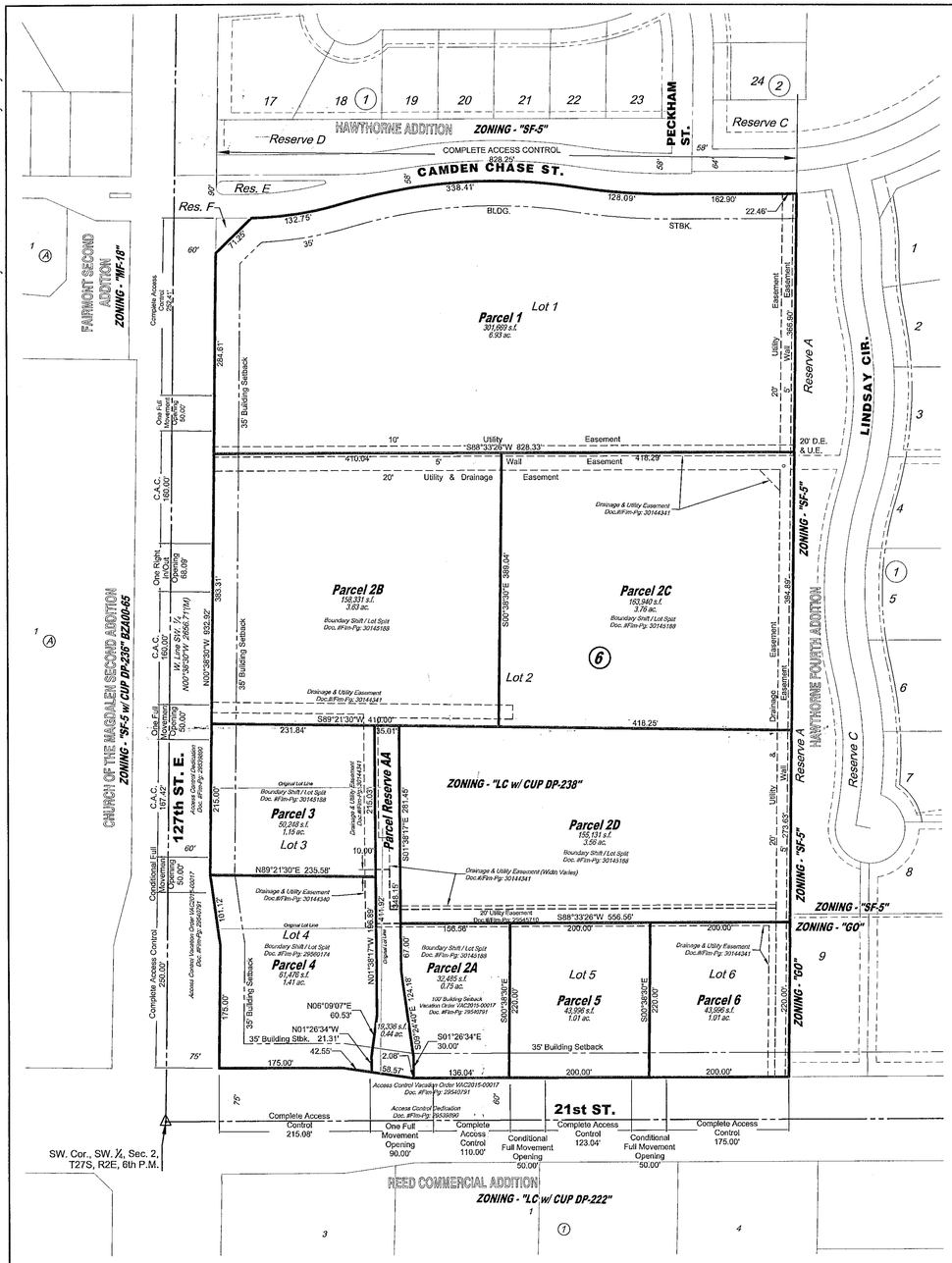
Twenty=First Commercial Community Unity Plan DP-238



