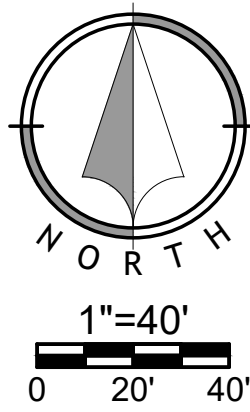
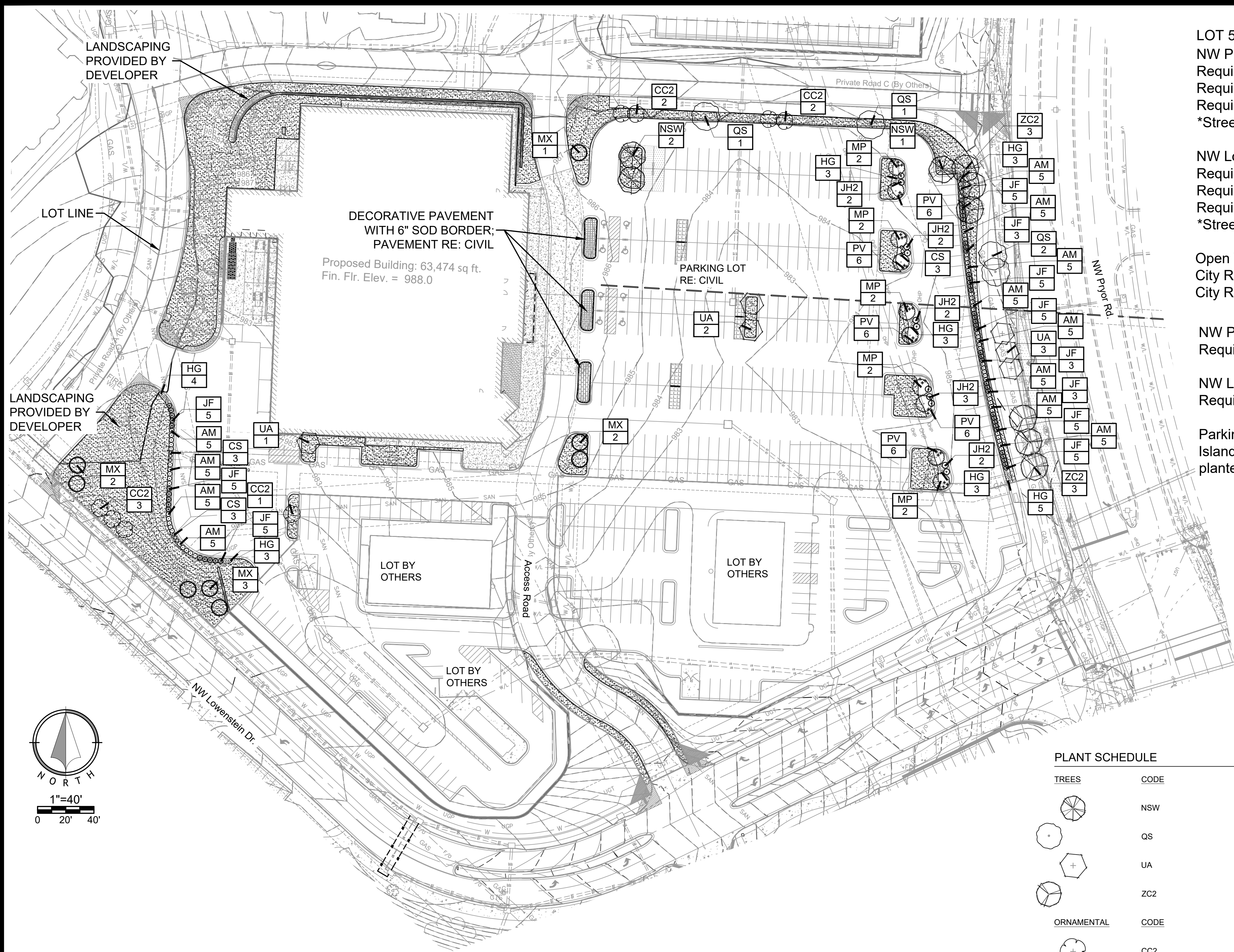


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SIGHT TRIANGLE DETAIL - NTS

LOT 5		
NW Pryor Rd Street Frontage - 325 lf		
Required Setback: 20'	Provided Setback: 20'	
Required Trees: 1 / 30 lf = 11	Provided Trees: 11	
Required Shrubs: 1 / 20 lf = 16	Provided Shrubs: 16*	
*Street shrubs area satisfied with Parking Lot screening requirements.		
NW Lowenstein Dr Street Frontage - 220 lf		
Required Setback: 20'	Provided Setback: 20'	
Required Trees: 1 / 30 lf = 8	Provided Trees: 8	
Required Shrubs: 1 / 20 lf = 11	Provided Shrubs: 11*	
*Street shrubs area satisfied with Parking Lot screening requirements.		
Open Yard Area - 248,194sf		
City Required Trees: 50	Owner Provided Trees: 26	Developer Provided Trees: 24
City Required Shrubs: 100	Owner Provided Shrubs: 53	Developer Provided Shrubs: 47
NW Pryor Rd Parking Lot Screening - 275 lf		
Required Hedge: 12 shrubs / 40lf = 82	Provided Hedge: 82 Shrubs	
NW Lowenstein Dr Parking Lot Screening - 160 lf		
Required Hedge: 12 shrubs / 40lf = 48	Provided Hedge: 48 Shrubs	
Parking Lot Interior -		
Island Area: minimum 5% of lot = 7,966sf		Provided: 8,709sf
planted in trees shrubs, grasses and groundcover		

- NOTES:**
- Lot 5 Landscaping Provided by Owner shall be coordinated with Lot Landscaping Provided by Developer.
 - Additional Open Yard Landscaping shall be provided by Developer. See Additional Landscape Plans (Sheet L02) for Plant Schedule and Planting Plan and Irrigation Plans (L04) for irrigation coverage type zones.
 - The three parking lot islands closest to the building main entrance are proposed decorative pavers in accordance with the owner/tenant business model design specifications.

PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	CONT	CAL	QTY
	NSW	Nyssa sylvatica 'Wildfire' / Black Gum	B&B	3" Cal.	3
	QS	Quercus shumardii / Shumard Red Oak	B&B	3" Cal.	4
	UA	Ulmus americana 'Valley Forge' / American Elm	B&B	3" Cal.	6
	ZC2	Zelkova serrata 'City Sprite' TM / City Sprite Zelkova	B&B	3" Cal.	6
ORNAMENTAL	CODE	BOTANICAL / COMMON NAME	CONT	CAL	QTY
	CC2	Cercis canadensis 'Forest Pansy' TM / Forest Pansy Redbud	B&B	3" Cal.	8
	MP	Malus x 'Prairifire' / Prairifire Crab Apple	B&B	3" Cal.	10
	MX	Malus x 'Spring Snow' / Spring Snow Crab Apple	B&B	3" Cal.	8
SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT		QTY
	AM	Aronia melanocarpa 'Morton' TM / Iroquois Beauty Black Chokeberry	5 Gal.		60
	CS	Cornus stolonifera 'Arctic Fire' / Arctic Fire Dogwood	5 Gal.		9
	HG	Hypericum frondosum / Golden St. John's Wort	3 Gal.		24
	JF	Juniperus chinensis 'Sea Green' / Sea Green Juniper	5 Gal.		49
	JH2	Juniperus horizontalis 'Hughes' / Hughes Juniper	5 Gal.		11
	PV	Panicum virgatum 'Haense Herms' / Haense Herms Switch Grass	5 Gal.		30
GROUND COVERS	BOTANICAL / COMMON NAME	CONT	SPACING	QTY	
	Turfgrass Sod Fescue Mix; RE: Notes / Fescue Sod	SOD		44,917 sf	

