH INSERT FITTINGS AND BANDS OR FASTENERS IN ACCORDANCE WITH PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
I. PVC PIPING SOLVENT-CEMENTED JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS IN ACCORDANCE WITH THE FOLLOWING:
1. COMPLY WITH ASTM F402 FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS.
2. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER, ASTM D1785, PVC PIPE AND PVC SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2672. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2855.
3. PVC NONPRESSURE PIPING: JOIN IN ACCORDANCE WITH ASTM D2855.
3.4 INSTALLATION OF VALVES
A. UNDERGROUND CURB VALVES: INSTALL IN CURB-VALVE CASINGS WITH TOPS FLUSH WITH GRADE.
B. UNDERGROUND IRON GATE VALVES, RESILIENT SEAT: COMPLY WITH AWWA C600 AND AWWA M44. INSTALL IN VALVE CASING WITH TOP FLUSH WITH GRADE.
1. INSTALL VALVES AND PVC PIPE WITH RESTRAINED, GASKETED JOINTS.
C. ABOVEGROUND VALVES: INSTALL AS COMPONENTS OF CONNECTED PIPING SYSTEM.
D. THROTTLING VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
E. DRAIN VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
3.5 INSTALLATION OF SPRINKLERS
A. INSTALL SPRINKLERS AFTER HYDROSTATIC TEST IS COMPLETED.
B. INSTALL SPRINKLERS AT MANUFACTURER'S RECOMMENDED HEIGHTS.
C. LOCATE PART-CIRCLE SPRINKLERS TO MAINTAIN A MINIMUM DISTANCE OF 4 INCHES FROM WALLS AND 2 INCHES FROM OTHER BOUNDARIES UNLESS OTHERWISE INDICATED.
3.6 INSTALLATION OF AUTOMATIC IRRIGATION CONTROL SYSTEM
A. EQUIPMENT MOUNTING, INTERIOR: INSTALL CONTROLLERS ON INTERIOR WALL.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
B. EQUIPMENT MOUNTING, EXTERIOR: INSTALL EXTERIOR FREESTANDING CONTROLLERS ON PRECAST CONCRETE BASES.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
C. INSTALL CONTROL CABLE IN SAME TRENCH AS IRRIGATION PIPING AND AT LEAST 2 INCHES BELOW OR BESIDE PIPING. PROVIDE CONDUCTORS OF SIZE NOT SMALLER THAN RECOMMENDED BY CONTROLLER MANUFACTURER. INSTALL CABLE IN SEPARATE SLEEVE UNDER PAVED AREAS.
3.7 IDENTIFICATION
A. IDENTIFY SYSTEM COMPONENTS. COMPLY WITH REQUIREMENTS FOR IDENTIFICATION SPECIFIED IN SECTION 22 05 53 "IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT."
B. EQUIPMENT NAMEPLATES AND SIGNS: INSTALL ENGRAVED PLASTIC-LAMINATE EQUIPMENT NAMEPLATES AND SIGNS ON EACH AUTOMATIC CONTROLLER.
1. TEXT: IN ADDITION TO IDENTIFYING UNIT, DISTINGUISH BETWEEN MULTIPLE UNITS, INFORM OPERATOR OF OPERATIONAL REQUIREMENTS, INDICATE SAFETY AND EMERGENCY PRECAUTIONS, AND WARN OF HAZARDS AND IMPROPER OPERATIONS.
C. WARNING TAPES: ARRANGE FOR INSTALLATION OF CONTINUOUS, UNDERGROUND, DETECTABLE WARNING TAPES OVER UNDERGROUND PIPING DURING BACKFILLING OF TRENCHES. SEE SECTION 31 20 00 "EARTH MOVING" FOR WARNING TAPES.
3.8 FIELD QUALITY CONTROL
A. PERFORM TESTS AND INSPECTIONS.
B. TESTS AND INSPECTIONS:
1. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
2. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, OPERATE CONTROLLERS AND AUTOMATIC CONTROL VALVES TO CONFIRM PROPER SYSTEM OPERATION.
3. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
4. IRRIGATION SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
C. PREPARE TEST AND INSPECTION REPORTS.
3.9 ADJUSTING
A. ADJUST SETTINGS OF CONTROLLERS.
B. ADJUST AUTOMATIC CONTROL VALVES TO PROVIDE FLOW RATE AT RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT.
C. ADJUST SPRINKLERS AND DEVICES, EXCEPT THOSE INTENDED TO BE MOUNTED ABOVEGROUND, SO THEY WILL BE FLUSH WITH, OR NOT MORE THAN 1/2 INCH ABOVE, FINISH GRADE.
3.10 PIPING SCHEDULE
A. INSTALL COMPONENTS HAVING PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
B. PIPING IN CONTROL-VALVE BOXES AND ABOVEGROUND MAY BE JOINED WITH FLANGES OR UNIONS INSTEAD OF JOINTS INDICATED.
C. ABOVEGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. GALVANIZED-STEEL PIPE AND GALVANIZED-STEEL PIPE NIPPLES; GALVANIZED, GRAY-IRON THREADED FITTINGS; AND THREADED JOINTS.
B. TYPE M HARD COPPER TUBE, WROUGHT- OR CAST-COPPER FITTINGS, AND SOLDERED JOINTS.
C. SCHEDULE 80, PVC PIPE; SOCKET-TYPE PVC FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE; SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
D. UNDERGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. NPS 3 AND NPS 4 DUCTILE-IRON, PUSH-ON-JOINT PIPE; DUCTILE-IRON, PUSH-ON-JOINT FITTINGS AND GASKETS; AND GASKETED JOINTS.
B. TYPE L SOFT COPPER TUBE, WROUGHT-COPPER FITTINGS, AND BRAZED JOINTS.
C. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE; SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
E. SDR 21, PVC, PRESSURE-RATED PIPE; SCHEDULE 80, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
E. CIRCUIT PIPING:
1. NPS 2 AND SMALLER:
A. SIDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND FASTENER JOINTS.
B. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
C. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
2. NPS 2-1/2 TO NPS 4:
A. SIDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND BANDED OR FASTENER JOINTS.
B. DR 11, PE, CONTROLLED OD PIPE; PE SOCKET OR BUTT-FUSION FITTINGS; AND HEAT-FUSION JOINTS. NPS 3 PIPE AND FITTINGS IF NPS 2-1/2 PIPE AND FITTINGS ARE NOT AVAILABLE.
C. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
F. UNDERGROUND BRANCHES AND OFFSETS AT SPRINKLERS AND DEVICES: SCHEDULE 80, PVC PIPE; THREADED PVC FITTINGS; AND THREADED JOINTS.
1. OPTION: PLASTIC SWING-JOINT ASSEMBLIES, WITH OFFSETS FOR FLEXIBLE JOINTS, MANUFACTURED FOR THIS APPLICATION.
G. RISERS TO ABOVEGROUND SPRINKLERS AND SPECIALTIES:
1. TYPE M HARD COPPER TUBE, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
2. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
H. DRAIN PIPING SHALL BE [ONE OF] THE FOLLOWING:
1. SIDR 9, 11.5, OR 15; PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND BANDED OR FASTENER JOINTS.
2. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3. SDR 21, 26, OR 32.5; PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3.11 VALVE SCHEDULE
A. UNDERGROUND, SHUTOFF-DUTY VALVES: USE THE FOLLOWING:
1. NPS 2 AND SMALLER: CURB VALVE, CURB-VALVE CASING, AND SHUTOFF ROD.
2. NPS 3 AND LARGER: IRON GATE VALVE, RESILIENT SEATED; IRON GATE VALVE CASING; AND OPERATING WRENCH(ES).
B. ABOVEGROUND, SHUTOFF-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.
2. NPS 2-1/2 AND LARGER:
A. IRON BALL VALVE.
B. IRON GATE VALVE, NRS.
C. THROTTLING-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. PLASTIC AUTOMATIC CONTROL VALVE.
B. BRASS BALL VALVE.
2. NPS 2-1/2 AND NPS 3:
3. PLASTIC AUTOMATIC CONTROL VALVE.
4. IRON BALL VALVE.
D. DRAIN VALVES:
1. NPS 1/2 AND NPS 3/4:
A. AUTOMATIC DRAIN VALVE.
B. BRASS BALL VALVE.
C. BRONZE GATE VALVE.
2. NPS 1 TO NPS 2:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.

END OF SECTION 32 84 00

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
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SEAL:
LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
110
STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:
LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED DWN BY: Author
PROJECT #: 1234 CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:34 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

IRRIGATION SPECIFICATIONS

LA109

SHEET NUMBER: 9 OF 9 LANDSCAPE

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Autodesk Docs://3958 Hayner/3958 STICKNEY AVE.LA.rvt
TEMPLATE DATE: 11/25/2019

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

TRANSMITTAL

DATE	May 9, 2025
TO	Laura Black, NH Division of Historical Resources 172 Pembroke Road Concord, NH 03301
FROM	Nick Kraus, Heritage Consulting Group
CC	Stickney Avenue, LLC
RE	New Hampshire Highway Garage Complex, 11 Stickney Ave., Concord, Merrimack County

---

TRANSMITTING	NHDHR Easement Program Alteration Request Form
VIA	Email
NOTES	Enclosed please find an updated NHDHR Easement Program Alteration Request responding to the condition related to the landscape plan. This is submitted as a formal request for approval after our call held on May 1, 2025. Should you have any questions, please do not hesitate to call 215.248.1260 or email nkraus@heritage-consulting.com

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

NHDHR EASEMENT PROGRAM
ALTERATION REQUEST FORM

Historic Resource Name (as written on easement): 1926 Highway Department Garage and 1948 Addition
Address: 11 Stickney Avenue, Concord, Merrimack County, NH 03301
Owner/Organization: Stickney Avenue, LLC
Individual Submitting Report (Name/Title): Cindy Hamilton, President
Delegated representative of owner for purposes of easement consultation, if lessee? Yes ☐ No ☑
E-mail: nkraus@heritage-consulting.com Phone: (215) 248-1260
Date: 05/06/2025

Expiration Date of NHDHR preservation restrictions: 02/17/2073 Or Perpetual? ☐
Scope of Easement (What does the easement protect?): Exterior ☑ Interior ☐ Landscape ☐ Archaeology ☐

- Submission of this form comprises a formal request for project review. Please note that the NHDHR will provide project approval only in response to receipt of this application, however preliminary informal discussion of potential projects with the NHDHR is encouraged.
- This form **must be submitted** to the New Hampshire Division of Historical Resources along with all necessary attachments in advance of project work, with time allotted for review, consultation, and written approval. Mail hard copy to: Easement Program Coordinator, NHDHR, 19 Pillsbury St., Concord, NH 03301. *Contact laura.s.black@dncr.nh.gov for alternate submission options that may be available on a case-by-case basis.*

SUBMISSION CHECKLIST

Please check that you have included the following information as part of your complete application:

☑ Alteration Request Form
☑ Scope of Work
☑ Sketches / Drawings (elevations, site plans, floor plans, as appropriate) Dated: 04/11/2025
☐ Photographs of existing conditions
☐ Product Information/Specifications

- Sketches / drawings can range from hand or computer augmentation of existing images to professional architectural project drawings. The level of the drawings will likely depend upon the extent of the project scope. Think about what is necessary to depict the proposed alteration in relation to the historic space, and how the project will physically and visually interact with historic features and materials.
- Photographs should be captioned, clearly identifying where and what is depicted. *If at any time approval has been provided for electronic submission of this application, photographs must be compiled into one document and not attached individually to an email or document exchange website. NHDHR does not have the resources to download, sort, identify, and print individual photo files. A photo pages template is provided on the NHDHR website for your convenience.*

It is recommended that you keep a copy of all submission materials to facilitate clear consultation and complete files for current and future property stewards.

Historic Resource Name: 1926 Highway Department Garag

SCOPE OF WORK

Please provide a brief summary of the proposed project:
Note that a single approval request may involve multiple project components. If so, address all project components fully in the application.

Please see attachment for work associated with this May 2025 submission. This scope of work outlined is prepared in response to the site condition received on August 28, 2024 as discussed on a conference call between the project team and DHR on May 1, 2025 and includes a reduction in the landscaped plants to limit physical and visual impact to the historic resource.

Attach a detailed narrative description of proposed project work:
Include:

- Location(s) of work
- Existing feature(s) and its (their) condition
- Approximate date of feature(s)
- Proposed work and impact on existing feature(s)
- If proposed action may/will deviate from National Park Service treatment recommendations, it will be efficient and helpful to include a brief explanation of less invasive alternatives and reasoning for why they can't be used
- Clear cross-references to related photos and plans/drawings

PROJECT FUNDING AND/OR PERMITTING INFORMATION

Many projects benefit from state and federal grants, or are subject to state or federal regulatory review. Property owners MUST initiate and follow the protocols of those programs, as well as project review under the NHDHR's easement program. However, the NHDHR regularly coordinates our easement review consultation with those programs to help synchronize project review. The following information can help facilitate that coordination. Please note that approval under the NHDHR easement program does not constitute approval under any other local, state, or federal program.

Is this project being funded by any of the following sources?
Please check all that apply.

- ☐ Historic Tax Credits
- ☐ LCHIP grant
- ☐ New Hampshire "Moose Plate" grant _____
- ☐ Other state/federal funding: _____

Is this project subject to state or federal permitting requirements? Yes ☐ No ☑
If yes, through what agency? _____

NHDHR regulatory Request for Project Review (RPR) #, if relevant and known: _____

Does LCHIP have an *existing* stewardship interest in this resource? Yes ☐ No ☑
Current LCHIP Stewardship Agreement? Yes ☐ No ☑ Expiration Date: _____
LCHIP Executory Interest in NHDHR preservation easement? Yes ☐ No ☑

DHR Alteration Request - Scope of Work
NH Highway Department Garage, 1926 Garage and 1948 Addition
11 Stickney Avenue, Concord, NH
May 6, 2025

This narrative addresses a condition from the prior easement review submission regarding site landscaping. The site plan condition was applied to the August 28, 2024 DHR review as follows:

***Site Plan*: Reduce the extent of landscaping plants, in particular the number of trees and the front façade hedgerow, for a site plan more reflective of the historic utilitarian character of the property. Any trees planted adjacent to a building must be at a distance to avoid impacts.**

In response to this condition, the proposed site plan has been updated as discussed on the phone call between the project team and DHR held on May 1, 2025. As discussed on the call, the site plan has been significantly redesigned to limit the number of trees and the impact of the landscape on the historic site. As illustrated, the revised site plan will better retain the historic utilitarian character of the property. The hedgerow at the front façade has been removed and this band adjacent to the building will be grass as it was historically. Small planter beds will be located at entrances. Larger trees are held away from the building, and are located within parking islands adjacent to the main elevation. All trees and plantings will be native as required by the City. Trees have been reduced to the number mandated by City Code. As discussed on the recent phone call, the revised landscape is designed to meet minimal city requirements as it relates to tree number versus impervious paving. Tenant amenity spaces have been simplified in hard and softscape and are located adjacent to the building hyphen.

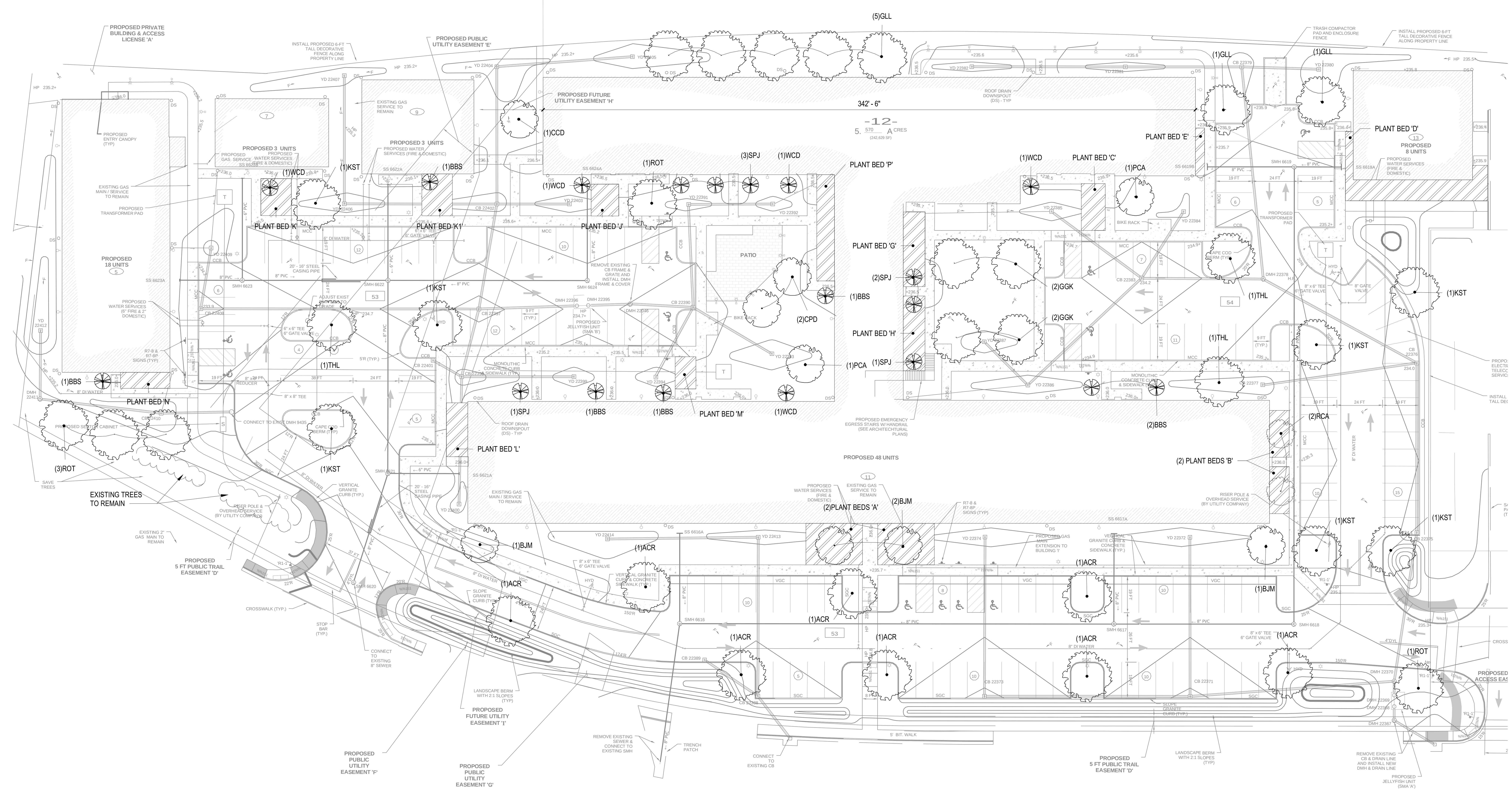
Enclosed with this easement submission is an updated landscape package as well as a rendering illustrating that the landscaping has been reduced and will not impact the utilitarian appearance of the property as viewed from the right of way adjacent to the main elevation.

Drawings: Warrenstreet Landscape Drawing Set, 4/11/2025; Main Elevation Rendering

I, Jonathan Halle, hereby Certify that I am the designer of this Landscape Plan and that I am a Professional Landscape Architect Licensed by the State of New Hampshire.

Jonathan Halle, PLA, AIA

IN COMPLIANCE WITH SECTION 28-4-2 OF THE CITY OF CONCORD ZONING CODE, THE FOLLOWING REQUIREMENTS WILL BE FULFILLED WITH:
(b) (1) The minimum buffer width is met with 15', due to the fact that the building does not exceed a height of 20' (average height of the highest pitched roof)
(d) Buffer landscape and Improvement Standards: (2) Buffer Option has been employed. There is a combination of existing and new plants. The NE corner of the site has existing trees and shrubs that already provide screening from the residential neighborhood behind. While there are also some plants along the back edge of the site, we have added (3) Diciduous trees, and (3) Evergreen trees, as shown. This will provide adequate screening for the residential areas behind the bank, with varying densities and heights.



SITE PLAN REQUIREMENTS

TOTAL PAVED AREA = 86,980 SF
1. TREES PLANTED 20' TO 40' APART. (WAIVER)
2. EVERGREENS PLANTED TO SCREEN PREVAILING WINDS. (6' MIN)
3. NO TREES TO BE PLANTED WITHIN 10' UNDERGROUND UTILITIES.
4. MAJORITY OF PLANTINGS DECIDUOUS (2 1/2 - 3" CAL MIN.)
5. BUMP OUTS AND ISLANDS TO HAVE MIN. (1) TREE.
6. NO MORE THAN 25% OF ONE SPECIES. NO MORE THAN 25% ORNAMENTALS.
7. ANY CHANGES TO THE FINAL APPROVED PLANS REQUIRE APPLICABLE CITY APPROVALS PRIOR TO INSTALLATION OF CONSTRUCTION OF SAID CHANGES.

GENERAL NOTE:
ALL DISTURBED AREAS TO RECEIVE 6" LOAM AND FINE LAWN SEED (SFL) UNLESS OTHERWISE NOTED.

CITY OF CONCORD LANDSCAPE ORDINANCE 28-7-10 (d)
(1) LARGE SHADE OR ORNAMENTAL TREE PER 2000 SF OF PARKING AREA, <50' APART, MIN 2" CAL.

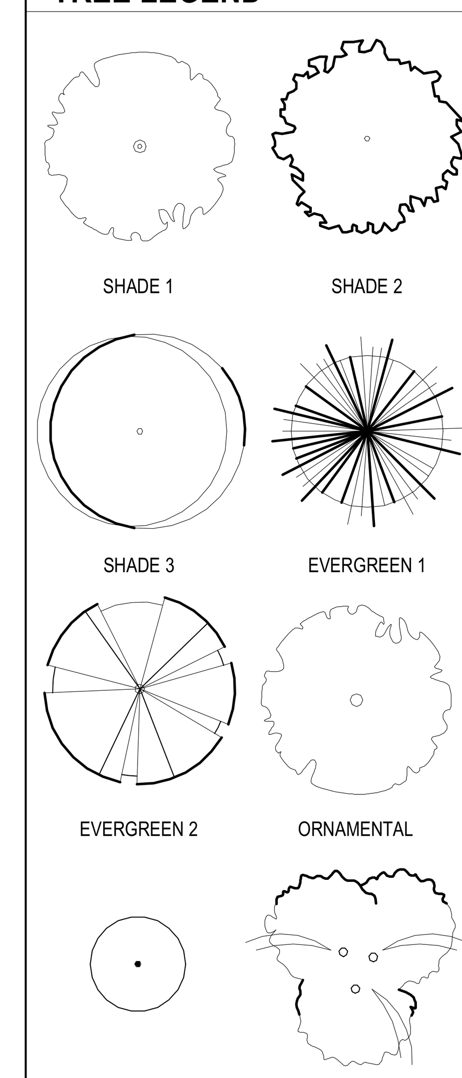
86,980 SF PAVEMENT / 2000 = 44 TREES REQUIRED
TREES PROVIDED = 44 OF WHICH (9) ARE ORNAMENTAL.

1 SITE PLAN
1" = 30'-0"

SIGN LEGEND

TEXT SEE MUTCD FOR TEXT DIMENSIONS	
IDENTIFICATION NUMBER	SIZE WIDTH/HEIGHT
TEXT DIMENSIONS	
RESERVED PARKING	
R1-1	30"/30"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
STOP	
R7-8	12"/18"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	
VAN ACCESSIBLE	
R7-8P	18"/9"
SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS	

TREE LEGEND



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digsafe.com
DIAL 811 or
1-888-DIG-SAFE

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TITLE 2
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CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:
CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
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40 STARK STREET
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P. (603) 225-0640
WWW.WARRENSTREET.COOP

SEAL: LICENSED LANDSCAPE ARCHITECT — JONATHAN R. HALLE — 110 — STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:
LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE:	AS NOTED	DWN BY:	Author
PROJECT #:	1234	CHK BY:	Checker
PRINT DATE:			4/11/2025 10:48:31 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE SITE PLAN

