

LANDSCAPE SPECIFICATIONS

TREES, SHRUBS, AND PERENNIALS

1. REFERENCES
- A. Mn/DOT - Minnesota Department of Transportation, Standard Specifications for Construction, 2016 Edition.
 - B. American Standard for Nursery Stock, ANSI Z60.1-2014.
2. QUALITY ASSURANCE
- A. Work shall be performed by a landscape contractor with extensive horticulture knowledge, and a min. of 3 years experience.
 - B. Handle plants in such a way as to protect from damage either physical or by exposure to sun and wind. Mishandled plants are subject to rejection by Landscape Architect.
 - C. Plants used on this project shall meet the grading standards recommended by the ANSI Z60.1-2014.
3. PRODUCTS
- A. Plants: Provide as specified on Plant Schedule.
 - B. Edging: Ryerson steel edging 3/16" x 5" w/ 18" stakes, or equal.
 - C. Mulch: Shredded hardwood mulch.
 - D. Water: Contractor to provide.
 - E. Planting Soil: rich friable, sandy loam, free of debris and seeds, and conforming to Mn/DOT 3877.2.
 - F. Compost: Mn/DOT 3890.2, Grade 2.
 - G. Tree Wrap: Two-ply weather resistant paper product.

4. PLANTING DATES: Spring Planting: Apr. 1 - June 15. These dates may be extended if daytime temps. remain below 80 degrees. Fall: Sept. 30 - Oct. 30th. Daytime temps. need to drop below 80 degrees before planting begins, and may continue until freeze up. Coniferous trees Aug. 15 - Oct. 1st. Plant under favorable weather conditions, do not plant during days of extreme heat.

5. EXECUTION

- A. Plant into prepared planting beds.
- B. Prior to digging, Contractor to have utilities located.
- C. Contractor to notify Landscape Architect 3 days in advance of when planting work will occur.
- D. Install trees, shrubs, and perennials per planting details, adjust location if in conflict with utilities. Verify new location with Landscape Architect prior to planting.
- E. Separate all shrub beds from sod areas with edger.
- F. Clean-up entire site following planting operations.

6. ACCEPTANCE OF PLANTING WORK

- A. Contractor to notify Owner when planting work is complete for review and punch list.
- B. Contractor to water and maintain the trees, shrubs and perennials until Owner Acceptance.
- C. Owner will give Acceptance of Work, following satisfactory correction of punch list items.
- D. Watering and regular landscape maintenance of trees, shrubs and perennials will be Owners responsibility following owner acceptance of work.

7. GUARANTEE PERIOD

- A. Contractor to warranty trees, shrubs and perennials for **two years** following acceptance of Work by Owner.
- B. Contractor to maintain the trees in a plumb position throughout the guarantee period.
- C. Contractor to remove all staking/wiring/ straps from trees at the end of the guarantee period.
- D. Replacements: At the end of the guarantee period, all plants which are unhealthy, dead, not having a normal density, size, shape or color shall be replaced. Replacements shall match caliper and/or height of the other plants at time of replacement. Selection of replacement material and installation practices shall follow the requirements of the Drawings and Specifications.

SODDING

1. AREAS TO SOD
- A. Sod lawn areas disturbed by construction and as noted on plan.
2. REFERENCES
- A. Mn/DOT - Minnesota Department of Transportation, Standard Specifications for Construction, 2016 Edition.
3. PRODUCTS
- A. Sod: provide strongly rooted sod, machine cut to pad thickness of 1", excluding top growth and thatch. Sod to be at least 2 years old, free of weeds, disease, or other material which might be detrimental to the development of the sod. Sod to be moist when cut and maintained in moist condition during transportation and storage at the site. Do not use sod that shows signs of visible heating on this project.
 - B. Water: Contractor to provide.
 - C. Topsoil: provide rich friable, sandy loam, free of debris and seeds, and conforming to Mn/DOT 3877-1.
4. SOIL PREPARATION: Verify all sod areas have a minimum of 6" of topsoil. Remove rocks and other debris over 1" in diameter, smooth soil to ensure an even grade.

5. EXECUTION

- A. Install sod during favorable weather, do not sod if ground is frozen or sod is dormant.
- B. Lay sod with tightly fitting joints, no overlapping joints, and stagger rows to offset joints. Anchor sod on slopes to prevent slippage.
- C. Thoroughly water sod immediately after installing. Continue watering at frequency necessary to initiate rooting, and until the work is accepted by Owner.
- D. Clean up and remove all debris resulting from sodding activity and dispose of properly. Restore all areas disturbed by sodding operation to their original condition.