GENERAL PROVISIONS

1. This development contains 23.66 acres or 1,030,608 sq. ft.
2. The proposed development contains 10 parcels with commercial uses. See parcel descriptions for specific uses on each parcel.
3. All utilities shall be installed underground.
4. A drainage plan and guaranties for the drainage improvements shall be provided at the time of platting.
5. Final determination of street right-of-way and pavement widths shall be resolved at the time of platting.
6. Parking: Parking shall be provided in accordance with the standards of the unified zoning code; EXCEPT as modified in the Parcel Description for Parcel 1.
7. The transfer of the title on all or any portion of the land included in the development does not constitute a termination of the plan or any portion thereof, but said plan shall run with the land for development and be binding upon the present land owners, their successors and assigns and their lessees unless amended.
8. Lighting: All lighting shall be shielded to reflect light downward and away from residential areas. There shall be no rear building lights within 50 feet of the north and east property line of Parcel 1 and the east property lines of Parcels 2C and 2D. In addition, all pole lights in these areas shall have a maximum height of 12 feet.
9. Fire lanes shall be in accordance with the Sedgwick County Fire Code. No parking shall be allowed in said fire lanes, although they may be used for passenger loading and unloading. During the building permit review, the Fire Chief, or his designated representative, shall approve the design of the fire lanes prior to the issuance of a building permit.
10. Trash receptacles shall be appropriately screened to reasonably hide them from ground view.
11. Masonry Wall - a solid or semisolid wall constructed of brick, stone, masonry, architectural tile or other similar material (not including wood or woven wire) at least 6 feet but not more than 8 feet high shall be constructed along the east property line of Parcels 2C and 2D. Construction of wall will require a building permit. No wall shall be constructed in a utility easement. Construction of wall shall take place for Parcels 2C and 2D when building permits are issued. Openings in the wall to permit pedestrian access from the east shall be permitted if approved by the MAPD. For Parcel 1, a masonry wall shall be required along the north and east property lines, unless the property is developed with a residential development and enclosed garages are constructed along or near the south and east property lines as shown on the site plan submitted with CUP Amendment #3. The enclosed garages shall be acceptable as appropriate screening for the residential development.
12. At the time of platting the applicant shall guarantee the construction of the north bound lane along 127th street east to the northern entrance to his/her property.
13. All rooftop equipment shall be screened from ground level view from adjacent residential areas.
14. Architectural Controls: All building exteriors on all Parcels shall share a consistent design, color and texture. Building walls and roofs must have predominately earth-tone colors, with vivid colors limited to incidental accent and must employ materials slmilar to the surrounding residential areas. Exterior utility boxes, mechanical equipment, and etc., shall be screened and/or painted according to the acceptable color range. All lighting within each Parcel shall share consistent design (i.e., fixtures, poles, lamps, etc.) variations must be approved by the MAPD. There shall be no overhead doors facing any residential zoning. Parcel 1 shall be permitted separate architectural controls only if developed residentially, and said architectural controls shall be internally consistent only with structures on Parcel 1 and not necessarily consistent with commercial buildings and structures developed on other Parcels within the CUP, multifamily structures shall be finished with stone siding as presented to the MAPC with CUP Amendment #3. If Parcel 1 develops commercially, full consistency with the balance of the CUP shall be required.
15. Signs:
    A. No signs with rotating or flashing lights shall be permitted.
    B. No portable or off-site signs shall be permitted.
    C. Minimum spacing between signs shall be 150 feet, EXCEPT, 75 feet when adjoining a multi-tenant/combined development identification freestanding monument-type sign.
    D. There shall be two heights for freestanding monument-type signs:
       25 feet for Multi-tenant/combined development identification signs
       13 feet for all other tenant/multi-tenant signs
    E. Parcel 1 - Shall be limited to one freestanding monument-type sign. Building signage for residential/multifamily uses shall be no greater than 300 square feet.
    F. Parcels 2A, 2B, 3, 4, 5, and 6 - shall each be permitted one freestanding monument-type sign with a maximum sign areas of 150 sq. ft. each
    G. Parcels 2B, 3, and Reserve AA - Are each allowed one multi-tenant/combined development identification freestanding monument-type sign having a maximum sign area of 300 sq. ft. each. Signage for Parcels 2C and 2D will be included here.
    H. A total freestanding signs along the arterial frontages shall not exceed a combined total area of 2,036 sq. ft.
16. If multiple ownership is anticipated, an owners association agreement providing for the maintenance of reserves, signs, open space, internal drives, parking areas, drainage improvements, etc., shall be filed with the plat of the area.
17. Landscape Buffers and Screening: All landscaping and screening shall be in accordance with the city landscape ordinance.
    A. A landscape plan indicating the location, type, and specification of plant materials shall be submitted to the planning department for their review and approval prior to the issuance of any building permit(s). The landscape plan shall also state how water is to be provided to the plant materials.
    B. Landscape buffers and screening along the north and east sides of Parcel 1 shall be installed and maintained consistent with the existing conditions as of the date of Amendment #3 for residential development. Additional evergreens trees shall be utilized to provide screening to the adjacent neighborhood (also re: item 11)
    C. A financial guarantee for the plant materials and watering system(s) approved for the landscape plan shall be required prior to the issuance of any occupancy permit if the required landscaping has not been installed.
18. Access Controls shall be shown hereon and as per Vacation Case VAC2015-17. The access opening along 127th Street, labeled as "Conditional Full Movement Opening", is allowed a full movement opening, provided however if the land use on the northeast corner of the intersection of 127th Street and 21st Street has a traffic trip generation pattern greater than that of a bank with a drive-thru, said access opening shall revert to a right-in right-out only opening. The access openings along 21st Street, as labeled as "Conditional Full Movement Opening", are allowed full movement openings; provided however, if the City of Wichita exercises its right to extend the median in 21st Street, if warranted to aid in traffic control, said openings will revert to right-in right-out only openings.
19. A plan for a pedestrian walk system shall be a requirement of the C.U.P. The walk system shall link proposed building with the entrances and sidewalks along 21st Street north and 127th Street East . A pedestrian walk system shall be provided to connect to the existing system along Camden Chase if Parcel 1 is developed residentially. The pedestrian improvements shall be assured by required submission and approval of circulation plans by the Director of Planning prior to issuing building permits.
20. No building permits shall be issued until municipal water and sewer service is available to service this site.
21. An overall site traffic circulation plan shall be submitted to the MAPD for approval prior to issuance of building permits, cross-lot circulation agreements shall be required at the time of platting to assure internal vehicular movement between parcels within the C.U.P. Cross-lot circulation is required for non-residential parcels only.
22. The development of this property shall proceed in accordance with the development plan as recommended for approval by the Planning Commission and approved by the Governing Body, and any substantial deviation of the plan, as determined by the Zoning Administrator and the Director of Planning, shall constitute a violation of the building permit authorizing construction of the proposed development.
23. Any major changes to this development plan shall be submitted to the planning commission and to the governing body for their consideration.

Parcel Descriptions:

Parcel 1
Allowed Uses - All uses permitted in "LC" Limited Commercial Zoning District by right, except for adult entertainment as amended sexually oriented business in the City, tattoo parlors, taverns, drinking establishments and night clubs as defined in city code, all auto-related uses (vehicle repair, limited; car wash; service station; convenience store, etc.) and overhead doors facing Residential Zoning be prohibited. Retail uses are restricted to no single use greater than 8,000 square feet, and restaurants are subject to the restrictions of Article III-D.6.t, which limits their size to 2,000 square feet and prohibits drive-thru lanes.

Gross Area - 6.93 Acres (301,669 Sq. Ft.)
Max. Bldg. Coverage - 90,500 Sq. Ft. (30%)
Max. Gross Floor Area - 90,500 Sq. Ft. (Commercial Uses)
Max. Gross Floor Area - 140,000 Sq. Ft. (46.4% for residential uses not including the patio spaces)
Max. Bldg. Height - 35
Max. Number of Buildings - 6
Parking - per Unified Zoning Code if developed commercially; for senior multiple family residential development only, parking shall be provided at the rate of 0.5 parking stalls for one-bedroom dwelling units and 1.0 parking stalls for two bedroom dwelling units. All other parking needs shall be as per Unified Zoning Code.
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 2A
Allowed Uses - All uses permitted in "LC" Limited Commercial Zoning District; EXCEPT for adult entertainment, tattoo parlors, taverns, drinking establishments and night clubs as defined in the Unified Zoning Code.

Gross Area - 0.75 Acres or 32,485 Sq. Ft.
Max. Bldg. Coverage - 9,746 Sq. Ft. (30%)
Max. Gross Floor Area - 9,746 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - As per "LC" Zoning District or as set fourth herein. If contiguous Parcels are developed under the same ownership, setbacks between such Parcels will not be required.