Sheet
L01

Final Development Plan
18-0281
McKeever's Market
Lee's Summit, Jackson, Missouri

Landscape Plan

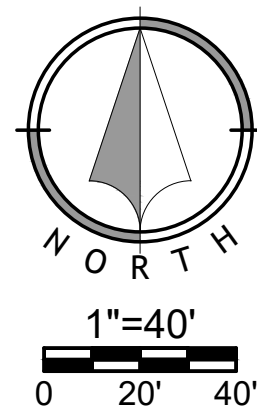
PROVIDED BY OWNER

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5	JMM	AG	09/27/19	Revised Per FDP Comments
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1	JMM	AG	05/24/19	Submitted To City
NO	BY	CD	DATE	REVISION

Renaissance
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SIGHT TRIANGLE DETAIL - NTS

City Requirement

Required Trees: 50

Provided by Owner: 26 Trees

Provided by Developer: 24 Trees

NOTES:

1. Lot 5 Additional Landscaping Provided by Developer shall be coordinated with Lot 5 Landscaping Provided by Owner.

2. Street, Frontage and remaining Open Yard requirements shall be provided by owner. See Landscape Plan (Sheet L01) for Plant Schedule and Planting Plan and Irrigation Plan (L04) for irrigation coverage type zones.

3. All sod to be provided by owner. See Landscape Plan (Sheet L01) for quantities and locations.

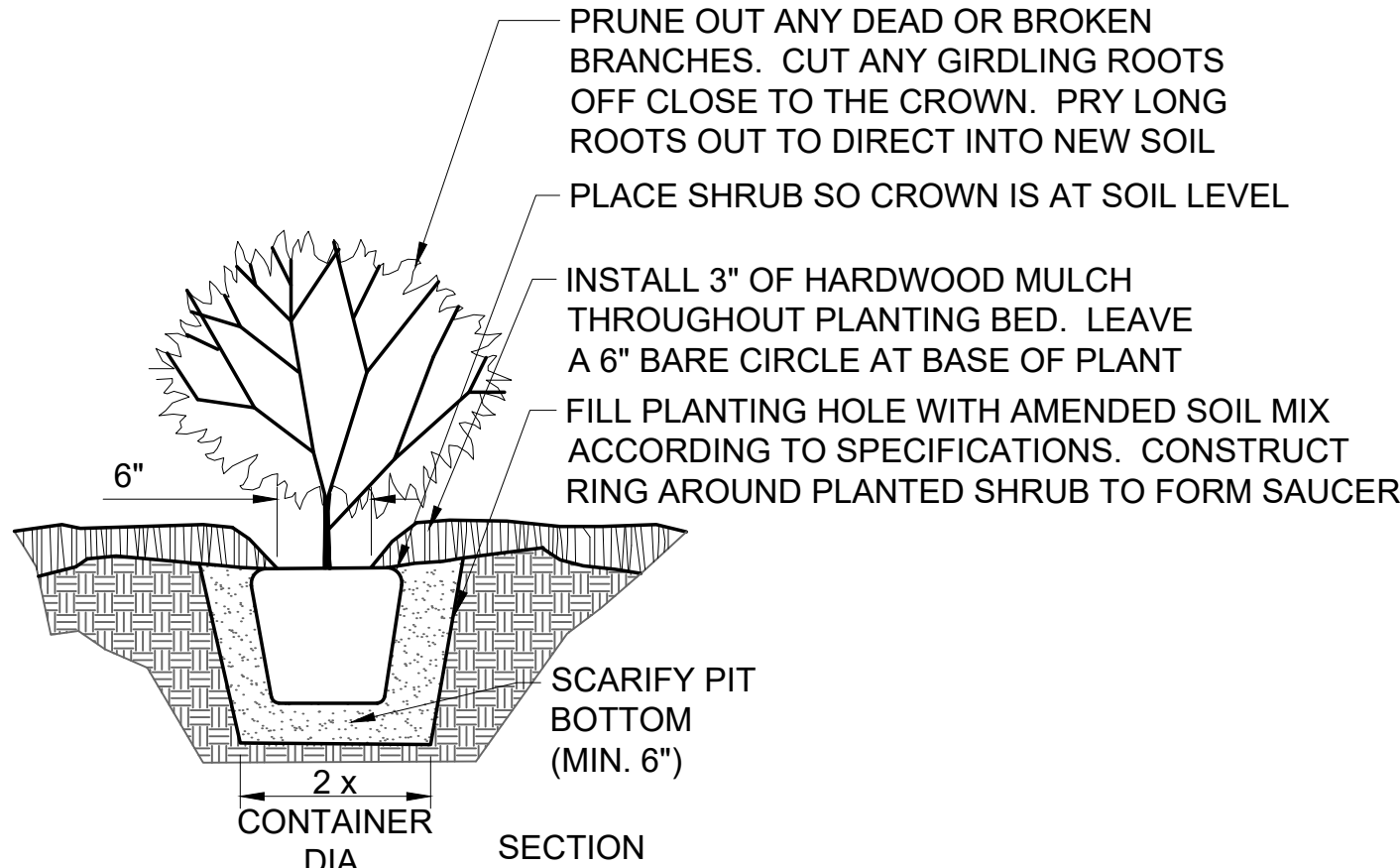
PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	QTY
	JC	Juniperus virginiana `Canaertii` / Canaerti Juniper	B&B		6` Ht. Min.	5
	QS	Quercus shumardii / Shumard Red Oak	B&B	3" Cal.		2
	UA	Ulmus americana `Valley Forge` / American Elm	B&B	3" Cal.		6
	ZC2	Zelkova serrata `City Sprite` TM / City Sprite Zelkova	B&B	3" Cal.		3
ORNAMENTAL	CODE	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	QTY
	CC2	Cercis canadensis `Forest Pansy` TM / Forest Pansy Redbud	B&B	3" Cal.		2
	MP	Malus x `Prairifire` / Prairifire Crab Apple	B&B	3" Cal.		3
	MX	Malus x `Spring Snow` / Spring Snow Crab Apple	B&B	3" Cal.		3
SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT			QTY
	AM	Aronia melanocarpa `Morton` TM / Iroquis Beauty Black Chokeberry	5 Gal.			10
	CS	Cornus stolonifera `Arctic Fire` / Arctic Fire Dogwood	5 Gal.			8
	HG	Hypericum frondosum / Golden St. John`s Wort	3 Gal.			13
	JF	Juniperus chinensis `Sea Green` / Sea Green Juniper	5 Gal.			16

