

1 PLANTING NOTES

- Prior to the start of any excavation for the project both on and off the site, the contractor shall notify the utility notification center of Colorado at: 1-800-552-1887 and verify that all existing utilities have been located and marked.
- Contractor(s) shall thoroughly familiarize themselves with all construction documents, specifications, and site conditions prior to bidding and prior to construction. Any discrepancies between drawings, specifications, and site conditions shall be reported immediately to the Landscape Designer for clarification and resolution prior to bidding or construction.
- All trees to be located outside of the water and sewer utility easements.
- All dimensions are taken to face of building except where otherwise noted.
- For layout and dimensioning of lots, see engineering drawings.
- Scattered mags show existing conditions. Where existing conditions lie under or are impinged upon by proposed buildings and/or site elements, the existing conditions will be removed, abandoned and/or demolished as required.
- Contractor shall begin maintenance immediately after planting and will continue until final acceptance. The landscape contractor shall guarantee all plant materials for one (1) full year from date of acceptance.
- The landscape contractor shall supply all plant materials in quantities sufficient to complete all plantings shown on this drawing. All plant materials are subject to the approval of the Landscape Designer, at the nursery, and at the site.
- All plant materials shall conform to the guidelines established by the American Association of Nurserymen. All plants to be balled in burlap or containerized, and shall bear the same relationship to finish grade as to original grades before digging.
- Match for planted areas to be aged and/or bark partially decomposed, dark bark in color and free of wood chips thicker than 1/4 inch. Stone mulch for planted areas to be a mixture of native stone, pea gravel, and other varied sizes of indigenous material to be placed in such a way to be random and visually (natural) in appearance.
- Planting soil mix: excavated soil to be thoroughly incorporated with black gold soil conditioner (or equivalent) to be added per manufacturer's recommended rates.
- All areas of the site which have been disturbed and not otherwise developed shall be loamed and seeded with a minimum depth of 6" depth topsoil.
- All plant materials to be under an automatic drip irrigation system to be installed.

2 PLANTING SPECIFICATIONS - GENERAL

SOIL PREPARATION AND PLANTING

PREPARATION - GENERAL

- Lay out individual tree and shrub locations and the areas for multiple plantings. Stake tree locations and outline planting areas before start of planting work. Make minor adjustments as may be required. Landscape Designer or Owners Representative approval required before installation.

PREPARATION OF PLANTING SOIL

- Topsoil (Stockpiled): Clean topsoil of roots, plants, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth.
- Mix Black Gold Soil Conditioner (or approved substitute soil amendments) and fertilizer with topsoil as required based on existing soil conditions. Preparation of the planting soil shall not occur if planting will not follow within a few days. Stockpile covered on-site.
- Plant and Trench Backfill: Mix planting soil prior to backfilling, and stockpile at site.
- Planting Beds: Mix planting soil either prior to planting, or apply on surface of topsoil and mix thoroughly before planting.

PREPARATION OF PLANTING BEDS

- Spread planting soil mixture to minimum depth required to meet lines, grades, and elevations shown, after light rolling and natural settlement. Place approximately 1/2 of total amount of planting soil required. Work into top of loosened sub-grade to create a transition layer, then place remainder of the planting soil.
- Remove 8 inches to 10 inches of soil and replace with prepared planting soil mixture. Backfill for each bed with three parts topsoil and one part Black Gold Soil Conditioner (or approved substitute) thoroughly mixed prior to placing.

EXCAVATION FOR TREES AND SHRUBS

- Excavate pits, beds, and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage. Loosen hard sub-soil in bottom of excavation.
A. For ball and burlap (B&B) trees, make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus following allowance for setting of ball on a layer of compacted backfill.
B. Allow for 3 inch thick setting layer of planting soil mixture.
C. For container grown stock, excavate as specified for ball and burlap stock, adjusted to size of container width and depth.
- Dispose of subsoil removed from planting excavations. Do not mix with planting soil or use as backfill.
- Fill excavations for trees and shrubs with water and allow water to percolate out prior to planting.
- Backfill pits with three parts topsoil and one part Black Gold Soil Conditioner (or approved substitute) thoroughly mixed prior to placing.
- Place Agriform Tree Fertilizer Tablets (or approved substitute) in planting pit prior to back filling at the following rate: three per each tree, one per each shrub.