Parcel 2B
Allowed Uses - same as Parcel 2A.

Gross Area - 3.63 Acres or 158,331 Sq. Ft.
Max. Bldg. Coverage - 47,499 Sq. Ft. (30%)
Max. Gross Floor Area - 47,499 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 2C
Allowed Uses - same as Parcel 2A.

Gross Area - 3.76 Acres or 163,940 Sq. Ft.
Max. Bldg. Coverage - 49,182 Sq. Ft. (30%)
Max. Gross Floor Area - 49,182 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per code
Setbacks - Same as Parcel 2A.

Parcel 2D
Allowed Uses - same as Parcel 2A.

Gross Area - 3.56 Acres or 155,131 Sq. Ft.
Max. Bldg. Coverage - 46,539 Sq. Ft. (30%)
Max. Gross Floor Area - 46,539 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per code
Setbacks - Same as Parcel 2A.

Parcel 3
Allowed Uses - same as Parcel 2A.

Gross Area - 1.15 Acres or 50,248 Sq. Ft.
Max. Bldg. Coverage - 15,074 Sq. Ft. (30%)
Max. Gross Floor Area - 15,074 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 4
Allowed Uses - same as Parcel 2A.

Gross Area - 1.41 Acres or 61,476 Sq. Ft.
Max. Bldg. Coverage - 18,443 Ft. (30%)
Max. Gross Floor Area - 18,443 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 5
Allowed Uses - same as Parcel 2A.

Gross Area - 1.01 Acres or 43,996 Sq. Ft.
Max. Bldg. Coverage - 13,199 Sq. Ft. (30%)
Max. Gross Floor Area - 13,199 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per code
Setbacks - Same as Parcel 2A.

Parcel 6
Allowed Uses - same as Parcel 2A.

Gross Area - 1.01 Acres or 43,996 Sq. Ft.
Max. Bldg. Coverage - 13,199 Sq. Ft. (30%)
Max. Gross Floor Area - 13,199 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per code
Setbacks - Same as Parcel 2A.

Reserve AA
See Lot Split/Boundary Shift for platted uses.

Gross Area - 0.44 Acres or 19,336 Sq. Ft.
Max. Bldg. Coverage - 5,801 Sq. Ft. (30%)
Max. Gross Floor Area - 5,801 Sq. Ft.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

NOTES

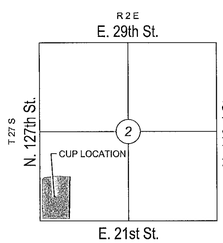
Architectural Controls and Landscaping may be further restricted by private Covenants Conditions and Restrictions on file with the Sedgwick County Register of Deeds Office.

SCALE: 1" = 100'

100 0 100 200

LEGAL DESCRIPTION

Lots 1, 2, 3, 4, 5, AND 6, Block 6, Hawthorne Addition, Wichita, Sedgwick County, Kansas.



VICINITY MAP

MAPD STAMP

APPROVED CUP
MAPC Per revised letter dated 6/2/2022
6/2/2022
Copy 2 of 4 AA
CUP2022-05

COMMUNITY UNIT PLAN DP-238

TWENTY-FIRST COMMERCIAL

OWNERS/DEVELOPER: Twenty-First Growth, LLC 8415 E. 21st Street N. Suite 100, Wichita, KS 67206

CASE HISTORY

Orig. Case No. SCZ-0780 CUP DP-238 Date: March 1999
Amendment #1: CUP2002-00028 Aug. 26, 2002
Adjustment #1: CUP2015-00010 May 20, 2015
Amendment #2: CUP2003-000__ June 2003
Amendment #3: CUP2018-00021 Aug. 7th, 2018
Adjustment #2 CUP2022-00005 March 9, 2022

MKEC
Wichita, KS • 316.684.9600

J:\Projects\2022\2201010016 Twenty=First, Hawthorne Development
Twenty=First Commercial Community Unity Plan DP-238

Wichita-Sedgwick County Metropolitan Area Planning Department

June 2 , 2022

Twenty First Growth, LLC
Attn. Tim Buchanan
8415 E 21st ST. N. Ste 100
Wichita, KS 67206

MKEC Engineering, Inc.
Attn: Brian Lindebak
411 N. Webb Road
Wichita, KS 67206

REVISED

RE: CUP2022-00005 – City of Wichita CUP Adjustment for Twenty First Commercial CUP DP-238 located on the north east corner of East 21st Street North and North 127th Street East.

LEGAL DESCRIPTION: Lots 2 and 3, Block 6, Hawthorne Addition, an addition to Wichita, Sedgwick County, Kansas.

Dear Applicants:

We received and reviewed your request for an Administrative Adjustment to DP-238, to reflect a lot split (LSP2022-00006), and modification of General Provisions #1, #2, #8, #11, #14, #15, and #21. Modifications to the text are identified by red, bold, and italicized text.

1. This development contains 23.66 acres or ***1,030,608 sq. ft.***

2. The proposed development contains ***10*** parcels with commercial uses. See parcel descriptions for specific uses on each parcel.

8. ***Lighting:*** All lighting shall be shielded to reflect light downward and away from residential areas. There shall be no rear building lights within 50 feet of the north and east property line of Parcel 1 and the east property lines of ***Parcels 2C and 2D***. In addition, all pole lights in these areas shall have a maximum height of 12 feet.

11. Masonry Wall - a solid or semisolid wall constructed of brick, stone, masonry, architectural tile or other similar material (not including wood or woven wire) at least 6 feet but not more than 8 feet high shall be constructed along the east property line of ***Parcels 2C and 2D*** ~~***(see plans)***~~. Construction of wall will require a building permit. No wall shall be constructed in a utility easement. Construction of wall shall take place for ***Parcels 2C and 2D*** when building permits are issued. Openings in the wall to permit pedestrian access from the east shall be permitted if ***approved by MAPD***. For Parcel 1, a masonry wall shall be required along the north and east property lines, unless the property is developed with a residential development and enclosed garages are constructed along or near the south and east property lines as shown on the site plan submitted with CUP Amendment #3. The enclosed garages shall be acceptable as appropriate screening for the residential development.