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LANDSCAPE NOTES

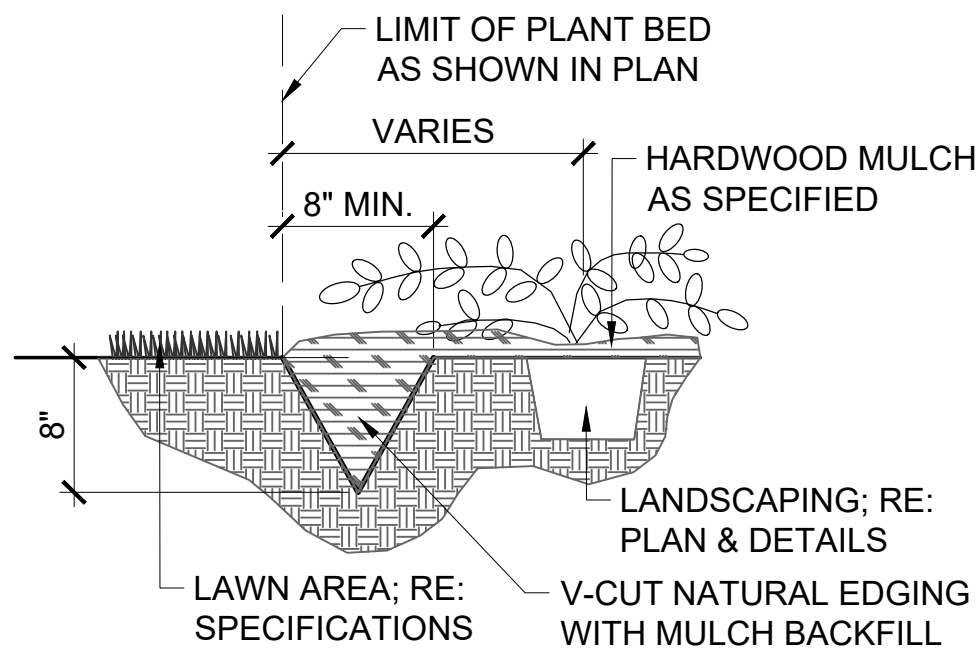
1. LOCATE UTILITIES PRIOR TO COMMENCING LANDSCAPE OPERATIONS. ALL TREES SHALL BE FIELD POSITIONED AS TO AVOID CONFLICTS WITH EXISTING AND PROPOSED UTILITIES. NOTIFY LANDSCAPE ARCHITECT OF ANY CONFLICTS OR OBSTRUCTIONS.
2. CONTRACTOR SHALL STAKE ALL PLANTING AREAS IN THE FIELD PRIOR TO PLANTING FOR APPROVAL OF THE OWNER OR THEIR REPRESENTATIVE.
3. CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES PRIOR TO PLANTING. ANY DISCREPANCIES WITH THE PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE PLAN QUANTITIES SHALL SUPERCEDE SCHEDULED QUANTITIES.
4. ALL PLANT MATERIAL SHALL BE SPECIMEN QUALITY AND SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 THE 'AMERICAN STANDARD FOR NURSERY STOCK'.
5. ALL PLANTING BEDS & NATIVE GRASS STANDS SHALL BE EDGED AS SHOWN IN PLAN.
6. PREPARE PLANTING BEDS AND INCORPORATE AMENDMENTS ACCORDING TO PLANS.
7. SHREDDED HARDWOOD MULCH, PER SPECIFICATIONS SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL PLANTING BEDS AND AROUND ALL TREES. SINGLE TREES AND SHRUBS SHALL BE MULCHED TO THE OUTSIDE EDGE OF THE SAUCER OR LANDSCAPE ISLAND.
8. ALL TREES SHALL BE STAKED PER DETAIL.
9. ALL PLANT MATERIAL SHALL BE INSTALLED TO ALLOW A ONE FOOT (1') CLEARANCE BETWEEN PLANT AND ADJACENT PAVEMENT.
10. THE LANDSCAPE CONTRACTOR SHALL NOT COMMENCE WORK UNTIL THE SITE IS FREE OF DEBRIS CAUSED BY ON-GOING CONSTRUCTION OPERATIONS. REMOVAL OF DEBRIS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. LANDSCAPE WORK SHALL NOT BEGIN UNTIL THE LANDSCAPE ARCHITECT AND OWNER HAVE GIVEN WRITTEN APPROVAL FOR SUCH. THERE SHALL BE NO DELAYS DUE TO LACK OF COORDINATION FOR THIS ACTIVITY.
11. THE LANDSCAPE ARCHITECT AND OWNER SHALL APPROVE GRADES AND CONDITION OF SITE PRIOR TO SODDING/SEEDING OPERATIONS.
12. ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT DESIGNATED FOR OTHER PLANTINGS OR HARDSCAPE SHALL BE SODDED WITH TURF TYPE FESCUE.
15. ALL LANDSCAPE AREAS SHALL BE IRRIGATED. TURF AREAS SHALL BE IRRIGATED BY SPRAY OR ROTOR. PLANT BEDS SHALL BE IRRIGATED BY DRIP IRRIGATION. IRRIGATION SYSTEM SHALL INCLUDE AUTOMATIC RAIN-SENSOR DEVICE. IRRIGATION SHOP DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR FOR APPROVAL PRIOR TO CONSTRUCTION.



- NOTES:
1. REFER TO SPECIFICATIONS FOR TOPSOIL BACKFILL MIX.
 2. CONTRACTOR TO WATER THOROUGHLY AFTER PLANTING
 3. INSTALLATION TO BE IN ACCORDANCE WITH PLANTING SPECIFICATIONS

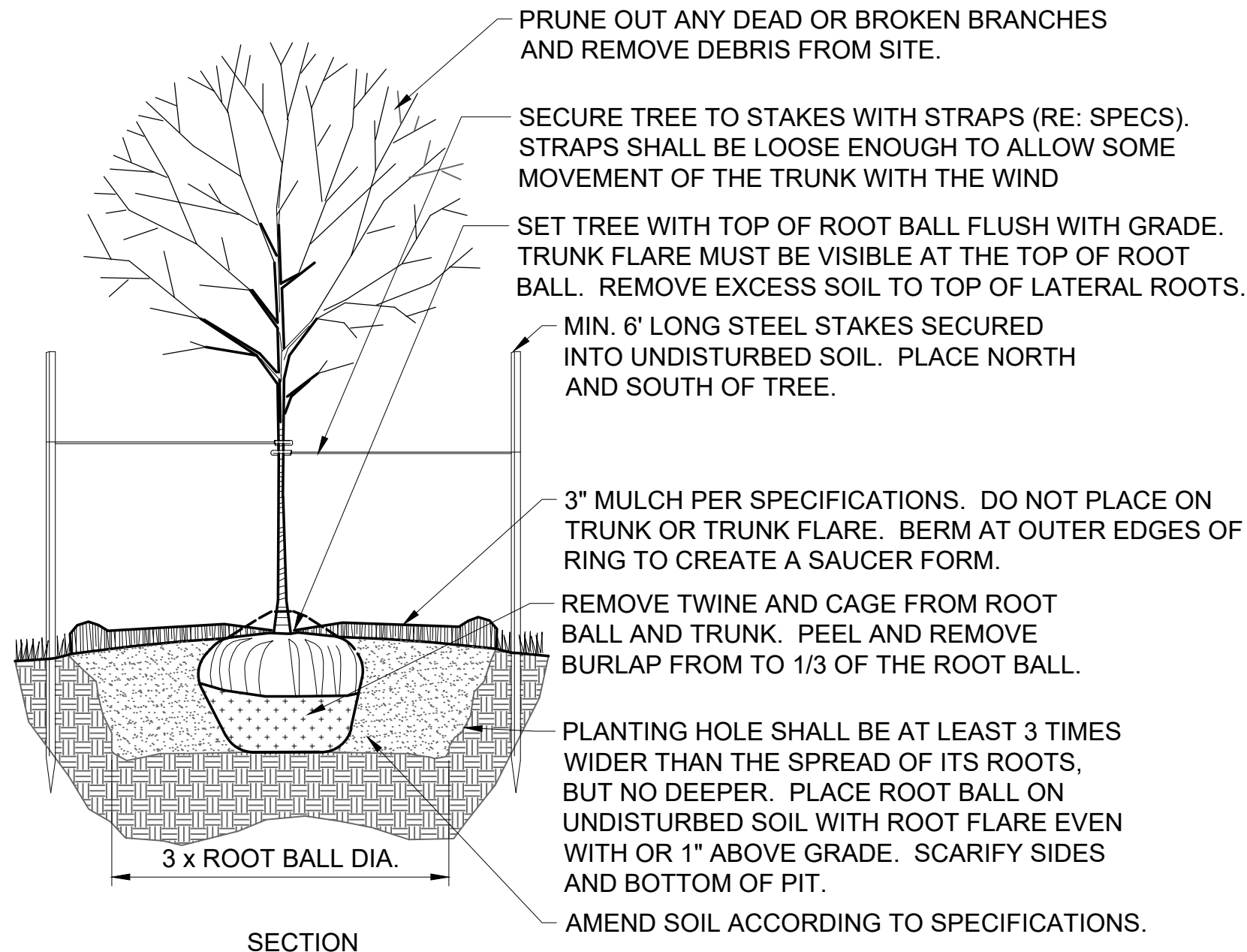
SHRUB PLANTING DETAIL - NTS

- NOTES:
1. CONTRACTOR SHALL LOCATE AND MARK ALL PLANTBED LOCATIONS PRIOR TO EXCAVATING FOR FINAL APPROVAL BY OWNER OR LANDSCAPE ARCHITECT.
 2. TRANSITION TO MULCH CONTAINMENT DETAIL AT ALL LOCATIONS ADJACENT TO CURBS & SIDEWALKS. RE: DETAIL, THIS SHEET.
 3. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS PRIOR TO TRENCHING OR LANDSCAPE INSTALLATION.