PLANTING TREES AND SHRUBS

- Set ball and burlap (B&B) stock on layer of compacted planting soil mixture, plumb and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades. Remove burlap from sides of balls, retain on bottoms. When set, place additional back fill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
- Set container grown stock, as specified, for balled burlap stock, except cut cans on 2 sides with an approved can cutter an from plant ball so as not to damage root balls.
- On top of backfill to allow for mulching.
- Apply anti-desiccant, using power spray, to provide an adequate film over trunks, branches, stems, twigs and foliage.
A. If deciduous trees or shrubs are moved when in full-leaf, spray with anti-desiccant at nursery before moving and spray again 2 weeks after planting.
- Remove and replace excessively pruned or disfigured stock resulting from improper pruning.
- Wrap tree trunks of 2 inches caliper and larger, start at ground level and height of first branches and securely attach. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures before wrapping.
- Guy and stake trees immediately after planting, as indicated.

3 SAMPLE PLANT LIST

DECIDUOUS & EVERGREEN TREES				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
ASP	00	Quaking Aspen	Populus tremuloides	1.5" - 3.0" cal
NAR	00	Northern Acclaim Honeycusc	Gleditsia triacanthos var. Northern Acclaim	2.0" - 2.5" cal
RSC	00	Red Barren Crab Apple	Malus 'Red Baron'	2.0" - 2.5" cal
SSC	00	Spring Snow Crab Apple	Malus 'Spring Snow'	2.0" - 2.5" cal
SPR	00	Colorado Spruce	Picea pungens	6" H.

EVERGREEN SHRUBS				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
GLB	00	Globe Spruce	Picea pungens 'Glauc Globosa'	#7 Pot
MUG	00	Mugo Pine	Pinus mugo 'Stemum'	#7 Pot
BCJ	00	Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	#5 Pot
BUJ	00	Buffalo Juniper	Juniperus sabinia 'Buffalo'	#5 Pot
EFJ	00	Elfin Juniper	Juniperus communis 'Elfin'	#5 Pot

DECIDUOUS SHRUBS				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
SER	00	Saskatoon Serviceberry	Amenelchier alnifolia	#7 Pot
RAB	00	Rabbitbrush	Chrysothamnus spp.	#5 Pot
RTD	00	Redtwig Dogwood	Cornus stolonifera	#5 Pot
YPT	00	Yellow Potentilla	Potentilla fruticosa	#5 Pot
PPT	00	Pink Potentilla	Potentilla fruticosa 'pink beauty'	#5 Pot
ARH	00	Arnica Red Honey Suckle	Lonicera involucrata 'Arnica Red'	#7 Pot
CUR	00	Curel Currant	Ribes cereum	#5 Pot
ROD	00	Native Pink Shrub Rose	Rosa woodii	#5 Pot
LIL	00	Common Lilac	Syringa vulgaris	#7 Pot

PERENNIALS				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
YAR	00	White Yarrow	Achillea millefolium	#1 Pot
COL	00	Rocky Mountain Columbine	Aquilegia canadensis	#1 Pot
SLM	00	Silver Mound	Anemone spp.	#1 Pot
AST	00	Show Daisy	Aster alpinus 'goldfish'	#1 Pot
COR	00	Lance-leaf Coreopsis	Coreopsis lanceolata	#1 Pot
DA	00	Giant Pink Dianthus	Dianthus spp.	#1 Pot
ECP	00	Purple Coneflower	Echinacea purpurea	#1 Pot
ECW	00	White Coneflower	Echinacea purpurea 'white swan'	#1 Pot
ERD	00	Show Daisy	Erigeron speciosus	#1 Pot
NBF	00	Native Black-eyed Flower	Gallardia aristata	#1 Pot
GER	00	Cranesbill Geranium	Geranium spp.	#1 Pot
GL	00	Scarlet Gills	Isomopsis aggregata	#1 Pot
WBF	00	Western Blue Flag	Iris missouriensis	#1 Pot
LUP	00	Blue Lupine	Lupinus 'the governor'	#1 Pot
MON	00	Red Bee-Balm	Monarda 'scarlet red'	#1 Pot
POP	00	Oriental Poppy	Papaver orientale	#1 Pot
BPJ	00	Beard's Penstemon	Penstemon barbatus	#1 Pot
CPN	00	Cardinal Penstemon	Penstemon cardinalis	#1 Pot
RPN	00	Rocky Mountain Penstemon	Penstemon strictus	#1 Pot
RUD	00	Black-eyed Susan	Rudbeckia hirta 'goldstun'	#1 Pot
SHG	00	Show Goldeneye	Vigilans multiflora	#1 Pot

ORNAMENTAL GRASSES				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
FOX	00	Foxtail	Alopecurus pratensis	#1 Pot
FTG	00	Fountain Grass	Pennisetum alopecuroides	#5 Pot
PGG	00	Purple-leaf Fountain Grass	Pennisetum setaceum rubrum	#5 Pot