6. ACCEPTANCE OF SOD WORK

- A. Contractor to notify Owner when sod work is complete for review and punch list.
- B. Owner to accept work following satisfactory correction of punch list items.
- C. Contractor will maintain all turf areas in a healthy, growing condition by watering, mowing, and any other maintenance necessary to establish the lawn, for a minimum of 30 days from time of acceptance.
- D. Any sod that does not show definite growth and establishment during the 30 days from time of acceptance, shall be replaced and established at the proper season by the Contractor at Contractor's expense.

7.

IRRIGATION

- A. DESCRIPTION
- Design, furnish, and install complete, fully automatic and programmable irrigation system, capable of alternate date watering for all landscape areas. The system shall be capable of achieving one inch of precipitation per week under an alternate day watering regime. The system shall provide full coverage with uniform levels of total precipitation throughout all irrigated areas.
 - B. The system is to meet state department of health standards and have a backflow preventer.
 - C. Provide a separate, municipally monitored water meter for the landscape irrigation system.
2. QUALITY ASSURANCE
- A. The system shall be designed and installed by an irrigation contractor with a minimum of 3 years experience designing and installing systems of similar scope and size.
 - B. The designer shall provide balanced pressure and flow and optimum operating efficiency.

QUALITY ASSURANCE - continued

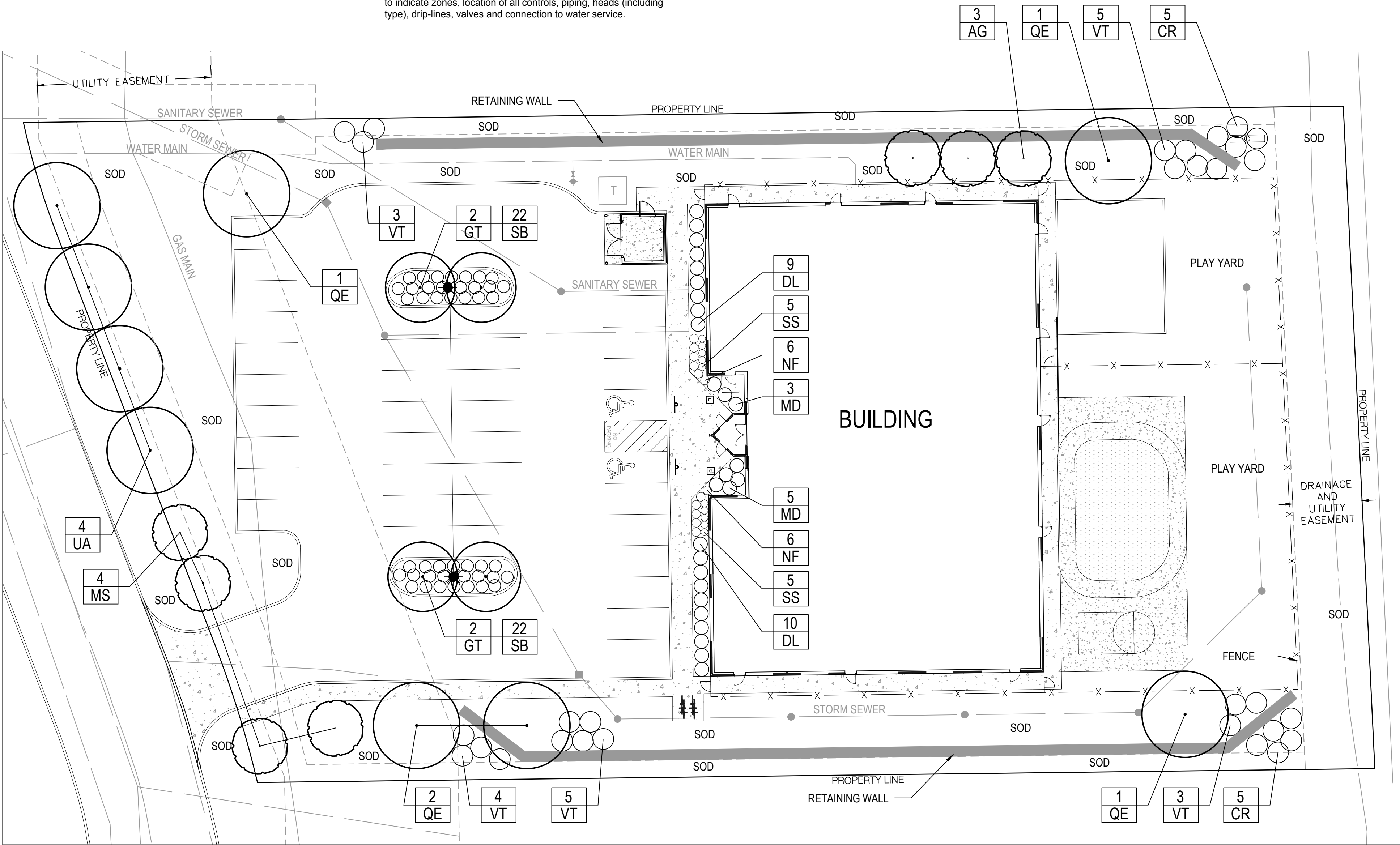
- C. Materials, equipment, and methods of design and installation shall comply with, but not be limited to, the following codes and standards:
- All local and state laws and ordinances, and with all the established codes applicable thereto.
 - National Electrical Code.
 - American Society for Testing and Materials (ASTM).
 - National Sanitation Foundation (NSF).
 - The best management practices developed by the Irrigation Association.
3. SUBMITTALS
- A. References: submit client/owner contact information for a minimum of 3 similar projects.
 - B. Shop Drawings: submit irrigation plan for review and acceptance.
 - C. Manual: provide operation and maintenance manual of irrigation system.
 - D. As-Built: provide 11"x17" irrigation map either in protective sleeve or laminated, to mount on wall with the main control panel. Map needs to indicate zones, location of all controls, piping, heads (including type), drip-lines, valves and connection to water service.