LA101

SHEET NUMBER: 1 OF 9 LANDSCAPE

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three inches = one foot

one and one half inches = one foot

one inch = one foot

three quarter inch = one foot

one quarter inch = one foot

one eight inch = one foot

Landscape Plant Schedule-Lofts II Concord 04-09-2025

Photo	Type	Sym	Qty	Common Name	Botanical Name	Hardiness Zone	Habit of Growth Height	Habit of Growth Spread	Sun Exposure	Drought Tolerant	Native	Toxicity	Installed Size	Type	Use	Description & Notes (Height, Exposure, Bloom, Color)
	Deciduous Large Tree	ACR	10	Red Maple	Acer rubrum October Glory	4-9	40-60'	20-50'	Full Sun	YES	YES	4 to horses only	3"-3 1/2" cal 10-12ft	B&B	Street Tree	Vibrant color and rich reds are synonymous with the American Red Maple Tree. The Red Maple truly earns its name, with its red flowers in early spring, red twigs of new growth, and spectacular red leaves in fall. Its dazzling fall show is further diversified with a few orange or gold shades under certain weather conditions. Even better, the American Red Maple adapts to any environment. The American Red Maple Tree is one of the most populous trees in the eastern U.S. because it adapts so well to many different environments. It is quite drought tolerant, but will grow in wet boggy areas, especially in the Southern portion of its range.
	Deciduous Large Tree	GGK	4	Gingko Tree	Biloba 'Autumn Gold'	4-8	40-50'	25-30'	Full Sun	YES	NO	4	3"-3 1/2" cal 10-12ft	B&B	Street Tree	The strong, full growth of the Ginkgo is incomparable: From its thick, full and vibrantly green foliage to its easy-growing shade. With the Autumn Gold, you get these classic benefits and the perk of dazzling gold in the fall. And the Autumn Gold's open branching means you see more color than with other varieties. This bigger size means that it's even more colorful and carefree since larger trees rely on less water and sun. The Ginkgo is the world's oldest tree for good reason...it survives and thrives, long after others fade. It's tolerant of pollution, disease, insects and more, so whether you're a city dweller or rural homeowner, the Autumn Gold is perfect for you.
	Deciduous Large Tree	GLL	7	Greenspire Littleleaf Linden	Tilia cordata 'greenspire'	3-8	60'-70'	20'-40'	Full-Partial Sun	NO	NO	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	This tree has been a staple in American neighborhoods for generations and in European streetscapes for centuries. Naturally shaped like a rounded pyramid, it adds a definite sense of scale and proportion to your yard. The glossy, dark green leaves are heart-shaped and grow densely, making this an exceptional shade tree.
	Deciduous Large Tree	KST	7	Katsura Tree	Cercidiphyllum Japonicum	4-8	40'-60'	20'-30'	Full Sun	NO	NO	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	Prized for its beautiful shape and attractive foliage, award-winning Cercidiphyllum japonicum (Katsura Tree) is an elegant, single or multi-trunked, deciduous tree with an upright, pyramidal form when young, becoming more rounded with age. The dense foliage of broadly heart-shaped leaves, up to 4 in. long (10 cm), emerges a beautiful reddish purple in spring, matures to blue-green in summer and warms up to attractive shades of gold, orange and red in fall. Katsura Tree remains attractive even after the leaves drop, thanks to its graceful, pyramidal silhouette and its brown, slightly shaggy bark. A great landscape tree for shade that is lovely through the seasons.
	Deciduous Large Tree	ROT	5	Northern Red Oak Tree	Quercus rubra	4-8	50-75'	50-75'	Full Sun	YES	YES	1	3"-3 1/2" cal 10-12ft	B&B	Street Tree	If you're looking for a huge shade tree that you don't have to worry about, the Northern Red Oak is the way to go. Long-lasting, incredibly hardy and fast growing, this tree is the perfect investment for nearly every American family. It grows in even the worst conditions. From wide open pastures, dense forests and polluted city sidewalks, the Northern Red Oak can thrive in nearly every condition imaginable. If you have poor soil, compact space, wet sand, dry clay or urban air, you can grow this tree as well as someone with perfect soil and a wide-open pasture.
	Deciduous Large Tree	THL	3	Thornless Honeylocust	Glediysia triacanthos inermis	4-10	30-60'	30-60'	Full-Partial Sun	YES	YES	0	3"-3 1/2" cal 10-12ft	B&B	Street Tree	The Thornless Honey Locust is a large, deciduous, shade tree that is a "thornless" variety of the species, *Gleditsia triacanthos*, commonly known as the Honey Locust. It is a member of the Fabaceae or legume family and grows 30 to 40 feet tall and 25 to 40 feet wide with an upright oval or rounded habit. This variety can be found growing in the wild and reaches the same height as its thorny species trees. Many of the cultivars of this variety are sold in commerce and typically do not have thorns and many times do not have seedpods. This tree has pinnate to bipinnately compound. dark green leaves with ovate leaflets. In the fall, the leaves turn yellow.
	Deciduous Accent Flowering Small Tree	BJM	4	Coral Bark Japanese Maple	Acer palmatum 'Sango-kaku'	5-9	15-25'	10-12'	Full-Partial Sun	YES	NO	4 to horses only	3"-3 1/2" cal 10-12ft	B&B	Street Tree	This beautiful small tree has brilliant red-coral bark on its young branches with color that intensifies in the winter. Deeply cut, pale green leaves display attractive red margins and turn a vibrant, golden yellow in fall. Thrives in bright dappled shade in warmer regions, or in full sun in cooler regions. Deciduous.
	Deciduous Accent Flowering Small Tree	CCD	1	Cherokee Chief Dogwood Tree	Cornus florida 'Cherokee Chief'	5-9	15-30'	15-30'	Full-Partial Sun	YES	YES	0	6'-7' hgt.	B&B	Accent Tree	The Cherokee Chief Dogwood is cold hardy to growing zone 5, where other dogwood varieties can't handle the cold. By being one of the first trees to bloom in spring, Cherokee Chief Dogwoods fill the landscape with fiery red blossoms while other trees are still dormant. Once their dark, green leaves fill in they act as a backdrop for the bright flowers to pop against. The colorful show doesn't stop there because the long, oval shaped leaves fill in to create a thick and attractive canopy that provides shade in the summer. When the leaves first emerge they have a burgundy to bronze tint that fades to green as they mature. Then in the fall the green leaves turn a dark shade of red.
	Deciduous Accent Flowering Small Tree	CPD	2	Cherokee Princess Dogwood Tree	Cornus florida 'Cherokee Princess'	5-9	15-30'	25-35'	Full-Partial Sun	YES	YES	2 to pets only	6'-7' hgt.	B&B	Accent Tree	Prolific, large, pure white, overlapping petal-like blooms in spring, dark green foliage in the summer, reddish-purple leaves in the fall, red berries in winter make this dogwood a lovely ornamental tree for all seasons.
	Deciduous Accent Flowering Small Tree	PCA	2	Prairifire Crab Apple	Malus x 'Prairifire'	4-8	15-20'	15-25'	Full-Partial Sun	YES	YES	1	2 1/2"-3" cal	B&B	Street Tree	The Prairifire Crabapple is showy all year long. Plant several along your driveway and create a grand entrance for your guests, no matter what time of year they arrive. You'll get a rush of warm color in the spring. The spring months deliver gorgeous purple and red leaves to the Prairifire Crabapple, while tons of pink-magenta flowers welcome vibrant color. While your neighbors' yards fade in the summer heat, your Prairifire will still bring magnificent warm hues to your landscape.
	Deciduous Accent Flowering Small Tree	RCA	2	Robinson Crab Apple	Malus 'Robinson'	4-8	15-20'	15-25'	Full-Partial Sun	YES	YES	2 to pets only	2 1/2"-3" cal	B&B	Street Tree	Everyone loves the incredible color of the Robinson Crabapple. You get huge, soft pink blooms in the spring, decorative fruit in the fall and textured bark. The new Robinson Crabapple resists many diseases and pest problems that some of the older varieties of crabapples were plagued by. You also get to enjoy some of the first blooms of spring! The Robinson Crabapple is an early season bloomer... soft pink blossoms and conspicuous fruit make this an ideal specimen tree. You'll love how this fast-growing flowering tree attracts wildlife... birds and butterflies just can't resist its berries.
	Deciduous Accent Flowering Small Tree	STM	1	Star Magnolia "Royal Star"	Stellata "Royal Star"	4-9	15'-20'	10'-15'	Full Sun	NO	NO	0	7'-8' hgt.	B&B	Accent Tree	The impact is accentuated by the weeping, twisted branches tipping towards the ground. This tiny tree explodes in the spring with electric lavender flower clusters cascading along the bare, weeping branches in early spring. The Royal Star Magnolia is one of the most impressive and striking Magnolia trees. It comes to life in spring with huge, 4-inch double blossom flowers whose unique beauty is hard to put into words. Unlike any flower you've ever seen, these star-shaped beauties are such prolific bloomers they nearly cover the tree completely.

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	Deciduous Flowering Shrubs	CKV	18	Compact Korean Spice Viburnum	viburnum carlesii 'korean spice baby'	5-7	3-4'	3-4'	Full-Partial Sun	NO	NO	1	3 Gal	CTN	NA	Amazing sweet scent from heavenly blush pink blossoms in the spring make this a must if you love fragrance wafting on the spring breezes. Ball shaped and medium in height, this deer resistant beauty should be in every landscape.
	Deciduous Flowering Shrubs	MWB	2	Minuet Weigela Bush	PL-Weigela-Minuet	4-8	3-4'	3-5'	Full Sun	YES	NO	0	3 Gal.	CTN	NA	Minuet Weigela is a dwarf shrub with showy flowers and foliage. These would make an attractive, small hedge in your landscape, or use one as a colorful accent in your perennial beds Your Minuet Weigela is a colorful plant even when not in full bloom. The elliptic leaves have a slight purple hue, lending them an attractive color all season long. In spring, yellow-throated, hot-pink flowers with a trumpet-like appearance appear for a dramatic display in your yard. As an added bonus, the flowers sporadically bloom again throughout summer, an extra boon for your wildlife. Minuet Weigela has a dense, rounded form and is hardier than some other dwarf cultivars. In fact, it was developed in Canada, and has improved cold tolerance.
	Deciduous Flowering Shrubs	RSH	1	Red Sensation Hydrangea	Hydrangea macrophylia "red sensation'	5-9	2-3'	3-5'	Partial shade-full shade	NO	NO	4	5 gal	CTN	NA	The Red Sensation Hydrangea is a top-choice shrub, which grows vigorously in partial or full shade. It flowers from mid-summer through fall, just when other plants are finishing their bloom. This specially-selected variety will bloom even on new shoots from the base, as well as on older wood, so it is a great choice for gardeners in colder areas. Plant it under trees to fill awkward spaces with dense foliage and bright flowers. The exact flower color will depend on your soil type. In acidic soil (below pH 5.5) they will be blue-violet, but in other soils they will be red-violet. In either case, the unique rich coloring is a terrific contrast to the lighter, more typical blue or pink flowers.
	Deciduous Flowering Shrubs	SAW	8	Anthony Waterer Spirea	Spirea x Bumalda 'Anthony Waterer'	4-9	2-3'	3-4'	Full Sun-Partial Shade	YES	NO	0	-	-	NA	The Anthony Waterer Spirea (Spiraea japonica 'Anthony Waterer') is a charming deciduous shrub that adds a splash of color to any landscape. This plant features delicate, willowy leaves that emerge reddish-purple in spring, mature to a blue-green hue during summer, and transform into vibrant shades of yellow and reddish-purple in the fall. From late spring to midsummer, it produces abundant domed clusters of deep rosy-pink flowers, which attract butterflies and other pollinators. Ideal for borders, foundation plantings, cottage gardens, and even slopes, it is generally ignored by deer and has good resistance to pests and diseases.
	Evergreen Low Ground Cover	BCJ	10	Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	3-9	12'	4'-6'	Full-Partial Sun	YES	YES	1	5 Gal	CTN	NA	Blue Chip Juniper is a tough, low-growing evergreen shrub that is known for its beautiful silver-blue foliage and spreading habit. The deer-resistant foliage holds its blue color all year long. It's a durable, tough groundcover shrub for edging driveways or planted on slopes or along retaining walls for erosion control. Blue Chips are very drought tolerant and thrive in full sun.
	Evergreen Low Ground Cover	BDJ	8	Broadmoor Juniper	Juniperus sabina "Broadmoor'	3-7	2-3'	4-6'	Full Sun	YES	NO	0	3 Gal	CTN	NA	This dense mound of graceful, spreading branches is an excellent choice for a large scale groundcover or an accent to a rock garden. The bright green foliage has excellent wind resistance, and is ideal for coastal conditions. Though persistent winds bother some plants, Broadmoor takes them in stride. Plant as a filler in beds and borders, use in a single mass for erosion control or in poor soils. Unusual bright green plant spreads well enough to be treated as groundcover. Just high enough to create a windscreen for exposed patios and decks. Also a good choice on top of low retaining walls, where it will spread enough to engulf them.
	Evergreen Low Ground Cover	BSJ	32	Blue Star Juniper Creeper	Juniperus squamata 'Blue Star'	4-8	1-3'	1-4'	Full Sun	YES	NO	2 to pets only	5 Gal 18"-24"	CTN	NA	Attractive sparkling blue foliage on dense, spreading branches. Creates a colorful contrast to purple and green foliage plants. Use in a rock garden or as a low border plant. Ideal for mass plantings in minimal-care landscapes. Evergreen.
	Evergreen Low Ground Cover	DMP	4	Dwarf Mugo Pine	Pinus Mugo var. pumilio	2-7	3-5'	3-6'	Full-Partial Sun	YES	NO	2	5 Gal	CTN	NA	A popular dwarf conifer displaying dark green needles on dense branches. A very useful, slow growing evergreen for rock gardens, mass plantings, and in mixed groupings with broadleaf plants. Makes a great container specimen.
	Evergreen Low Ground Cover	PAB	18	Pancake Arborvitae	Thuja occidentalis 'Concesarini' PP #24,013	4-7	1'	2'	Full Sun	YES	YES	3	5 gal	CTN	NA	Finely textured, sage-green evergreen with a low, dense rounded habit. Foliage tints slightly blue in fall and winter. Hardy and easy to maintain. Thrives in full sun and resists burning but will tolerate some shade. Attractive as low border, hedge or in rock gardens
	Evergreen Low Ground Cover	SCC	8	Siberian Carpet Cypress	Microbiota decussata	3-7	2'	2-8'	Full-Partial Sun	NO	NO	0	5 Gal 18"-24"	CTN	NA	A dwarf evergreen conifer. Forms a feathery groundcover with a graceful branch pattern. Genus name comes from the Greek micro meaning small and Biota an obsolete name for Platycladus. Foliage turns bronze to burgundy in winter when grown in sun; feathery dull green foliage with graceful branch pattern; small scale-like awl-shaped leaflet; branchlets arranged in flattened sprays; bright green needles are scale-like; soft texture; bronzy-purple to brown in winter. Full sun to part shade; moist well-drained soil; More shade tolerant than groundcover junipers.
	Evergreen Low Ground Cover	TAM	35	Tam Juniper	Juniperus sabina 'tamariscifolia'	4	1.5'	10'	Full Sun	YES	NO	4	5 Gal 18"-24"	CTN	NA	A densely branched, low-growing conifer that gracefully spreads to form mounds of soft, scale-like, rich green foliage. An excellent conifer for use as a large scale groundcover, on banks and slopes, or as a rock garden accent. Evergreen.
	Evergreen Accent Tree	BBS	7	Baby Blue Spruce	Picea pungens 'Baby Blue'	2-8	15-30'	15'	Full-Partial Sun	YES	YES	0	6'-7' hgt.	B&B	NA	Slower growing than the native Colorado spruce, this semi-dwarf selection is useful for smaller landscapes and confined spaces. Dense, eye-catching silvery blue-green foliage holds its color well. Growing only a few inches per year, it develops a broad, pyramidal form. Evergreen.
	Evergreen Accent Tree	GWY	1	Greenwave Spreading Yew	Taxus cuspidata 'green wave'	4-6	3'-4'	6'-10'	Full-Partial Sun	YES	NO	3	18"-24"	CTN	NA	This low-mounded, spreading, evergreen shrub will reach only 3-4' in height and spread to 6-8'. Rich, dark green foliage keeps its color all year. Good plant for low hedges or mass planting. Does well in both sun and shade, moist, well-drained soil. Does not tolerate wet soil.

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	Evergreen Accent Tree	HCJ	7	Hetz Columnar Juniper	Juniperus chinensis 'Hetzi Columnaris'	3-9	15'-20'	4'-5'	Full-Partial Sun	YES	NO	3	6'-7' hgt.	B&B	NA	The Hetzi Columnar Juniper is a very handsome evergreen conifer. We're not sure why it was named 'Columnaris' because its natural form is somewhat more of a narrow pyramid than a column. Regardless, this is one tough yet attractive juniper with many uses in the landscape. The foliage is a nice rich green color and aromatic, and bluish berries add extra appeal.
	Evergreen Accent Tree	SPJ	7	Spartan Juniper Tree	Juniperus chinensis 'Spartan'	4-9	15-20'	5-10'	Full-Partial Sun	YES	NO	3	6'-7' hgt.	B&B	NA	A handsome, fast growing evergreen that forms a stately, dark green, densely branched column well-suited for use as a formal accent, screen or windbreak. In its natural form, the symmetrical, pyramidal shape rarely needs pruning. An excellent specimen for formal topiary. Tolerates heat, cold and drought.
	Evergreen Accent Tree	WCD	4	White Cedar	Thuja occidentalis	2-7	25-60'	10-15'	Full-Partial Sun	YES	YES	1	6'-7' hgt.	B&B	NA	The Northern White Cedar is often called the American Arborvitae. This cedar has flattened branches with green, scaly, fan-like foliage. This selection displays good cold hardiness and heat tolerance and is very popular for landscape, hedge rows, and wildlife plantings. The Northern White Cedar is adaptable to most soil types and is somewhat shade tolerant. This cedar will grow in average moisture conditions, but will also do well in those wetter or swampy areas of your property.
	Evergreen Flowering	ECT	2	Evergreeen perennial Candytuft	Iberis sempervirens 'White Out'	3-9	12"	16"	Full-Partial Sun	YES	NO	4	3 Gal	CTN	NA	Evergreen Candytuft is a spring blooming favourite, often seen cascading over rocks and walls, or used as a groundcover. The glossy, evergreen foliage forms a compact mound. This selection offers loads of large white flowers for several weeks, on a plant of medium size. Prune lightly right after blooming, but otherwise leave plants alone in fall and early spring. Drought tolerant, once established. Prefers a well-drained site, so avoid heavy clay soils that stay wet in winter. Not easily divided
	Evergreen Flowering Small Bush	AEG	8	Azelea Exbury Gibraltar	Rhododendron 'Gibraltar'	5-8	4-6'	6-8'	Full-Partial Sun	NO	NO	4	3 Gal	CTN	NA	The large flowers on this striking azalea are brilliant in color, elegantly frilled, and their subtle fragrance will delight any passers-by including pollinators. Protect it from strong wind, and it's excellent for privacy and screening, growing to a mature height of 4-6'. It also makes a welcome addition to woodland gardens or borders, where it will add a fiery pop of color. It will thrive in full sun to part shade but be sure it's protected from hot afternoon sun in warmer climates.
	Evergreen Flowering Small Bush	RRE	10	Roseum' Rhododendron	Rhododendron x 'Roseum Elegans'	4-8	3'-6'	3'-5'	Full-Partial Sun	YES	NO	4	5 Gal	CTN	NA	A vigorous-growing, medium-sized evergreen shrub, valued for its large trusses of rose-lilac-colored flowers. Thrives in cooler regions but benefits from protection from winter winds. An outstanding choice for foundation plantings or for use as an accent specimen.
	Evergreen Flowering Small Bush	SCR	1	scintillation' Rhododendron	Rhododdendron x 'scintillation'	5-8	4-5'	4-5'	Partial Sun	YES	NO	4	5 Gal	CTN	NA	Dense-growing, broad evergreen shrub valued for its large trusses of showy, lightly scented flowers. Prefers cooler regions but some protection from winter wind is helpful. Very effective as an acce
	Evergreen Flowering Small Bush	STA	1	Stewartstonian Azalea	Rhododendron x gable 'Stewartsonian' Azalea Hybrids	5-8	4-5'	4-5'	Full-Partial Sun	YES	YES	4	3 gal.	CTN	NA	Upright growth, brilliant red fowers 1" across, grow to 5' with rounded shape, blooms very late, very hardy, wine-red winter color.
	Grasses	BLG	6	Little Bluestem Ornamental Grass	Schizachyrium scoparium 'The Blues'	3-9	2-3'	2'	Full-Partial Sun	YES	YES	0	3 Gal	CTN	NA	Elijah Blue Fescue Grass is one of the few plants boasting that unique turquoise/silvery-blue color that will grow just about anywhere in the United States. Blue Fescue is an extremely tough and colorful grass that's tolerant of drought, heat and humidity, as well as being notably cold-hardy down to minus 30°F. This dwarf grass retains its ever blue foliage throughout the year in milder winters and adds especially fine texture within the garden scheme with neatly mounded, blade-shaped needles. The luminous silver-blue leaves blend with the like-colored blooms, until the tall, upright plumes turn tan as they mature. It reaches a height and spread of about 12 in. at maturity.
	Grasses	FRG	2	Feather Reed Grass	Calamagrostis 'x' acutiflora 'Karl Foerster'	4-9	18-24"	4-6'	Full Sun	YES	NO	0	3 Gal	CTN	NA	Easily grown in average, medium to wet soils in full sun. Blooms well in light shade, and actually appreciates some part afternoon shade in hot summer climates such as the St. Louis area, but generally tends to produce fewer flowers and develop floppier foliage as the amount of shade increases. Prefers rich, consistently moist soils that do not dry out. Reportedly does well in heavy clay soils, unlike many other kinds of ornamental grasses. Cut clumps to the ground in late winter just before the new spring shoots appear.
	Grasses	GOG	16	Grey Ornamental Grass	Festuca glauca 'Boulder Blue'	4-9	6-12"	6-12"	Full Sun	YES	YES	4	3 Gal	CTN	NA	Regarded by some as the bluest blue fescue, this plant forms compact, cascading mounds of foot-tall, intensely blue, narrow leaves that are attractive in all seasons. Blooms are generally secondary to the foliage, but this cultivar blooms more heavily than most, with spikelets in summer. This cultivar is long-lived and very hardy. Grow in groups in a border or rock garden, or as a groundcover
	Grasses	SBB	11	Blue Bluestem	Schizachyrium scoparium 'The Blues'	3-9	3'	15"	Full Sun	YES	YES	0	1 yr. potted	1 gal.	NA	Blue Bluestem (Schizachyrium scoparium), also known as Little Bluestem, is a native North American perennial grass that adds texture and color to any landscape. Growing 2-4 feet tall, it features fine, blue-green foliage that turns shades of burgundy and purple in the fall. In late summer and early autumn, it produces airy, purplish-bronze flowers that transform into fluffy, silvery-white seed heads. This drought-tolerant grass thrives in full sun and well-drained soils, making it ideal for low-maintenance gardens. Its deep root system helps stabilize soil, making it valuable for erosion control, while also providing habitat and food for wildlife.
	Grasses	SHD	14	Prairie Dropseed	Sporobolus Heterolepsis	2-9	2-3'	2-3'	Full Sun	YES	NO	0	1 yr. potted	1 gal.	NA	Prairie Dropseed (Sporobolus heterolepis) is a graceful perennial bunchgrass native to North American prairies. It forms neat clumps of fine, hair-like green leaves that turn golden-orange in fall, adding visual interest year-round. This grass grows 2-3 feet tall and wide, producing airy, delicate flower panicles in late summer that release a pleasant, popcorn-like fragrance. Preferring full sun and well-drained soils, Prairie Dropseed is drought-tolerant and low-maintenance, making it an excellent choice for naturalistic plantings, borders, and erosion control. Its dense foliage provides habitat for wildlife and adds texture and movement to the garden.

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	Grasses	SWG	4	Switch Grass	Panicum virgatum 'Heavy Metal'	4-9	2-3'	1-2'	Full Sun	YES	YES	2 to horses only	3 Gal	CTN	NA	Panicum virgatum 'Heavy Metal' is a switch grass selection with a dramatically vertical habit. Foliage and stems are erect with metallic blue blades. In summer airy pinkish flower panicles seem to dance in the evening light. Foliage turns golden in autumn and develops a golden brown winter color. 'Heavy Metal' thrives in prairie type settings or in sunny gardens with moist, average or dry soils.
	Perennial	AFR	12	Astilbe Fanal Red	Astilbe arendsii 'Federsee'	4-8	24-36"	24"	Partial Sun-Full Shade	NO	YES	0	1 yr. potted	1 gal.	NA	Red.Astilbe produces masses of feathery flower plumes in hues of bright red, dark pink, light pink, lavender and white. Lacy, deep green foliage complement the flowers. Great for use in the perennial border or in bed plantings in shade or semi-shade. Ideal for perennializing, plants come back year after year!
	Perennial	CHP	17	Coreopsis 'Hot Paprika'	Threadleaf Coreopsis, Tickseed	5-9	15-18"	20"	Full Sun	YES	YES	0	1 yr. potted	2 qt.	NA	Spicy-red flowers with gold button centers heat up the summer garden atop a compact, rounded mound of bright green threadleaf foliage. The fiery red captures attention to give any sunny garden that extra boost of vibrant midsummer color. A great perennial for beginners – Tickseed is an easy perennial to grow and requires little care. Create beautiful petite nosegays for long-lasting summer bouquets. The dainty finely-cut foliage of Coreopsis Hot Paprika adds texture and interesting contrast to surrounding perennials. With the ever-expanding color choices on the market, Coreopsis can be used in just about any garden color scheme.
	Perennial	EFS	8	Erika False Spirea	Astilbe 'Erika'	4-8	24-36"	24"	Partial Sun-Full Shade	YES	NO	4	1 yr. potted	1 gal.	NA	Medium pink flowers appear between early June and July. Astilbes are long-lived perennials for massing, border, or specimen. They have fern-like ornamental foliage and showy blooms. Will tolerate sun with ample moisture, but they are happiest in some shade. Bloom time is June through August. (Flowering times are broken down below after "bloom" as early, middle, and late.) One of our Wicked Ruggeds, a list with our choices for perennials that stand the test of time... rugged, hardy and durable.
	Perennial	HFS	21	Daylily	Hemerocallis flava - 'Stella De Oro Dwarf'	4-11	36"	18"	Full-Partial Sun	YES	NO	4	1 yr. potted	2 qt.	NA	Sensational, award-winning selection that blooms with heavy clusters of 2-1/2 in. yellow blooms. Reblooms freely into early fall. This easy to care for plant forms neat, compact clumps. Herbaceous. S/PSh, June/July, Lemon Yellow - Planted in front of southern evergreen screen.
	Perennial	HKS	4	Hosta King Size	Hosta plantaginea	3-9	24"	40-55"	Part Shade-Full shade	NO	NO	3	1 yr. potted	1 gal.	NA	Species native to China with bright green, waxy foliage and large fragrant white flowers. Well-known hosta that has been around for hundreds of years and has led to many superb hybrids and sports. Furthest south growing hosta in the wild. Also one of the best hostas to grow in the southern states due to its love of heat. In the north, Hosta plantaginea can be troublesome. It prefers a longer growing season and also emerges early making it susceptible to late freezes. Large fragrant white flowers appear in late summer. It is a night bloomer with the flowers opening late in the afternoonS/PSh, Aug/Sept, White
	Perennial	HWF	6	Hosta White Feather	Hosta 'White Feather'	3-9	20-24"	24"	Full Shade	NO	NO	3	1 yr. potted	1 gal.	NA	The intriguing white leaves that emerge in the spring transform into a blend of green and cream as the plant matures. As an added bonus, lavender flowers bloom above the foliage to add grace to your garden.
	Perennial	LEA	6	Lambs Ear	Stachys byzantina	3-9	12-18"	12-18"	Full Sun-Partial Shade	YES	NO	0	1 yr. potted	1 gal.	NA	Lamb's Ear is an herbaceous perennial ground cover from the middle east featuring thick, soft, velvety, silver-gray leaves that form a rapidly spreading groundcover. They are evergreen in warmer climates. In summer, tiny, purplish-pink flowers appear that are best removed to enhance the foliage. The leaves emit a pleasant scent when crushed and the plant is deer resistant and moderately drought tolerant. Lamb's Ear grows well in average, dry to medium, well-drained soils in full sun partial shade.
	Perennial	LIL	10	Lily Bulbs Summer (6 count)	Lilium asiatic 'Lollypop'	3-8	24-30"	18"	Full Sun-Partial Shade	YES	NO	1	-	-	NA	Dwarf variety with bold, two-toned blooms. Delightful in the landscape or as cut flowers, Lollypop is unlike most other lilies because it performs well in containers, due to its relatively short stature. Its up-facing, 7" blooms are white with raspberry tips, and look fantastic growing next to other white or pink flowers. You'll want to snip some for indoor arrangements, so remember to plant a few in your cutting garden.
	Perennial	PCE	20	Purple Cornflower	Echinacea purpurea 'Bright Star'	3-9	1-3'	1-3'	Full-Partial Sun	YES	YES	0	1 yr. potted	2 qt.	NA	This native cultivar with daisy-like flowers blooms from early summer into early autumn. 'Bright Star' has prominent, copper-orange central cones surrounded by red-purple ray petals (to 5 inches across), and grows to less than 3 feet tall. Attracts butterflies, bees, and birds in winter if cones are left on plant. Grow in deep, well-drained soil in full sun. It is tolerant of drought, heat, humidity, and poor soilsS/PSh, June/Sept, Rose Pink - Planted in front of southern evergreen screen.
	Perennial	RBK	6	Black Eyed Susan	Rudbeckia Fulgida "Goldsturm'	3-9	24-36"	24-36"	Full Sun-Partial Shade	YES	NO	2	1 yr. potted	2 qt.	NA	Black-Eyed Susan (Rudbeckia hirta) is a vibrant perennial wildflower known for its cheerful, daisy-like blooms. Each flower features bright yellow to orange petals surrounding a dark brown or black central cone. Growing to a height of 1-3 feet, this hardy plant thrives in full sun and well-drained soils, blooming from early summer to fall. Black-Eyed Susan is relatively drought-tolerant once established and attracts pollinators like butterflies and bees. Though not native to New Hampshire, it has been widely naturalized across the region, adding a splash of color to various garden settings and naturalized areas.
	Perennial	WSB	3	Weiglea Sonic Bloom Pink	Weigela florida 'Bokrasopin'	4-8	48-60"	48-60"	Full Sun	YES	NO	0	-	-	NA	Create an explosion of color with this fantastic new re-blooming selection. Loads of hot pink flowers in spring are followed by waves of blooms until frost! Mounded growth habit with deep green foliage. Reblooms without deadheading, providing season-long color in foundation plantings and borders. Attracts hummingbirds. Deciduous.
	Seasonal Color	BNS	2	Birds Nest Spruce	Picea Abies 'Nidiformis'	2-8	3-5'	4-6'	Full Sun-Partial Sun	YES	NO	0	1 yr. potted	2 gal	NA	Birds Nest Spruce Shrubs are a versatile, dwarf conifer that is an excellent choice for a low evergreen border, accent. Birds nest spruce makes a great evergreen container plant on deck, patios, or porches. The short curving branches are covered with dense, dark green needles that create an interesting bird's nest effect. Its tight, compact shape requires little maintenance and is very deer resistant. Use as a groundcover or as a low divider or hedge between driveways, walkways or along sidewalks.

Photo	Type	Sym	Qty	Common Name	Botanical Name	Hardiness Zone	Height	Spread	Sun Exposure	Drought Tolerant	Native	Toxicity	Installed Size	Type	Use	Description & Notes (Height, Exposure, Bloom, Color)
	Seasonal Color	HWF	4	Hosta	Hosta plantaginea 'White Feather'	3-9	18-20"	30"	Full Shade	YES	NO	2 to pets only	1 yr. potted	1 gal.	NA	Unique, colour-changing leaves. The intriguing white leaves that emerge in the spring transform into a blend of green and cream as the plant matures. As an added bonus, lavender flowers bloom above the foliage to add grace to your garden.
	Seasonal Color	SBI	8	Siberian irises	Iris Sibirica	3-9	2-4'	18-24"	Full Sun-Partial Shade	YES	NO	4	1 yr. potted	1 gal.	NA	Such a wonderful plant. These will multiply over the years in a round circle. The foliage is a nice accent in any garden. The flowers are just as nice addition of accent color of a deep purple with a yellow and white center These will grow 15-24 inches tall. They prefer full sun instead of shade. Maintenance free. Blooms in July and August.
	Seed Lawns	SFL	1	Seeded Ornamental Fine Lawn Mix	(Kentucky Bluegrass and Creeping Red Fescue Blend) 1lb/1000sf @ $19/lb	3-9	8"	NA	Full Sun-Partial Shade	YES	YES	0	Seed Mix	Bag	NA	Lofts Seed Company' or approved equal. Species: 70% tall fescue - Festuca arundinacea. 30% creeping red fescue - festuca rubra. Fine Grade, fertilize, seed and Hydromulch. Seed Rate: 5 lbs/1,000 sf add 10% if hydroseed. Seed Dates April 15 - June 30 and August 15 - October 15 unless approved otherwise.