14. Architectural Controls: All building exteriors on all Parcels shall share a consistent design, color and texture. Building walls and roofs must have predominately earth-tone colors, with vivid colors limited to incidental accent and must employ materials similar to the surrounding residential areas. Exterior utility boxes, mechanical equipment, and etc., shall be screened and/or painted according to the acceptable color range. All lighting within each Parcel shall share consistent design (i.e., fixtures, poles, lamps, etc.) variations must be ***approved by MAPD***. There shall be no overhead doors facing any residential zoning. Parcel 1 shall be permitted separate architectural controls only if developed residentially, and said architectural controls shall be internally consistent only with structures on Parcel 1 and not necessarily consistent with commercial buildings and structures developed on other Parcels within the CUP, multifamily structures shall be finished with stone siding as presented to the MAPC ***with CUP Amendment #3***. If Parcel 1 develops commercially, full consistency with the balance of the CUP shall be required.

15. Signs:

A. No signs with rotating or flashing lights shall be permitted.
B. No portable or off-site signs shall be permitted.
C. Minimum spacing between signs shall be 150 feet, EXCEPT, 75 feet when adjoining a multitenant/combined development identification freestanding monument-type sign.
D. There shall be two heights for freestanding monument-type signs:

25 feet for Multi-tenant/combined development identification signs
13 feet for all other tenant/multi-tenant signs
E. Parcel 1 - Shall be limited to one freestanding monument-type sign. Building signage for residential/multifamily uses shall be no greater than 300 square feet.
F. Parcels 2A, 2B, 3, 4, 5, and 6 - shall each be permitted one freestanding monument-type sign with a maximum sign area of 150 sq. ft. each
G. Parcels 2B, 3, and Reserve AA - Are each allowed one multi-tenant/combined development identification freestanding monument-type sign having a maximum sign area of 300 sq. ft. each. Signage for Parcels 2C and 2D will be included here.
H. All freestanding signs along the arterial frontages shall not exceed a combined total area of 2,036 sq. ft.

21. An overall site traffic circulation plan shall be ***submitted to MAPD*** for approval prior to issuance of building permits, cross-lot circulation agreements shall be required at the time of platting to assure internal vehicular movement between parcels within the C.U.P. ***Cross-lot circulation is required for non-residential parcels only.***

Parcel Descriptions:

Parcel 2A
Allowed Uses - All uses permitted in "LC" Limited Commercial Zoning District; EXCEPT for adult entertainment, tattoo parlors, taverns, drinking establishments and night clubs as defined in ***the Unified Zoning Code.***

Gross Area - 0.75 Acres or 32,485 Sq. Ft.
Max. Bldg. Coverage - 9,746 Sq. Ft. (30%)
Max. Gross Floor Area - 9,746 Sq. Ft.
Floor Area Ratio - 0.300
~~***Max. Number of Buildings - 1***~~
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - As per "LC" Zoning District or as set ***forth*** herein. ***If contiguous Parcels are developed under the same ownership, setbacks between such Parcels will not be required.***

Parcel 2B
Allowed Uses - same as Parcel 2A.

Gross Area - 3.62 Acres or 158,331 Sq. Ft.

Max. Bldg. Coverage - 47,499 Ft. (30%)
Max. Gross Floor Area - 47,499 Sq. Ft.
Floor Area Ratio - 0.300
~~Max. Number of Buildings~~
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 2C
Allowed Uses - same as Parcel 2A.

Gross Area - 3.78 Acres or 163,940 Sq. Ft.
Max. Bldg. Coverage - 49,182 Sq. Ft. (30%)
Max. Gross Floor Area - 49,182 Sq. Ft.
Floor Area Ratio - 0.300
~~Max. Number of Buildings~~
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 2D
Allowed Uses - same as Parcel 2A.

Gross Area - 3.56 Acres or 155,131 Sq. Ft.
Max. Bldg. Coverage - 46,539 Sq. Ft. (30%)
Max. Gross Floor Area - 46,539 Sq. Ft.
Floor Area Ratio - 0.300
~~Max. Number of Buildings~~
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - Same as Parcel 2A.

Parcel 3
Allowed Uses - same as Parcel 2A.

Gross Area - 1.15 Acres or 50,248 Sq. Ft.
Max. Bldg. Coverage - 15,074 Sq. Ft. (30%)
Max. Gross Floor Area - 15,074 Sq. Ft.
Floor Area Ratio - 0.300
Max. Number of Buildings - 1
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - ***Same as Parcel 2A.***

Reserve AA
See Lot Split/Boundary Shift for platted uses.

Gross Area - 0.44 Acres or 19,336 Sq. Ft.
Max. Bldg. Coverage - 5,801 Sq. Ft. (30%)
Max. Gross Floor Area - 5,801 Sq. Ft.
Floor Area Ratio - 0.300
Max. Number of Buildings
Max. Bldg. Height - 35
Parking - per Unified Zoning Code
Setbacks - As per "LC" Zoning District or as set forth herein.

On the basis of our review, we find that adjusting the CUP in the manner stated above is consistent with the approved CUP and will not have an adverse effect on the CUP or adjacent properties, nor will it be a substantial deviation of the original plan.

Our signatures below indicate that the CUP shall be adjusted as stated in this letter. This CUP adjustment shall not be deemed to alter any other provisions of the CUP except as expressly stated herein.