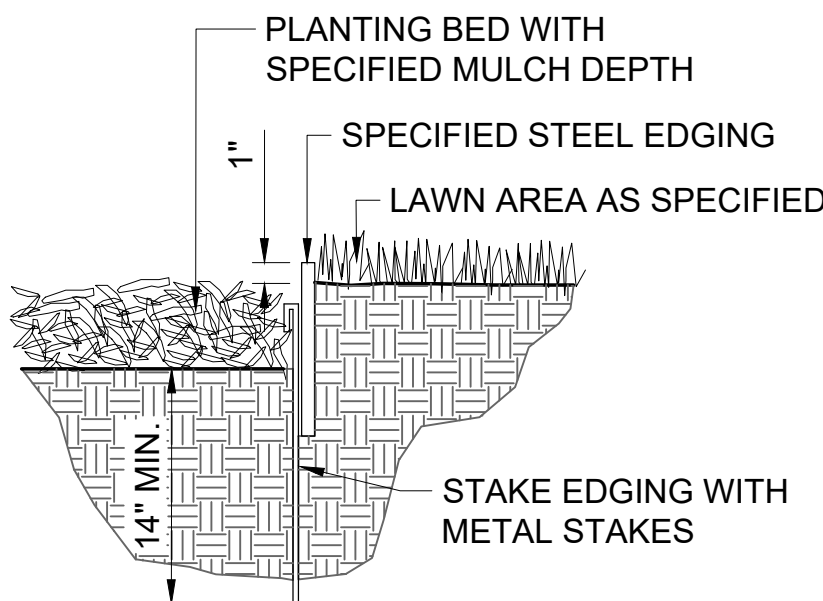


V-CUT NATURAL EDGE DETAIL - NTS

- NOTES:
1. TREES THAT DO NOT MEET THE SIZE REQUIREMENT WILL BE REJECTED
 2. TREES SHALL BE INSPECTED BY OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.

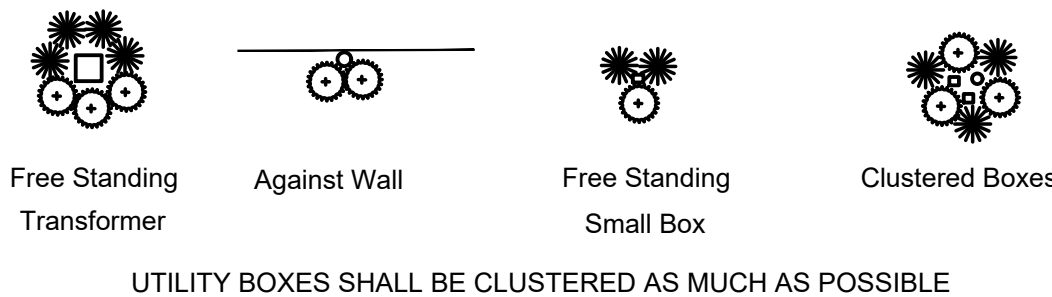


DECIDUOUS TREE PLANTING DETAIL - NTS



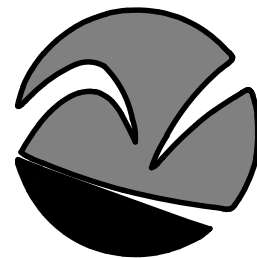
- NOTES:
1. EDGING PER SPECIFICATION L03 2.07 A. SET ALL EDGING 1" ABOVE FINISH GRADE (TURF) SURFACE AS SHOWN.
 2. EDGING SHALL ABUT ALL CONCRETE CURBS AND WALKS PERPENDICULAR AND FLUSH WITH TOP OF CONCRETE.
 3. ALL JOINTS SHALL BE SECURELY STAKED.
 4. FINISH SHALL BE POWDER COAT; COLOR: GREEN. CONTRACTOR SHALL SUBMIT COLOR SAMPLE TO OWNERS REPRESENTATIVE PRIOR TO PURCHASE.
 5. CONTRACTOR SHALL LOCATE AND MARK ALL PLANT BED LOCATIONS PRIOR TO INSTALLATION OF STEEL FOR FINAL APPROVAL BY OWNER OR LANDSCAPE ARCHITECT.

STEEL EDGING DETAIL - NTS

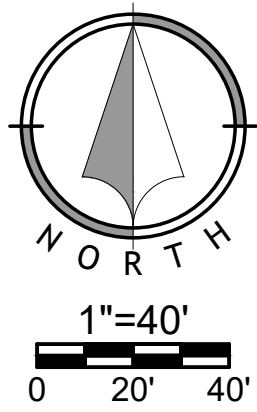
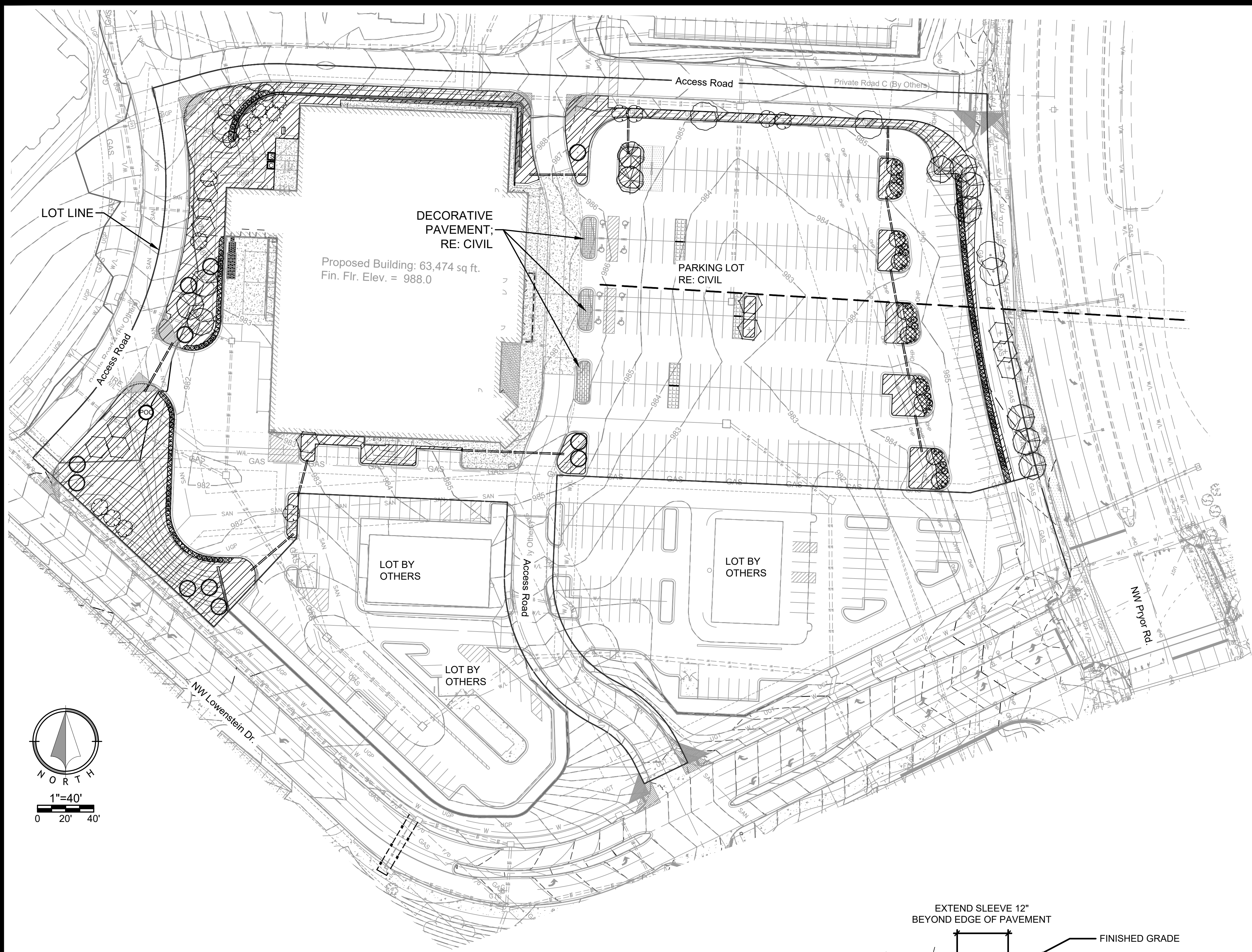