General Planting Notes

USDA Plant Hardiness Zones - NH North of Laconia Zone 4 - Southern NH Zone 5 - Western Massachusetts Zone 5, - Eastern Massachusetts Zone 6.

Toxicity Levels: To differentiate the differences in toxicity, experts established a numeric 4-scale system: They assigned a score of 1 to a plant with major toxicity — the potential to cause serious illness or death if ingested; 2 for plants with minor toxicity where ingestion may cause vomiting or diarrhea when ingested; 3 for plants where the juice or sap contain needle-shaped oxalate crystals that can irritate skin, mouth, tongue and throat that can result in throat swelling, breathing difficulties, burning pain and stomach upset; and 4 for plants where contact can cause skin rash, irritation. Some plants have a score of 1 or 2 and 4, meaning that they could pose both and ingestion and skin sensitization hazard.

1. The above selection of plants is provided for design intent. Trees, Shrubs, Ground Cover, Flowers, Bedding and Seeding - See Specification and General Notes and Details on the Accompanying Drawings. It is understood that the final installation and implementation of this plan is subject to plant availability, substitutions, time of year, phasing and cost.

2. It is understood, that the majority of nursery plants are to some degree toxic to humans and pets, whether the root, stock, bark, leaf, fruit or juice. The owner and installer should become acquinted to the potential toxicity of the ultimate selection of all nursery plants. Warrenstreet has provided common toxicuty labels of plant materials selected and in noway warranties against the potentiual affects of any plants selected and installed.

3. All planting beds shall be mulched with a minimum of 2" of shredded cedar "BLACK" bark mulch. All sod and/or seeded lawn areas to have minimum 6" topsoil blanket. All fall bulbs shall be planted in the fall, plan accordingly, retainage will be held until plantings occur. All mass planted shrubs beds and planters around building shall have minumum 18" deep topsoil blanket to compensate for the New England very sandy granular sub-grade material.

4. All plant material to conform to current AAN, American Standard for Nursery Stock, ANSI Z60.1-2014. All plantings shall be warranteed for (1) one year from planting date. The landscape Contractor shall be responsible for two (2) lawn mowings and weedings prior to final acceptance of installation.

Revised 10/2024

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
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40 STARK STREET
MANCHESTER, NEW HAMPSHIRE 03103
P. (603) 225-0640
WWW.WARRENSTREET.COOP

SEAL:

LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
110
STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
DWN BY: Author
PROJECT #: 1234
CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:33 AM

ISSUE DATE: 00/00/2019

NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

PLANTING SCHEDULE

LA102

SHEET NUMBER: 2 OF 9 LANDSCAPE

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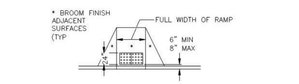
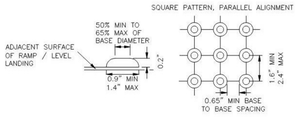
TEMPLATE DATE: 11/25/2019

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot



DETECTABLE WARNING PLACEMENT



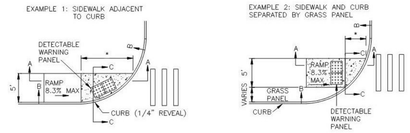
DETECTABLE WARNING DETAILS

NOTES:

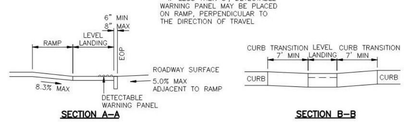
1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON WITHIN THE CITY R.O.W.
2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH.
3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.
4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

1 DETECTABLE WARNING PANEL DETAILS

SINGLE WALK STRAIGHT APPROACH TO PARALLEL RAMP

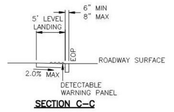


* IF LESS THEN 5', DETECTABLE WARNING PANEL MAY BE PLACED ON RAMP, PERPENDICULAR TO THE DIRECTION OF TRAVEL



SECTION A–A

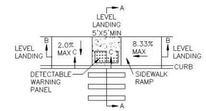
SECTION B–B



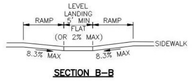
SECTION C–C

2 SIDEWALK RAMP TYPE 1

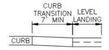
EXAMPLE 5: SINGLE RAMP ON TANGENT: SIDEWALK ADJACENT TO CURB



SECTION A–A

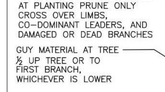


SECTION B–B



SECTION C–C

3 SIDEWALK RAMP TYPE 6, EXAMPLE 5 & TYPE 6 SECTIONS



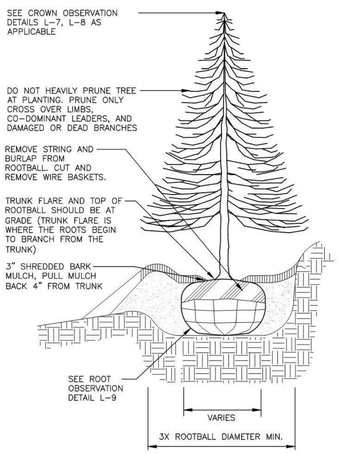
NOTES:

1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT–OF–WAY, NEED TO BE PLANTED A MINIMUM OF 10 FEET FROM THE EDGE OF THE CITY SIDEWALK.
7. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

4 DECIDUOUS TREE PLANTING

NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY AND SUITABLE FOR GUYING TREES) OR EQUIVALENT GUYING MATERIAL.

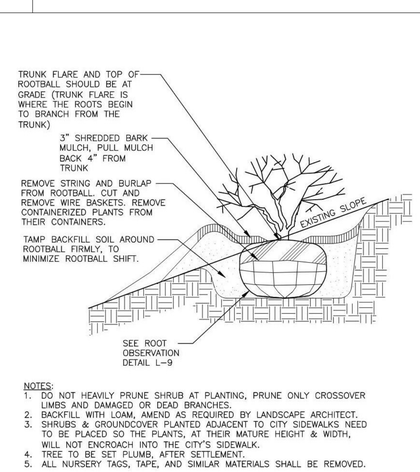
5 DECIDUOUS TREE - GUYING & STAKING



NOTES:

1. DO NOT STAKE EVERGREEN TREES.
2. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
3. TAMP BACKFILL SOIL AROUND ROOTBALL FIRMLY TO MINIMIZE ROOTBALL SHIFT.
4. TREE TO BE SET PLUMB, AFTER SETTLEMENT
5. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

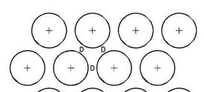
6 EVERGREEN PLANTING



NOTES:

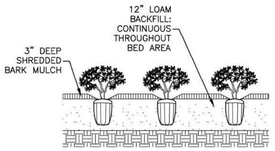
1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCROACH INTO THE CITY'S SIDEWALK.
4. TREE TO BE SET PLUMB, AFTER SETTLEMENT.
5. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

7 SHRUB PLANTING



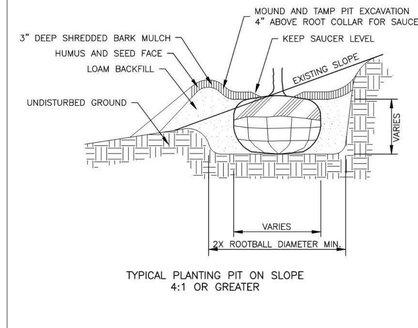
TYPICAL BED PLANT SPACING

D = DIMENSION OF PLANT SPACING (SHRUB OR GROUNDCOVER AS INDICATED ON PLANS)



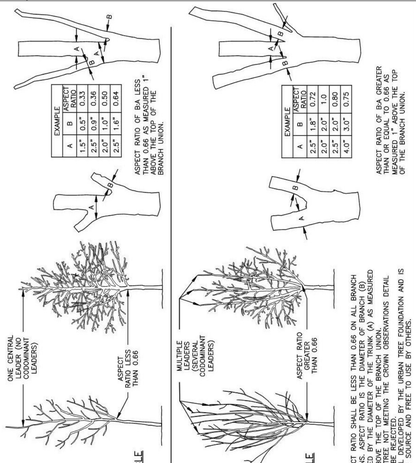
GROUNDCOVER BED PLANTING

8 GROUNDCOVER PLANTING



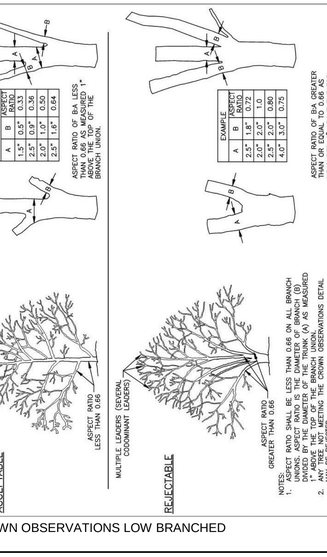
TYPICAL PLANTING PIT ON SLOPE
4:1 OR GREATER

9 TREE PLANTING ON SLOPE



NOTES:
1. ASPECT RATIO SHALL BE LESS THAN 0.66 ON ALL BRANCH UNIONS. ASPECT RATIO IS THE DIAMETER OF BRANCH (B) DIVIDED BY THE DIAMETER OF THE TRUNK (A) AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.
2. ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL ARE REJECTED BY THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

10 CROWN OBSERVATIONS HIGH BRANCHED



NOTES:
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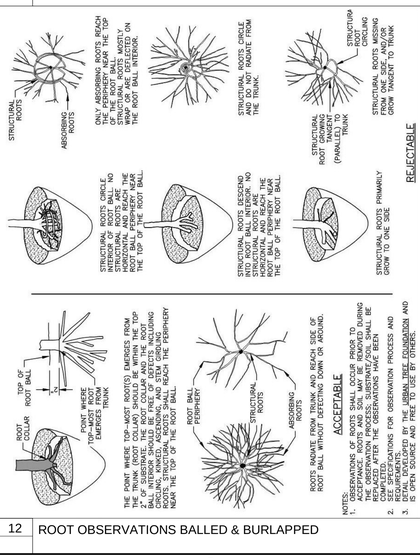
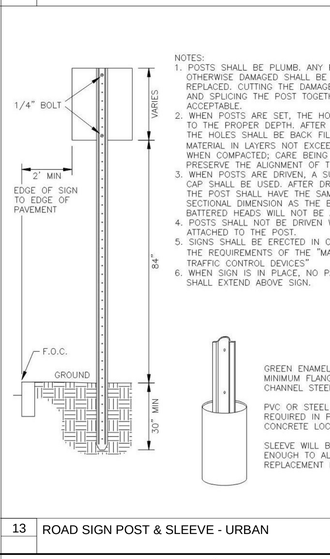
2. ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL ARE REJECTED BY THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

11 CROWN OBSERVATIONS LOW BRANCHED



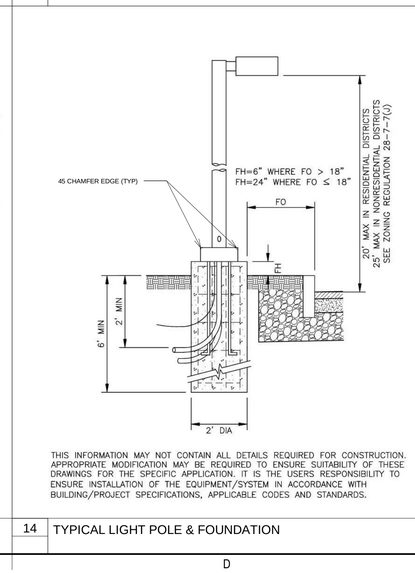
NOTES:
1. OBSERVATIONS OF ROOTS SHALL OCCUR PRIOR TO PLANTING. IF ROOTS ARE OBSERVED AFTER PLANTING THEY SHALL BE REPLACED AFTER THE OBSERVATIONS HAVE BEEN COMPLETED.
2. SEE SPECIFICATIONS FOR OBSERVATION PROCESS AND ACE OBSERVATION PROCESS. SUBSTITUTE FOAMY PLUGGING MATERIALS FOR SOIL SHALL NOT BE ALLOWED.
3. ANY TREE NOT MEETING THE OBSERVATIONS DETAIL AND SEE SPECIFICATIONS FOR THE URBAN TREE FOUNDATION AND IS DETAIL DEVELOPED BY THE URBAN TREE FOUNDATION AND IS OPEN SOURCE AND FREE TO USE BY OTHERS.

12 ROOT OBSERVATIONS BALLED & BURLAPPED



NOTES:
1. POSTS SHALL BE PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. CUTTING THE DAMAGED PORTION OUT AND SPLICING THE POST TOGETHER IS NOT ACCEPTABLE.
2. WHEN POSTS ARE SET, THE HOLES SHALL BE DUG TO THE PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 6" DEEP WHEN COMPACTED; CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING, THE TOP OF THE POST SHALL HAVE THE SAME CROSS–SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED HEADS WILL NOT BE ACCEPTED.
4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
5. SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"
6. WHEN SIGN IS IN PLACE, NO PART OF THE POST SHALL EXTEND ABOVE SIGN.

13 ROAD SIGN POST & SLEEVE - URBAN



THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USERS RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.

14 TYPICAL LIGHT POLE & FOUNDATION

811
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CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
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CONSULTANTS:

CIVIL
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STRUCTURAL
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MECHANICAL/PLUMBING
NAME
STREET
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ELECTRICAL
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SEAL:

NEW HAMPSHIRE LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
1110

PROJECT TITLE / ADDRESS:

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REV.	DATE	COMMENTS

LANDSCAPE DETAILS

LA103

SHEET NUMBER: 3 OF 9 LANDSCAPE

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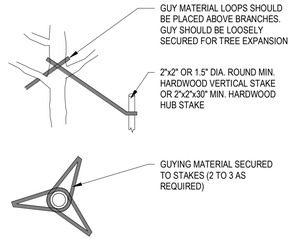
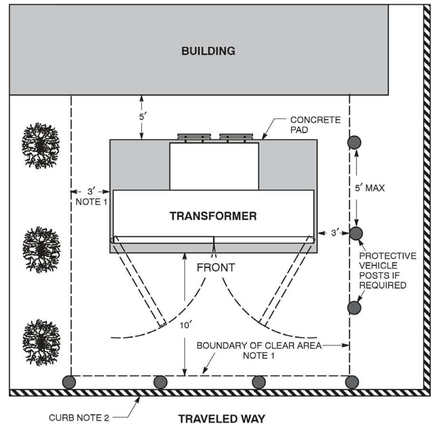
TEMPLATE DATE: 11/25/2019



NOTE:
ONLY USE PLASTIC CHAINLOCK (LANDSCAPE QUALITY & SUITABLE FOR GUYING TREES) OR EQUAL GUYING MATERIAL.

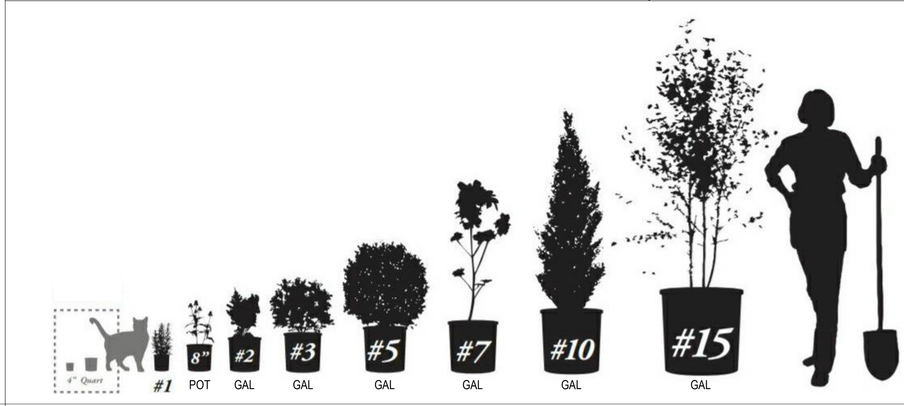
1 DECIDUOUS TREE - GUYING & STAKING
3/4" = 1'-0"



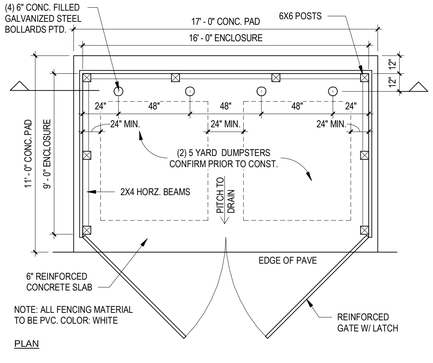
Notes

1. To inspect, provide access, operate elbow connectors and ventilate the transformer, the above specified clear area distances to buildings or shrubs shall be maintained. The distance from the building is to the concrete transformer pad. Property line shall be considered an obstruction, since fences, shrubs, etc. may be installed at a future date by adjacent property owners. Because of the possibility of cooling fins overhanging the pad, side clearances to be increased to 5 feet for transformers 1000 kVA and larger.
2. If no curb exists, or transformer is located closer than 10 feet to the traveled way, protective vehicle posts (●) shall be installed as specified in **DTR 42.061**.
3. Top of transformer pad shall be installed 3 inches above final grade.
4. Transformer shall not be located on steep grades where access to or elbow operation is made difficult.
5. Transformer shall meet the minimum distances to doors, windows, fire escapes, air intakes and walls as specified in **DTR 42.061**.
6. Transformer ***is not*** to be located with its doors facing the building.
7. Refer to **DTR 58.301** for specific instructions on the installation of the transformer pad.
8. Refer to **DSEM Section 06.32** and **DTR 58.311** (NH) for information on environmental considerations.

TRANSFORMER PAD & CLEARANCES



PLANTING RECEPTACLE SIZES

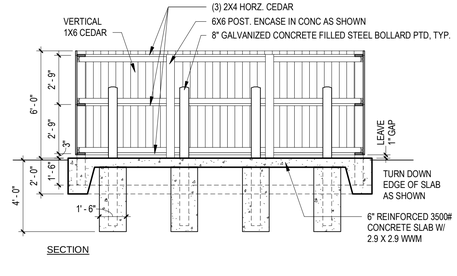


2 PVC PANEL FENCING
3/4" = 1'-0"

NOTES:

1. DUMPSTER PADS AND ASSOCIATED SCREENING SHALL BE PLACED WHERE THE REFUSE BINS CAN BE UNLOADED WITH A SINGLE TURNING MOVEMENT WITH A 35' FRONT LOADING TRUCK. THE WIDTH OF THE GATE SHOULD BE TAKE INTO ACCOUNT WHEN REVIEWING TURNING MOVEMENTS.
2. GATES SHALL BE PROVIDED UNLESS THE DUMPSTER IS BLOCKED FROM VIEW FROM THE PUBLIC RIGHT-OF-WAY AND ABUTTING PROPERTIES BY BUILDINGS OR WALLS.
3. TRASH CONTAINERS SHALL BE LOCATED A MINIMUM DISTANCE OF 25' FROM ANY DRAINAGE STRUCTURE, INLET OR STORMWATER FACILITY.

PLAN



SECTION

3 LA - DUMPSTER ENCLOSURE
1/4" = 1'-0"

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

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SEAL:
JONATHAN R. HALLE
1/10

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED DWN BY:
PROJECT #: 1234 CHK BY: JH
PRINT DATE: 4/11/2025 10:48:33 AM

ISSUE DATE: 00/00/2019
NOT FOR CONSTRUCTION
SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE STANDARD DETAILS

LA104

SHEET NUMBER: 4 OF 9 LANDSCAPE

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

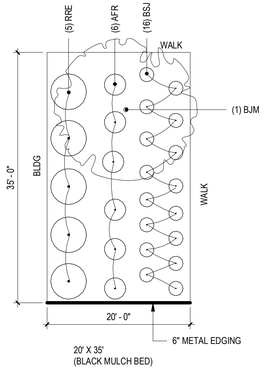
Autodesk Docs://3568 Hayner/3568 STICKNEY AVE LA.rvt
TEMPLATE DATE: 11/25/2019

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

Autodesk Docs://3958 Hayner/3958 STICKNEY AVE LA.rvt
TEMPLATE DATE: 11/25/2019

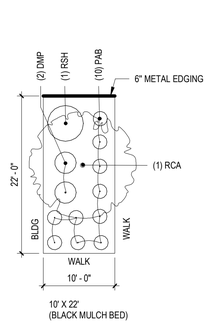
A B C D E

1 2 3 4



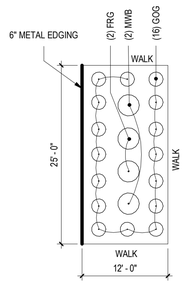
20' X 35'
(BLACK MULCH BED)

1 BED 'A' (X2)
1" = 10'-0"



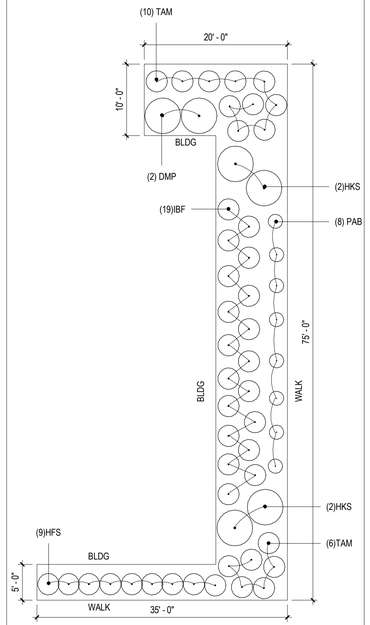
10' X 22'
(BLACK MULCH BED)

2 BED 'B' (X2)
1" = 10'-0"



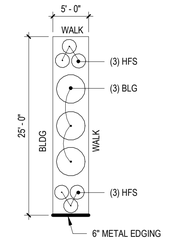
12' X 25'
(2" MINUS RIVER ROCK BED)

3 BED 'C'
1" = 10'-0"



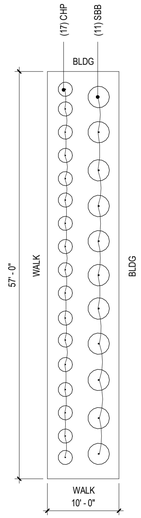
10' X 75'
5' X 25'
10' X 10'
(BLACK MULCH BED)

4 BED 'D'
1" = 10'-0"



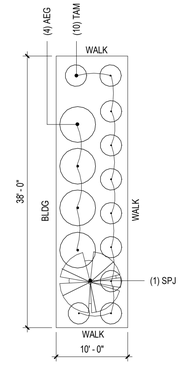
5' X 25'
(BLACK MULCH BED)

5 BED 'E'
1" = 10'-0"



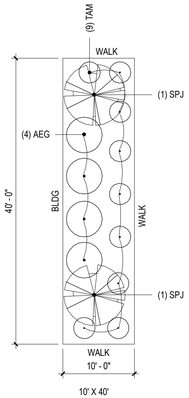
10' X 57'
(BLACK MULCH BED)

6 BED 'F'
1" = 10'-0"



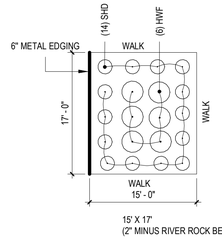
10' X 38'
(BLACK MULCH BED)

7 BED 'G'
1" = 10'-0"



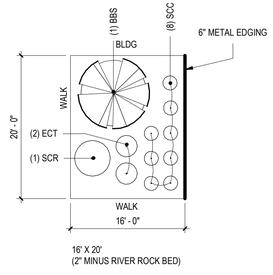
10' X 40'
(BLACK MULCH BED)

8 BED 'H'
1" = 10'-0"



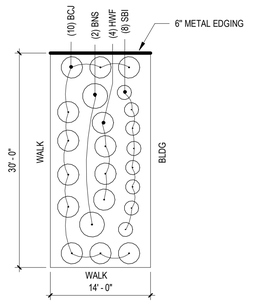
15' X 17'
(2" MINUS RIVER ROCK BED)

9 BED 'J'
1" = 10'-0"



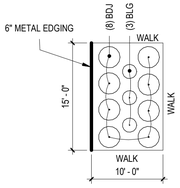
16' X 20'
(2" MINUS RIVER ROCK BED)

10 BED 'K' (X2)
1" = 10'-0"



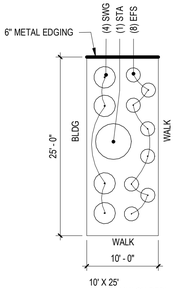
14' X 30'
(BLACK MULCH BED)

11 BED 'L'
1" = 10'-0"



10' X 15'
(2" MINUS RIVER ROCK BED)

12 BED 'M'
1" = 10'-0"



10' X 25'
(BLACK MULCH BED)

13 BED 'N'
1" = 10'-0"

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TITLE 1
TITLE 2
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CITY, STATE ZIP
P. ( ) F. ( )

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TITLE 1
TITLE 2
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P. ( ) F. ( )

CONSULTANTS:

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NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
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SEAL:

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
PROJECT #: 1234
PRINT DATE:
DWN BY:
CHK BY: JH
4/11/2025 10:48:33 AM

ISSUE DATE: 00/00/2019

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LANDSCAPE PLANTING BEDS

LA105

SHEET NUMBER: 5 OF 9 LANDSCAPE

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LANDSCAPE GENERAL SPECIFICATIONS

SECTION 02955 - TREES, SHRUBS AND GROUND COVERS

PART 1: G E N E R A L

1.1 GENERAL REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION I SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION. SEE DRAWINGS FOR LOCATIONS AND DETAILS.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.

1.2 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING ALL PLANTS, MATERIALS, SUPPLIES, LABOR, EQUIPMENT, AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING AND PLACEMENT OF TOPSOIL AND PLANTING MIXTURE, PLANTING OF ALL TREES, SHRUBS AND PERENNIAL GROUND COVERS, PRUNING/MULCHING/WATERING OF PLANTS, MAINTENANCE, GUARANTEE AND FINAL CLEAN-UP.
B. RELATED SECTIONS: THE FOLLOWING SECTIONS CONTAIN REQUIREMENTS THAT RELATE TO THIS SECTION:
SECTION 02300 "EARTHWORK"
SECTION 02930 "SEEDING AND SODDING"
LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS.
ALL NECESSARY CONSTRUCTION PERMITS.

1.3 SUBMITTALS

A. SAMPLES: BEFORE ANY BARK MULCH IS DELIVERED TO THE JOB SITE, SUBMIT A SAMPLE TO THE LANDSCAPE ARCHITECT FOR THEIR APPROVAL.
B. MATERIALS LIST:
1. BEFORE ANY PLANTING MATERIALS ARE DELIVERED TO THE JOB SITE, SUBMIT TO THE LANDSCAPE ARCHITECT A COMPLETE LIST OF ALL PLANTS AND OTHER ITEMS PROPOSED TO BE INSTALLED
2. INCLUDE COMPLETE DATA ON SOURCE, SIZE, AND QUALITY.
3. DEMONSTRATE COMPLETE CONFORMANCE WITH THE REQUIREMENTS OF THIS SECTION. THIS SHALL IN NO WAY BE CONSTRUED AS PERMITTING SUBSTITUTION FOR SPECIFIC ITEMS DESCRIBED IN THE PLANS OR THESE SPECIFICATIONS UNLESS THE SUBSTITUTION HAS BEEN APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.
C. AS-BUILT DRAWINGS: DURING THE COURSE OF THE INSTALLATION, CAREFULLY RECORD IN RED LINE ON A PRINT OF THE PLANTING PLANS ALL CHANGES MADE TO THE PLANTING LAYOUT DURING INSTALLATION.
D. CERTIFICATES: ALL CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY SHIPMENTS. UPON COMPLETION OF THE INSTALLATION, DELIVER ALL CERTIFICATES TO THE LANDSCAPE ARCHITECT.