4. PRODUCTS

- A. Select products suitable to the landscape areas, such as using dripline in the beds next to the building.
 - B. All products and materials used in the system shall be new and professional grade.
 - C. Provide sprinkler heads, driplines, electric valves, and automatic controller from one manufacturer: Toro, Rainbird, Hunter Industries, or equal.
5. EXECUTION
- A. Prior to digging, Contractor to have utilities located.
 - B. Provide uniform water coverage in all planting beds.
 - C. Install the irrigation system per contractor's plan and specifications.
 - D. Instructions: Contractor to instruct the Owner in proper operation and maintenance of the system.
 - E. Cleanup: Replace landscaping disturbed by operations. Cleanup all debris and restore site to original condition.

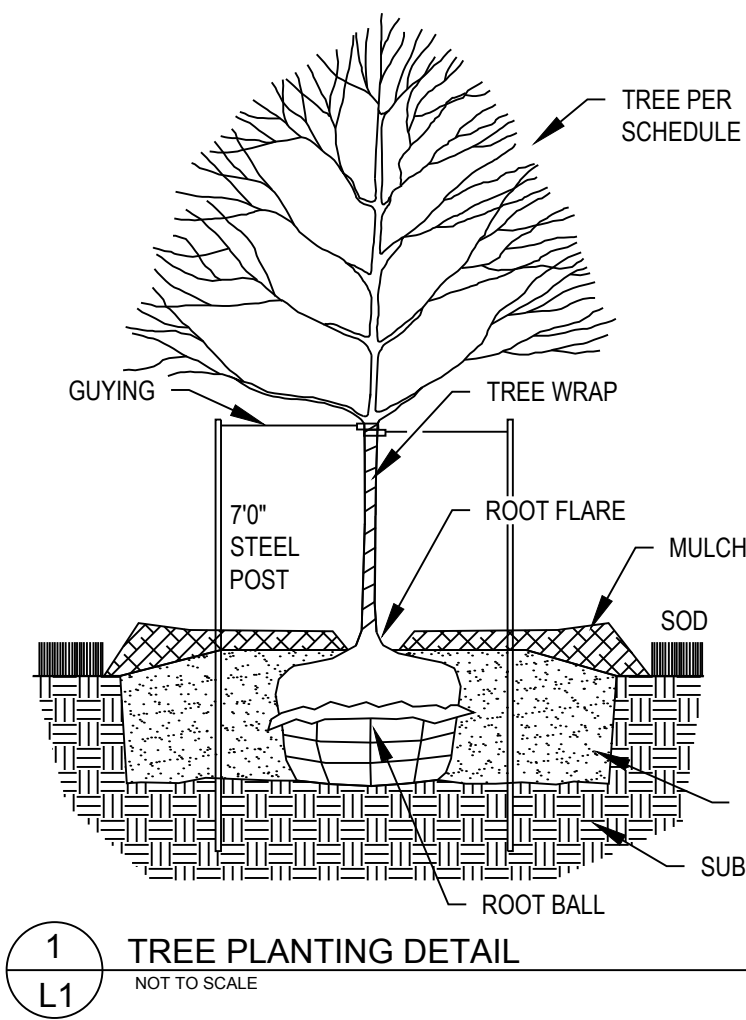
6. REVIEW AND ACCEPTANCE

- C. Notify Owner when irrigation work is complete, for review and punch list of any items needing correction to conform to the Landscape Drawings and Specifications.
 - D. Owner to accept work following satisfactory correction of punch list items, provided submittals, maintenance, and guarantee requirements are met.
7. MAINTENANCE
- A. Contractor to drain using the blow-out method the first fall, and put the system back into operation the following spring, at no additional cost to Owner.
8. GUARANTEE
- A. Warranty irrigation system materials and labor for one year following acceptance of work by Owner. Contractor to promptly furnish and install, at no cost to Owner, any parts that prove defective in material or workmanship.



1 LANDSCAPE PLAN