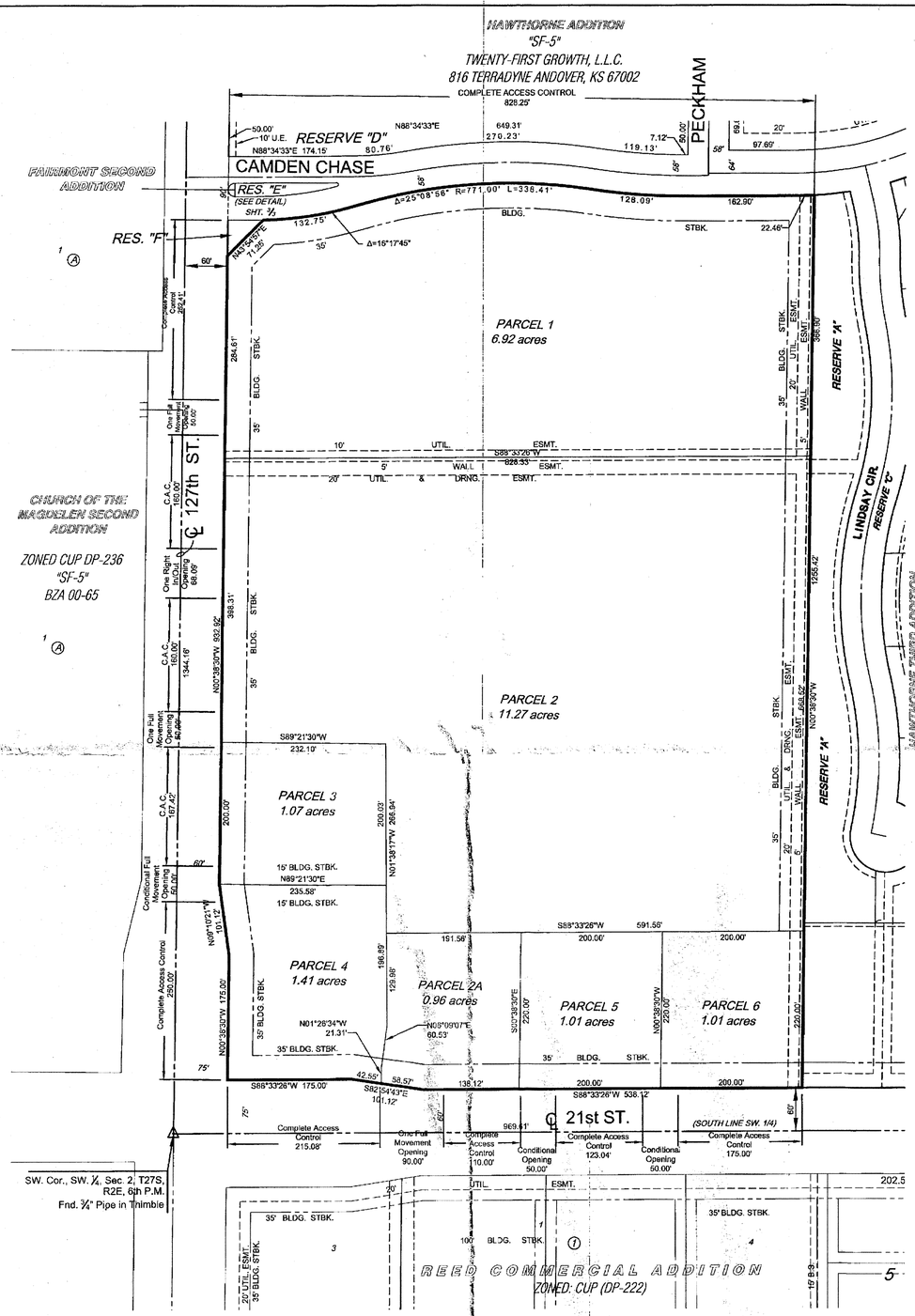
The "Development Application" sign should now be removed from the property. **Please submit four (4) copies of the revised CUP drawing within 60 days (May 8, 2022) in order for this adjustment to be considered final.**

Scott Wadle, Director
Metropolitan Area Planning Department

J.R. COX JR.