1.4 QUALITY ASSURANCE

A. INSTALLER QUALIFICATIONS: PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.
B. MATERIAL STANDARDS:
1. ALL PLANTS AND PLANTING MATERIAL SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND COUNTY LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
2. QUALITY AND SIZE SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF CURRENT EDITION OF ANSI Z60.1 AMERICAN STANDARD FOR NURSERY STOCK, FOR NUMBER ONE GRADE NURSERY STOCK AS ADOPTED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
3. ALL PLANTS SHALL BE TRUE TO NAME AND ONE OF EACH BUNDLE OR LOT SHALL BE TAGGED WITH THE NAME AND SIZE OF THE PLANTS IN ACCORDANCE WITH THE STANDARDS OF PRACTICE OF THE AMERICAN ASSOCIATION OF NURSERYMEN. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES.

1.5 DELIVERY, STORAGE, HANDLING

A. DELIVERY AND STORAGE:
1. DELIVER ALL ITEMS TO THE SITE IN THEIR ORIGINAL CONTAINERS WITH ALL LABELS INTACT AND LEGIBLE AT TIME OF LANDSCAPE ARCHITECT INSPECTION.
2. IMMEDIATELY REMOVE FROM THE SITE ALL PLANTS WHICH ARE NOT TRUE TO NAME AND ALL MATERIALS WHICH DO NOT COMPLY WITH THE PROVISIONS OF THIS SECTION OF THESE SPECIFICATIONS.
3. ROOT PROTECTION:
a. HANDLE PLANTS AT ALL TIMES IN ACCORDANCE WITH THE BEST HORTICULTURAL PRACTICES SO THAT THE ROOTS OR BALLS ARE ADEQUATELY PROTECTED FROM THE SUN AND DRYING WINDS. NO PLANT SHALL BE BOUND WITH ROPE OR WIRE IN A MANNER THAT WOULD DAMAGE THE BARK, BREAK THE BRANCHES, OR DESTROY ITS NATURAL SHAPE.
4. HANDLING:
a. LIFT AND HANDLE PLANTS FORM THE BOTTOM OF THE BALL OR CONTAINER ONLY. PLANTS HANDLED OTHERWISE WILL BE SUBJECT TO REJECTION. PLANT NO BALLED AND BURLAPPED PLANT WHICH HAS THE BALL CRACKED OR BROKEN WILL BE ACCEPTED. NO BALLED AND BURLAPPED PLANTS USING PLASTIC/POLYESTER BURLAP WILL BE ACCEPTED. PLANT NO CONTAINERIZED OR TUBE-PAK PLANT WHOSE ROOT SYSTEM HAS SEPARATED FROM THE SOIL IN ITS CONTAINER.
5. PROTECTION DURING DELIVERY:
a. TRANSPORT PLANT MATERIAL IN CLOSED VEHICLES OR IN OPEN VEHICLES WITH THE ENTIRE LOAD PROPERLY COVERED FOR PROTECTION FROM DRYING WINDS.
6. PROTECTION AFTER DELIVERY:
a. PLANT TREES AND SHRUBS AS SOON AS POSSIBLE AFTER DELIVERY. PLANTS THAT CANNOT BE PLANTED IMMEDIATELY SHALL HAVE THEIR ROOTS KEPT MOIST AND ADEQUATELY PROTECTED UNTIL PLANTED.
b. COVER THE BALLS OF BALLED AND BURLAPPED, CONTAINERIZED, AND TUBE-PAK PLANTS WITH TOPSOIL OR AN APPROVED MULCH, AND KEEP CONSTANTLY MOIST UNTIL PLANTED.
c. STORE ALL PLANTS IN THE SHADE, OUT OF DIRECT SUNLIGHT AND DRYING WIND.
d. OWNER'S REPRESENTATIVE WILL SELECT STORAGE OR HOLDING AREA AND UPON DELIVERY OF PLANTS, DESIGNATE WHERE CONTRACTOR CAN PROTECT AND MAINTAIN THESE PLANT MATERIALS UNTIL THEY ARE PLANTED.

1.6 SCHEDULES

A. PLANTING SEASON:
a. PLANTING OPERATIONS FOR DECIDUOUS MATERIALS SHALL TAKE PLACE DURING MARCH 15 TO JUNE 30 FOR SPRING PLANTING AND AUGUST 15TH TO OCTOBER 1 OR UNTIL GROUND FREEZES FOR FALL PLANTING. BARE ROOT DECIDUOUS PLANTINGS SHALL BE LIMITED TO PLANTING BETWEEN MARCH 15 TO MAY 1.
b. PLANTING OPERATIONS FOR EVERGREEN MATERIAL SHALL BE DURING MARCH 1 THROUGH JUNE 30 FOR SPRING PLANTING AND AUGUST 1 THROUGH SEPTEMBER 15 FOR FALL PLANTING.

1.7 INSPECTION

A. INSPECTION OF PLANTS:
1. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH AND UPON DELIVERY FOR CONFORMITY TO SPECIFIED QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION UPON DELIVERY AT THE SITE OR WHILE WORK IS IN PROGRESS.
2. THE CONTRACTOR WILL INFORM THE LANDSCAPE ARCHITECT THREE BUSINESS DAYS (3) PRIOR TO THE PROPOSED ARRIVAL OF PLANT MATERIAL ON THE JOB SITE.
3. DURING THE TIME PLANT MATERIAL IS BEING INSPECTED, THE CONTRACTOR SHALL PROVIDE A COMPLETE STAKED LAYOUT AND HAVE MANPOWER AND EQUIPMENT AVAILABLE TO UNLOAD, OPEN AND HANDLE PLANT MATERIAL DURING INSPECTION.

PART 2: M A T E R I A L S

2.1 PLANT MATERIALS

A. GENERAL:
1. PLANT MATERIALS SHALL MEAN TREES AND PLANTS OF ALL DESCRIPTIONS REQUIRED TO BE FURNISHED FOR THE PROJECT, IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL PLANT MATERIAL MUST BE TRUE TO NAME, WHICH SHALL CONFORM TO STANDARDIZED PLANT NAMES OF THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE, AND SHALL BE LEGIBLY TAGGED WITH THE NAME AND SIZE OF THE MATERIAL ACCORDING TO THE GENERAL NURSERY PRACTICE AS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
2. ALL PLANTS SHALL BE FIRST-CLASS REPRESENTATIVES OF THEIR NORMAL SPECIES OR VARIETIES. PLANTS SHALL BE SOUND, HEALTHY, AND VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. UNLESS OTHERWISE SPECIFIED, PLANTS SHALL HAVE AVERAGE OR NORMALLY DEVELOPED BRANCH SYSTEMS AND VIGOROUS ROOT SYSTEMS. PLANTS SHALL BE FREE FROM SCALE, DISFIGURING KNOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, OR OTHER OBJECTIONABLE BLEMISHES. WEAK PLANTS WILL NOT BE ACCEPTED. PLANTS MUST SHOW APPEARANCE OF NORMAL HEALTH AND VIGOR IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS. ALL STOCK SHALL BE NURSERY GROWN.
3. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE GROWN IN THE CONTAINER FOR AT LEAST ONE (1) GROWING SEASON. CONTAINERS SHALL BE OF A SIZE LARGE ENOUGH TO PROVIDE AN EARTH-ROOT MASS OF ADEQUATE DIAMETER AND DEPTH OF THE STEM DIAMETER AND PLANT HEIGHTS OR SPREAD, AS ESTABLISHED BY ACCEPTED NURSERY PRACTICE. PLANTS, OVER ESTABLISHED IN THE CONTAINER, AS EVIDENCED BY POT BOUND ROOT ENDS, WILL NOT BE ACCEPTED. BARE ROOT MATERIAL WILL BE ACCEPTED ONLY FOR SPRING PLANTING. BARE ROOT STOCK SHALL BE HANDLED ACCORDING TO STANDARD HORTICULTURAL PRACTICE WITH SPECIAL ATTENTION BEING PAID TO PREVENTING PLANT ROOTS FROM DRYING AND PLANTS BEING APPROPRIATELY STORED.
4. PLANTS LARGER THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE LANDSCAPE ARCHITECT.
5. THE HEIGHT OF TREES, MEASURED FROM THE CROWN OF THE ROOTS TO THE TOP OF THE TOP BRANCH, AND CALIPER OF THE TRUNK SHALL BE TAKEN 6 INCHES ABOVE THE GROUND UP TO AND INCLUDING 4 INCH CALIPER SIZE, AND 12 INCHES ABOVE THE GROUND FOR LARGER SIZES, AND SHALL NOT BE LESS THAN THE MINIMUM SPECIFIED ON THE PLANT LIST. EXCEPT WHEN A CLUMP IS DESIGNATED, THE TRUNK OF EACH TREE SHALL BE A SINGLE TRUNK GROWING FROM A SINGLE UNMUTILATED CROWN OF ROOTS. NO PART OF THE TRUNK SHALL BE CONSPICUOUSLY CROOKED AS COMPARED TO NORMAL TREES OF THE SAME VARIETY. THE TRUNK SHALL BE FREE FROM SUN SCALD, FROST CRACKS OR WOUNDS RESULTING FROM ABRASIONS, FIRE, OR OTHER CAUSES. NO PRUNING WOUNDS SHALL BE PRESENT HAVING A DIAMETER OF MORE THAN TWO (2") INCHES AND SUCH WOUNDS MUST SHOW VIGOROUS BARK ON ALL EDGES. EVERGREEN TREES SHALL BE BRANCHED TO WITHIN ONE FOOT OF THE GROUND.
6. SHRUBS AND PERENNIALS SHALL COMPLY WITH THE SPECIFIED SPREAD, HEIGHT OR CONTAINER SIZE AS SPECIFIED ON THE PLANT LIST. THE MEASUREMENTS FOR HEIGHT ARE TO BE TAKEN FROM THE GROUND LEVEL TO THE AVERAGE HEIGHT OF THE TOP OF THE SHRUB AND NOT THE LONGEST BRANCH. THE THICKNESS OF EACH SHRUB SHALL CORRESPOND TO THE TRADE CLASSIFICATION "NO. 1". SINGLE STEMMED OR THIN PLANTS WILL NOT BE ACCEPTED. THE SIDE BRANCHES MUST BE GENEROUS, WELL-TWIGGED, AND THE PLANT AS A WHOLE WELL-BRANCHED TO THE GROUND. THE PLANTS MUST BE IN A MOIST VIGOROUS CONDITION, FREE FROM DEAD WOOD, BRUISES OR OTHER ROOT OR BRANCH INJURIES.
7. ALL PLANT MATERIAL SHALL COMPLY WITH STATE AND FEDERAL LAWS WITH RESPECT TO INSPECTION FOR PLANT DISEASE AND INFECTION. ANY INSPECTION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT, INVOICE, OR ORDER OF STOCK.
8. ALL PLANT MATERIAL IS SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL AND INSPECTION AT ANY PLACE, BEFORE DURING AND/OR AFTER PLANTING. ANY PLANT MATERIAL NOT APPROVED BY THE LANDSCAPE ARCHITECT SHALL BE IMMEDIATELY REMOVED FOR THE SITE.
9. NO PLANT MATERIAL SHALL BE ACCEPTED WITH LOOSE OR BROKEN BALLS, BROKEN CONTAINERS OR TUBE-PAKS

2.3 MULCH

A. BARK MULCH: ALL BARK MULCH SHALL BE SHREDDED PINE BARK AS LOCALLY OR REGIONALLY MANUFACTURED, OR AN EQUAL APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.

2.4 PLANTING MIXTURE

A. TOPSOIL: MOST TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL. SHOULD ADDITIONAL TOPSOIL BE NEEDED, IT SHALL BE IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE. ITSHALL BE LOOSE, FRIABLE, AND SHALL CONTAIN ORDINARY AMOUNT OF HUMUS. IT SHALL CONTAIN NO LUMPS OF SOIL, ROCKS LARGER THAN 1 INCH, OR STOCKS, OR ROOTS, AND OTHER DEBRIS. IT SHALL BE SUFFICIENTLY FERTILE TO SUSTAIN NORMAL HEALTHY PLANT GROWTH AND SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THAN 6.5. THE TOPSOIL SHALL BE DELIVERED IN AN UNFROZEN AND NON-MUDDY CONDITION AND MUST MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT.
B. PEAT: PEAT SHALL BE SPHAGNUM PEAT, SEDGE PEAT MOSS. FURNISH AIR-DRIED, FINELY SHREDDED, ORPH BETWEEN 5.5 AND 6.5, CONTAINING NO MORE THAN THIRTY-FIVE (35%) PERCENT MOISTURE BY WEIGHT.
C. COMPOSTED BARK MULCH:COMPOSTED BARK MULCH SHALL BE 1/4" MINUS, FINE TEXTURED AND WELL COMPOSTED MULCH SUITABLE FOR USE AS A PLANTING MIX AMENDMENT. IT SHALL BE LOCALLY OR REGIONALLY MANUFACTURED, OR AN EQUAL APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.
D. TREES/SHRUB PLANTING MIX: TOPSOIL USED AS FILL AROUND PLANTS SHALL BE MIXED WITH PEAT MOSS AT THE RATE OF THREE PARTS TOPSOIL TO ONE PART PEAT.
E. PERENNIAL/GROUND COVER PLANTING MIX: TOPSOIL USED AS FILL AROUND THESE PLANTS SHALL BE MIXED WITH PEAT MOSS AND COMPOSTED BARK MULCH AT THE RATE OF TWO PARTS TOPSOIL TO ONE PART PEAT TO ONE PART COMPOSTED BARK MULCH. THE ABOVE MIXTURE IS MIXED WITH MAG AMP (W. R. GRACE AND COMPANY, P.O. BOX 338, WEST CHICAGO, ILLINOIS) AT THE RATE OF 10 OUNCES PER CUBIC YARD OF PLANTING MIX.
F. "ROOTS" - ROOT GROWTH ENHANCER: THIS PRODUCT SHALL BE A NATURAL, ORGANIC BIOSTIMULANT THAT PROMOTES ROOT GROWTH AND STRESS TOLERANCE IN PLANTS. APPLY TO ALL TREES, SHRUBS, AND PERENNIALS PER MANUFACTURER'S RECOMMENDATIONS.
G. SUPERSORB C - WATER ABSORBENT GRANULES: THIS PRODUCT SHALL BE A COPOLYMER WATER ABSORBENT IN GRANULAR FORM TO BE INCORPORATED IN THE SPECIFIED PLANTING MIXES FOR BOTH TREE/SHRUBS AND PERENNIALS. IT'S PURPOSE IS TO IMPROVE THE TOPSOIL'S WATER HOLDING CAPACITY.
H. AGRIFORM FERTILIZER TABLETS: TREES AND SHRUBS SHALL BE FERTILIZED WITH TWO (2) FERTILIZER TABLETS PER PLANTING HOLE. TABLETS SHALL BE 21 GRAM SIZE, OF 20-10-5 ANALYSIS AS MANUFACTURED BY AGRIFORM.

2.5 MISCELLANEOUS MATERIALS

A. WOOD STAKES: STAKES FOR TREE SUPPORT SHALL BE 2" X 2" X 8'0", WOOD STAKES.
B. GUYING WIRE: WIRE SHALL BE NUMBER 12 GAUGE GALVANIZED SOFT STEEL WIRE.
C. HOSE: HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER. (PLASTIC 'CINCH-TIES' OR EQUIVALENT FASTENING DEVICE MAY BE AN ACCEPTABLE GUY WIRE AND HOSE PROTECTOR SUBSTITUTE)
D. TREE PAINT: TREE PAINT SHALL BE WATERPROOF, ASPHALT BASE PAINT WITH ANTISEPTIC PROPERTIES, MANUFACTURED FOR USE ON TREE WOUNDS; R.I.W. TREE SURGERY PAINT BY TOCH BROS., NEW YORK; SHERWIN WILLIAMS PRUNING COMPOUND OR APPROVED EQUAL.
E. ANTI-DESSICAT: ANTI-DESSICANT SHALL BE AN EMULSION PERMEABLE ENOUGH TO PERMIT TRANSPIRATION, AND WILL BE USED TO RETARD EXCESS WATER LOSS. MIX IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
F. TREE WRAP: TREE WRAPPING PAPER SHALL BE WATERPROOFED CREPE TREE WRAPPING PAPER, AT LEAST 2-1/2 INCHES IN WIDTH, MADE UP OF TWO LAYERS OF CREPE KRAFT PAPER, WEIGHING NOT LESS THAN 30 POUNDS PER REAM, CEMENTED TOGETHER WITH ASPHALT.
G. TWINE: WRAPPING TWINE USED IN TREE WRAPPING SHALL BE COMPOSED OF A MINIMUM OF TWO PLY JUTE MATERIAL. SYNTHETIC MATERIALS SUCH AS NYLON OR PLASTIC WILL NOT BE PERMITTED.

PART 3: E X E C U T I O N

3.1 SURFACE CONDITIONS

A. INSPECTION: PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE TO ANY INSTALLEDUTILITIES.
B. LOCATION:
1. VERIFY THAT PLANTING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS. STAKE OUT LOCATIONS OF ALL PLANTS AND SECURE THE LANDSCAPE ARCHITECT APPROVAL BEFORE EXCAVATING PLANT PITS.
2. WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, LEDGE, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY THE LANDSCAPE ARCHITECT BEFORE PLANTING.
C. DISCREPANCIES:
1. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.
2. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 TREE PROTECTION AND REMOVAL

A. REMOVAL OF TREES:
1. TREE REMOVAL UNDER THIS CONTRACT SHALL BE ACCOMPLISHED AS REQUIRED TO ACCOMODATE THE SCOPE OF WORK AS INDICATED ON THE SITE PLANS AS PREPARED BY SHERMAN, GREINER,HALLE',LTD. AND PROVAN & LORBER, INC. SITE GRADING AND GRUBBING WILL BE ACCOMPLISHED AS DIRECTED IN SECTION 02212 "SITE GRADING". ALL TREES AND STUMPS SHALL BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE NEW PLAYFILEDS, ROADS, SURFACED AREAS AND PLANTED AREAS. REMOVAL OF TREES OUTSIDE THESE AREAS SHALL ONLY BE THOSE AS NOTED, MARKED AND APPROVED BY THE LANDSCAPE ARCHITECT.
2. NO OTHER TREES MAY BE CUT EXCEPT BY PERMISSION OF THE LANDSCAPE ARCHITECT. ALL STUMPS SHALL BE REMOVED.
B. PROTECTION OF TREES:
1. GENERAL PROTECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF TOPS, TRUNKS, AND ROOTS OF EXISTING TREES ON THE SITE THAT ARE TO REMAIN. EXISTING TREES SUBJECT TO CONSTRUCTION DAMAGE SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED BEFORE ANY WORK IS STARTED; REMOVE BOXING WHEN DIRECTED. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD. REMOVE INTERFERING BRANCHES WITHOUT INJURY TO TRUNKS AND COVER SCARS WITH TREE PAINT.
2. GRADING AROUND TREES: WHERE EXCAVATION, FILL OR GRADING IS REQUIRED WITHIN THE BRANCH SPREAD OF TREES THAT ARE TO REMAIN, THE WORK SHALL BE PERFORMED AS FOLLOWS:
C. TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT BUT THE TRENCH SHALL BE TUNNELED UNDER AND AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO THE ROOTS.
D. RAISING GRADES: WHEN THE EXISTING GRADE AT TREE IS BELOW THE NEW FINISHED GRADE, AND FILL NOT EXCEEDING 12 INCHES IS REQUIRED, CLEAN WASHED GRAVEL GRADED FROM 1 INCH TO 2 INCH SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES AND FINISH APPROXIMATELY 2 INCHES ABOVE THE FINISHED GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNKS OF ANY TREES REQUIRING FILL.
E. TREES MARKED FOR PRESERVATION THAT ARE BURIED IN FILLS OVER 12" DEEP SHALL HAVE AN OPEN DRY WELL OF DURABLE MASONRY (WITHOUT MORTAR SITUATED AT LEAST 24" FROM THE TREE TRUNK. ALL WELLS ARE TO BE PROPERLY DRAINED. BEFORE FILLS OF OVER 12" ARE MADE UPON THE TREE ROOT AREAS, IT IS ADVISABLE TO SPREAD AT LEAST A 6" LAYER OF BROKEN STONE OR COARSE GRAVEL COVERED BY INVERTED SODS TO FACILITATE PROPER DRAINAGE AND AERATION.
F. LOWERING GRADES: EXISTING TREES IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE REGRADING WORK DONE BY HAND TO ELEVATION AS INDICATED. ROOTS AS REQUIRED SHALL BE CUT CLEANLY 3 INCHES BELOW FINISHED GRADE AND SCARS ARE COVERED WITH TREE PAINT. TREES MARKED FOR PRESERVATION THAT ARE LOCATED MORE THAN 6" ABOVE PROPOSED GRADES SHALL STAND ON BROAD ROUNDED MOUNDS AND BE GRADED SMOOTHLY INTO THE LOWER LEVEL. EXPOSED OR BROKEN ROOTS SHALL BE CUT CLEAN AND COVERED WITH TOPSOIL.

3.3 PLANTING TREES, SHRUBS AND GROUND COVERS

A. GENERAL:
1. PLANT NURSERY STOCK IMMEDIATELY UPON DELIVERY TO THE SITE AND APPROVAL BY THE LANDSCAPE ARCHITECT EXCEPT THAT, IF THIS IS NOT FEASIBLE, HEAL-IN ALL BALLED MATERIAL WITH DAMP SOIL AND PROTECT FROM SUN AND WIND.
2. REGULARLY WATER ALL NURSERY STOCK IN CONTAINERS AND TUBE-PAKS AND PLACE THEM IN A COOL AREA PROTECTED FROM SUN AND DRYING WINDS.
B. EXCAVATION OF PLANT HOLES:
1. TREE PITS SHALL HAVE SUBSTANTIALLY VERTICAL SIDES AND HORIZONTAL BOTTOMS. DEPTH OF PIT BELOW FINISH GRADE SHALL BE AT LEAST 9 INCHES (FOR TREES) AND 6 INCHES (FOR SHRUBS) GREATER THAN THE DEPTH OF THE BALL. IN NO CASE SHALL DEPTH OF TREE PITS BE LESS THAN 24 INCHES BELOW FINISHED GRADE. DIAMETER OF PITS FOR ALL TREES SHALL BE AT LEAST 9 INCHES GREATER THAN THE MAXIMUM DIAMETER OF THE TREE BALL OR ROOT SYSTEM AND FOR SHRUBS 6 INCHES.
2. PLANTING POCKETS FOR TUBE-PAK, ONE GALLON CONTAINER SHRUBS, CONTAINERIZED PERENNIAL PLANTS & 1" CALIPER TREES INTENDED FOR "NATURALIZING" FILL AND DISTURBED SLOPES, SHALL BE EXCAVATED SIMILAR AS DESCRIBED ABOVE, BUT TO A DEPTH OF 6" BELOW THE BOTTOM OF THE TUBE-PAK OR CONTAINER AND A MINIMUM OF 12" IN DIAMETER.
C. PLANTING OPERATION:
1. TREES AND SHRUBS SHALL BE SUPPLIED IN SIZES SHOWN ON THE PLANTING PLANS WITH ALL PLANTS BALLED AND BURLAPPED, CONTAINERIZED, OR IN TUBE-PAKS.
2. DURING PLANTING OPERATIONS, THE NURSERY STOCK SHALL NOT BE EXPOSED TO THE SUN, DRYING WINDS, OR WINTER FREEZING.
3. THE SOIL IN THE BOTTOM OF THE HOLE, WHICH HAS BEEN EXCAVATED TO THE PRESCRIBED REQUIREMENTS, SHALL BE LOOSENED TO A DEPTH OF 3 INCHES AND MIXED WITH AN EQUAL AMOUNT OF TOPSOIL. A COMPACTED MOUND OF SOIL SHALL BE FORMED IN THE CENTER OF THE HOLE TO SUPPORT THE ROOTS OF THE PLANT. THE PLANT SHALL BE PLACED ON THIS MOUND OF SOIL AND HELD IN A VERTICAL POSITION. THE PLANT SHALL BE SO SET, BY ADJUSTING THE ELEVATION OF THE MOUND, THAT AFTER SETTLEMENT THE PLANT WILL STAND AT APPROXIMATELY THE SAME DEPTH IT STOOD IN THE NURSERY OR FIELD.
4. THE PLANT HOLE SHALL BE BACKFILLED WITH TOPSOIL, PEAT AND MAG AMP MIXTURE PLACED IN LAYERS AROUND THE ROOTS. EACH LAYER SHALL BE CAREFULLY TAMPED TO FILL ALL VOIDS AND PLACED IN MANNER TO AVOID INJURY TO THE TREE OR DISTURBING THE POSITION OF THE PLANT.
5. ALL BURLAP, ROPES OR WIRES SHALL BE COMPLETELY REMOVED FROM THE ROOT BALLS. TREES WITH WIRE BASKETS SHALL HAVE THE WIRE BASKET COMPLETELY REMOVED IF PRACTICAL. REMOVAL OF BASKET WIRE SHALL BE DONE WITH BOLT CUTTER OR SIMILAR DEVICE AND NOT BEFORE THE BOTTOM HALF OF PLANT HOLE HAS BEEN BACKFILLED AND TAMPED SO AS TO PREVENT THE BALL FROM BREAKING APART OR LOOSENING DURING THIS OPERATION. UNTIE AND REMOVE ALL ROPES AROUND TRUNK.
6. WHEN APPROXIMATELY TWO-THIRDS OF THE PLANT HOLE HAS BEEN BACKFILLED, THE HOLE SHALL BE FILLED WITH WATER AND THE SOIL ALLOWED TO SETTLE AROUND THE ROOTS. AFTER THE WATER HAS BEEN ABSORBED, THE PLANT HOLE SHALL BE FILLED WITH TOPSOIL AND TAMPED LIGHTLY TO GRADE. ANY SETTLEMENT SHALL BE BROUGHT TO GRADE WITH TOPSOIL.
7. ALL PLANTS SHALL BE SET PLUMB AND STRAIGHT, AND AT SUCH A LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP OF THE TRUNK CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. PLANTS SHALL BE LOCATED IN THE CENTER OF THE PIT. THE SURFACE ABOUT THE PLANT SHALL BE SMOOTH AND FORMED TO A CUP-SHAPED DEPRESSION ABOUT THE STEM OR TRUNK SO AS TO HOLD WATER. ONCE THIS CUP-SHAPED DEPRESSION HAS BEEN FORMED, THEN APPLY THE "ROOTS" GROWTH ENHANCER/BIOSTIMULANT, PER MANUFACTURER'S RECOMMENDATIONS, TO ALL TREES, SHRUBS AND PERENNIALS PRIOR TO MULCHING. UPON COMPLETION OF THE PLANTING, ALL SURPLUS SUBSOIL AND WASTE MATERIALS SHALL BE REMOVED.
8. FOR PLANTS ON LEVEL GROUND OR SLIGHT SLOPES, THE CONTRACTOR SHALL FORM AND LEAVE A SHALLOW BASIN A LITTLE LARGER THAN THE DIAMETER OF THE PLANT AROUND EACH PLANT. AFTER PLANTING, CULTIVATE THE SOIL IN THE SHRUB BED BETWEEN TREE/SHRUB PITS, RAKE SMOOTH AND OUTLINE AS PER PLANS.
9. IN CASE OF PLANTING IN THE OPEN ON HOT DAYS, SHORTEN THE TIME BETWEEN PLANTING AND WATERING.

3.4 SEED BED PREPARATION

A. SUB GRADE PREPARATION: SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED. THE GROUND SHALL BE HAND OR MACHINE RAKED SO AS TO REMOVE ALL DEBRIS, CLODS, STONES, OR OTHER FOREIGN MATTER LARGER THAN 1 INCH, TO A DEPTH OF 4 INCHES. PRIOR TO DUMPING AND SPREADING OF TOPSOIL, THE SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 2 INCHES TO FACILITATE BONDING OF TOPSOIL TO SUB GRADE SOIL. WHERE SUB GRADES HAVE BEEN COMPACTED ARTIFICIALLY SCARIFY TO A DEPTH OF 6 INCHES. PRIOR TO SPREADING TOPSOIL, ALL SUB GRADES SHALL BE GRADED EVENLY ACCORDING TO THE CONTRACT DOCUMENTS. SUCH DEBRIS, CLODS, ROCKS, AND OTHER MATERIAL SO REMOVED SHALL BE DISPOSED OF AS APPROVED BY THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE. SEED BED PREPARATION SHALL NOT COMMENCE UNTIL THE MOISTURE CONDITIONS MAKE THE GROUND AREA AND SOIL FRIABLE.
B. PREPARING UNDISTURBED AREAS: AREAS TO BE SEEDED, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOP SOILING OPERATIONS. TILLAGE OF THE EXISTING VEGETATION INTO THE GROUND WILL NOT BE ACCEPTED.