TYPICAL UTILITY BOX SCREENING DETAILS - NTS

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5	JMM	AG	08/27/19		Revised Per FDP Comments
4	JMM	AG	07/30/19		Revised Per FDP Comments
3	JMM	AG	07/23/19		Issued For Building Permit
2	JMM	AG	07/11/19		Resubmittal To City
1	JMM	AG	06/24/19		Submittal To City
NO	BY	CD	DATE		REVISION



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LEGEND

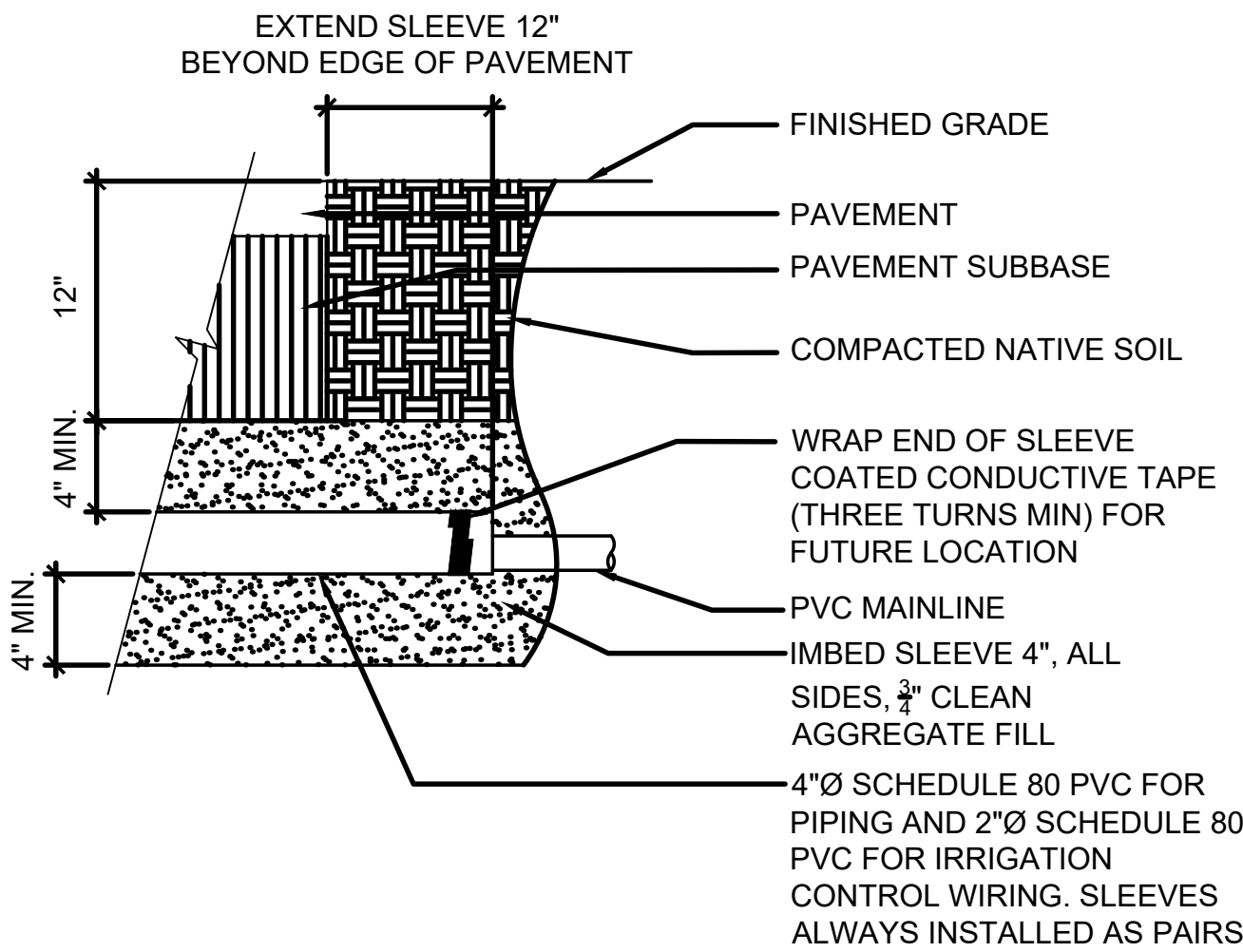
- Drip Irrigation Area
- Spray/Rotor Irrigation Area
- Irrigation Sleeve
- Point of Connection
- Weather Sensor
- Controller

IRRIGATION NOTES:

1. THIS PLAN IS GRAPHICAL IN NATURE AND ONLY REPRESENTS THE IRRIGATION COVERAGE AND TYPE. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN IRRIGATION SHOP DRAWING FOR APPROVAL PRIOR TO CONSTRUCTION. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IRRIGATION TAPS, CONNECTIONS, ROUTING AND ELECTRICAL SUPPLY.
2. IRRIGATION SHALL BE COORDINATED WITH EXISTING IRRIGATION ON ADJOINING LOT. EXISTING IRRIGATION IS NOT TO BE DISTURBED.
3. REFER TO SHEET L02 FOR LANDSCAPE NOTES & DETAILS.
4. THE POC IS SHOWN FOR COORDINATION PURPOSES ONLY. IRRIGATION CONTRACTOR SHALL FINALIZE LOCATION ON IRRIGATION SHOP DRAWINGS FOR FINAL APPROVAL. THE POC SHALL BE LOCATED AFTER THE DOMESTIC METER AND SHALL CONSIST OF A BACKFLOW DEVICE, SHUT OFF VALVE, AND MASTER CONTROL VALVE.