GROUNDCOVERS				
LABEL	QUANTITY	COMMON NAME	SCIENTIFIC NAME	SIZE
ICP	00	Ice Plant	Lamproanthus speciosus	Flat - F15
MAH	00	Creeeping Mahonia	Mahonia repens	Flat - F15
BCP	00	Blue Creeeping Phlox	Phlox subulata 'emerald blue'	Flat - F15
SAP	00	Rock Soapwort	Saponaria oymoides	Flat - F15
GMS	00	Goldmoss Stonecrop	Sedum acre evergreen	Flat - F15
SED	00	Dragon's Blood Sedum	Sedum spatum 'Dragon's Blood'	Flat - F15
SEM	00	Her's-and-Chick's	Semperivium spp.	Flat - F15

4 SITE PLAN LEGEND

PROPERTY BOUNDARY	PROPOSED EDGE OF CONCRETE DECK
ADJACENT PROPERTY BOUNDARY	PROPOSED BUILDING OVERHANG
EXISTING EASEMENT	PROPOSED POND
EXISTING SETBACK	SEWALK/BOARDWALK
EXISTING EDGE OF ASPHALT	PERIMETER DRAIN
PROPOSED EDGE OF ASPHALT	WALL
EXISTING 2 FT CONTOUR	VEGETATION OUTLINE
EXISTING 10 FT CONTOUR	ASPHALT
PROPOSED 2 FT CONTOUR	CONCRETE
PROPOSED 10 FT CONTOUR	GRAVEL
EXISTING EDGE OF GRAVEL	ROCK/RIP RAP
CENTER LINE OF DITCH	
EXISTING FENCE	

5 PLANT LEGEND

	Sod, and/or Native Grasses (as labeled)
	Proposed Quaking Aspen (05 Total)
	Populus tremuloides
	2.50" minimum caliper (Clumps and Single Stem)
	Proposed Evergreen shrubs (04 Total)
	Juniperus, Picea, Pinus spp.
	Size: #5 Container Minimum
	Proposed Deciduous shrubs (08 Total)
	Prunus, Cornus, Rosa, etc.
	Size: #5 Container Minimum
	Proposed Ornamental Trees (04 Total)
	Flowering Chisapple-Malus hybrids
	Size: 2.50" Minimum Caliper
	Stone Aggregate on Wood Fabric
	Proposed Evergreen Trees (11 Total)
	Picea pungens, Pinus ponderosa, etc.
	Heights Vary (See Worksheet)
	Native and Ornamental Perennials (323 Total)
	Size: #1 Container Minimum
	Existing Aspen Trees to Remain
	Existing Evergreen Trees to Remain

6 UTILITIES LEGEND

	EXISTING WATER LINE
	EX CURB STOP, GATE VALVE, FIRE HYDRANT
	PROPOSED WATER SERVICE LINE
	PR CURB STOP, GATE VALVE, FIRE HYDRANT
	THRUST BLOCK
	EXISTING SEWER LINE
	EXISTING MANHOLE AND CLEANOUTS
	PROPOSED SEWER LINE
	PROPOSED MANHOLE AND CLEANOUTS
	EXISTING ELECTRICAL
	EXISTING TELEPHONE
	UTILITY PEDESTALS
	POWER POLE
	GAS
	STORM INLET
	PR CULVERT W/ FLARED END SECTIONS
	EX CULVERT W/ FLARED END SECTIONS

7 GRASS SEED MIXTURES

TRADE OR INDUSTRY NAME:	SEED COMMON NAME	PERCENT OF MIX	Broadcast Seeding Rate:
TRANSITION TURF MIX	Smooth Brome, VNS	40%	1-2 lbs. per 1,000 SF
	Perennial Ryegrass, VNS	25%	
	Tall Fescue, Turf Type, VNS	25%	
	Canada Bluegrass, VNS	10%	
LOW GROW HIGH ALTITUDE	Crested Wheatgrass, Ephraim	30%	Broadcast Seeding Rate: 30-35 lbs. per Acre
	Perennial Ryegrass, VNS	25%	
	Sheep Fescue, VNS	15%	
	Chewing Fescue, Shadow II	15%	
	Upland Bluegrass, Drayler	15%	
MOUNTAIN MEADOW MIX	Winter Rye (cereal grain)	20%	Broadcast Seeding Rate: 40-60 lbs. per Acre
	Forage Perennial Ryegrass, VNS	20%	
	Mountain Brome, Brome	20%	
	Timothy, Climax	15%	
	Forage Kentucky Bluegrass, VNS	14%	
	Orchardgrass, Potomac	10%	
	Alaska Clover	01%	
ALL-BLUE KENTUCKY BLUEGRASS	Kentucky Bluegrass, Jackpot	20%	Broadcast Seeding Rate: 3-5 lbs. per 1,000 SF
	Kentucky Bluegrass, Milano	20%	
	Kentucky Bluegrass, Blue Devil	20%	
	Kentucky Bluegrass, Mercury	20%	
	Kentucky Bluegrass, Rockstar	20%	

NOTE:

Application rates per manufacturers specifications. Accepted methods of application include: Broadcast with Penn Mulch, and hydroseeding.