3.5 TOPSOIL PLACEMENT

A. SPREADING: TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION. SPREADING SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN OR EXCESSIVELY WET. AFTER SPREADING, ANY LARGE, STIFF CLODS OR HARD LUMPS SHALL BE BROKEN UP AND THE GROUND SHALL BE HAND OR MACHINE RAKED TO REMOVE ALL DEBRIS, STONES, AND FOREIGN MATTER LARGER THAN 1 INCH TO A DEPTH OF 4 INCHES.
B. FINISH GRADING: GRADE THE AREAS TO FINISH GRADES FILLING AS NEEDED OR REMOVING SURPLUS DIRT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE. ALL LAWN AREAS SHALL SLOPE TO DRAIN. WHERE NO GRADES ARE SHOWN, AREAS SHALL HAVE A SMOOTH AND CONTINUAL GRADE BETWEEN EXISTING OR FIXED CONTROLS (SUCH AS WALKS, CURBS, OR WALLS). RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE EVEN LAWN SURFACES. ALL FINISH GRADES SHALL MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE SEED IS SOWN OR SOD IS PLACED.
C. SEED BED PREPARATION: AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED, AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEED BED NOT MORE THAN 48 HOURS AFTER THE SEED BED HAS BEEN PREPARED.
D. WATER: IF THERE HAS BEEN A TIME LAPSE BETWEEN THE PLACEMENT OF TOPSOIL AND SEEDING OPERATIONS TO ALLOW IT TO BECOME SETTLED AND COMPACTED ON THE SURFACE, THE AREA TO BE PLANTED WITH SEED SHALL BE THOROUGHLY HARROWED, WORKED TO A DEPTH OF 4 INCHES SO AS TO PROVIDE A SURFACE OF SUCH CONDITION THAT IT WILL ALLOW HAND RAKING AND APPLICATION OF THE SEED IN COMPLIANCE WITH THESE SPECIFICATIONS.
E. FERTILIZER/SOIL AMENDMENTS: APPLICATION OF FERTILIZER WILL BE IN 2 STAGES. TWO WEEKS PRIOR TO APPLICATION OF SEED, FERTILIZER SHALL BE APPLIED AT THE RATE OF 3 LBS/1000 S.F. FOR TURF AREAS. FERTILIZER SHALL BE APPLIED BY BROADCASTING OR DRILL METHODS; IT SHALL BE APPLIED SEPARATELY FROM THE SEED AND MIXED INTO THE SOIL TO A MINIMUM DEPTH OF 2 INCHES AND MAY BE INCORPORATED AS PART OF THE TOPSOIL PLACEMENT AND SEED BED PREPARATION OPERATIONS. SPRINKLE IMMEDIATELY AFTER INITIAL APPLICATION OF THE FERTILIZER WITH A FINE SPRAY UNTIL GROUND IS THOROUGHLY SATURATED, WITH PARTICULAR CARE TO AVOID RUNOFF ON SLOPING AREAS.
1. THE 2ND APPLICATION WILL FOLLOW THE FOLLOWING SEASON WITHIN THE SPECIFIED WARRANTY PERIOD AT A RATE DETERMINED BY SOIL TEST RESULTS FOR BOTH TURF AND NATIVE GRASS/ WILDFLOWER AREAS.
2. APPLICATION OF SUPERPHOSPHATE AND GROUND LIMESTONE SHALL BE APPLIED AT RATES DETERMINED BY SOILS TEST RESULTS.
3. SEEDING: IMMEDIATELY PRIOR TO THE APPLICATION OF THE SEED, THE SOIL SHALL BE LOOSE TO A DEPTH OF AT LEAST 1 INCH AND FREE FROM ALL MATERIAL AS SPECIFIED. IF SOIL IS TOO LOOSE OR DRY FOR GOOD HANDLING, IT SHOULD BE MOISTENED AND ROLLED LIGHTLY.
4. SEEDING SHALL BE DONE WITHIN THE SPECIFIED TIME PERIODS AND AT THE FOLLOWING RATES:
a. FINE LAWN SEED SHALL BE SOWN AT A RATE OF 3.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
b. NATIVE SEED MIX SHALL BE SOWN AT A RATE OF 5.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
5. METHODS: SEEDING BY DRILL IS PREFERABLE, HOWEVER, HYDRAULIC SEEDING OR BROADCASTING WILL BE PERMITTED. BROADCAST SEEDING AND HYDRAULIC SEEDING SHALL NOT BE USED DURING ADVERSE WEATHER. AREAS SOWN BY HYDRAULIC OR BROADCAST METHODS WILL BE VISUALLY INSPECTED FOR UNIFORMITY OF APPLICATION. AREAS WHICH FAIL TO REVEAL AN AVERAGE OF TWO SEEDS PER SQUARE INCH WILL BE RE-SOWN AT NO ADDITIONAL EXPENSE TO THE OWNER. THE APPLIED SEED, REGARDLESS OF APPLICATION, SHALL NOT BE COVERED BY A SOIL THICKNESS NO GREATER THAN 1/2 INCH.
a. SEEDING BY DRILL: SEEDING EQUIPMENT USED FOR APPLYING GRASS SEED MUST BE DESIGNED, MODIFIED, OR EQUIPPED TO REGULATE THE APPLICATION RATE AND PLANTING DEPTH OF GRASS SEED. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING THE DRILLING OPERATION. ALL GRASS ESTABLISHMENT EQUIPMENT SHALL BE OPERATED PERPENDICULAR TO THE SLOPE DRAINAGE. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA WHICH IT IS TO OPERATE. THE ROWS OF PLANTED SEEDS SHALL BE A MAXIMUM OF 8 INCHES APART AND SHALL BE AT RIGHT ANGLES TO THE FINISHED SLOPES.
b. BROADCAST SEEDING: WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED. SEEDING SHALL BE DONE ON A STILL DAY USING A HOPPER TYPE SEEDER WITH ONE HALF OF THE SEED FOR EACH AREA BEING SOWN AT RIGHT ANGLES TO THE OTHER HALF. SEED DISTRIBUTION BY BROADCASTING SHALL BE COVERED WITH 1/4 TO 1/2 INCH OF SOIL. THE SEED MAY BE COVERED BY RAKING, DRAGGING, OR BY APPROPRIATE MECHANICAL MEANS.
c. HYDRAULIC SEEDING: WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING SEED PREPARATION:
6. THE CONTRACTOR MUST PROVIDE ONE POUND OF MULCH PER EACH THREE GALLONS OF WATER IN THE HYDROSEEDER AS A CUSHION AGAINST SEED DAMAGE. THE MULCH USED AS A CUSHION MAY BE PART OF THE TOTAL REQUIRED MULCH WITH THE REMAINDER APPLIED AFTER THE SEED IS METERING DURING APPLICATION.
7. THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWED BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
8. THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED. THE SLURRY SHALL BE SPRAYED OVER THE SOIL IN A UNIFORM COAT. ALL HYDRAULICALLY SEED AREAS SHALL BE HYDROMULCHED UPON COMPLETION.
F. WATERING: WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES. AVOID RUNOFF ON SLOPING AREAS. THE SURFACE LAYER OF THE SOIL MUST BE KEPT DAMP BY FREQUENT LIGHT WATERING DURING THE GERMINATION PERIOD AND UNTIL PLANTS ARE FIRMLY ROOTED.
G. PROTECTION: PROTECT ALL SEEDED AREAS BY ERECTING TEMPORARY FENCES, BARRIERS, SIGNS, ETC. AS NECESSARY TO PREVENT TRAMPLING. THEY SHALL REMAIN IN PLACE FOR AT LEAST SIX WEEKS UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE LANDSCAPE ARCHITECT.
H. MULCHING:
1. MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS. TOPSOIL OR SEED WHICH WASHES OUT FOR REASONS ATTRIBUTABLE TO THE CONTRACTOR'S ACTIVITIES OR FAILURE TO TAKE PROPER PRECAUTIONS, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
a. ALL STRUCTURES SHALL BE PROTECTED FROM HYDRAULIC APPLICATION OF MULCH MATERIAL AND MATERIAL DEPOSITED ON FACILITIES SHALL BE REMOVED.
b. MULCH SHALL NOT BE APPLIED IN THE PRESENCE OF FREE SURFACE WATER, BUT MAY BE APPLIED ON DAMP GROUND.
2. APPLICATION OF ORGANIC MULCH
a. WET APPLICATION: ORGANIC MULCH SHALL BE MIXED WITH WATER AT A RATE OF ONE POUND MULCH (DRY WEIGHT) TO ONE GALLON OF WATER HYDRAULICALLY APPLIED AS PER MANUFACTURERS RECOMMENDATIONS AT A MINIMUM RATE OF 2000 POUNDS PER ACRE.
b. DRY APPLICATION: ORGANIC MULCH SHALL BE BROADCAST AT A MINIMUM RATE OF 2000 POUNDS PER ACRE, AND SHALL BE ROLLED LIGHTLY TO SET FIRMLY INTO THE SOIL

3.6 MULCHING

A. MULCHING:
1. ALL TREES AND SHRUB BEDS WILL BE CULTIVATED FOLLOWING THE GENERAL SHAPE OF THE BEDS AS INDICATED ON THE PLANS. FORM A SAUCER AROUND THE TOP OF THE PLANTING PIT TO HELP HOLD WATER DURING WATERING AND FORM THE OUTLINE FOR MULCHING.
2. APPLY THE SHREDDED BARK MULCH TO A DEPTH OF 4", EVENLY SPREAD OVER THE ENTIRE AREA OF EACH PLANTING PIT.
3. THOROUGHLY SOAK ALL MULCH AREAS. AFTER WATERING, RAKE MULCHED AREAS AND LEAVE IN A COMPLETED AND FINISHED CONDITION.THOROUGHLY SOAK ALL MULCH AREAS. AFTER WATERING, RAKE MULCHED AREAS AND LEAVE IN A COMPLETED AND FINISHED CONDITION.

3.7 STAKING, GUYING, AND WRAPPING

A. STAKING AND GUYING:
1. TREES, GREATER THAN 1-1/2" IN CALIPER, SHALL BE STAKED IMMEDIATELY AFTER PLANTING. GUY WIRES SHALL BE ENCASED IN HOSE TO PREVENT DIRECT CONTACT WITH BARK OF THE TREE OR IT SHALL BE PLACED AROUND THE TRUNK IN A SINGLE LOOP. WIRES SHALL BE TIGHTENED AND KEPT TAUNT BY TWISTING THE STRANDS TOGETHER OR WITH TURNBUCKLES.
2. WRAP TREES IMMEDIATELY AFTER PLANTING, BUT NOT BEFORE THE CONDITION OF THE TRUNKS HAS BEEN INSPECTED AND APPROVED. CAREFULLY WRAP THE TRUNKS OF DECIDUOUS TREES WITH TREE WRAPPING PAPER. BEGIN THE WRAPPER AT THE BASE OF THE TRUNK JUST ABOVE THE ROOTS AND BELOW THE NORMAL GROUND LINE, AND EXTEND WRAPPING UPWARD IN SPIRAL MANNER WITH AN OVERLAP OF ONE-HALF (1/2) THE WIDTH OF THE PAPER STRIP. COVER WITH SOIL THE PORTION OF THE WRAPPING BELOW THE FINISHED GRADE. THE PAPER SHALL BE HELD IN PLACE WITH APPROVED TWINE OR TAPE. TIE THE TWINE AROUND THE TREE IN AT LEAST THREE PLACES, IN ADDITION TO THE TOP AND BOTTOM.
3. TREE GUYING AND STAKING SHALL BE AS DETAILED AS PER PROJECT PLANS AND COMPLETED IMMEDIATELY AFTER PLANTING.

3.8 PRUNING

A. GENERAL:
1. EACH TREE SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. THE OBJECTIVE IS TO PRESERVE A SHAPE AND FORM REPRESENTATIVE OF THE SPECIES. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
B. PRUNING:
1. ALL DEAD WOOD, SUCKERS, BADLY BRUISED OR BROKEN BRANCHES SHALL BE REMOVED. THE TOPS OF DECIDUOUS PLANTS SHALL BE PRUNED EITHER BEFORE OR AFTER PLANTING TO BALANCE ROOT LOSS DUE TO TRANSPLANTING. THIS SHALL CONSIST OF REMOVING ONE-FORTH OF THE CROWN BY THINNING OUT AND/OR HEADING BACK THE STEMS AND TOP BRANCHES, AND SHALL BE DONE SO THAT THE PLANT RETAINS ITS NATURAL FORM. EXCEPT WHEN HEADING BACK, ALL CUTS SHALL BE MADE FLUSH WITH THE TRUNK OR BRANCH. NEVER CUT A LEADER.
2. CUTS OVER 1/2 INCH IN DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT. PAINT SHALL COVER ALL EXPOSED CAMBIUM AS WELL AS OTHER EXPOSED LIVING TISSUE. PAINT SHALL BE WATERPROOF, ADHESIVE AND ELASTIC, ANTISEPTIC, FREE FROM KEROSENE, COAL TAR CREOSOTE OR ANY OTHER MATERIAL INJURIOUS TO THE LIFE OF THE TREE AND SHALL BE APPROVED BEFORE IT IS USED. USE "WOODTAR" OR APPROVED EQUAL.
3. TREES THAT HAVE BEEN SO BADLY PRUNED AS TO SPOIL THEIR REPRESENTATIVE FORM AND USEFULNESS SHALL BE REMOVED AND REPLACED.

3.9 WATERING

A. ALL PLANTS SHALL BE WATERED TWICE WITHIN THE FIRST 24 HOURS OF THE TIME OF PLANTING, AND ALL PLANTS DURING THE MAINTENANCE PERIOD SHALL BE WATERED AT LEAST TWICE EACH WEEK. AT EACH WATERING THE SOIL AROUND EACH TREE OR SHRUB SHALL BE THOROUGHLY SATURATED. IF SUFFICIENT MOISTURE IS RETAINED IN THE SOIL, AS DETERMINED BY THE LANDSCAPE ARCHITECT, THE REQUIRED WATERING MAY BE REDUCED.

3.10 INSPECTION FOR ACCEPTANCE AND CLEAN-UP

A. INSPECTION:
1. IN ADDITION TO THE NORMAL PROGRESS INSPECTIONS, SCHEDULE AND CONDUCT THE FOLLOWING FORMAL INSPECTIONS, GIVING THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS PRIOR NOTICE OF READINESS FOR INSPECTION.
2. INSPECTION OF PLANTS IN CONTAINERS PRIOR TO PLANTING.
3. INSPECTION OF PLANT LOCATIONS, TO VERIFY COMPLIANCE WITH THE PLANS.
4. FINAL INSPECTION AFTER COMPLETION OF PLANTING. SCHEDULE THIS INSPECTION SUFFICIENTLY IN ADVANCE, AND IN COOPERATION WITH THE LANDSCAPE ARCHITECT SO THAT FINAL INSPECTION MAY BE CONDUCTED WITHIN 24 HOURS AFTER COMPLETION OF PLANTING.
5. FINAL INSPECTION AT THE END OF THE MAINTENANCE PERIOD, PROVIDED THAT ALL PREVIOUS DEFICIENCIES HAVE BEEN CORRECTED.
6. THE LANDSCAPE ARCHITECT WILL INSPECT ALL WORK FOR ACCEPTANCE UPON WRITTEN REQUEST OF THIS SUBCONTRACTOR
7. ACCEPTANCE OF LAWNS SHALL BE GRANTED FOR THE WORK IN ITS ENTIRETY. NO PARTIAL ACCEPTANCE SHALL BE GIVEN.
8. SOD AND FINE LAWNS SHALL EXHIBIT A UNIFORM, THICK, WELL-DEVELOPED STAND OF GRASS WHICH HAS RECEIVED A MINIMUM OF THREE CUTTINGS. LAWN AREAS SHALL
9. NATIVE GRASS AREAS SHALL EXHIBIT A UNIFORM, THICK, WELL DEVELOPED STAND OF GRASS WHICH HAS RECEIVED A MINIMUM OF THREE CUTTINGS. NATIVE GRASS HE AREAS SHALL HAVE NO BARE SPOTS IN EXCESS OF FOUR (4") INCHES IN DIAMETER AND BARE SPOTS SHALL COMPRISE NO MORE THAN TWO PERCENT (2%) OF THE TOTAL AREA OF THE LAWN.
10. NO LAWN AREAS SHALL EXHIBIT SIGNS OF DAMAGE FROM EROSION, WASHOUTS, GULLIES OR OTHER CAUSES.
11. BUILDING AND PAVEMENT SURFACES ADJACENT TO LAWN AREAS SHALL BE CLEAN AND FREE OF SPILLS OR OVERSPRAY FROM PLACING OR HANDLING OF TOPSOIL AND SEEDING OPERATIONS.
B. ACCEPTANCE:
1. UPON WRITTEN REQUEST OF THE CONTRACTOR, THE LANDSCAPE ARCHITECT SHALL INSPECT ALL LAWN AREAS TO DETERMINE COMPLETION OF THE CONTRACT WORK. THIS REQUEST MUST BE SUBMITTED AT LEAST FIVE (5) DAYS PRIOR TO THE ANTICIPATED INSPECTION DATE AND AFTER THE THIRD MOWING OF FINE LAWNS.
2. IF THE LAWNS ARE NOT ACCEPTABLE, THE LANDSCAPE ARCHITECT SHALL INDICATE CORRECTIVE MEASURES TO BE TAKEN, AND SHALL EXTEND THE MAINTENANCE PERIOD AS NECESSARY FOR THE COMPLETION OF WORK. THE CONTRACTOR SHALL BE REQUIRED TO REQUEST A SECOND INSPECTION OF THE LAWNS AS DESCRIBED ABOVE. THIS INSPECTION SHALL NOT TAKE PLACE UNTIL THE LAWN AREA IN QUESTION HAS RECEIVED AT LEAST ONE ADDITIONAL CUTTING. THIS PROCESS SHALL BE REPEATED UNTIL THE TOTAL AREA OF THE LAWN BEING INSPECTED IS ACCEPTABLE.
3. IF THE LAWN AREAS ARE ACCEPTABLE TO THE LANDSCAPE ARCHITECT, HE SHALL ARRANGE A MEETING OF THE CONTRACTOR AND THE OWNER TO ACCEPT THE LAWN WORK. A FINAL INSPECTION SHALL BE PART OF THIS MEETING TO INSURE ACCEPTABILITY. AT THIS MEETING, THE CONTRACTOR SHALL BE FURNISHED WITH A WRITTEN ACCEPTANCE FOR THE LAWN SECTION BEING APPROVED. THE CONTRACTOR SHALL HAND OVER MAINTENANCE OF THE LAWN TO THE OWNER AT THIS MEETING, AND SHALL PROVIDE THE OWNER WITH THREE COPIES OF THE MAINTENANCE MANUAL FOR THE LAWN AS DESCRIBED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND CORRECTIVE WORK UNTIL THE CONCLUSION OF THIS MEETING.
C. CLEAN-UP:
1. FOLLOWING THE ACCEPTANCE OF LAWNS, THE CONTRACTOR SHALL IMMEDIATELY REMOVE FROM THE SITE ALL MATERIALS AND EQUIPMENT NOT REQUIRED FOR OTHER PLANTING OR MAINTENANCE WORK. MATERIALS AND EQUIPMENT REMAINING ON THE SITE SHALL BE STORED IN LOCATIONS WHICH DO NOT INTERFERE WITH THE OWNER'S MAINTENANCE OF ACCEPTED LAWNS OR OTHER OPERATIONS.

SECTION 02930 - SEEDING AND SODDING

PART 1: GENERAL

1.1 GENERAL REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION. SEE DRAWINGS FOR LOCATIONS AND DETAILS.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION. COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF ALL WORK UNDER THE CONTRACT.

1.2 SUMMARY

A. WORK IN THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING ALL MATERIALS, SUPPLIES, LABOR, EQUIPMENT AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FINISH GRADING OF TOPSOIL, AND PREPARATION THEREOF FOR SEEDING, LAYING OF SOD, FERTILIZING, LIMING, HYDRO-MULCHING, EROSION CONTROL, MAINTENANCE AND PROTECTION OF ALL PLANTED AND PAVED AREAS AND CLEAN-UP.
B. RELATED SECTIONS (AS MAY BE PROVIDED BY CIVIL ENGINEER):
SECTION 02300 "EARTHWORK"
SECTION 02955 "TREES, SHRUBS AND GROUND COVERS"
LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS.
ALL NECESSARY CONSTRUCTION PERMITS.

1.3 SUBMITTALS

A. SAMPLES & CERTIFICATES:
1. CERTIFICATES ATTESTING THAT THE FOLLOWING MATERIAL MEET THE REQUIREMENTS SPECIFIED, SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR THEIR SELECTION AND APPROVAL IN ACCORDANCE WITH THE REQUIREMENTS OF GENERAL CONDITIONS.
a. SEED
b. FERTILIZER
c. LIME
2. MANUFACTURER'S LITERATURE/PRODUCT DATA MANUFACTURER'S LITERATURE ON THE FOLLOWING MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT.
a. MULCH
b. HYDROMULCH BINDER
c. EROSION CONTROL FABRIC

1.4 QUALITY ASSURANCE

A. QUALIFICATIONS OF WORKMEN:
1. PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.

1.5 DELIVERY, STORAGE, HANDLING

A. SEED: SEED SHALL BE DELIVERED IN ORIGINAL SEALED PACKAGES BEARING THE PRODUCER'S GUARANTEED ANALYSIS FOR PERCENTAGES OF MIXTURES, PURITY, GERMINATION, WEED SEED CONTENT, AND INERT MATERIAL. SEED SHALL BE LABELED IN CONFORMANCE WITH THE U.S. DEPARTMENT OF AGRICULTURAL RULES AND REGULATIONS AND APPLICABLE STATE SEED LAWS. SEED THAT HAS BECOME WET, MOLDY, OR DAMAGED, WILL NOT BE ACCEPTABLE.

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
STREET
CITY, STATE, ZIP
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SEAL:

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JONATHAN R. HALLE
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STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED	DWN BY:
PROJECT #: 1234	CHK BY: JH
PRINT DATE:	4/11/2025 10:48:34 AM

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SCHEMATIC DESIGN

REV.	DATE	COMMENTS

LANDSCAPE
SPECIFICATIONS

LA106

SHEET NUMBER: 6 OF 9 LANDSCAPE

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

Autodesk Docs://3958 Hayner/3958 STICKNEY AVE.LA.rvt
TEMPLATE DATE: 11/25/2019

A | B | C | D | E

LANDSCAPE GENERAL SPECIFICATIONS, CONT.

B. SOD: UPON DELIVERY OF SOD TO THE WORK SITE, USE ALL MEANS NECESSARY TO PROTECT AND MAINTAIN THE SOD BEFORE, DURING AND AFTER INSTALLATION. DELIVERY OF SOD SHALL BE CAREFULLY COORDINATED SO ITS PLACEMENT CAN PROCEED DIRECTLY AFTER ITS ARRIVAL. SOD SHALL BE INSTALLED ON SITE NO MORE THAN 24 HOURS AFTER CUTTING.

C. FERTILIZER/LIME: FERTILIZER AND LIME SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL, UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED CHEMICAL ANALYSIS, NAME, TRADE NAME, TRADEMARK, AND CONFORMANCE WITH STATE AND FEDERAL LAWS. IN LIEU OF CONTAINERS, BOTH MATERIALS MAY BE FURNISHED IN BULK AND A CERTIFICATE INDICATING THE ABOVE INFORMATION SHALL ACCOMPANY EACH DELIVERY.

D. STORAGE: SEED, HYDROMULCH, HYDROMULCH BINDER, FERTILIZER AND LIME SHALL BE KEPT IN DRY STORAGE AWAY FROM CONTAMINANTS. THEY SHALL BE UNIFORM IN COMPOSITION, DRY, UNFROZEN AND FREE FLOWING. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY MATERIAL WHICH HAS BECOME CAKED FOR OTHERWISE DAMAGED OR DOES NOT MEET SPECIFIED REQUIREMENTS.

E. REPLACEMENTS: IN THE EVENT OF REJECTION OF THE SEED, IMMEDIATELY MAKE ALL REPLACEMENTS NECESSARY TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.

F. SCHEDULES:
1. SEASONAL LIMITATIONS CONDUCT SEEDING OPERATIONS DURING THE SPECIFIED TIME PERIODS. IF SPECIAL CONDITIONS EXIST THAT MAY WARRANT A VARIANCE IN THE SPECIFIED PLANT DATES OR CONDITIONS, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT STATING THE SPECIAL CONDITIONS AND PROPOSED VARIANCE.

G. NOTICE TO PROCEED:
1. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING AND SOD PLACEMENT OPERATIONS UNTIL THE IRRIGATION SYSTEM HAS BEEN TESTED AND APPROVED.

PART 2: M A T E R I A L S

2.1 TOPSOIL

A. TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL WHICH WILL BE PLACED BY THE SITE CONTRACTOR. SHOULD ADDITIONAL TOPSOIL BE NEEDED TO BRING LANDSCAPE AREAS UP TO GRADE, THEN IT SHALL BE FURNISHED AND PLACED BY THE SITE CONTRACTOR, WITH IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE.

B. TOPSOIL SHALL BE A 'FINE SANDY LOAM' OR A 'SANDY LOAM' AS DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE "USDA" CLASSIFICATION SYSTEM. IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL, LOOSE, FRIABLE, AND SHALL CONTAIN ORDINARY AMOUNT OF HUMUS. IT SHALL CONTAIN NO LUMPS OF SOIL, ROCKS LARGER THAN 1 INCH, OR STOCKS, OR ROOTS, AND OTHER DEBRIS. IT SHALL BE SUFFICIENTLY FERTILE TO SUSTAIN NORMAL HEALTHY LAWN GROWTH AND SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THAN 6.5 THE TOPSOIL SHALL BE DELIVERED IN AN UNFROZEN AND NON-MUDDY CONDITION AND MUST MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT.

C. THE LOAM PLACED IN LANDSCAPE AREAS ON THE SITE MUST BE TESTED AND AMENDED AS RECOMMENDED BY SOIL TESTING FOR LAWNS AND PLANTING. THE COST OF ANY AMENDMENT TO THE LOAM AND TOPSOIL SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY. THE SITE CONTRACTOR SHALL FURNISH ADDITIONAL TOPSOIL AS REQUIRED.

2.2 SEED

A. GENERAL:
1. CONTRACTOR SHALL SUBMIT CERTIFICATION TAGS FOR APPROVAL. ALL GRASS SEED SHALL BE:
- FREE FROM NOXIOUS WEED SEEDS AND RECLEANED GRADE A RECENT CROP SEED
- TREATED WITH APPROPRIATE FUNGICIDE
- DELIVERED TO THE SITE IN SEALED CONTAINERS WITH DEALER GUARANTEED ANALYSIS.

B. FINE LAWN SEED MIXTURE:
1. ALL SEEDED, FINE LAWN AREAS AND INTENDED FOR THE PLAYFIELD AREAS AS DESIGNATED ON THE PLANS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:

NAME OF GRASS	PROPORTION BY WEIGHT
CLASSIC KENTUCKY BLUEGRASS	20%
KENTUCKY BLUEGRASS	20%
PERENNIAL RYEGRASS	20%
SR4200 PERENNIAL RYEGRASS	15%
SHADOW E CHEWINGS FESCUE	10%
SHADEMASTER RED FESCUE	10%
SR5000 CHEWINGS FESCUE	5%

C. NATIVE SEED MIXTURE:
1. FOR ALL TURF AREAS NOT DESIGNATED ON THE PLANS FOR USE AS FINE LAWN ON THE PLAYFIELD AREAS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:

NAME OF GRASS	PROPORTION BY WEIGHT
TALL FESCUE	53%
CREEPING RED FESCUE	41%
REDTOP	6%

2. ALL SEED USED SHALL MEET THE FOLLOWING MINIMUM STANDARDS:

PURITY	95%
GERMINATION	85%

2.3 SOD

A. ALL SOD SHALL BE WELL ESTABLISHED MOWN, LAWN GRASS. IT SHALL BE VIGOROUS, WELL ROOTED, HEALTHY TURF FREE FROM DISEASE, INSECT PESTS, WEEDS AND OTHER GRASSES, STONES AND ANY OTHER HARMFUL OR DELETERIOUS MATTER.