SLEEVE NOTES

1. IRRIGATION SLEEVES SHALL BE INSTALLED AS A PAIR OF SLEEVES AT EACH LOCATION AND SHALL BE INSTALLED BENEATH PROPOSED ROADWAY AND PARKING AREAS PRIOR TO BEGINNING SURFACE CONSTRUCTION.
2. PIPE SLEEVE TO BE 4"Ø SCHEDULE 80 PVC FOR PIPING AND 2"Ø SCHEDULE 80 PVC FOR IRRIGATION CONTROL WIRING.
3. IMBED PIPE 4", ALL SIDES, WITH 3/4" CLEAN AGGREGATE FILL. ALLOW 48 HOURS TO SETTLE; BACKFILL & COMPACT WITH NATIVE SOIL.
4. MINIMUM TRENCH WIDTH TO BE 12".
5. CONTRACTOR SHALL INSTALL IRRIGATION SLEEVES IN ACCORDANCE WITH APPLICABLE MISSOURI PLUMBING CODES AND JOPLIN LOCAL UTILITY AND WATER MANAGEMENT DISTRICT REGULATIONS.
6. CONTRACTOR SHALL MARK ALL SLEEVE LOCATIONS AT EACH END TO AID FUTURE IRRIGATION INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING ALL SLEEVE LOCATIONS AND MARKERS DURING THE CONSTRUCTION PERIOD.
7. COATED CONDUCTIVE TAPE SHALL BE INSTALLED DIRECTLY ABOVE THE SLEEVE AND SHALL BE PRE-PRINTED WITH REPEATED WARNINGS: "CAUTION WATER LINE BURIED BELOW", OR AS OTHERWISE APPROVED BY THE PROJECT ENGINEER.
8. SLEEVES ARE ALWAYS INSTALLED AS A PAIR.
9. CONTRACTOR SHALL COORDINATE WITH EXISTING IRRIGATIONS SYSTEM AND NEW CONSTRUCTION AREAS TO ENSURE ALL LANDSCAPE AREAS ARE COVERED WITH IRRIGATION.



Sheet
L04

Final Development Plan
18-0281
McKeever's Market
Lee's Summit, Jackson, Missouri

Landscape Plan

6	JMM	AG	10/23/19	Revised Per FDP Comments
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MISSOURI CERTIFICATE OF AUTHORITY No. 2010035650

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SECTION 329200 - LAWNS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following areas of Work:

1. Fine grading and preparing lawn areas.
2. Furnishing and applying topsoil.
3. Furnishing and applying limited soil amendments.
4. Sodding new lawn areas.
5. Reconditioning existing lawn areas.
6. Replanting unsatisfactory or damaged lawns.
7. Maintenance.

B. Related Work Specified Elsewhere:

1. Trees and Shrubs: SECTION 329300

1.2 REFERENCES

A. Applicable Standards:

1. American Society for Testing and Materials (ASTM) - Equivalent AASHTO standards may be substituted as approved.

1.3 SUBMITTALS

- A. Certification of each seed mixture for sod, identifying the sod source, including name and telephone number of supplier. Seed for sod must be sod quality and is to be gold tag standards with 0% other crop seed and 0% weed seed.
- B. Certification of each seed type for Native Grass mixture identifying the seed source, including name and telephone number of supplier.
- C. Landscape Architect has final approval of sod grower, no exceptions.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and address of architects and owners, and other information specified.
- E. Material test reports from qualified independent testing agency indicating and interpreting test results relative to compliance of the following materials with requirements indicated.
1. Agronomic and biological analysis of existing surface soil.
 2. Agronomic and biological analysis of all imported topsoil.
- F. Maintenance instructions recommending procedures to be performed by Owner for maintenance of landscaping during an entire year. Submit before expiration of required maintenance periods.

1.4 QUALITY ASSURANCE

- A. Qualifications: A qualified subcontractor shall employ or provide a qualified installation manager who meets any or all of the required qualifications;
1. Bachelor of Science Degree in Horticulture, Botany, Soil Physics, Agronomy, General Agriculture, Agricultural or Biological Engineering, or a related field.
 2. An individual with field experience as approved by the Landscape Architect or Registered Engineer.
- B. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful turf establishment.
1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on the Project site during times that turf planting is in progress.
- C. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Landscape Architect's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.
- D. Topsoil Analysis: Furnish a soil analysis made by a qualified independent soil-testing agency stating percentages of organic matter by Loss on ignition, inorganic matter (proportion of silt, clay, and sand), deleterious material including biological contamination, pH, mineral and plant-nutrient content of topsoil, and cationic exchange capacity.
1. Report suitability of topsoil for grass growth from horticulturist. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce satisfactory topsoil.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Sod: Harvest, deliver, store, and handle sod according to the requirements of the Turfgrass Producers International (TPI) "Specifications for Turfgrass Sod Materials and Transplanting/Installing."
- B. Native Seed: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

1.6 COORDINATION AND SCHEDULING

- A. Planting Season: Install sod during normal planting seasons for type of lawn work required. Correlate planting with specified maintenance periods to provide required maintenance from date of Substantial Completion.
- B. Native Seed Planting Season: Spring Planting Season: April 1st - June 1st; Dormant Planting Season: December 15th - March 31st. Planting at any other time will require the use of a cover crop to be approved by Owner or Landscape Architect.
- C. Weather Limitations: Proceed with work only when existing and forecast weather conditions are suitable for work.

1.7 MAINTENANCE

- A. Lawns/turf areas: Begin maintenance of turfgrass immediately after each area is planted and continue until acceptable establishment, but for no less than the following periods:
1. Sodded Lawns: 90 days after date of Substantial Completion.
 2. Seeded Lawns: 90 days after date of Substantial Completion.
 3. Native Grass Areas: 12 Months after date of Substantial Completion.

B. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting and other operations per this Specification.

C. Watering-Subcontractor shall be responsible of watering the sod as required by this Specification. Subcontractor may use irrigation system to accomplish watering. Subcontractor shall be responsible for coordinating with irrigation contractor for scheduling of irrigation system to provide required water needs.

D. Post-fertilization: Apply fertilizer to lawn after first mowing and when grass is dry.

PART 2 - PRODUCTS

2.1 TOPSOIL

- A. Standard Topsoil: ASTM 5268, pH range 5.5 to 7. Free of stones 1 inch or larger in any dimension, and other extraneous materials harmful to plant growth.
- B. Compost Soil Blend: As located in plan, areas denoted as Compost Soil Blend shall be provided as 50% Standard Topsoil or Native Topsoil and 50% Compost for a depth of 12". pH range shall be 5.5 to 7.
1. Topsoil Source: Reuse surface soil stockpiled on the site where available. Verify suitability of surface soil to produce topsoil meeting requirements and amend when necessary. Supplement with imported topsoil when quantities are insufficient. Imported topsoil shall meet the requirements of this specification for composition. Clean all topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth.
 2. Compost Soil Blend shall have a minimum infiltration rate between 0.25" to 0.5" per hour.

2.2 LIMITED SOIL AMENDMENTS

- A. Herbicides: EPA registered and approved, of type recommended by manufacturer and approved by the Landscape Architect.
- B. Compost: Well-composted, stable and weed-free organic matter, pH range of 5.5-8; moisture content 35-55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content less than 4 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings.
- C. Water: Potable.

2.3 SOD

- A. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture of the following turfgrass species, strongly rooted, and capable of vigorous growth and development when planted.
1. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on the following Schedule. The seed used will be of gold tag quality.
 2. If gold tag is not available then seed must be of the highest quality blue tag certified available.
 3. Landscape Architect has final approval, no exceptions.

4. All Turf-Type Fescues shall have a minimum 70% average endophyte level.
 5. Sodded lawn areas to have a blend of 90% Turf-Type Tall Fescue and 10% Kentucky Bluegrass or approved equal.
- B. Provide sod in uniform thickness of 16 mm (5/8-inch), plus or minus 6 mm (1/4-inch), measured at time of cutting and excluding top growth and thatch. Strips shall be of supplier's standard size of uniform length and width with maximum 5% allowable deviation in either length or width. Broken or torn pads, or pads with uneven ends are not acceptable.
- C. Sod pads shall be capable of supporting their own weight and retaining size and shape when pad is suspended vertically from a firm grasp on upper 10% of pad.
- D. Handle sod with care to prevent loss of native soil from roots.
- 2.4 GRASS SEED:
- A. Provide fresh, clean, new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America and as required below.
- B. Be labeled according to the U.S. Department of Agriculture Federal Seed Act and shall be furnished in containers with tags showing seed mixture, purity, germination, weed content, name of seller, and date on which seed was tested.
- C. Seed Mix: 10% Bluegrass & 90% Turf-Type Tall Fescue, composed of an equal mix of three or four compatible species of bluegrass and one or two species of fescue. The mixture shall not include any varieties of the slower growing "Dwarf" fescue types.
1. Fescue Varieties, or approved equal
Apache, Arid, Austin, Bonanza, Carefree, Cheifan, Cimmaron, Cochise, Falcon, Guardian, Houndog, Jaguar II, Maverick II, Mustang, Olympic, Phoenix, Rebel II, Rebel 3D, Safari, Shenandoah, Thoroughbred, Titan, Tribute, Vegas
 2. Bluegrass Varieties, or approved equal
Asset, Kenblue, Midnight, Nassau, Ruby II, Troy
 3. Moldy seed or seed that has been damaged in storage shall not be used.
 4. Engineer shall have final approval of all seed blends and mixtures.
- D. Cover Crop: As approved by Landscape Architect, Contractor shall submit mix for approval.