PLANTING DETAILS



NOTES:

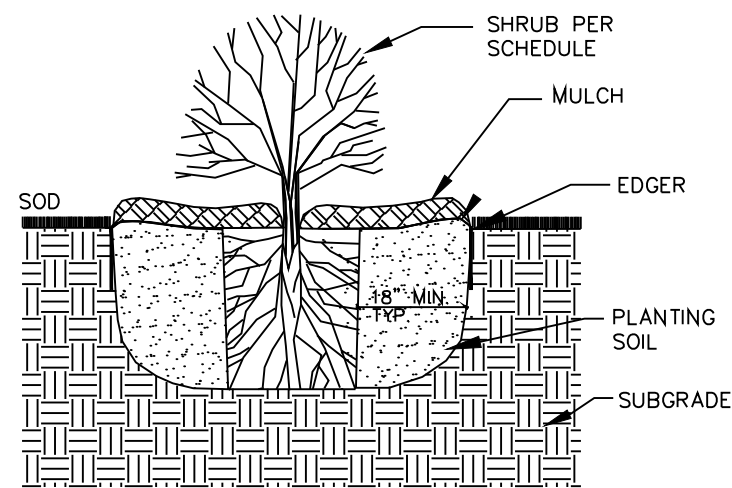
1. Remove dead or damaged branches. Retain the natural form of the tree. Do not cut the leader.
2. Width of planting holes: 18" min. larger than root ball, on all sides.
3. Depth of hole: root flare to sit at or up to 2" above the top of the finished soil elevation. Leave soil undisturbed beneath the root ball.
4. Scarify bottom and sides of hole prior to planting.
5. Set plant on undisturbed soil or thoroughly compacted planting soil.
6. Remove top 1/3 of the basket or the top two horizontal rings whichever is greater. Remove all burlap from top 1/3 of root ball. Remove all twine. Remove or correct stem girdling roots.
7. Silt remaining burlap at 6" intervals.
8. Plumb & backfill with planting soil. Thoroughly water in tree within 2 hours to settle plants and fill voids.
9. Backfill voids and water a second time.
10. Place 4" mulch within 48 hours of the second watering. No mulch to be in contact w/ trunk.
11. Contractor is responsible for maintaining trees in a plumb position throughout the guarantee period. Stake trees if site conditions, such as soil and wind, prevent the trees from staying plumb. Use 16" long, 1.5" wide straps, see specs. Attach to post with wire see specs. Install post 3' into ground. Remove within one year.
12. Wrap trunk in fall remove in spring.
13. Refer to specs. for products and other information.

2 PLANTING ON A SLOPE DETAIL

NOTES:

EXTEND EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.

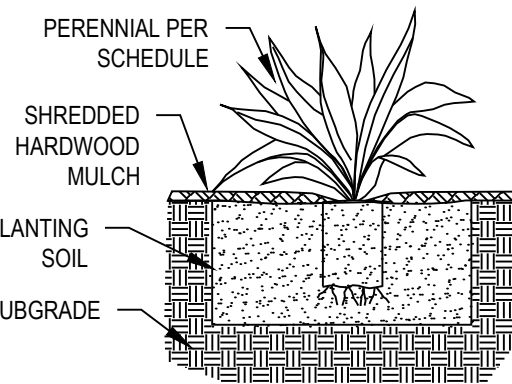
PLANT ACCORDING TO SHRUB AND TREE PLANTING DETAILS ON THIS SHEET.