B. IT SHALL HAVE BEEN GROWN FROM A SEED MIXTURE IDENTICAL TO THAT SPECIFIED FOR THE FINE LAWN SEED MIXTURE SPECIFIED ABOVE. THIS SOD IS AVAILABLE FOR GOLD STAR SOD FARMS, CANTERBURY, NH. NOT MORE THAN 5% WEED AND UNDESIRABLE GRASSES SHALL BE ALLOWED.

C. SOD SHALL BE A MINERAL BACKED SOD GROWN IN THE NEW ENGLAND REGION. IT SHALL BE CUT IN UNIFORMLY WIDE STRIPS, 3/4" IN THICKNESS WITH CLEAN, CUT EDGES. SOD SHALL BE ROLLED OR FOLDED PRIOR TO LIFTING AND HANDLING TO PREVENT TEARING, BREAKING, DRYING AND ANY OTHER DAMAGE.

2.4 SOIL AMENDMENTS

A. FERTILIZER:
1. FERTILIZER TO BE SPREAD ON AREAS TO BE SEEDED SHALL BE COMMERCIALLY PREPARED AND SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT:
LAWN SEED AND SOD AREAS:
16% NITROGEN
16% PHOSPHORIC ACID
16% POTASH
.5% ZINC
2. USE FERTILIZER PERCENTAGE FOR ESTIMATING PURPOSES ONLY. AFTER ON-SITE, STOCKPILED TOPSOIL HAS BEEN PLACED, THE CONTRACTOR SHALL SUBMIT A LABORATORY CHEMICAL ANALYSIS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND DETERMINATION OF A FERTILIZER ANALYSIS AND APPLICATION RATE. THIS CHEMICAL ANALYSIS SHALL BE OBTAINED FROM A MINIMUM OF FOUR (4) RANDOM SOIL SAMPLES SELECTED AND TAKEN IN THE FIELD PER LANDSCAPEARCHITECT'S/OWNER'S REPRESENTATIVE APPROVAL.
3. THE TOPSOIL ANALYSIS SHALL INCLUDE THE FOLLOWING CHEMICAL PARAMETERS:

PH	-
NITRATE	NPPM
ORGANIC MATTER	%
PHOSPHOROUS (OLSON)	PPM
POTASSIUM	PPM
SODIUM	MEQ/100G
SULFATE	PPM
CONDUCTIVITY	MMHGS/CM

4. COMMERCIAL FERTILIZER SHALL BE COMPLETE, UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THE FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL WATERPROOF CONTAINERS, EACH BEARING THE MANUFACTURER'S STATEMENT OF ANALYSIS.

D. SUPERPHOSPHATE:
1. INCORPORATE SUPERPHOSPHATE INTO THE TOPSOIL WITH THE FIRST APPLICATION OF COMMERCIAL FERTILIZER AT THE RATE OF TWENTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS.

C. GROUND LIMESTONE:
1. INCORPORATE GROUND LIMESTONE INTO THE TOPSOIL AFTER IT HAS BEEN SPREAD AT THE RATE OF FIFTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS TO ACHIEVE A PH OF 6.0 TO 6.5.

D. MULCH:
1. WHERE A SPECIFIC TYPE OF MULCH IS REQUIRED, THE TYPE WILL BE DESCRIBED IN THE EXECUTION SECTION. WHERE MULCHING REQUIREMENTS CAN BE MET EQUALLY WELL BY ONE OF SEVERAL TYPES, THE CONTRACTOR SHALL HAVE THE OPTION OF SELECTING ONE OF THE ACCEPTABLE TYPES.
a. ORGANIC MULCH: JACKLIN ORGANIC MULCH AS MANUFACTURED BY THE VAUGHAN-JACKLIN CORPORATION, EAST 8803 SPRAGUE, SPOKANE, WASHINGTON 99213 - (TELEPHONE (509) 926-6241), OR APPROVED EQUAL.
b. VEGETATIVE MULCH: VEGETATIVE MULCH MATERIAL SHALL BE COMPOSED OF WHEAT STRAW, RYE STRAW OR BARLEY STRAW, IN THAT ORDER OF PREFERENCE AND SHALL BE FREE OF NOXIOUS WEED SEEDS, STONES, DIRT, ROOTS, STUMPS, OR OTHER FOREIGN MATERIAL.
c. CELLULOSE FIBER MULCH: WOOD CELLULOSE FIBER MULCH SHALL CONSIST OF VIRGIN WOOD FIBERS MANUFACTURED FROM WHOLE WOOD CHIPS AND SHALL BE PROCESSED IN SUCH A MANNER THAT IT WILL NOT CONTAIN ANY GROWTH OR GERMINATION INHIBITING FACTORS. THE MULCH SHALL BE DYED AN APPROPRIATED COLOR TO FACILITATE VISUAL METERING DURING APPLICATION. UPON APPLICATION, THE MATERIAL SHALL PRODUCE A MAT ABSORPTION AND PERCOLATION AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL. THE WOOD CELLULOSE FIBERS MUST MAINTAIN UNIFORM SUSPENSION IN WATER UNDER AGITATION.

E. MULCH TACKIFIERS:
1. TACKIFIERS MIXED WITH OR APPLIED OVER STRAW SHALL BE TERRA-TACK AR, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION. TACKIFIERS USED TO ANCHOR VEGETATIVE OR CELLULOSE FIBER MULCH SHALL BE TERRA TACK III, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION.

F. WATER:
1. WATER SHALL BE AVAILABLE FROM MUNICIPAL SYSTEM THROUGH CONTRACTOR.

G. EROSION CONTROL BLANKET:
1. EROSION CONTROL FABRIC MAY BE REQUIRED AS AN ADDITIONAL MEASURE TO PREVENT EROSION ON SLOPES GREATER THAN 2:1 AND IN DRAINAGE SWALES. IF THIS MATERIAL IS NECESSARY AND AUTHORIZED WHILE WORK IS IN PROGRESS, THEN THE MATERIAL SHALL BE CURLEX' EROSION CONTROL BLANKET CONSISTING OF A DENSE MAT OF CURLED AND SEASONED ASPEN WOOD EXCELSIOR BOUND WITH A TOUGH, PHOTO-DEGRADABLE, EXTRUDED PLASTIC MESH AS MANUFACTURED BY AMERICAN EXCELSIOR CO., ARLINGTON, TEXAS OR APPROVED EQUAL.

PART 3: E X E C U T I O N

3.1 SURFACE CONDITIONS

A. INSPECTION:
1. PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE. VERIFY THAT SEEDING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS.

B. DISCREPANCIES:
1. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.
2. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 SEED BED PREPARATION

A. SUBGRADE PREPARATION:
1. SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED. THE GROUND SHALL BE HAND OR MACHINE RAKED SO AS TO REMOVE ALL DEBRIS, CLODS, STONES, OR OTHER FOREIGN MATTER LARGER THAN 1 INCH, TO A DEPTH OF 4 INCHES. PRIOR TO DUMPING AND SPREADING OF TOPSOIL, THE SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 2 INCHES TO FACILITATE BONDING OF TOPSOIL TO SUBGRADE SOIL. WHERE SUBGRADES HAVE BEEN COMPACTED ARTIFICIALLY SCARIFY TO A DEPTH OF 6 INCHES. PRIOR TO SPREADING TOPSOIL, ALL SUBGRADES SHALL BE GRADED EVENLY ACCORDING TO THE CONTRACT DOCUMENTS.
2. SUCH DEBRIS, CLODS, ROCKS, AND OTHER MATERIAL SO REMOVED SHALL BE DISPOSED OF AS APPROVED BY THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE. SEED BED PREPARATION SHALL NOT COMMENCE UNTIL THE MOISTURE CONDITIONS MAKE THE GROUND AREA AND SOIL FRIABLE.

B. PREPARING UNDISTURBED AREAS:
1. AREAS TO BE SEEDED, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOPSOILING OPERATIONS. TILLAGE OF THE EXISTING VEGETATION INTO THE GROUND WILL NOT BE ACCEPTED.

3.3 TOPSOIL PLACEMENT

A. SPREADING:
1. TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION. SPREADING SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN OR EXCESSIVELY WET. AFTER SPREADING, ANY LARGE, STIFF CLODS OR HARD LUMPS SHALL BE BROKEN UP AND THE GROUND SHALL BE HAND OR MACHINE RAKED TO REMOVE ALL DEBRIS, STONES, AND FOREIGN MATTER LARGER THAN 1 INCH TO A DEPTH OF 4 INCHES.

B. FINISH GRADING:
1. GRADE THE AREAS TO FINISH GRADES FILLING AS NEEDED OR REMOVING SURPLUS DIRT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE. ALL LAWN AREAS SHALL SLOPE TO DRAIN. WHERE NO GRADES ARE SHOWN, AREAS SHALL HAVE A SMOOTH AND CONTINUAL GRADE BETWEEN EXISTING OR FIXED CONTROLS (SUCH AS WALKS, CURBS, OR WALLS). RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE EVEN LAWN SURFACES. ALL FINISH GRADES SHALL MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE SEED IS SOWN OR SOD IS PLACED.

C. SEED BED PREPARATION:
1. AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED, AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEED BED NOT MORE THAN 48 HOURS AFTER THE SEED BED HAS BEEN PREPARED.
2. IF THERE HAS BEEN A TIME LAPSE BETWEEN THE PLACEMENT OF TOPSOIL AND SEEDING OPERATIONS TO ALLOW IT TO BECOME SETTLED AND COMPACTED ON THE SURFACE, THE AREA TO BE PLANTED WITH SEED SHALL BE THOROUGHLY HARROWED, WORKED TO A DEPTH OF 4 INCHES SO AS TO PROVIDE A SURFACE OF SUCH CONDITION THAT IT WILL ALLOW HAND RAKING AND APPLICATION OF THE SEED IN COMPLIANCE WITH THESE SPECIFICATIONS.

D. FERTILIZER/SOIL AMENDMENTS:
1. APPLICATION OF FERTILIZER WILL BE IN 2 STAGES. TWO WEEKS PRIOR TO APPLICATION OF SEED, FERTILIZER SHALL BE APPLIED AT THE RATE OF 3 LBS/1000 S.F. FOR TURF AREAS. FERTILIZER SHALL BE APPLIED BY BROADCASTING OR DRILL METHODS, IT SHALL BE APPLIED SEPARATELY FROM THE SEED AND MIXED INTO THE SOIL TO A MINIMUM DEPTH OF 2 INCHES AND MAY BE INCORPORATED AS PART OF THE TOPSOIL PLACEMENT AND SEED BED PREPARATION OPERATIONS. SPRINKLE IMMEDIATELY AFTER INITIAL APPLICATION OF THE FERTILIZER WITH A FINE SPRAY UNTIL GROUND IS THOROUGHLY SATURATED, WITH PARTICULAR CARE TO AVOID RUNOFF ON SLOPING AREAS.
2. THE 2ND APPLICATION WILL FOLLOW THE FOLLOWING SEASON WITHIN THE SPECIFIED WARRANTY PERIOD AT A RATE DETERMINED BY SOIL TEST RESULTS FOR BOTH TURF AND NATIVE GRASS/ WILDFLOWER AREAS.
3. APPLICATION OF SUPERPHOSPHATE AND GROUND LIMESTONE SHALL BE APPLIED AT RATES DETERMINED BY SOILS TEST RESULTS.

E. SEEDING:
1. IMMEDIATELY PRIOR TO THE APPLICATION OF THE SEED, THE SOIL SHALL BE LOOSE TO A DEPTH OF AT LEAST 1 INCH AND FREE FROM ALL MATERIAL AS SPECIFIED. IF SOIL IS TOO LOOSE OR DRY FOR GOOD HANDLING, IT SHOULD BE MOISTENED AND ROLLED LIGHTLY.
2. SEEDING SHALL BE DONE WITHIN THE SPECIFIED TIME PERIODS AND AT THE FOLLOWING RATES:
a. FINE LAWN SEED SHALL BE SOWN AT A RATE OF 3.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
b. NATIVE SEED MIX SHALL BE SOWN AT A RATE OF 5.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL LST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.

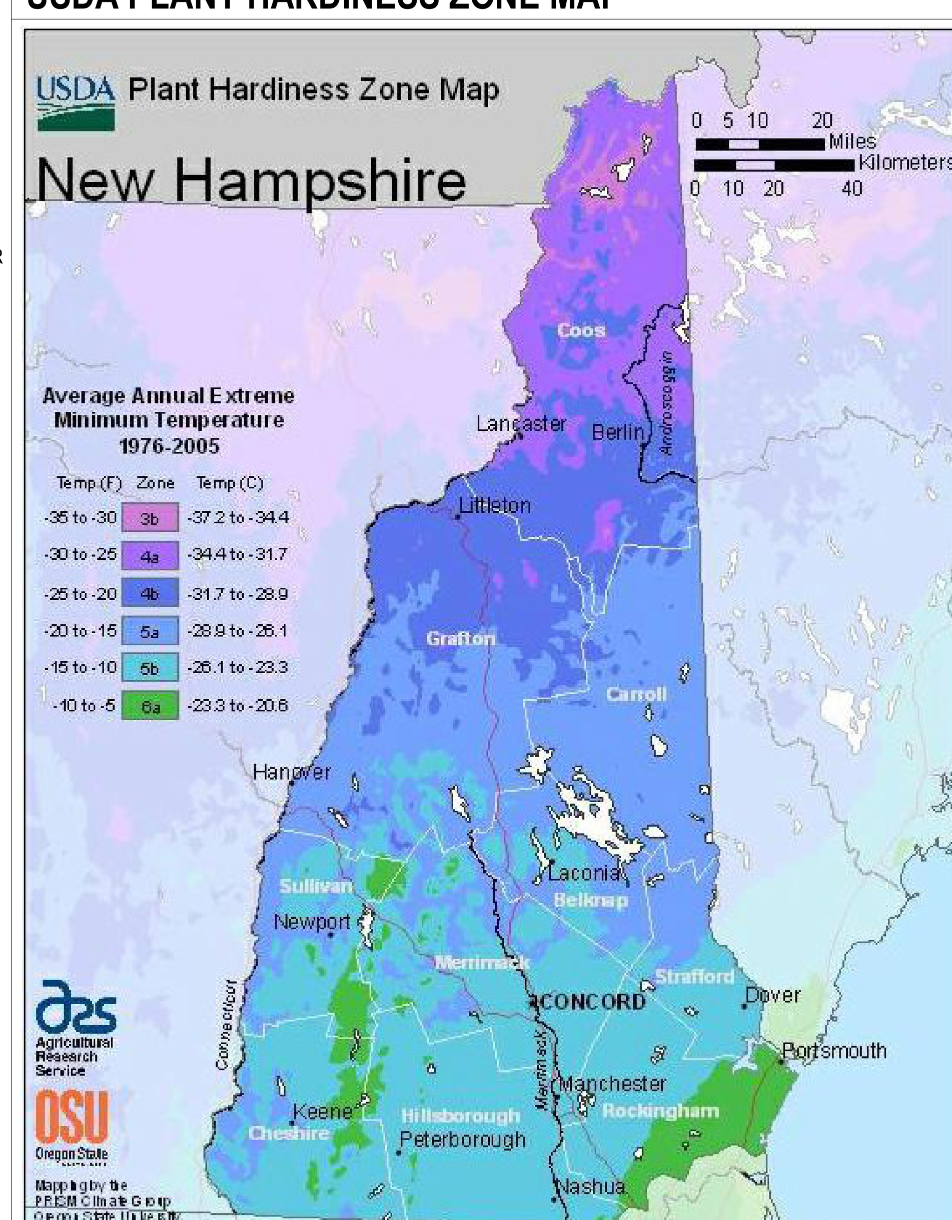
F. METHODS:
1. SEEDING BY DRILL IS PREFERABLE, HOWEVER, HYDRAULIC SEEDING OR BROADCASTING WILL BE PERMITTED. BROADCAST SEEDING AND HYDRAULIC SEEDING SHALL NOT BE USED DURING ADVERSE WEATHER.
2. AREAS SOWN BY HYDRAULIC OR BROADCAST METHODS WILL BE VISUALLY INSPECTED FOR UNIFORMITY OF APPLICATION. AREAS WHICH FAIL TO REVEAL AN AVERAGE OF TWO SEEDS PER SQUARE INCH WILL BE RESOWN AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. THE APPLIED SEED, REGARDLESS OF APPLICATION, SHALL NOT BE COVERED BY A SOIL THICKNESS NO GREATER THAN 1/2 INCH.
4. SEEDING BY DRILL:
a. SEEDING EQUIPMENT USED FOR APPLYING GRASS SEED MUST BE DESIGNED, MODIFIED, OR EQUIPPED TO REGULATE THE APPLICATION RATE AND PLANTING DEPTH OF GRASS SEED. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING THE DRILLING OPERATION. ALL GRASS ESTABLISHMENT EQUIPMENT SHALL BE OPERATED PERPENDICULAR TO THE SLOPE DRAINAGE. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA WHICH IT IS TO OPERATE. THE ROWS OF PLANTED SEEDS SHALL BE A MAXIMUM OF 8 INCHES APART AND SHALL BE AT RIGHT ANGLES TO THE FINISHED SLOPES.
5. BROADCAST SEEDING:
a. WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED. SEEDING SHALL BE DONE ON A STILL DAY USING A HOPPER TYPE SEEDER WITH ONE HALF OF THE SEED FOR EACH AREA BEING SOWN AT RIGHT ANGLES TO THE OTHER HALF. SEED DISTRIBUTION BY BROADCASTING SHALL BE COVERED WITH 1/4 TO 1/2 INCH OF SOIL. THE SEED MAY BE COVERED BY RAKING, DRAGGING, OR BY APPROPRIATE MECHANICAL MEANS.
6. HYDRAULIC SEEDING:
a. WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING.
- THE CONTRACTOR MUST PROVIDE ONE POUND OF MULCH PER EACH THREE GALLONS OF WATER IN THE HYDROSEEDER AS A CUSHION AGAINST SEED DAMAGE. THE MULCH USED AS A CUSHION MAY BE PART OF THE TOTAL REQUIRED MULCH WITH THE REMAINDER APPLIED AFTER THE SEED IS METERING DURING APPLICATION.
- THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWED BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
- THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED. THE SLURRY SHALL BE SPRAYED OVER THE SOIL IN A UNIFORM COAT. ALL HYDRAULICALLY SEED AREAS SHALL BE HYDROMULCHED UPON COMPLETION.

G. WATERING:
1. WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES. AVOID RUNOFF ON SLOPING AREAS.
2. THE SURFACE LAYER OF THE SOIL MUST BE KEPT DAMP BY FREQUENT LIGHT WATERING DURING THE GERMINATION PERIOD AND UNTIL PLANTS ARE FIRMLY ROOTED.

H. PROTECTION:
1. PROTECT ALL SEEDED AREAS BY ERECTING TEMPORARY FENCES, BARRIERS, SIGNS, ETC. AS NECESSARY TO PREVENT TRAMPLING. THEY SHALL REMAIN IN PLACE FOR AT LEAST SIX WEEKS UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE LANDSCAPE ARCHITECT.

I. MULCHING:
1. GENERAL
a. MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS. TOPSOIL OR SEED WHICH WASHES OUT FOR REASONS ATTRIBUTABLE TO THE CONTRACTOR'S ACTIVITIES OR FAILURE TO TAKE PROPER PRECAUTIONS, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
b. ALL STRUCTURES SHALL BE PROTECTED FROM HYDRAULIC APPLICATION OF MULCH MATERIAL AND MATERIAL DEPOSITED ON FACILITIES SHALL BE REMOVED.
c. MULCH SHALL NOT BE APPLIED IN THE PRESENCE OF FREE SURFACE WATER, BUT MAY BE APPLIED ON DAMP GROUND.
2. APPLICATION OF ORGANIC MULCH
a. WET APPLICATION: ORGANIC MULCH SHALL BE MIXED WITH WATER AT A RATE OF ONE POUND MULCH (DRY WEIGHT) TO ONE GALLON OF WATER HYDRAULICALLY APPLIED AS PER MANUFACTURERS RECOMMENDATIONS AT A MINIMUM RATE OF 2000 POUNDS PER ACRE.
b. DRY APPLICATION: ORGANIC MULCH SHALL BE BROADCAST AT A MINIMUM RATE OF 2000 POUNDS PER ACRE, AND SHALL BE ROLLED LIGHTLY TO SET FIRMLY INTO THE SOIL.
3. APPLICATION OF WOOD CELLULOSE FIBER MULCH
a. WOOD CELLULOSE FIBER MULCH SHALL BE APPLIED HYDRAULICALLY. IT SHALL BE MIXED WITH WATER AT THE RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE MIXED IN STANDARD HYDRAULIC MULCHING EQUIPMENT TO FORM A HOMOGENEOUS SLURRY. THE SLURRY SHALL BE SPRAYED UNIFORMLY OVER THE SURFACE AT A MINIMUM RATE OF 1800 POUNDS PER ACRE.
4. APPLICATION OF VEGETABLE MULCH
a. MULCH SHALL BE APPLIED IN A UNIFORM MANNER WITH A MULCH SPREADER AT A MINIMUM RATE OF 1-1/2 TONS PER ACRE WHERE REQUIRED MULCH SHALL BE ANCHORED INTO THE SEED BED BY TUCKING OR APPLICATION OF A TACKIFYING AGENT.
5. ANCHORING MULCH
a. GENERAL: ANCHOR MULCH IN ALL AREAS SEEDED WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION.
b. APPLICATION: MULCH TACKIFIERS SHALL BE MIXED WITH WATER AT A RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE APPLIED AT A MINIMUM RATE OF 40 POUNDS PER ACRE.
6. 'CURLEX' EROSION CONTROL BLANKETS
a. GENERAL: FURNISH AND INSTALL 'CURLEX' BLANKETS TO SLOPES WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION AND ITS OCCURRENCE CANNOT BE PREVENTED BY ANY OTHER MEANS.
b. APPLICATION: BLANKETS WILL BE APPLIED VERTICALLY TO THE SLOPE AND ATTACHED TO THE SLOPE WITH U-SHAPED METAL STAPLES, WITH LEGS 6" IN LENGTH AND 1" CROWN. SIZE, GAUGE AND NUMBER OF STAPLES WILL VARY WITH GROUND CONDITIONS, SLOPE, ETC.

USDA PLANT HARDINESS ZONE MAP



NH INVASIVE SPECIES WATCH LIST

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

THE NH INVASIVE PLANT SPECIES WATCH LIST IS A NON-REGULATORY REFERENCE TOOL THAT SERVES TO:
1. IDENTIFY POTENTIALLY INVASIVE NON-NATIVE PLANT SPECIES BASED ON DEGREE OF INVASIVE QUALITIES (E.G., AGGRESSIVE GROWTH, RAPID REPRODUCTION, AND/OR LACK OF NATURAL HERBIVORES) AND PRESENCE (BUT NOT NECESSARILY ABUNDANCE) IN NH AND/OR NEARBY ELSEWHERE IN NEW ENGLAND
2. INFORM PREVENTION (E.G., EARLY DETECTION/RAPID RESPONSE), MONITORING, AND MANAGEMENT DECISION-MAKING FOR SPECIES THAT MAY IMPACT NH'S ECOSYSTEMS OR ECONOMY
3. INCREASE AWARENESS OF INVASIVE PLANT SPECIES.