2.5 NATIVE GRASSES (When Required by Plan)

- D. Fresh, clean, dry, pure-live seed complying with Kansas Department of Agriculture laws for purity, germination, and noxious weed tolerances:
1. Seed Components: Provide seed of grass and forb species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated on Schedules at the end of this Section. Seed lots, unblended, shall be provided to horticulturist in original unopened containers for agro-histological determination and re-testing. The Master label shall be produced by the horticulturist, and shall be sealed according to the appropriate laws and regulations
 2. All seed must be tested by a registered seed technologist per AOSA methods and meet all requirements established by the Missouri Department of Agriculture. The contractor will provide documentation with the seed shipment for the following information:
 - a. State of Origin
 - b. Year of Harvest
 - c. Genus species Identification
 - d. Seed Lot #
 - e. Packaged Quantity
 - f. Identification of Seed Supplier
 - g. Supplier Certification Number
 - h. State of Supplier Registration
 - i. Percent PLS Per Seed Lot
 - j. Percent Germination
 - k. Percent Hard Seed
 - l. Percent Foreign Matter
 - m. Percent Weed Seed
 - n. Identification of Noxious Weed Seed
 - o. Date of Seed Testing
 - p. Identification of Seed Testing Company
 3. Landscape Architect has final approval, no exceptions.
 4. Seed Source: Shall be submitted to Landscape Architect for approval.

B. Native Seed Mix (Or Approved Equal): 2 lbs / 1,000 Sf

Scientific Name	Common Name	% of Mix
1. Bouteloua gracilis	Blue Grama	20
2. Buchloe dactyloides	Buffalo Grass	20
3. Bouteloua curtipendula	Sideoats Grama	10
4. Schizachyrium scoparium	Little Bluestem	30
5. Sporobolus heterolepis	Prairie Dropseed	20

C. Native Seed Cover Crop

1. The use of a Cover Crop to help with the establishment of Native Grasses shall be approved by the Landscape Architect prior to use. Contractor shall submit Cover Crop seed mixes prior to installation.

2.6 FERTILIZER (Turfgrass only, do not fertilize Native Seed areas)

- A. Commercial fertilizer of neutral character, with some elements derived from organic sources, containing not less than 4 lbs. of actual nitrogen per 1,000 square feet of lawn area. Provide nitrogen in form that will be available to the lawn under the following products or approved equal. During the maintenance period the following fertilizers shall be used or approved equal:
1. Starter Fertilizer: Dyna Green Starter 12-20-06 with Fertil Blend. Total nitrogen: 7.83% ammoniacal, 4.17% urea; Phosphate: Ammonium phosphate 20%; Potash MOP: 6%; Iron: 1%; SGN 200
 2. Spring Fertilizer Dyna Green Long Lasting 22-0-8 with 50% UMAXX, 1.757% Viper & Fertil Blend. Total nitrogen: 22% urea with slowly available nitrogen from 50% UMAXX®; Potash MOP: 8%; Iron: 1%; SGN 200. Apply March to June.
 3. Fall Fertilizer: Dyna Green Winterizer 18-0-9 with 1.434% Surge & Fertil Blend. Total nitrogen: 18% urea; Potash MOP: 8%; Iron: 1%; SGN 200. Apply September to October.
- B. Deliver to site in labeled bags or containers.

2.7 MYCORRHIZAL INOCULANT

- A. The Subcontractor shall utilize an organic, mycorrhizal inoculant for soil prep. The material shall be granular and applied per manufacturer's recommendation. M-Roots w/ Mycorrhiza or approved equal. For exact finish, insert names of coating manufacturers and products.

2.8 STRAW MAT

1. Provide a biodegradable single net, two sided organic straw mat with functional longevity of 10-12 months by Greenfix Amerca, Product WS072 Double Net Straw or Approved Equal.
2. Utilize Straw Mat within Native Seed areas on slopes greater than 4:1.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive lawns for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 SOIL PREPARATION

1. Dispose of any growth, rocks, or other obstructions which might interfere with tilling, seeding, sodding, or later maintenance operations. Remove stones over 38 mm (1 1/2 inches) in any dimension and sticks, roots, rubbish, and other extraneous matter.
2. Thoroughly loosen and pulverize topsoil to a depth of at least 100 mm (4 inches) for all standard turfgrass areas. Areas denoted as "Compost Soil Blend", shall be loosened and amended to a depth of 12 inches
3. Grade lawn areas to a smooth, even surface with loose, uniformly fine texture. Roll and rake, remove ridges and fill depressions to meet finish grades. Limit fine grading to areas which can be planted within immediate future.
4. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry off before planting of lawns. Do not create a muddy soil condition.
5. Restore prepared areas to specified condition if eroded or otherwise disturbed after fine grading and prior to planting.
6. Spread top soil mixture to depth required to meet thickness, grades, and elevations indicated after light rolling and natural settlement.

G. Allow for sod thickness in areas to be sodded.

H. Preparation of Unchanged Grades: Where lawns are to be planted in areas that have not been altered or disturbed by excavation, grading, or stripping operations, prepare soil for lawn planting as follows:

1. Remove and dispose of existing grass, vegetation, and turf. Do not turn over into soil being prepared for lawns.
2. Till surface soil to a depth of at least 6 inches. Apply required soil amendments and initial fertilizers and mix thoroughly into top 4 inches of soil. Trim high areas and fill in depressions. Till soil to a homogenous mixture of fine texture.
3. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
4. Remove waste material, including grass, vegetation, and turf, and legally dispose of it off the Owner's property.

3.4 SEEDING NEW LAWNS:

- A. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
- B. Sow seed with a Brillion type seeding machine or where applicable and restricted by steep slopes or other areas not accessible to the seeding machine, broadcast or drop seed methods may be used. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other, and 3 directions in high maintenance areas, as directed by the Engineer.
- C. Sow not less than rate of 4 pounds per 1,000 square feet.
- D. Rake seed lightly into top 1/8" inch of soil, roll lightly, and water with fine spray.
- E. Rake seed lightly into top 1/8 inch of topsoil, roll lightly, and water with fine spray.
- F. Protect seeded slopes exceeding 1:6 against erosion with erosion-control blankets installed and stapled according to manufacturer's recommendations.
- G. Protect seeded areas with slopes less than 1:6 against erosion by spreading mulch as specified after completion of seeding operations. Spread uniformly to form a continuous blanket over seeded areas. Spread by hand, blower, or other suitable equipment.
- H. Protect seeded areas against hot, dry weather or drying winds by applying peat mulch within 24 hours after completion of seeding operations. Soak and scatter uniformly to a depth of 3/16 inch thick and roll to a smooth surface.