John R. Cox, Jr., Zoning Administrator
Metropolitan Area Planning Department

cc: MABCD
Becky Tuttle, CM District II
Cory Buchta, CSR District II



APPROVED CUP
MAPC 6/21/18
WCC: 8/7/18
AMEND #3

COMMUNITY UNIT PLAN DP-238

TWENTY-FIRST COMMERCIAL

OWNERS/DEVELOPER: Twenty-First Growth, L.L.C. 816 Terradyne Andover, KS 67002

GENERAL PROVISIONS

1. This development contains 23.66± net acres.
2. The proposed development contains 7 parcels with commercial uses. See parcel descriptions for specific uses on each parcel.
3. All utilities shall be installed underground.
4. A drainage plan and guaranties for the drainage improvements shall be provided at the time of platting.
5. Final determination of street right-of-way and pavement widths shall be resolved at the time of platting.
6. Parking shall be provided in accordance with the standards of the Unified Zoning Code, except as modified in the Parcel description for Parcel 1.
7. The transfer of the title on all or any portion of the land included in the development does not constitute a termination of the plan or any portion thereof, but said plan shall run with the land for development and be binding upon the present land owners, their successors and assigns and their lessees unless amended.
8. All lighting shall be shielded to reflect light downward and away from residential areas. There shall be no rear building lights within 50 feet of the north and east property line of Parcel 1 and the east property lines of Parcels 2. In addition, all pole lights in these areas shall have a maximum height of 12 feet.
9. Fire lanes shall be in accordance with the City of Wichita Fire Code. No parking shall be allowed in said fire lanes, although they may be used for passenger loading and unloading. During the building permit review, the Fire Chief, or his designated representative, shall approve the design of the fire lanes prior to the issuance of a building permit.
   All fire access to the project shall be as required by the Wichita Fire Department.
10. Trash receptacles shall be appropriately screened to reasonably hidden from ground view.
11. Masonry Wall - a solid or semisolid wall constructed of brick, stone, masonry, architectural tile or other similar material (not including wood or woven wire) at least six feet but not more than 8 feet high shall be constructed along the east property line of Parcel 2 (see plans). Construction of wall will require a building permit. No wall shall be constructed in a utility easement. Construction of wall shall take place for Parcels 2 when building permits are issued. Openings in the wall to permit pedestrian access from the east shall be permitted if approved by the Director of Planning.
    For Parcel 1, a Masonry Wall shall be required along the north and east property line, unless the property is developed with a residential development and enclosed garages are constructed along or near the south and east property lines as shown on the site plan submitted with Amendment #3. The enclosed garages shall be acceptable as appropriate screening for the residential development.
12. At the time of platting the applicant shall guarantee the construction of the north bound lane along 127th Street East to the northern entrance to his/her property.
13. All Roof - top equipment shall be screened from ground level view from adjacent residential areas.
14. Architectural Control - all building exteriors on all Parcels shall share a consistent design, color and texture. Building walls and roofs must have predominately earth-tone colors, with vivid colors limited to incidental accent and must employ materials similar to the surrounding residential areas. Exterior utility boxes, mechanical equipment, and etc., shall be screened and/or painted according to the acceptable color range. All lighting within each parcel shall share consistent design (i.e., fixtures, poles, lamps, etc.) variations must be approved by the director of planning. There shall be no overhead doors facing any residential zoning.
    Parcel 1 shall be permitted separate architectural controls only if developed residentially, and said architectural controls shall be internally consistent only with structures on Parcel 1 and not necessarily consistent with commercial buildings and structures developed on other parcels within the CUP, multifamily structures shall be finished with stone siding as presented to MAPC. If Parcel 1 develops commercially, full consistency with the balance of the CUP shall be required.
15. Signs. No signs with rotating or flashing lights shall be permitted. No portable or off-site signs shall be permitted. One free standing monument type sign is permitted for Parcels 1, 2A, 3, 4, 5, and 6 and two monument type signs shall be permitted on Parcel 2. Maximum height for any sign is 20 feet. Minimum spacing between signs shall be 150 feet. Signage for residential/multifamily uses shall be no greater than 300 square feet.
    Maximum square footage of sign area for Parcels 1 through 6 shall not exceed 80% of lot frontage.
16. If multiple ownership is anticipated, an owner's association agreement providing for the maintenance of reserves, open space, internal drives, parking areas, drainage improvements, etc., shall be filed with the plat of the area.
17. Landscaping buffers and screening along the north and east sides of Parcel 1 shall be installed and maintained consistent with the existing conditions as of the date of Amendment #3 for residential development. Additional evergreen trees shall be utilized to provide screening to the adjacent neighborhood. (also re: item 11).
    Landscape buffers and screening shall be in accordance with the city landscape ordinance.
    A landscape plan indicating the location, type, and specification of plant materials shall be submitted to the planning department for their review and approval prior to the issuance of any building permit(s). The landscape plan shall also state how water is to be provided to the plant materials.
    A financial guarantee for the plant materials and watering system(s) approved for the landscape plan shall be required prior to the issuance of any occupancy permit if the required landscaping has not been installed.
18. Access Controls shall be shown hereon and as per "VAC2015-17". The access opening along 127th Street, as labeled as "Conditional Full Movement Opening", is allowed a full movement opening, provided however if the land use on the northeast corner of the intersection of 127th Street and 21st Street has a traffic trip generation pattern greater than that of a bank with a drive-thru, said access opening shall revert to a right-in right-out only opening. The access openings along 21st Street, as labeled as "Conditional Full Movement Opening", are allowed full movement openings; provided however, if the City of Wichita exercises its right to extend the median in 21st Street, if warranted to aid in traffic control, said openings will revert to right-in right-out only openings.
    Parcel 1 shall have one opening provided to Camden Chase for emergency access only as shown in the site plan submitted with Amendment #3, provided the property is developed with a senior, multiple family residential project as proposed in Amendment #3. If developed commercially, access to Camden Chase shall not be permitted unless this CUP is subsequently amended. Access to 127th Street East from Parcel 1 shall align with the northern drive of the church to the east to include a deceleration lane along 127th street to that drive opening.
19. A plan for a pedestrian walk system shall be a requirement of the C.U.P. The walk system shall link proposed building with the entrances and sidewalks along 21st Street North, and 127th Street East. A pedestrian walk system shall be provided to connect to the existing system along Camden Chase if Parcel 1 is developed residentially. The pedestrian improvements shall be assured by required submission and approval of circulation plans by the Director of Planning prior to issuing building permits.
20. No building permits shall be issued until municipal water and sewer service is available to service this site.
21. An overall site traffic circulation plan shall be submitted to the Director of Planning for approval prior to issuance of building permits. Cross lot circulation agreements shall be required at the time of platting to assure internal vehicular movement between parcels within the C.U.P.
22. The development of this property shall proceed in accordance with the development plan as recommended for approval by the Planning Commission and approved by the Governing Body, and any substantial deviation of the plan, as determined by the Zoning Administrator and the Director of Planning, shall constitute a violation of the building.
23. Any major changes to this development plan shall be submitted to the planning commission and to the governing body for their consideration.

Parcel Descriptions

Parcel 1

Uses - All uses permitted in "LC" Zoning District by right, except for adult entertainment as amended, sexually oriented business in the City, tattoo parlors, taverns, drinking establishments and night clubs as defined in city code, all auto-related uses (vehicle repair, limited; car wash; service station; convenience store, etc.) and overhead doors facing Residential Zoning prohibited. Retail uses are restricted to no single use greater than 8,000 square feet, and restaurants are subject to the restrictions of Article III-D.6.t, which limits their size to 2,000 square feet and prohibits drive-thru lanes.

Gross Area - 6.93 Acres (301,669 Square Feet)
Max. Bldg. Coverage - 90,500 Square Feet (30%)
Max. Gross Floor Area - 140,000 Square Feet (46.4% for residential uses not including the patio spaces)
Max. Gross Floor Area - 90,500 (30% for commercial uses)
Max. Bldg. Height - 35 feet
Max. Number of Buildings - 6
Parking - per Unified Zoning Code if developed commercially; for senior multiple family residential development only, parking shall be provided as the rate of 0.5 parking stalls for one-bedroom dwelling units and 1.0 parking stalls for two bedroom dwelling units. All other parking needs shall be per Unified Zoning Code.
Setbacks - As per "LC" Zoning District or as set forth herein.

Parcel 2

Uses - all uses permitted in "LC" Zoning District except for adult entertainment, taltoo parlors, taverns, drinking establishments and night clubs as defined in city code.

Gross Area - 11.27 Acres (490,741 S.F.)
Max. Bldg. Coverage - 147,222 S.F. (30%)
Max. Gross Floor Area - 147,222 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Max. Number of Buildings - 6
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 2A

Uses - same uses as Parcel 2.

Gross Area - 0.96 Acres (41,961 S.F.)
Max. Bldg. Coverage - 12,588 S.F. (30%)
Max. Gross Floor Area - 12,588 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Max. Number of Buildings - 1
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 3

Uses - same uses as Parcel 2.

Gross Area - 1.07 Acres (46,768 S.F.)
Max. Bldg. Coverage - 14,030 S.F. (30%)
Max. Gross Floor Area - 14,030 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Max. Number of Buildings - 1
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 4

Uses - same uses as Parcel 2.