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
ABUTILON THEOPHRASTI MEDIK.		VELVETLEAF INDIAN-MALLOW
ACER GINNALA MAXIM.		AMUR MAPLE
ACER PLATANOIDES L.	ACER PLATANOIDES VAR. SCHWEDLERI NICHOLS.	NORWAY MAPLE
ACHYRANTHES JAPONICA (MIQ.) NAKAI	ACHYRANTHES JAPONICA (MIQ.) NAKAI VAR HACHIJEONSIS HONDA	JAPANESE CHAFF FLOWER
AEGOPODIUM PODAGRARIA L.	AEGOPODIUM PODAGRARIA VAR. VARIEGATA BAILEY	BISHOP'S GOUTWEED
AGROSTEMMA GITHAGO L. VAR. GITHAGO	LYCHNIS GITHAGO (L.) SCOP.	COMMON CORNCOCKLE
AILANTHUS ALTISSIMA (P. MILL.) SWINGLE	AILANTHUS GLANDULOSA DESV.	TREE OF HEAVEN
AIRA CARYOPHYLLEA L. VAR. CARYOPHYLLEA	ASPRIS CARYOPHYLLEA (L.) NASH	COMMON SILVER-HAIRGRASS
ALDROVANDA VESICULOSA L.		WATERWHEEL PLANT
ALLIARIA PETIOLATA (BIEB.) CAVARA & GRANDE	ALNUS ALNUS (L.) BRITT.; ALLIARIA OFFICINALIS ANDRZ. EX BIEB.; ERYSIMUM ALLIARIA L.; SISYMBRIUM ALLIARIA (L.) SCOP.	GARLIC MUSTARD
ALLIUM VINEALE L.		CROW GARLIC
ALNUS GLUTINOSA (L.) GAERTN.	ALNUS ALNUS (L.) BRITT.; BETULA ALNUS L. VAR. GLUTINOSA L.	EUROPEAN BLACK ALDER
AMORPHA FRUTICOSA L.	AMORPHA FRUTICOSA L. VAR. ANGUSTIFOLIA PURSH; A. FRUTICOSA L. VAR. OBLONGIFOLIA PALMER; A. FRUTICOSA L. VAR. TENNESSEENSIS (SHUTTLW. EX KUNZE) PALMER	FALSE INDIGO-BUSH
AMPELOPSIS GLANDULOSA (WALLICH) MOMIY. VAR. BREVIPEDUNCULATA (MAXIM.) MOMIY.	AMPELOPSIS BREVIPEDUNCULATA (MAXIM.) TRAUTV.; AMPELOPSIS HETEROPHYLLA (THUNB.) SIEB. & ZUCC. VAR. AMURENSIS PLANCH.; AMPELOPSIS HETEROPHYLLA (THUNB.) SIEB & ZUCC. VAR. BREVIPEDUNCULATA C.L. LI; CISSUS BREVIPEDUNCULATA MAXIM.; VITIS BREVIPEDUNCULATA (MAXIM.) DIPPEL	AMUR PEPPERVINE
ANTHRISCUS SYLVESTRIS (L.) HOFFMANN	CHAEROPHYLLUM SYLVESTRE L.	WILD CHERVIL
ARALIA ELATA (MIQ.) SEEM.	DIMORPHANTHUS ELATUS MIQ.	JAPANESE ANGELICA-TREE
ARTEMISIA VULGARIS L. VAR. VULGARIS	ARTEMISIA VULGARIS VAR. GLABRA LEDEB.; ARTEMISIA VULGARIS VAR. LATILOBA LEDEB.	COMMON WORMWOOD
ARTEMISIA LACTIFLORA		WHITE MUGWORT GRASS
BARBAREA VULGARIS AIT. F.	BARBAREA ARCUATA (OPIZ EX J. & K. PRESL) REICHENB.; B. STRICTA, OF AUTHORS NOT ANDRZ.; B. VULGARIS VAR. ARCUATA (OPIZ EX J. & K. PRESL) FRIES; CAMPE BARBAREA (L.) W. WIGHT EX PIPER; C. STRICTA, OF AUTHORS NOT (ANDRZ.) W. WIGHT EX PIPER; ERYSIMUM BARBAREA L.	GARDEN YELLOW-ROCKET
BASSIA SCOPARIA (L.) A.J. SCHOTT	CHENOPODIUM SCOPARIUM L.; KOCHIA SCOPARIA (L.) SCHRAD.; KOCHIA SCOPARIA VAR. PUBESCENS FENZL; KOCHIA SCOPARIA VAR. SUBVILLOSA MOQ.	FIREBUSH SMOTHERWEED
BERBERIS THUNBERGII DC.		JAPANESE BARBERRY
BERBERIS VULGARIS L.		EUROPEAN BARBERRY
BRASSICA JUNCEA (L.) CZERN.	BRASSICA JUNCEA (L.) CZERN. VAR. CRISPIFOLIA BAILEY; SINAPIS JUNCEA L.	CHINESE MUSTARD
BRASSICA NIGRA (L.) W.D.J. KOCH	SINAPIS NIGRA L.	BLACK MUSTARD
BROMUS CATHARTICUS VAHL	BROMUS UNIOLOIDES KUNTH; BROMUS WILLDENOWII KUNTH	RESCUEGRASS
BROMUS TECTORUM L.	ANISANTHA TECTORUM (L.) NEVSKI	CHEAT BROME
BUTOMUS UMBELLATUS L.		FLOWERING RUSH
CABOMBA CAROLINIANA GRAY (AND ALL OTHER CABOMBA SPECIES)	CAMBOMBA CAROLINIANA VAR. PULCHERRIMA HARPER; CABOMBA PULCHERRIMA (HARPER) FASSETT	FANWORT
CALLITRICHE STAGNALIS SCOP.		POND WATER-STARWORT
CARDAMINE IMPATIENS L.		NARROW-LEAVED BITTER-CRESS
CARDUUS NUTANS L.	CARDUUS NATANS SSP. LEIOPHYLLUS (PETROVIC) STOJANOV & STEF.; CARDUUS NUTANS VAR. LEIOPHYLLUS (PETROVIC) ARÉNES	NODDING PLUMELESS-THISTLE
CELASTRUS ORBICULATUS THUNB.		ORIENTAL BITTERSWEET
CENTAUREA DIFFUSA LAM.	ACOSTA DIFFUSA (LAM.) SOJÁK; ACROLOPHUS DIFFUSES (LAM.) A. & D. LÖVE	WHITE KNAPWEED
CENTAUREA JACEA L.	CENTAUREA DEBEAUXII GREN. & GODR. SSP. THUILLIERI DOSTÁL; C. JACEA L. SSP. DECIPIENS (THUILL.) ČELAK.; C. JACEA L. SSP. PRATENSIS ČELAK.; C. PRATENSIS THUILL.; C. THUILLIERI (DOSTÁL) J. DUVIGN. & LAMBINON; CYANUS JACEA (L.) P. GAERTN.; JACEA PRATENSIS LAM.	BROWN KNAPWEED
CENTAUREA NIGRA L.	JACEA NIGRA (L.) HILL	BLACK KNAPWEED
CENTAUREA SOLSTITIALIS L.		YELLOW KNAPWEED
CENTAUREA STOEBE L. SSP. MICRANTHOS (GUGLER) HAYÈK	CENTAUREA BIEBERSTEINNI DC.; CENTAUREA MACULOSA LAM., MISAPPLIED; CENTAUREA MACULOSA LAM. SSP. MICRANTHOS GUGLER	SPOTTED KNAPWEED
CHASMANTHIUM LATIFOLIUM		NORTHERN SEA OATS GRASS
CHELIDONIUM MAJUS L.	CHELIDONIUM MAJUS L. VAR. LACINIATUM (P. MILL.) SYME; C. MAJUS L. VAR. PLENUM WEHRHAHN	GREATER CELANDINE
CICERBITA MURALIS (L.) WALLR.	LACTUCA MURALIS (L.) FRESEN.; MYCELIS MURALIS (L.) DUMORT.; PRENANTHES MURALIS L.	WALL-LETTUCE
CIRCIUM ARVENSE (L.) SCOP.	BREEA ARVENSIS LESS.; CARDUUS ARVENSIS (L.) ROBSON; CIRSIUM ARVENSE VAR. HORRIDUM WIMMER & GRAB.; CIRSIUM ARVENSE VAR. INTEGRIFOLIUM WIMMER & GRAB.; CIRSIUM ARVENSE VAR. MITE WIMMER & GRAB.; SERRATULA ARVENSIS L.	CANADA THISTLE
CIRSIUM PALUSTRE (L.) SCOP.	CARDUUS PALUSTRIS L.	MARSH THISTLE
CIRSIUM VULGARE (SAVI) TEN.	CARDUUS LANCEOLATUS L.; C. VULGARIS SAVI; CIRSIUM LANCEOLATUM (L.) SCOP.	COMMON THISTLE
CLEMATIS TERNIFLORA DC.	CLEMATIS DIOSCOREIFOLIA LEVL. & VANIOT; CLEMATIS DIOSCOREIFOLIA LEVL. & VANIOT VAR. ROBUSTA (CARR.) REHD.; CLEMATIS PANICULATA THUNB.	YAM-LEAVED VIRGIN'S - BOWER
CONVOLVULUS ARVENSIS L.	STROPHOCAULOS ARVENSIS (L.) SMALL	FIELD BINDWEED
COTONEASTER APICULATA		CRANBERRY COTONEASTER
CRASSULA HELMSII (T. KIRK) COCKAYNE	CRASSULA RECURVA (HOOK. F.) OSTENF.; TILLAEA RECURVA (J.D. HOOK.); TILLAEA HELMSII KIRK; BULLIARDA RECURVA (HOOK. F.)	SWAMP STONECROP
CUSCUTA APPROXIMATA BAB.	CUSCUTA APPROXIMATA VAR. URCEOLATA (KUNZE) YUNCKER; CUSCUTA EPITHYMUM SSP. APPROXIMATA (BAB.) ROUY; CUSCUTA PLANIFLORA TEN.	ALFALFA DODDER
CYTISUS SCOPARIUS (L.) LINK VAR. SCOPARIUS	SPARTIUM SCOPARIUM L.	SCOTCH BROOM
DATURA STRAMONIUM L.	DATURA INERMIS JUSS. EX JACQ.; DATURA STRAMONIUM VAR. INERMIS (JUSS. EX JACQ.) FERN.; DATURA STRAMONIUM VAR. TATULA (L.) TORR.; DATURA TATULA L.	THORN-APPLE
DIGITARIA SANGUINALIS (L.) SCOP.	PANICUM SANGUINALE L.	HAIRY CRABGRASS
DIOSCOREA POLYSTACHYA TURCZ.	DIOSCOREA BATATAS DCNE.	CHINESE YAM
ECHINOCHLOA COLONA (L.) LINK	PANICUM COLONUM L.	AWNLESS BARNYARD GRASS
EGERIA DENSA PLANCH.	ANACHARIS DENSA (PLANCH.) VICTORIN	BRAZILIAN ELODEA
EICHHORNIA CRASSIPES (MART.) SOLMS-LAUBACH	EICHHORNIA SPECIOSA KUNTH; PIAROPUS CRASSIPES (MART.) RAF.	COMMON WATER-HYACINTH
ELAEAGNUS ANGUSTIFOLIA L.		RUSSIAN OLIVE
ELAEAGNUS UMBELLATA THUNB. VAR. PARVIFOLIA (ROYLE) SCHNEID.		AUTUMN OLIVE
ELYMUS REPENS (L.) GOULD	AGROPYRON REPENS (L.) GOULD; ELYTRIGIA REPENS (L.) DESV. EX B.D. JACKSON; TRITICUM REPENS L.	CREEPING WILD-RYE
EPILOBIUM HIRSUTUM L.		HAIRY WILLOW-HERB
EPIPACTIS HELLEBORINE (L.) CRANTZ	EPIPACTIS LATIFOLIA (L.) ALL.; SERAPIAS HELLEBORINE L.	BROAD-LEAVED HELLEBORINE
EUONYMUS ALATUS (THUNB.) SIEB.	CELASTRUS ALATUS THUNB.	BURNING BUSH
EUONYMUS EUROPAEUS L.		EUROPEAN SPINDLE-TREE
EUONYMUS FORTUNEI (TURCZ.) HAND.-MAZZ	EUONYMUS FORTUNEI (TURCZ.) HAND.-MAZZ VAR. RADICANS (SIEB. EX MIQ.) REHD.; E. FORTUNEI (TURCZ.) HAND.-MAZZ VAR. VEGETUS (REHD.) REHD.; E. RADICANS SIEB. EX MIQ.; E. RADICANS SIEB. EX MIQ. VAR. VEGETUS REHD.	CLIMBING SPINDLE-TREE
EUPHORBIA CYPARISSIAS L.	GALARHOEUS CYPARISSIAS (L.) SMALL EX RYDB.; TITHYMALUS CYPARISSIAS (L.) HILL	CYPRESS SURGE
EUPHORBIA ESULA L.	EUPHORBIA INTERCEDENS PODP.; FALARHOEUS ESULA (L.) RYDB.; TITHYMALUS ESULA (L.) HILL	LEAFY SPURGE

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TITLE 2
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CITY, STATE ZIP
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SEAL: LICENSED LANDSCAPE ARCHITECT · JONATHAN R. HALLE · 110 · STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:
LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

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REV.	DATE	COMMENTS

LANDSCAPE SPECIFICATIONS, CONT. & INVASIVE SPECIES LIST

LA107

SHEET NUMBER: 7 OF 9 LANDSCAPE

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three inches = one foot | 1
one and one half inches = one foot
one inch = one foot | 2
three quarter inch = one foot
one quarter inch = one foot | 3
one eight inch = one foot
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NH INVASIVE SPECIES WATCH LIST (CONT.)

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

THE NH INVASIVE PLANT SPECIES WATCH LIST IS A NON-REGULATORY REFERENCE TOOL THAT SERVES TO:
1. IDENTIFY POTENTIALLY INVASIVE NON-NATIVE PLANT SPECIES BASED ON DEGREE OF INVASIVE QUALITIES (E.G., AGGRESSIVE GROWTH, RAPID REPRODUCTION, AND/OR LACK OF NATURAL HERBIVORES) AND PRESENCE (BUT NOT NECESSARILY ABUNDANCE) IN NH AND/OR NEARBY ELSEWHERE IN NEW ENGLAND
2. INFORM PREVENTION (E.G., EARLY DETECTION/RAPID RESPONSE), MONITORING, AND MANAGEMENT DECISION-MAKING FOR SPECIES THAT MAY IMPACT NH'S ECOSYSTEMS OR ECONOMY
3. INCREASE AWARENESS OF INVASIVE PLANT SPECIES.

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
FESTUCA FILIFORMIS POURRET	FESTUCA CAPILLATA LAM.; F. OVINA L. VAR. CAPILLATA (LAM.) ALEF.; F. TENUIFOLIA SIBTHORP	FINE-LEAVED SHEEP FESCUE
FICARIA VERNA HUDS. SSP. FERTILIS (LAWRALRÉE EX LAEGAARD) STACE	FICARIA VERNA HUDS. SSP. BULBIFERA A. & D. LÖVE; RANUNCULUS FICARIA L. SSP. BULBILIFER LAMBINON; R. FICARIA L. SSP. BULBIFERA (MARSDEN-JONES) LAWALREE, AN ILLEGITIMATE NAME; R. FICARIA VAR. BULBIFERA MARSDEN-JONES	FIG-CROWFOOT
FRANGULA ALNUS P. MILL.	RHAMNUS FRANGULA L.	GLOSSY BUCKTHORN
FROELICHIA GRACILIS (HOOK.) MOQ.	OPLOTHECA GRACILIS MOQ.	SLENDER COTTON-WEED
GALIUM MOLLUGO L.		WHORLED BEDSTRAW
GLECHOMA HEDERACEA L.	GLECHOMA HEDERACEA L. VAR. MICRANTHA MORIC.; G. HEDERACEA L. VAR. PARVIFLORA (BENTH.) HOUSE; NEPETA HEDERACEA (L.) TREVISAN	GILL-OVER-THE-GROUND
GLYCERIA MAXIMA (HARTMAN) HOLMB.	GLYCERIA SPECTABILIS MERT. & KOCH; MOLINIA MAXIMA HARTMAN	RED SWEET GRASS
GYPSOPHILLA PANICULATA		BABY'S BREATH
HERACLEUM MANTEGAZZIANUM SOMMIER & LEVIER		GIANT HOGWEED
HESPERIS MATRONALIS L.		DAME'S ROCKET
HUMULUS JAPONICUS SIEB. & ZUCC.		JAPANESE HOP
HYDRILLA VERTICILLATA (L. F.) ROYLE	SERPICULA VERTICILLATA L. F.	HYDRILLA
HYDROCHARIS MORSUS-RANGE L.		EUROPEAN FROGBIT
HYGROPHILA POLYSPERMA (ROXB.) T. ANDERS	JUSTICIA POLYSPERMA (ROXB.); HEMIDELPHIS POLYSPERMA (ROXB.) NEES IN WALL.	EAST INDIAN HYGROPHILA
HYLOTELEPHIUM TELEPHIUM (L.) H. OHBA SSP. TELEPHIUM	SEDUM PURPUREUM (L.) J.A. SCHULTES; S. PURPURASCENS W.D.J. KOCH; S. TELEPHIUM L.	PURPLE ORPINE
IMPATIENS GLANDULIFERA ROYLE	IMPATIENS ROYLEI WALP.	ORNAMENTAL JEWELWEED
IPOMOEA AQUATICA FORRSK.	IPOMOEA REPTANS AUCT.	WATER SPINACH
KALOPANAX SEPTEMLOBUS (THUNB.) KOIDZ	ACANTHOPANAX RICINIPOLIUS (SIEB. & ZUCC.) SEEM.; KALOPANAX PICTUS (THUNB.) NAKAI	CASTOR-ARALIA
KOCHIA SCOPARIA (L.) SCHRAD.	BASSIA SCOPARIA (L.) A.J. SCOTT; CHENOPODIUM SCOPARIUM L.; KOCHIA SCOPARIA (L.) SCHRAD. VAR. PUBESCENS FENZL; K. SCOPARIA (L.) SCHRAD. VAR. SUBVILLOSA MOQ.	SUMMER-CYPRESS
LAGAROSIPHON MAJOR (RIDL.) MOSS	ELODEA CRISPA HORT. EX HENKEL; LAGAROSIPHON MUSCOIDES HARV. VAR. MAJOR RIDL.	AFRICAN OXYGEN WEED
LAMIUM AMPLEXICAULE L. VAR. AMPLEXICAULE		COMMON HENBIT
LAMIUM PURPUREUM L.	LAMIUM DISSECTUM WITH.; L. HYBRIDUM, OF AUTHORS NOT VILL.	RED HENBIT
LEPIDIUM LATIFOLIUM L.	CARDARIA LATIFOLIA (L.) SPACH	PERENNIAL PEPPERWEED
LESPENDEZA BICOLOR TURCZ.		TWO-COLORED BUSH-CLOVER
LIGUSTRUM OBTUSIFOLIUM SIEB. & ZUCC. VAR. OBTUSIFOLIUM	LIGUSTRUM OBTUSIFOLIUM VAR. LEIOCALYX (NAKAI) H. HARA	BLUNT-LEAVED PRIVET
LIGUSTRUM VULGARE L.		COMMON PRIVET
LIMNIRIS PSEUDACORUS (L.) FUSS	IRIS PSEUDACORUS L.	YELLOW IRIS
LIMNOPHILA SESSILIFLORA (VAHL) BLUME	HOTTONIA SESSILIFLORA (VAHL); TEREBINTHINA SESSILIFLORA (VAHL) KUNTZE	AMBULIA
LONICERA FRAGRANTISSIMA LINDL. & PAXTON	XYLOSTEON FRAGRANTISSIMUM (LINDL. & PAXTON) SMALL	SWEET BREATH OF SPRING
LONICERA JAPONICA THUNB.	NINTOOA JAPONICA (THUMB.) SWEET	JAPANESE HONEYSUCKLE
LONICERA MAACKII (RUPR.) HERDER		AMUR HONEYSUCKLE
LONICERA MORROWII GRAY		MORROW'S HONEYSUCKLE
LONICERA TATARICA L.		TARTARIAN HONEYSUCKLE
LONICERA XBELLA ZABEL	LONICERA MORROWII X L. TATARICA	BELLA HONEYSUCKLE
LONICERA XYLOSTEUM L.		FLY HONEYSUCKLE
LUPINUS POLYPHYLLUS LINDL. VAR. POLYPHYLLUS	LUPINUS PALLIDIPES HELLER; L. POLYPHYLLUS LINDL. VAR. ALBIFLORUS L.H. BAILEY; L. POLYPHYLLUS LINDL. VAR. PALLIDIPES (HELLER) C.P. SM.	BLUE LUPINE
LYCHNIS FLOS-CUCULI L. SSP. FLOS-CUCULI	CORONARIA FLOS-CUCULI (L.) A. BRAUN; SILENE FLOS-CUCULI (L.) CLAIRVILLE	RAGGED ROBIN LYCHNIS
LYSIMACHIA ARVENSIS (L.) U. MANNS & A. ANDERB.	ANAGALLIS ARVENSIS L.; A. ARVENSIS L. VAR. CAERULEA (SCHREB.) GREN. & GODR.; A. CAERULEA SCHREB.	SCARLET PIMPERNEL
LYSIMACHIA NUMMULARIA L.		MONEYWORT
LYSIMACHIA VULGARIS L.		GARDEN YELLOW-LOOSESTRIFE
LYTHRUM SALICARIA L.	LYTHRUM SALICARIA VAR. GRACILIOR TURCZ.; LYTHRUM SALICARIA VAR. TOMENTOSUM (P. MILL.) DC.	PURPLE LOOSESTRIFE
MARSILEA QUADRIFOLIA L.		WATER FERM
MICROSTEGIUM VIMINEUM (TRIN.) A. CAMUS	ANDROPOGON VIMINEUM TRIN.; EULALIA VIMINEA (TRIN.) KUNTZE	JAPANESE STILT GRASS
MICROTHLASPI PERFOLIATUM (L.) F.K. MEY.	THLASPI PERFOLIATUM L.	THOROUGHWORT PENNYCRESS
MISCANTHUS SINENSIS ANDERSS.	MISCANTHUS SINENSIS ANDERSS. VAR. GRACILLIMUS A.S. HITCHC.	CHINESE SILVERGRASS, JAPANESE SILVERGRASS
MISCANTHUS SINESIS VARIEGATUS		MAIDEN GRASS
MYCELIS MURALIS (L.) DUMORT.	LACTUCA MURALIS (L.) FRESEN.	WALL-LETTUCE
MYOSOTIS SCORPIOIDES L.	MYOSOTIS PALUSTRIS (L.) HILL	WATER FORGET-ME-NOT
MYRIOPHYLLUM AQUATICUM (VELL.) VERDC.	ENYDRIA AQUATICA VELL.; MYRIOPHYLLUM BRASILIENSE CAMB., MYRIOPHYLLUM PROSERPINACOIDES GILLIES EX HOOK. & ARN.	PARROT FEATHER
MYRIOPHYLLUM HETEROPHYLLUM MICHX.		VARIABLE MILFOIL
MYRIOPHYLLUM SPICATUM L.		EURASIAN WATER-MILFOIL
NAJAS MINOR ALL.	CAULINIA MINOR (ALL.) COSS. & GERM.	EUROPEAN NAIAD
NASTURTIUM MICROPHYLLUM BOENN. EX REICHENB.	NASTURTIUM OFFICINALE AIT. F. VAR. MICROPHYLLUM (BOENN. EX REICHENB.) THELLUNG; RORIPPA MICROPHYLLA (BOENN. EX REICHENB.) HYL. EX A. & D. LÖVE	ONE-ROWED WATER-CRESS
NASTURTIUM OFFICINALE AIT. F.	BAEUMERTA NASTURTIUM-AQUATICUM (L.) HAYEK; RORIPPA NASTURTIUM AQUATICUM (L.) HAYEK; SISYMBRIUM NASTURTIUM-AQUATICUM L.	TWO-ROWED WATER-CRESS
NYMPHOIDES PELTATA (GMEL.) KUNTZE	LIMNANTHEMUM PELTATUM GMEL.; NYPHOIDES NYMPHAEOIDES (L.) BRITT.	YELLOW FLOATING HEART
OENANTHE JAVANICA (BLUME) DC		JAVA WATER DROPWORT
PASTINACA SATIVA L.	PASTINACA SATIVA VAR. PRATENSIS PERS.	WILD PARSNIP
PAULOWNIA TOMENTOSA (THUNB.) SIEB. & ZUCC. EX STEUD.	BIGNONIA TOMENTOSA THUNB.	EMPRESS-TREE
PERSICARIA LONGISETA (BRUIJN) KITAGAWA	PERSICARIA CAESPITOSA (BLUME) NAKAI VAR. LONGISETA (BRUIJN) REED; POLYGONUM CAESPITOSUM BLUME VAR. LONGISETUM (BRUIJN) STEWARD; P. LONGISETUM BRUIJN	ORIENTAL LADY'S-THUMB SMARTWEED
PERSICARIA PERFOLIATA (L.) H. GROSS	AMPELYGONUM PERFOLIATUM (L.) ROBERTY & VAUTIER; POLYGONUM PERFOLIATUM L.	MILE-A-MINUTE WEED
PHALARIS ARUNDINACEA L.	PHALARIS ARUNDINACEA VAR. PICTA L.; PHALAROIDES ARUNDINACEA (L.) RAEUSCH.; PHALAROIDES ARUNDINACEA VAR. PICTA (L). TZVELEV	REED CANARY GRASS
PHELLODENDRON AMURENSE RUPR.	PHELLODENDRON AMURENSE RUPR. VAR. SACHALINENSE F. SCHMIDT; P. JAPONICUM MAXIM.; P. SACHALINENSE (F. SCHMIDT) SARG.	AMUR CORKTREE
PHRAGMITES AUSTRALIS (CAV.) TRIN. EX STEUD.	PHRAGMITES COMMUNIS TRIN.	COMMON REED
PINUS SYLVESTRIX L.		SCOTCH PINE

NH INVASIVE SPECIES WATCH LIST (CONT.)

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC JANUARY 2023

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
PISTIA STRATIODES L.		WATER LETTUCE
POA COMPRESSA L.		FLAT-STEMMED BLUE GRASS
POA NEMORALIS L.		WOOD BLUE GRASS
POPULUS ALBA L.	POPULUS ALBA L. VAR. BOLLEANA LAUCHE	WHITE POPLAR
POTAMOGETON CRISPUS L.		CURLY-LEAF PONDWEED
PUERARIA MONTANA (LOUR.) MERR. VAR. LOBATA (WILLD.) MAESEN & S. ALMEIDA	DOLICHOS LOBATUS WILLD.; PUERARIA LOBATA (WILLD.) OHWI; PUERARIA THUNBERGIANA (SIEB. & ZUCC.) BENTH	KUDZU
PYRACANTHA COCCINEA M. ROEM.	COTONEASTER PYRACANTHA (L.) SPACH; MESPILUS PYRACANTHA L.	SCARLET FIRETHORN
PYRUS CALLERYANA DCNE.		BRADFORD PEAR
RANUNCULUS REPENS L.	RANUNCULUS REPENS L. VAR. DEGENERATES SCHUR; R. REPENS L. VAR. ERECTUS DC.; R. REPENS L. VAR. GLABRATUS DC.; R. REPENS L. VAR. PLENIFLORUS FERN.; R. REPENS L. VAR. VILLOSUS LAMOTTE	SPOT-LEAVED CROWFOOT
RAPHANUS RAPHANISTRUM L. SSP. RAPHANISTRUM		WILD RADISH
RAPISTRUM RUGOSUM (L.) ALL. SSP. RUGOSUM	MYAGRUM RUGOSUM L.	ANNUAL BASTARD-CABBAGE
REYNOUTRIA JAPONICA HOUTT. VAR. JAPONICA	FALLOPIA JAPONICA (HOUTT.) R. DECR.; PLEUROPTERUS CUSPIDATUS (SIEB. & ZUCC.) MOLDENKE; POLYGONUM CUSPIDATUM SIEB. & ZUCC.	JAPANESE KNOTWEED
REYNOUTRIA SACHALINENSIS (F. SCHMIDT EX MAXIM.) NAKAI	FALLOPIA SACHALINENSIS (F.S. PETROP. EX MAXIM.) R. DECR.; POLYGONUM SACHALINENSE F. SCHMIDT EX MAXIM.	GIANT KNOTWEED
REYNOUTRIA X BOHEMICA CHRTEK & CHRTKOVÁ	FALLOPIA JAPONICA X F. SACHALINENSIS; FALLOPIA X BOHEMICA (CHRTEK & CHRTKOVÁ) J.P. BAILEY; POLYGONUM X BOHEMICUM (CHRTEK & CHRTKOVÁ) P.F. ZIKA & A.L. JACOBSON	BOHEMIA KNOTWEED
RHAMNUS CATHARTICA L.		COMMON BUCKTHORN
RHINANTHUS MINOR L. SSP. MINOR	RHINANTHUS CRISTA-GALLI L., IN PART; R. CRISTA-GALLI L. VAR. FALLAX (WIMMER & GRAB.) DRUCE; R. STENOPHYLLUS (SCHUR) SCHINZ & THELLUNG	LITTLE YELLOW-RATTLE
ROBINIA PSEUDOACACIA L.		BLACK LOCUST
ROSA MULTIFLORA THUNB. EX MURR.		MULTIFLORA ROSE
ROSA RUGOSA THUNB.		BEACH ROSE
RUMEX ACETOSELLA L. SSP. PYRENAICUS (POURRET EX LAPEYR.) AKEROYD	ACETOSELLA VULGARIS (KOCH) FOURR. SSP. PYRENAICA (POURRET EX LAPEYR.) Á. LÖVE; RUMEX ACETOSELLA L. VAR. PYRENAICUS (POURRET EX LAPEYR.) TIMBAL-LAGRAVE; R. PYRENAICUS POURRET EX LAPEYR.	SHEEP DOCK
SAGITTARIA SSAGITTIFOLIA L.	SAGITTARIA JAPONICA (HORT.); SAGITTARIA SAGITTIFOLIA VAR. EDULIS SIEBOLD EX MIQ.; SAGITTARIA SAGITTIFOLIA VAR. LEUCOPETALA MIQ.; SAGITTARIA SINENSIS SIMS; SAGITTARIA TRIFOLIA L.; SAGITTARIA TRIGOLIA VAR. EDULIS (SIEBOLD EX MIQ.); SAGITTARIA TRIFOLIA VAR. SINENSIS (SIMS) MAKINO	GIANT SAGITTARIA
SALVINIA MOLESTA MITCHELL		GIANT SALVINIA
SECURIGERA VARIA (L.) LASSEN	CORONILLA VARIA L.	PURPLE CROWN-VETCH
SILPHIUM PERFOLIATUM L.		CUP-PLANT ROSINWEED
SINAPIS ARVENSIS L.	BRASSICA ARVENSIS RABENH.; B. KABER (DC.) L.C. WHEELER; B. KABER (DC.) L.C. WHEELER VAR. PINNATIFIDA (STOKES) L.C. WHEELER	CORN CHARLOCK
SOLANUM CAROLINENSE L. VAR. CAROLINENSE		CAROLINA NIGHTSHADE
SOLANUM DULCAMARA L.		CLIMBING NIGHTSHADE
SONCHUS ARVENSIS L.	SONCHUS ARVENSIS L. SSP. ULIGINOSUS (BIEB.) NYMAN; S. ULIGINOSUS BIEB.	FIELD SOW-THISTLE
SORBARIA SORBIFOLIA (L.) A. BRAUN	SCHIZONOTUS SORBIFOLIUS (L.) LINDL.; SPIRAEA SORBIFOLIA L.	FALSE SPIRAEA
SPIREA JAPONICA VAR. GOLDFLAME		JAPANESE SPIREA
TANACETUM VULGARE L.	CHRYSANTHEMUM ULIGINOSUM PERS.; C. VULGARE (L.) BERNH.	COMMON TANSY
TRAPA NATANS L. (AND ALL OTHER TRAPA SPECIES)		WATER CHESTNUT
TRIBULUS TERRESTRIS L.		PUNCTURE-VINE
TUSSILAGO FARFARA L.		COLTSFOOT
TYPHA GRACILIS JORD.	TYPHA LUGDUNENSIS P. CHABERT	SLENDER CATTAIL
TYPHA LAXMANII LEPECH.		DRAWF CATTAIL
TYPHA MINIMA FUNCK EX HOPPE	ROHRBACHIA MINIMA [FUNCK EX HOPPE] MAVRODIEV	MINIATURE CATTAIL
TYPHA ×GLAUCA GODR.		HYBRID CATTAIL
ULMUS PUMILA L.		SIBERIAN ELM
UTRICULARIA INFLATA WALT.	PLECTOMA INFLATA (WALT.) RAF.; UTRICULARIA CERATOPHYLLA MICHX.	SWOLLEN BLADDERWORT
VALERIANA OFFICINALIS L.		COMMON VALERIAN
VERBASCUM THAPSUS		GREAT MULLELIN SEED
VINCA MAJOR L.	VINCA MAJOR VAR. VARIEGATA LOUD.	GREATER PERIWINKLE
VINCA MINOR L.		LESSER PERIWINKLE
VINCETOXICUM NIGRUM (L.) PERS.	CYNANCHUM LOUISEAE KARTESZ & GANDHI; CYNANCHUM NIGRUM (L.) PERS.	BLACK SWALLOWWORT
VINCETOXICUM ROSSICUM (KLEOPOW) BARBARICH	CYNANCHUM MEDIUM, OF AUTHORS NOT R. BR.; CYNANCHUM ROSSCUM KLEOPOW IN HILL; VINCETOXICUM MEDIUM, OF AUTHORS NOT (R. BR.) DCNE.	PALE SWALLOWWORT
WISTERIA SINENSIS		CHINESE WISTERIA, BLUE WISTERIA

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one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot

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TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:

CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
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CITY, STATE, ZIP
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MECHANICAL/PLUMBING
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SEAL:

JONATHAN R. HALLE 1110 REGISTERED LANDSCAPE ARCHITECT

PROJECT TITLE / ADDRESS:

LOFTS II

5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
PROJECT #: 1234
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INVASIVE SPECIES LIST, CONT.