I. Seasonal Limitations:

1. Perform seeding only during the following seasons:
 - a. Fall Seeding: August 15th to October 1st.
 - b. Spring Seeding: March 15th to May 15th
 - c. Recommend seeding when temperatures ranging from 50 degrees Fahrenheit to 70 degrees Fahrenheit for a minimum 6 week period.
2. Methods of Application:
 1. Dry Seeding: Spreader or seeding machine.
 2. Hydroseeding: Mix seed, fertilizer and pulverized mulch with water and constantly agitate. Do not add seed to water more than 4 hours before application:
 - a. On slopes of 2 horizontal to 1 vertical or flatter, apply seed separately from fertilizer. Cover seed with soil to an average depth of 13 mm (1/2 inch) by raking or other approved methods.
 - b. On slopes steeper than 2 horizontal to 1 vertical, seed and fertilizer may be applied in a single operation. Incorporation into the soil will not be required.

3.5 SODDING NEW LAWNS

- A. Do not place sod during a drought or during the period from June 15 to September 15, except as authorized by the Landscape Architect.
- B. Lay sod within 24 hours from time of stripping. Do not lay dormant sod or if ground is frozen.
- C. Sod shall be moist at the time it is placed.
- D. Lay sod strips along contour lines, by hand, commencing at the base of the area to be sodded and working upward:
1. Carefully lay sod to produce tight joints. Butt ends and sides of sod strips; do not overlap.
 2. Stagger transverse joints of sod strips.
 3. Work from boards to avoid damage to subgrade or sod.
 4. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod, removing excess to avoid smothering adjacent grass.
- E. Water sod with fine spray immediately after planting. During first week, water daily or more frequently as necessary to maintain moist soil to depth of 100 mm (4 inches).

3.6 RECONDITIONING LAWNS:

- A. Recondition lawn areas damaged by construction operations, including storage of materials or equipment and movement of vehicles. Also recondition lawn areas where settlement or washouts occur or where minor regrading is required. Recondition other existing lawn areas where indicated.
- B. Provide fertilizer, sod, and soil amendments as specified for new lawns and as required to provide satisfactorily reconditioned lawn. Provide new planting soil as required to fill low spots and meet new finish grades.
- C. Cultivate bare and compacted areas thoroughly to provide a good, deep planting bed.
- D. Remove diseased or unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Subcontractor's operations including oil drippings, stone, gravel, and other construction materials. Replace with new topsoil.
- E. Where substantial lawn remains (but is thin), mow, rake, aerate if compacted, fill low spots, remove humps and cultivate soil, fertilize, and seed. Remove weeds before seeding or, if extensive, apply selective chemical weed killers as required. Apply a seed-bed mulch, if required, to maintain moist condition.
- F. Water newly planted areas and keep moist until new grass is established.

3.7 SEEDING COVER CROP & NATIVE GRASSES:

- A. Sow seeds using seed drill (Truax-type) that accurately meters the seed types and mixes all seeds uniformly during seeding. It should have, at the minimum, two seed boxes to separate fine seeds from large/fluffy seeds. This seed drill should also be equipped with disc furrow openers and a no-till trash plow assembly, which will compact the soil directly over the drill rows. The maximum row spacing for drill seeding should be 8 inches. Fine seeds shall be dropped onto the ground from the fine seed box, while large/fluffy seed should be placed to obtain final planting depth of 1/4-1/2". The path of the drill seeding shall be done at a right angle to that of the drainage patterns.

1. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.

B. Protect all native grass areas on slopes 4:1 and greater using straw mat erosion control blanket installed and stapled according to manufacturer's recommendations

3.8 PROTECTION:

- A. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until lawn is established.

3.9 MAINTENANCE (SEED & SOD):

- A. Mow grass to a height of 3 inches as soon as there is enough top growth to cut with mower. Remove no more than 30% of grass leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted.

B. Remove weeds by pulling or chemical treatment.

C. Perform maintenance throughout the 90 day maintenance period.

D. Sodded Areas:

1. Thoroughly water daily for a period of 15 days after placing and to a minimum of 1-inch per week thereafter.
2. Maintain sod in good live condition. Replace any sod not in good growing condition with fresh live sod.
3. Water thoroughly whenever sod evidences excessive drying.

E. Seeded Areas:

1. Thoroughly water seeded areas daily to keep seeds moist until germination. After seeds have germinated, continue watering daily until the first mowing. Watering shall be in amounts enough to wet seeds and surrounding soil, but not cause erosion or disposition of seeds.

2. Repair any portion of the seeded surface which becomes gullied or otherwise damaged. Reseed as required.

F. Apply second fertilizer application after first mowing and when grass is dry. Use fertilizer which will provide not less than 1 lbs of actual nitrogen per 1,000 square feet of lawn area.

3.10 MAINTENANCE (NATIVE GRASSES) (When Required by Plan)

- A. Begin maintenance of native grass areas immediately after each area is planted and continue until established and accepted, but for not less than the following periods:
- B. Native grass: 12 MONTHS after date of Substantial Completion

1. The Installer shall be responsible for the proper care until verification that all plant materials are present in the density and health to ensure self-maintenance.

2. Maintain and establish native grasses by mowing, weeding, trimming, replanting, and other operations as stated below. Re-grade erosion rills, replant bare or eroded areas, and re-mulch to produce a uniform prairie

3.11 ACCEPTANCE OF LAWNS:

A. When lawn Work is Substantially Complete, including maintenance, Landscape Architect and Owner will, upon request, make an inspection to determine acceptability:

1. Lawn Work may be inspected for acceptance in parts agreeable to Owner, provided Work offered for inspection is complete, including maintenance.

B. Replant rejected work and continue specified maintenance until re-inspected by Landscape Architect and Owner and found to be acceptable.

C. Sodded lawns will be acceptable provided requirements, including maintenance, have been complied with and healthy, well-rooted, even-colored, viable lawn is established free of weeds, open joints, bare areas, and surface irregularities.

D. Native Grass Stands (When Required by Plan)

1. An acceptable native grass stand will contain no less than 5 healthy mature or developing plants per square foot with a population distribution per 10,000 square feet representative of ratios in the original blend. The result of maintenance shall be that weeds are being controlled through competition with the desired plants, and that mowed bio-mass is not accumulating in such a manner to be detrimental to existing plant materials as determined by the Landscape Architect.

2. An acceptable native grass stand shall control erosion through root mass development. The occurrence of rills and gullies shall be unacceptable.

3.11 CLEANUP:

- A. Promptly remove soil and debris created by lawn Work from paved areas. Clean wheels of vehicles prior to leaving Site to avoid tracking soil onto surfacing of roads, walks, or other paved areas.

END OF SECTION 329200

Sheet

L06

Final Development Plan

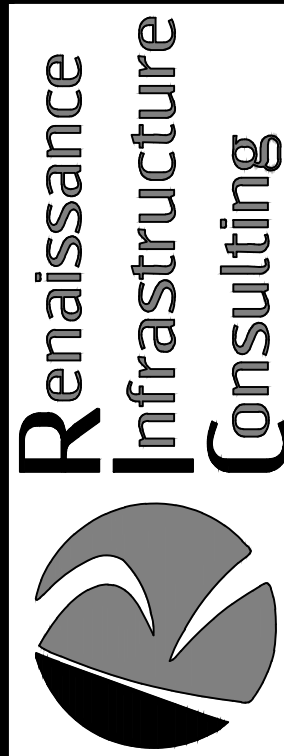
18-0281

McKeever's Market

Lee's Summit, Jackson, Missouri

Lawn Specifications

			Revised Per FDP Comments	Revised Per FDP Comments	Revised Per FDP Comments	Issued For Building Permit	Resubmittal To City	Resubmittal To City	NO.	BY	DATE
6.	JMM	AG	10/23/19								
5.	JMM	AG	08/27/19								
4.	JMM	AG	07/30/19								
3.	JMM	AG	07/23/19								
2.	JMM	AG	07/11/19								
1.	JMM	AG	05/24/19								
NO.	BY	DATE									



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