3 SHRUB PLANTING DETAIL

NOTES:

1. Dig shrub hole 12" min. larger than container size, all sides.
2. Scarify bottom and sides of hole prior to planting.
3. Remove dead or damaged branches. Retain the natural form of the shrub.
4. Hand loosen roots of containerized material. score outside of soil mass to redirect circling fibrous roots.
5. Set shrub on undisturbed soil or on thoroughly compacted planting soil. Install plant so the top of the root flare is at or up to 2" above the finished grade.
6. Plumb and backfill with planting soil. Thoroughly water in shrub prior to placing mulch.
7. All beds receive 4" depth mulch.
8. Refer to specs. for products and other information.



NOTES:

1. Amend planting soil by working in 2" of compost.
2. Score bottom and sides of root ball.
3. Plant at same depth as in container.
4. Place 2" depth mulch over planting bed. Do not place any mulch on vegetation.
5. Thoroughly water in plants.
6. Refer to specs. for products and other information.

4 PERENNIAL PLANTING DETAIL

LANDSCAPE REQUIREMENTS

AREAS	QTY	UNIT
Site area	67,000	SF
Gross floor area	13,056	SF
Parking area	16,468	SF
Other impervious areas	7,294	SF
Total impervious other than building	23,762	SF
Landscape area	30,463	SF
LANDSCAPING REQUIREMENTS		REQUIRED ON THIS PLAN
Landscape area	15%	45%
Required landscape units for gross floor area	45	110
3 units of landscaping per 1000 sf of 10,000 sf gross floor area	30	
2 units of landscaping per 1000 sf of gross floor area over 10,000 and up to 50,000 sf (3,056)	6	
1 unit of landscaping per each 1500 sf of gross floor area	9	
Required landscape units for impervious area other than gross building area	6	6
1 shade tree per 4,000 sf of impervious area (23,762)	6	
LANDSCAPE DIVERSITY UNIT BREAKDOWN		QTY ON THIS PLAN
No more than 50% shrubs of required 51 units	26	101
No more than 25% ornamental trees of required 51 units	13	7
Shade trees min. needed for diversity breakdown	12	13
		REQUIRED ON THIS PLAN
TOTAL LANDSCAPE UNITS FOR BUILDING & PAVED AREAS	51	121

PLANT SCHEDULE

QTY	CODE	SCIENTIFIC NAME/Common Name	SIZE	ROOT	REMARKS
SHADE TREES					
4	GT	Gleditsia triacanthos 'Harve'	2" cal	BB	straight single leader
		Northern Acclaim honeylocust			
5	QE	Quercus ellipsoidalis	2" cal	BB	straight single leader,
		Northern pin oak			space 25' o.c.
4	UA	Ulmus americana 'Valley Forge'	2" cal.	BB	straight single leader
		Valley Forge elm			space 25' o.c.
ORNAMENTAL TREE					
3	AG	Amelanchier x grandiflora 'Autumn Brill.'	6' ht	BB	clump form
		Autumn Brilliance serviceberry			space 15' o.c.
4	MS	Malus 'Sutyzam'	1.75" cal	BB	straight single leader,
		Sugar Tyme crabapple			space 15' o.c.
DECIDUOUS SHRUBS					
10	CR	Cornus racemosa	#5	cont.	space 6' o.c.
		Grey dogwood			
19	DL	Diervilla lonicera	#5	cont.	space 4' o.c.
		Dwarf bush honeysuckle			
44	SB	Spirea x bumalda 'Goldflame'	#5	cont.	space 4' o.c.
		Goldflame spirea			
20	VT	Viburnum trilobum 'J.N. Select'	#5	cont.	space 6' o.c.
		Redwing viburnum			
EVERGREEN SHRUBS					
8	MD	Microbiota decussata	#5	cont.	space 4' o.c.
		Russian cypress			
PERENNIALS					
12	NF	Nepeta x faassenii 'Walker's Low'	#1	cont.	space 2.5' o.c.
		Walker's Low catmint			
10	SM	Schizachyrium scoparium 'Minnblue A'	#1	cont.	space 2' o.c.
		Blue Heaven little blue stem			

I hereby certify that this plan, specification, or report, was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.
Name: Carmen Simonet

License # 24236

Signature: *Carmen Simonet*
Date: 1.25.2018

Drawing Date:
1.25.2018

Drawing History/Revisions:

Project Architect:

A. PETER HILGER, AIA

Drawn By:

CMS

Checked By:

CMS

Sheet Title:

LANDSCAPE PLAN

Sheet No.:

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