LA108

SHEET NUMBER: 8 OF 9 LANDSCAPE

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LANDSCAPE GENERAL SPECIFICATIONS

SECTION 32 84 00 - PLANTING IRRIGATION
PART 1 - GENERAL
1.1 SUMMARY
A. THE INTENT IS THAT THE LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGN-BUILT AND THAT ALL LAWN AND PLANTING AREAS FOR THIS PROJECT RECEIVE FULL COVERAGE OF THE IRRIGATION SYSTEM.
B. SECTION INCLUDES:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES.
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
1.2 ACTION SUBMITTALS
A. PRODUCT DATA:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES.
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
9. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.
B. WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING.
C. DELEGATED DESIGN SUBMITTAL: FOR IRRIGATION SYSTEMS ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
1.3 INFORMATIONAL SUBMITTALS
A. COORDINATION DRAWINGS: IRRIGATION SYSTEMS, DRAWN TO SCALE, ON WHICH COMPONENTS ARE INDICATED AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED. ALSO INCLUDE ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS.
B. ZONING CHART: INDICATE EACH IRRIGATION ZONE AND ITS CONTROL VALVE.
C. CONTROLLER TIMING SCHEDULE: INDICATE TIMING SETTINGS FOR EACH AUTOMATIC CONTROLLER ZONE.
D. FIELD QUALITY-CONTROL SUBMITTALS:
1. FIELD QUALITY-CONTROL REPORTS.
1.4 CLOSEOUT SUBMITTALS
A. OPERATION AND MAINTENANCE DATA.
1.5 QUALITY ASSURANCE
A. QUALIFICATIONS:
1. INSTALLERS: ENTITY THAT EMPLOYS A CERTIFIED IRRIGATION DESIGNER - LANDSCAPE QUALIFIED BY THE IRRIGATION ASSOCIATION.
B. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

PART 2 - PRODUCTS
2.1 PERFORMANCE REQUIREMENTS
A. IRRIGATION ZONE CONTROL: AUTOMATIC OPERATION WITH CONTROLLER AND AUTOMATIC CONTROL VALVES.
B. LOCATION OF SPRINKLERS AND SPECIALTIES: DESIGN LOCATION IS APPROXIMATE. MAKE MINOR ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS. MAINTAIN 100 PERCENT IRRIGATION COVERAGE OF ALL LAWN AND PLANTING AREAS INDICATED.
C. DELEGATED DESIGN: DESIGN 100 PERCENT COVERAGE IRRIGATION SYSTEM, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA TO BE DETERMINED BASED UPON FINAL SITE DISTURBANCE.
1. AVAILABLE LAND RECORDS INDICATE THE FOLLOWING SOIL CONDITIONS: TBD
D. MINIMUM WORKING PRESSURES: THE FOLLOWING ARE MINIMUM PRESSURE REQUIREMENTS FOR PIPING, VALVES, AND SPECIALTIES UNLESS OTHERWISE INDICATED:
1. IRRIGATION MAIN PIPING: 200 PSIG.
2. CIRCUIT PIPING: 150 PSIG.
2.2 PIPES, TUBES, AND FITTINGS
A. COMPLY WITH REQUIREMENTS IN "PIPING SCHEDULE" ARTICLE FOR APPLICATIONS OF PIPE, TUBE, AND FITTING MATERIALS, AND FOR JOINING METHODS FOR SPECIFIC SERVICES, SERVICE LOCATIONS, AND PIPE SIZES.
B. PE PIPE WITH CONTROLLED ID: ASTM D2239, PE 3408 COMPOUND; SIDR 15.
1. INSERT FITTINGS FOR PE PIPE: ASTM D2609, NYLON OR PROPYLENE PLASTIC WITH BARBED ENDS. INCLUDE BANDS OR OTHER FASTENERS.
C. PVC PIPE: ASTM D1785, PVC 1120 COMPOUND, SCHEDULES 40 AND 80.
1. PVC SOCKET FITTINGS: ASTM D2466, SCHEDULES 40 AND 80.
2. PVC THREADED FITTINGS: ASTM D2464, SCHEDULE 80.
3. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET ENDS.
D. PVC PIPE, PRESSURE RATED: ASTM D2241, PVC 1120 COMPOUND, SDR 26.
1. PVC SOCKET FITTINGS: ASTM D2467, SCHEDULE 80.
2. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET OR THREADED ENDS.
2.3 PIPING JOINING MATERIALS
A. PIPE-FLANGE GASKET MATERIALS: AWWA C110, RUBBER, FLAT FACE, 1/8 INCH THICK UNLESS OTHERWISE INDICATED; FULL-FACE OR RING TYPE UNLESS OTHERWISE INDICATED.
B. METAL, PIPE-FLANGE BOLTS AND NUTS: ASME B18.2.1, CARBON STEEL UNLESS OTHERWISE INDICATED.
C. BRAZING FILLER METALS: AWS A5.8/A5.8M, BCUP SERIES, COPPER-PHOSPHORUS ALLOYS FOR GENERAL-DUTY BRAZING UNLESS OTHERWISE INDICATED.
D. SOLDER FILLER METALS: ASTM B32, LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX IN ACCORDANCE WITH ASTM B813.
E. SOLVENT CEMENTS FOR JOINING PVC PIPING: ASTM D2564. INCLUDE PRIMER IN ACCORDANCE WITH ASTM F656.
F. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER UNLESS OTHERWISE INDICATED.
2.4 MANUAL VALVES
A. CURB VALVES:
1. DESCRIPTION:
A. STANDARD: AWWA C800.
B. NPS 1 AND SMALLER PRESSURE RATING: 150 PSIG.
C. NPS 1-1/4 TO NPS 2 PRESSURE RATING: 150 PSIG.
D. BODY MATERIAL: BRASS OR BRONZE WITH BALL OR GROUND-KEY PLUG.
E. END CONNECTIONS: MATCHING PIPING.
F. STEM: WITH WIDE-TEE HEAD.
B. CURB-VALVE CASING:
1. STANDARD: SIMILAR TO AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: TELESCOPING, OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF CURB VALVE.
3. BARREL: APPROXIMATELY 3-INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
C. SHUTOFF RODS FOR CURB-VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE SHUTOFF ROD(S) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SLOTTED END MATCHING CURB VALVE FOR PROJECT.
D. BRASS BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: FORGED BRASS.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRASS.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL
E. BRONZE BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: BRONZE.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRONZE.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL
F. IRON BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-72.
B. CWP RATING: 200 PSIG.
C. BODY DESIGN: SPLIT BODY.
D. BODY MATERIAL: ASTM A126, GRAY IRON.
E. ENDS: FLANGED.
F. SEATS: PTFE OR TFE.
G. STEM: STAINLESS STEEL.
H. BALL: STAINLESS STEEL.
I. PORT: FULL.
G. PLASTIC BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-122.
B. PRESSURE RATING: 150 PSIG.
C. BODY MATERIAL: PVC.
D. TYPE: UNION.
E. END CONNECTIONS: SOCKET OR THREADED.
F. PORT: FULL.
H. IRON GATE VALVES, RESILIENT SEATED:
1. DESCRIPTION:
A. STANDARD: AWWA C509.
B. PRESSURE RATING: 200 PSIG MINIMUM.
C. BODY MATERIAL: DUCTILE OR GRAY IRON WITH BRONZE TRIM.
D. END CONNECTIONS: MECHANICAL JOINT OR PUSH-ON JOINT.
E. INTERIOR COATING: COMPLY WITH AWWA C550.
F. BODY DESIGN: NONRISING STEM.
G. OPERATOR: STEM NUT.
H. DISC: SOLID WEDGE WITH RESILIENT COATING.
I. IRON GATE VALVE CASINGS:
1. STANDARD: AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: ADJUSTABLE EXTENSION OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF VALVE.
3. BARREL: APPROXIMATELY 5-INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
J. OPERATING WRENCHES FOR IRON GATE VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE OPERATING WRENCH(ES) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SOCKET MATCHING VALVE OPERATING NUT FOR PROJECT.
2.5 AUTOMATIC CONTROL VALVES
A. BRONZE, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: CAST-BRONZE BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
B. PLASTIC, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: MOLDED-PLASTIC BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
2.6 AUTOMATIC DRAIN VALVES
A. DESCRIPTION: SPRING-LOADED-BALL TYPE OF CORROSION-RESISTANT CONSTRUCTION AND DESIGNED TO OPEN FOR DRAINAGE IF LINE PRESSURE DROPS BELOW 2-1/2 TO 3 PSIG.
2.7 SPRINKLERS
A. GENERAL REQUIREMENTS: DESIGNED FOR UNIFORM COVERAGE OVER ENTIRE SPRAY AREA INDICATED AT AVAILABLE WATER PRESSURE.
B. PLASTIC, EXPOSED, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CONSTRUCTION: ABS AND CORROSION-RESISTANT METALS.
B. MOUNTING: ABOVEGROUND, EXPOSED ON RISER.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. ARC: FULL OR HALF CIRCLE.
C. RADIUS: 20 FEET.
D. INLET: NPS 3/4.
C. PLASTIC, POP-UP, GEAR-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: ABS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
D. PLASTIC, POP-UP, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CASE: ABS.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. SPRINKLER CONSTRUCTION: ABS AND OTHER CORROSION-RESISTANT METALS.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
E. PLASTIC, SURFACE SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20T FEET.
E. INLET: NPS 3/4.
F. PLASTIC, SURFACE, POP-UP SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. POP-UP HEIGHT: 4 INCHES
B. NOZZLE: BRASS.
C. FLOW: 150 GPM.
D. ARC: FULL OR HALF CIRCLE.
E. RADIUS: 20 FEET.
F. INLET: NPS 3/4.
G. PLASTIC, POP-UP SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: BRASS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
E. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
D. ARC: FULL OR HALF CIRCLE.
E. RADIUS: 20 FEET.
F. INLET: NPS 3/4.
H. PLASTIC SHRUB SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS OR OTHER PLASTIC.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. ARC: HALF CIRCLE.
C. RADIUS: 10 FEET.
D. MOUNTING HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
E. INLET: NPS 3/4.
2.8 QUICK COUPLERS
A. DESCRIPTION: FACTORY-FABRICATED, BRONZE OR BRASS, TWO-PIECE ASSEMBLY. INCLUDE COUPLER WATER-SEAL VALVE; REMOVABLE UPPER BODY WITH SPRING-LOADED OR WEIGHTED, RUBBER-COVERED CAP; HOSE SWIVEL WITH ASME B1.20.7, 3/4-11.5NH THREADS FOR GARDEN HOSE ON OUTLET; AND OPERATING KEY.
1. LOCKING-TOP OPTION: VANDAL-RESISTANT LOCKING FEATURE. INCLUDE (2) TWO MATCHING KEY(S).
2.9 CONTROLLERS
A. DESCRIPTION:
1. CONTROLLER STATIONS FOR AUTOMATIC CONTROL VALVES: EACH STATION IS VARIABLE FROM APPROXIMATELY 5 TO 60 MINUTES. INCLUDE SWITCH FOR MANUAL OR AUTOMATIC OPERATION OF EACH STATION.
2. EXTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 4, WEATHERPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS; INCLUDE PROVISION FOR GROUNDING.
A. BODY MATERIAL: MOLDED PLASTIC.
B. MOUNTING: SURFACE TYPE FOR WALL.
3. INTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 12, DRIPPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS.
A. BODY MATERIAL: MOLDED PLASTIC.
B. MOUNTING: SURFACE TYPE FOR WALL.
4. CONTROL TRANSFORMER: 24 V SECONDARY, WITH PRIMARY FUSE.
5. TIMING DEVICE: ADJUSTABLE, 24-HOUR, 14-DAY CLOCK, WITH AUTOMATIC OPERATIONS TO SKIP OPERATION ANY DAY IN TIMER PERIOD, TO OPERATE EVERY OTHER DAY, OR TO OPERATE TWO OR MORE TIMES DAILY.
A. MANUAL OR SEMIAUTOMATIC OPERATION: ALLOWS THIS MODE WITHOUT DISTURBING PRESET AUTOMATIC OPERATION.
B. NICKEL-CADMIUM BATTERY AND TRICKLE CHARGER: AUTOMATICALLY POWERS TIMING DEVICE DURING POWER OUTAGES.
C. SURGE PROTECTION: METAL-OXIDE-VARISTOR TYPE ON EACH STATION AND PRIMARY POWER.
6. MOISTURE SENSOR: ADJUSTABLE FROM ONE TO SEVEN DAYS, TO SHUT OFF WATER FLOW DURING RAIN.
7. SMART CONTROLLERS: USE ET, TESTED IN ACCORDANCE WITH IA SWAT CLIMATOLOGICAL BASED CONTROLLERS 8TH DRAFT TESTING PROTOCOL AND COMPLIANT WITH ASHRAE 189.1.
8. WIRING: UL 493, TYPE UF MULTICONDUCTOR, WITH SOLID-COPPER CONDUCTORS; INSULATED CABLE; SUITABLE FOR DIRECT BURIAL.
A. FEEDER-CIRCUIT CABLES: NO. 12 AWG MINIMUM, BETWEEN BUILDING AND CONTROLLERS.
B. LOW-VOLTAGE, BRANCH-CIRCUIT CABLES: NO. 14 AWG MINIMUM, BETWEEN CONTROLLERS AND AUTOMATIC CONTROL VALVES; COLOR-CODED DIFFERENT FROM FEEDER-CIRCUIT-CABLE JACKET COLOR; WITH JACKETS OF DIFFERENT COLORS FOR MULTIPLE-CABLE INSTALLATION IN SAME TRENCH.
C. SPLICING MATERIALS: MANUFACTURER'S PACKAGED KIT CONSISTING OF INSULATING, SPRING-TYPE CONNECTOR OR CRIMPED JOINT AND EPOXY RESIN MOISTURE SEAL; SUITABLE FOR DIRECT BURIAL.
9. CONCRETE BASE: REINFORCED PRECAST CONCRETE NOT LESS THAN 36 BY 24 BY 4 INCHES THICK, AND 6 INCHES GREATER IN EACH DIRECTION THAN OVERALL DIMENSIONS OF CONTROLLER. INCLUDE OPENING FOR WIRING.
2.10 BOXES FOR AUTOMATIC CONTROL VALVES
A. PLASTIC BOXES:
1. DESCRIPTION: BOX AND COVER, WITH OPEN BOTTOM AND OPENINGS FOR PIPING; DESIGNED FOR INSTALLING FLUSH WITH GRADE.
A. SIZE: AS REQUIRED FOR VALVES AND SERVICE.
B. SHAPE: SQUARE.
C. SIDEWALL MATERIAL: ABS
D. COVER MATERIAL: ABS
2. LETTERING: "IRRIGATION"
B. DRAINAGE BACKFILL: CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 INCH MINIMUM TO 3 INCHES MAXIMUM.

PART 3 - EXECUTION
3.1 EARTHWORK
A. EXCAVATING, TRENCHING, AND BACKFILLING ARE SPECIFIED IN SECTION 31 20 00 "EARTH MOVING."
B. INSTALL WARNING TAPE DIRECTLY ABOVE PRESSURE PIPING, 12 INCHES BELOW FINISHED GRADES, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.
C. DRAIN POCKETS: EXCAVATE TO SIZES INDICATED. BACKFILL WITH CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 TO 3 INCHES TO [12 INCHES BELOW GRADE. COVER GRAVEL OR CRUSHED STONE WITH SHEET OF ASPHALT-SATURATED FELT AND BACKFILL REMAINDER WITH EXCAVATED MATERIAL.
D. PROVIDE MINIMUM COVER OVER TOP OF UNDERGROUND PIPING ACCORDING TO THE FOLLOWING:
1. IRRIGATION MAIN PIPING: MINIMUM DEPTH OF 48 INCHES BELOW FINISHED GRADE, OR NOT LESS THAN 18 INCHES BELOW AVERAGE LOCAL FROST DEPTH, WHICHEVER IS DEEPER.
2. CIRCUIT PIPING: 12 INCHES
3. DRAIN PIPING: 12 INCHES
4. SLEEVES: 24 INCHES
3.2 INSTALLATION OF PIPING
A. LOCATION AND ARRANGEMENT: DRAWINGS INDICATE LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS ARE APPROVED ON COORDINATION DRAWINGS.
B. INSTALL PIPING AT MINIMUM UNIFORM SLOPE OF 0.5 PERCENT DOWN TOWARD DRAIN VALVES.
C. INSTALL PIPING FREE OF SAGS AND BENDS.
D. INSTALL GROUPS OF PIPES PARALLEL TO EACH OTHER, SPACED TO PERMIT VALVE SERVICING.
E. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
F. INSTALL UNIONS ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2 OR SMALLER PIPE CONNECTION.
G. INSTALL FLANGES ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2-1/2 OR LARGER PIPE CONNECTION.
H. INSTALL UNDERGROUND THERMOPLASTIC PIPING IN ACCORDANCE WITH ASTM D2774.
I. INSTALL EXPANSION LOOPS IN CONTROL-VALVE BOXES FOR PLASTIC PIPING.
J. LAY PIPING ON SOLID SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS OR DEPRESSIONS.
K. INSTALL DUCTILE-IRON PIPING IN ACCORDANCE WITH AWWA C600.
L. INSTALL PVC PIPING IN DRY WEATHER WHEN TEMPERATURE IS ABOVE 40 DEG F. ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURES ABOVE 40 DEG F BEFORE TESTING.
3.3 JOINT CONSTRUCTION
A. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.
B. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.
C. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS IN ACCORDANCE WITH ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:
1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.
D. FLANGED JOINTS: SELECT RUBBER GASKET MATERIAL OF SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS.
E. DUCTILE-IRON PIPING GASKETED JOINTS: COMPLY WITH AWWA C600 AND AWWA M41.
F. COPPER-TUBING BRAZED JOINTS: CONSTRUCT JOINTS IN ACCORDANCE WITH CDA'S "COPPER TUBE HANDBOOK," USING COPPER-PHOSPHORUS BRAZING FILLER METAL.
G. COPPER-TUBING SOLDERED JOINTS: APPLY ASTM B813 WATER-FLUSHABLE FLUX TO TUBE END UNLESS OTHERWISE INDICATED. CONSTRUCT JOINTS IN ACCORDANCE WITH ASTM B828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY (0.20 PERCENT MAXIMUM LEAD CONTENT) COMPLYING WITH ASTM B32.
H. PE PIPING FASTENER JOINTS: JOIN WITH INSERT FITTINGS AND BANDS OR FASTENERS IN ACCORDANCE WITH PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
I. PVC PIPING SOLVENT-CEMENTED JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS IN ACCORDANCE WITH THE FOLLOWING:
1. COMPLY WITH ASTM F402 FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS.
2. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER, ASTM D1785, PVC PIPE AND PVC SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2672. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2855.
3. PVC NONPRESSURE PIPING: JOIN IN ACCORDANCE WITH ASTM D2855.
3.4 INSTALLATION OF VALVES
A. UNDERGROUND CURB VALVES: INSTALL IN CURB-VALVE CASINGS WITH TOPS FLUSH WITH GRADE.
B. UNDERGROUND IRON GATE VALVES, RESILIENT SEAT: COMPLY WITH AWWA C600 AND AWWA M44. INSTALL IN VALVE CASING WITH TOP FLUSH WITH GRADE.
1. INSTALL VALVES AND PVC PIPE WITH RESTRAINED, GASKETED JOINTS.
C. ABOVEGROUND VALVES: INSTALL AS COMPONENTS OF CONNECTED PIPING SYSTEM.
D. THROTTLING VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
E. DRAIN VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
3.5 INSTALLATION OF SPRINKLERS
A. INSTALL SPRINKLERS AFTER HYDROSTATIC TEST IS COMPLETED.
B. INSTALL SPRINKLERS AT MANUFACTURER'S RECOMMENDED HEIGHTS.
C. LOCATE PART-CIRCLE SPRINKLERS TO MAINTAIN A MINIMUM DISTANCE OF 4 INCHES FROM WALLS AND 2 INCHES FROM OTHER BOUNDARIES UNLESS OTHERWISE INDICATED.
3.6 INSTALLATION OF AUTOMATIC IRRIGATION CONTROL SYSTEM
A. EQUIPMENT MOUNTING, INTERIOR: INSTALL CONTROLLERS ON INTERIOR WALL.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
B. EQUIPMENT MOUNTING, EXTERIOR: INSTALL EXTERIOR FREESTANDING CONTROLLERS ON PRECAST CONCRETE BASES.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
C. INSTALL CONTROL CABLE IN SAME TRENCH AS IRRIGATION PIPING AND AT LEAST 2 INCHES BELOW OR BESIDE PIPING. PROVIDE CONDUCTORS OF SIZE NOT SMALLER THAN RECOMMENDED BY CONTROLLER MANUFACTURER. INSTALL CABLE IN SEPARATE SLEEVE UNDER PAVED AREAS.
3.7 IDENTIFICATION
A. IDENTIFY SYSTEM COMPONENTS. COMPLY WITH REQUIREMENTS FOR IDENTIFICATION SPECIFIED IN SECTION 22 05 53 "IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT."
B. EQUIPMENT NAMEPLATES AND SIGNS: INSTALL ENGRAVED PLASTIC-LAMINATE EQUIPMENT NAMEPLATES AND SIGNS ON EACH AUTOMATIC CONTROLLER.
1. TEXT: IN ADDITION TO IDENTIFYING UNIT, DISTINGUISH BETWEEN MULTIPLE UNITS, INFORM OPERATOR OF OPERATIONAL REQUIREMENTS, INDICATE SAFETY AND EMERGENCY PRECAUTIONS, AND WARN OF HAZARDS AND IMPROPER OPERATIONS.
C. WARNING TAPES: ARRANGE FOR INSTALLATION OF CONTINUOUS, UNDERGROUND, DETECTABLE WARNING TAPES OVER UNDERGROUND PIPING DURING BACKFILLING OF TRENCHES. SEE SECTION 31 20 00 "EARTH MOVING" FOR WARNING TAPES.
3.8 FIELD QUALITY CONTROL
A. PERFORM TESTS AND INSPECTIONS.
B. TESTS AND INSPECTIONS:
1. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
2. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, OPERATE CONTROLLERS AND AUTOMATIC CONTROL VALVES TO CONFIRM PROPER SYSTEM OPERATION.
3. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
4. IRRIGATION SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
C. PREPARE TEST AND INSPECTION REPORTS.
3.9 ADJUSTING
A. ADJUST SETTINGS OF CONTROLLERS.
B. ADJUST AUTOMATIC CONTROL VALVES TO PROVIDE FLOW RATE AT RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT.
C. ADJUST SPRINKLERS AND DEVICES, EXCEPT THOSE INTENDED TO BE MOUNTED ABOVEGROUND, SO THEY WILL BE FLUSH WITH, OR NOT MORE THAN 1/2 INCH ABOVE, FINISH GRADE.
3.10 PIPING SCHEDULE
A. INSTALL COMPONENTS HAVING PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
B. PIPING IN CONTROL-VALVE BOXES AND ABOVEGROUND MAY BE JOINED WITH FLANGES OR UNIONS INSTEAD OF JOINTS INDICATED.
C. ABOVEGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. GALVANIZED-STEEL PIPE AND GALVANIZED-STEEL PIPE NIPPLES; GALVANIZED, GRAY-IRON THREADED FITTINGS; AND THREADED JOINTS.
B. TYPE M HARD COPPER TUBE, WROUGHT- OR CAST-COPPER FITTINGS, AND SOLDERED JOINTS.
C. SCHEDULE 80, PVC PIPE; SOCKET-TYPE PVC FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE; SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
D. UNDERGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. NPS 3 AND NPS 4 DUCTILE-IRON, PUSH-ON-JOINT PIPE; DUCTILE-IRON, PUSH-ON-JOINT FITTINGS AND GASKETS; AND GASKETED JOINTS.
B. TYPE L SOFT COPPER TUBE, WROUGHT-COPPER FITTINGS, AND BRAZED JOINTS.
C. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE; SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
E. SDR 21, PVC, PRESSURE-RATED PIPE; SCHEDULE 80, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
E. CIRCUIT PIPING:
1. NPS 2 AND SMALLER:
A. SIDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND FASTENER JOINTS.
B. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
C. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
2. NPS 2-1/2 TO NPS 4:
A. SIDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND BANDED OR FASTENER JOINTS.
B. DR 11, PE, CONTROLLED OD PIPE; PE SOCKET OR BUTT-FUSION FITTINGS; AND HEAT-FUSION JOINTS. NPS 3 PIPE AND FITTINGS IF NPS 2-1/2 PIPE AND FITTINGS ARE NOT AVAILABLE.
C. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
F. UNDERGROUND BRANCHES AND OFFSETS AT SPRINKLERS AND DEVICES: SCHEDULE 80, PVC PIPE; THREADED PVC FITTINGS; AND THREADED JOINTS.
1. OPTION: PLASTIC SWING-JOINT ASSEMBLIES, WITH OFFSETS FOR FLEXIBLE JOINTS, MANUFACTURED FOR THIS APPLICATION.
G. RISERS TO ABOVEGROUND SPRINKLERS AND SPECIALTIES:
1. TYPE M HARD COPPER TUBE, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
2. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
H. DRAIN PIPING SHALL BE [ONE OF] THE FOLLOWING:
1. SIDR 9, 11.5, OR 15; PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND BANDED OR FASTENER JOINTS.
2. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3. SDR 21, 26, OR 32.5; PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3.11 VALVE SCHEDULE
A. UNDERGROUND, SHUTOFF-DUTY VALVES: USE THE FOLLOWING:
1. NPS 2 AND SMALLER: CURB VALVE, CURB-VALVE CASING, AND SHUTOFF ROD.
2. NPS 3 AND LARGER: IRON GATE VALVE, RESILIENT SEATED; IRON GATE VALVE CASING; AND OPERATING WRENCH(ES).
B. ABOVEGROUND, SHUTOFF-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.
2. NPS 2-1/2 AND LARGER:
A. IRON BALL VALVE.
B. IRON GATE VALVE, NRS.
C. THROTTLING-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. PLASTIC AUTOMATIC CONTROL VALVE.
B. BRASS BALL VALVE.
2. NPS 2-1/2 AND NPS 3:
3. PLASTIC AUTOMATIC CONTROL VALVE.
4. IRON BALL VALVE.
D. DRAIN VALVES:
1. NPS 1/2 AND NPS 3/4:
A. AUTOMATIC DRAIN VALVE.
B. BRASS BALL VALVE.
C. BRONZE GATE VALVE.
2. NPS 1 TO NPS 2:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.

END OF SECTION 32 84 00

OWNER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSTRUCTION MANAGER
TITLE 1
TITLE 2
STREET
CITY, STATE ZIP
P. ( ) F. ( )

CONSULTANTS:
CIVIL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

LANDSCAPE
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

STRUCTURAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

MECHANICAL/PLUMBING
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

ELECTRICAL
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

OTHER
NAME
STREET
CITY, STATE, ZIP
TELEPHONE

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SEAL:
LICENSED LANDSCAPE ARCHITECT
JONATHAN R. HALLE
110
STATE OF NEW HAMPSHIRE

PROJECT TITLE / ADDRESS:
LOFTS II
5, 7, 9, 11, 13 STICKNEY AVE.
CONCORD NH, 03301

PLAN KEY:

SCALE: AS NOTED
DWN BY: Author
PROJECT #: 1234
CHK BY: Checker
PRINT DATE: 4/11/2025 10:48:34 AM

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SCHEMATIC DESIGN

REV.	DATE	COMMENTS

IRRIGATION SPECIFICATIONS

LA109

SHEET NUMBER: 9 OF 9 LANDSCAPE

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eight inch = one foot
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TEMPLATE DATE: 11/25/2019