Gross Area - 1.41 Acres (61,476 S.F.)
Max. Bldg. Coverage - 18,443 S.F. (30%)
Max. Gross Floor Area - 18,443 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Max. Number of Buildings - 1
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 5

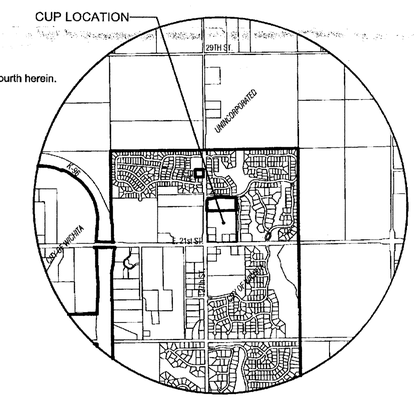
Uses - same uses as Parcel 2.

Gross Area - 1.01 Acres (43,995 S.F.)
Max. Bldg. Coverage - 13,200 S.F. (30%)
Max. Gross Floor Area - 13,200 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35'
Max. Number of Buildings - 1
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.

Parcel 6

Uses - same as Parcel 2.

Gross Area - 1.01 (43,995 S.F.)
Max. Bldg. Coverage - 13,200 S.F. (30%)
Max. Gross Floor Area - 13,200 S.F.
Floor Area Ratio - 0.300
Max. Bldg. Height - 35
Max. Number of Buildings - 1
Parking - per code
Setbacks - As per "LC" Zoning District or as set fourth herein.



VICINITY MAP

SCALE: 1" = 100'
100 0 100 200

AMENDMENT #3 - August 2018
CUP2018-00021 Revised wall restriction and amended restrictions to parcel 1

ADJUSTMENT #1 - June 2015
CUP2015-00010 Revised added Parcels and Revised Access Controls

AMENDMENT #2 - June 2003
Revised uses of Parcel 1, and access control footage

AMENDMENT #1 - June 2002
Revised - Boundary / Areas

MKEC
Wichita, KS • 316.684.9600

H:\CIVIL\021670\DWG\PROP\021270\CUP.DWG

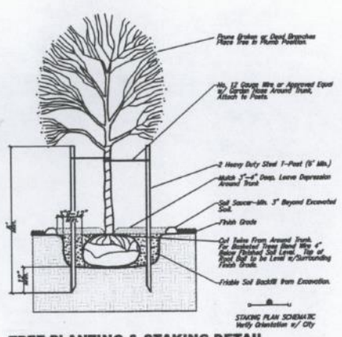
LANDSCAPE NOTES

1. All landscape work shall be done in accordance with industry standards.
2. Trees with broken leaders or no central leader will not be accepted.
3. All planting beds shall be prepared by killing all existing vegetation with Round-Up (or equal) according to label directions. A Pre-emergent herbicide such as Treflan (5%) (or equal) shall be applied per label directions. All planting beds to receive 2" organic matter (such as cotton bur mulch, compost, or humus) and shall be rototilled in to a depth of 10-12".
4. Mulch all planting beds with min. 3" of mulch. Mulch all tree saucer wells with min. 3" of mulch. Mulch material to be premium cedar mulch of uniform consistency.
5. Metal edging shall be used to separate all turf areas from planting beds. Edging shall be 10 gauge thickness, commercial grade, or approved equal.
6. General Contractor to supply and place at a depth of 4", all topsoil on site within the Limits of Construction.
7. Topsoil hauled onto site shall be fertile, friable, natural loam topsoil, of uniform quality characteristic of representative local soils which produce heavy growth of crops, grass, or other vegetation. It shall be free of trash, or other matter toxic to plant growth.
8. Topsoil shall be delivered in an unfrozen and non- muddy condition and shall be subject to approval by the Landscape Architect.
9. Prior to any excavation for landscaping purposes the location of underground utilities shall be determined by calling Kansas One Call at 687-2470/1-800-344-7233. Contractor shall be responsible for any damage done to existing utilities.
10. Report any discrepancies in the planting plan to the Landscape Architect, prior to starting construction.
11. The Landscape Contractor shall coordinate with the G.C. to gain site access to install the plants and maintain grounds, until final acceptance from owner. Upon final acceptance, the one (1) year guarantee period will begin.
12. The Landscape Contractor shall coordinate with the G.C. to install the plants and maintain grounds, until final acceptance from owner.
13. The Landscape Contractor shall submit bid with unit prices for all plants, including mulch, installation, 1 year guarantee, bed preparation, fertilizer, etc.
14. The Landscape Contractor is responsible for any damage done to the exterior of the building or any part of the parking lot when installing or maintaining the plantings before final acceptance.
15. Fall planting season shall be September 1 thru October 31. Spring planting season shall be April 1 thru June 30. For grass seeding, fall season shall be September 1 thru mid October. Spring season for seeding shall be from March 15 thru mid May.

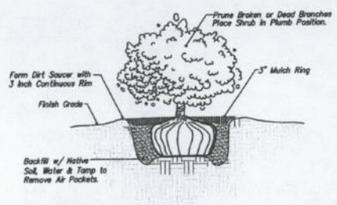
IRRIGATION NOTES

1. Irrigate all turf and plantings on site unless otherwise directed by Owner.
2. Automatic irrigation systems shall be equipped with an automatic rain sensing device.
3. All irrigation work is to be installed in compliance with all local codes and regulations.
4. The Irrigation Contractor does not start irrigation construction until final shop drawings are submitted and approved to the Landscape Architect and/or Owner prior to construction for final approval which: Use Rainbird, Toro, Hunter products, or approved equal, which will illustrate type of head, head coverage, valve location, piping and accessories, and main line location. Included in shop drawings show zone pressure, valve size, GPM requirements and pipe sizing.
5. Prior to construction, Irrigation Contractor to locate all existing and proposed utilities and electrical wiring.
6. Contractor shall not install irrigation system when any obstructions in the field exist. Contact the Landscape Architect for clarification before proceeding around obstructions.
7. Heads to be adjusted to not spray on buildings, walks, or drives. Spray Heads will be located nearest to planting bed edge using funny pipe and fittings. Spray Heads to be located and sized so not to be susceptible to damage by automobile overhangs.
8. Irrigation Contractor shall coordinate with Paving Contractor to locate and install required irrigation lines sleeving prior to any paving. Combine piping when possible to save on sleeving material. Sleeves to be min. 20" below finish grade. Verify final depth w/ Paving Contractor for adequate coverage.
9. Automatic drainage valves to be located at the ends of lines and at the lowest points on the lines.
10. Irrigation Contractor to verify location of water supply with GC prior to installation of system. Irrigation Contractor shall verify static pressure.
11. Locate Irrigation Controller per Owner's direction.