8 IRRIGATION NOTES

- All plant material shown will be controlled by an automatic irrigation system to be designed. The irrigation system shall be designed using common industry practices and principals. The system shall be installed in such a manner as to maintain efficiency and performance. The existing conditions of the site will determine the ultimate design and layout of the irrigation system.
- At the request of the owner, an as-built plan will be required for submission at the conclusion of the project. All field changes will be recorded, and updated as necessary.
- Valve box locations are not to be installed in sod areas whenever possible. Take advantage of planting beds, and native turf areas outside the fence for potential valve box locations.
- Provide mainline isolation wherever possible through the use of schedule 40 pvc ball valves (to be sized as necessary).
- Multiple Points-of-Connection to be provided for providing irrigation water for the system. Locations have not been determined at this time. Locations to be designated prior to construction. Site plumber to provide 1-1/2" copper (minimum) extending 12" from the foundation wall, a minimum of 10" below grade. A fitting should be provided for conversion to PVC. When not located in building mechanical rooms, remote locations may be provided.
- Controller locations have not been determined at this time. A 110v dedicated circuit will be required as a power source for the controllers. Locations to be specified prior to installation. Mounting and connection of 110v power to controller will be required.

9 IRRIGATION SPECIFICATIONS - GENERAL

IRRIGATION SYSTEM DESIGN GUIDELINES

- All irrigation systems shall be designed to avoid runoff onto hardscape from low head drainage, overspray and other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways or structures.
- The irrigation system shall be automatic, constructed to discourage vandalism and simple to maintain.
- All equipment shall be of proven design with local service available.
- Control valves should be rated at 200 PSI.
- Visible sprinklers adjacent to hardscape shall be of pop-up design.
- All heads should have a minimum number of watering pieces with an extended life cycle.
- Lawn and shrub spray heads shall be set back from hardscape a minimum of 18 inches. Rotor type heads shall be set back a minimum of 4 feet from hardscape.
- Design sprayhead and rotor head stations with consideration for worst wind conditions. Close spacing and low-angle nozzles are required in high and frequent wind areas.
- Spacing of sprinkler heads shall not exceed manufacturer's maximum recommendations for proper coverage.
- Only irrigation heads with matched precipitation rates shall be used on the same valve.
- Valve cascading shall be designed to be consistent with hydrozones.
- Sprinklers, drippers, valves, etc., must be operated within manufacturer's specifications.
- The use of drip or press-compensating bubblers is encouraged for all shrubs and trees. Small, narrow and irregularly shaped or sloping areas shall be irrigated with drip, micro-spray or pressure-compensating bubbler heads.
- Trees in turf areas shall be on a separate station to provide proper deep watering.

DRIP IRRIGATION DESIGN GUIDELINES

- The drip system must be sized for mature-size plants.
- All drip valves may be operated at any one time during an irrigation cycle provided gpm does not exceed supply.
- Distribution tubing (microtubing) shall be buried no more than 6 inches below grade. The end of 1/2 distribution tube must be secured by a stake. The maximum length of microtubing must be specified on the plan to be 10 feet or less.
- All proposed drip emitters shall match the gallons per day per plant according to plant size and plant type.

SPECIFICATIONS FOR IRRIGATION EFFICIENCY

Irrigation efficiencies are expected from well-designed and maintained systems. The following are required:

- High flow check valves shall be installed in or under all heads where damage could occur to property due to flooding, unless controllers with flow sensor capabilities are specified that can automatically shut off individual control valves when excess flow is detected.
- Pressure compensating screens/devices shall be specified on all spray heads to reduce radius as needed to prevent overthow onto hardscape and/or to control high pressure misting.
- Soil moisture sensing systems for turf grass hydrozones shall be used. The moisture sensing system shall provide at least one sensor location in the turf grass.
- Controller systems with the capabilities of automatically making daily schedule adjustments according to plant water needs, derived from weather sensing and recording equipment on or near the site are recommended and may be substituted for a moisture sensing system.
- If a soil moisture sensing system is not used and the controller cannot automatically make daily schedule adjustments from local data, then provide an irrigation schedule for all each of the following conditions:
 - Plant establishment period.
 - Established landscaping.
 - Temporarily irrigated areas.
- Schedules shall include: irrigation run times per cycle, cycles per day, and days per week (month) for each plant hydrozone and application rate. Irrigating shall be scheduled for the cooler time of each day to avoid irrigating during periods of strong winds and high temperatures, with high evaporation loss.
- Electronic multi-program controllers shall be specified where there is a combination of different hydrozones or when using different types of irrigation equipment.