LANDSCAPE PLAN
APPROVED 5/1/22 BY N&S
DP 238



1 **TREE PLANTING & STAKING DETAIL**
Deciduous Trees Larger than 2" Cal.
Evergreen Trees Larger than 6' Height
No Scale



2 **SHRUB PLANTING DETAIL**
5 Gallon and Smaller
No Scale

LEGAL DESCRIPTION

Tract 2A, a portion of Lot 2, Block 6, Hawthorne Addition, an addition to Wichita, Sedgwick County, Kansas.

SITE INFORMATION

Total Area:	±32,485 sq. ft. (0.75 acres)
Disturbed Area:	±32,485 sq. ft. (0.75 acres)
Impervious Area, pre-const:	±0 sq. ft. (0.00 acres)
Impervious Area, post-const:	±22,041 sq. ft. (0.51 acres)

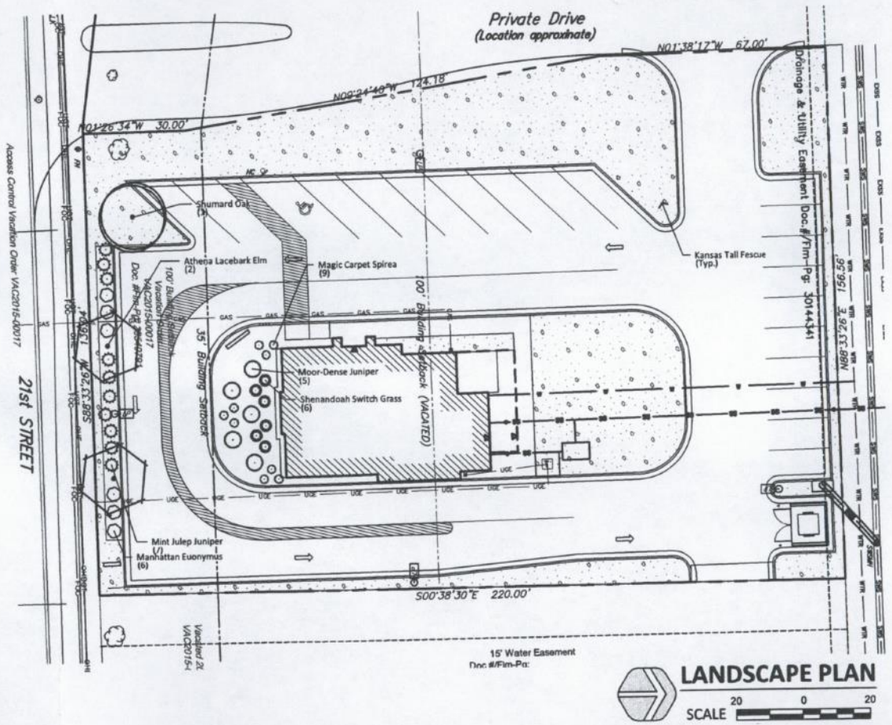
KEEP THIS AREA CLEAR FOR ELECTRONIC APPROVAL STAMP (WICHITA/SEDGWICK COUNTY ONLY)

BENCHMARKS

Site Benchmark - 1
N: 1700946.966 E: 1691209.341 EL: 1378.83
SQ Cut front center curb inlet on south side entrance to The Enclave subdivision intersection of 127th St E and 127th St Ct.

KANSAS ONE CALL

Contractor shall be required to provide notice to Kansas One Call at 287-2470 a minimum of three (3) working days prior to any excavation or



LANDSCAPE PLAN
SCALE 20 0 20

PLANT SCHEDULE

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONT
	6	EUONYMUS KIAUTSCHOVICUS 'MANHATTAN'	MANHATTAN EUONYMUS	18" TALL / 2 GAL. MIN.
	10	JUNIPERUS CHINENSIS 'MINT JULEP'	MINT JULEP JUNIPER	18" TALL / 2 GAL. MIN.
	5	JUNIPERUS SABINA 'MONARD' TM	MOOR-DENSE JUNIPER	5 GAL
	6	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	18" TALL / 2 GAL. MIN.
	9	SPIRAEA X BUMALDA 'WALBUMA'	MAGIC CARPET SPIREA	18" TALL / 2 GAL. MIN.

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING
	8,991 SF	FESTUCA ARUNDINACEA SOD	KANSAS TALL FESCUE	SOD	

LANDSCAPE CALCULATIONS

STREET YARD

Lot depth: 220'
Square Footage factor: 10

21st Street frontage: 136'

Landscaped street frontage required:
136 x 10 = 1,360 sq. ft.

Provided: 2,016 sq. ft.

Street Yard Trees required:
1,360' / 500 = 3 trees required

Provided: 3 shade trees

PARKING

Continuous shrub screen provided.

Proposed Stalls: 20

Required parking lot trees: 20/20 = 1
Provided: 1 shade tree

BAUGHMAN COMPANY
315 Ellis St. Wichita, KS 67211 316-262-7271
BaughmanCo.com

E:\Projects\HTeaO Hawthorne Commercial_22-04-E171\Engineering\HTeaO base.dwg

CLARKITECTURE
BUILDINGS THAT MEAN BUSINESS.
CLARKITECTURE.NET
(316) 302-4472

PROJECT INFO

CLIENT:
HAWTHORNE TEA, LLC

PROJECT:
HTEAO - WICHITA, KS - 21ST & 127TH

ADDRESS:
12930 E 21ST ST N
WICHITA, KS 67228

PROJECT NO: 272

MAIN CONTACT

CHRISTOPHER CLARK, AIA, NCARB
7701 E KELLOGG DR, STE 630
WICHITA, KS 67207
(316) 302-4472
chris@clarkitecture.net

DESIGN TEAM

ARCHITECTURE
CLARKITECTURE
7701 E KELLOGG DR, STE 630
WICHITA, KS 67207
(316) 302-4472

STRUCTURAL
MKEC ENGINEERING
411 N WEBB RD
WICHITA, KS 67206
(316) 684-9600

MECHANICAL
BC ENGINEERS
5720 REEDER ST
SHAWNEE, KS 66203
(913) 262-1772

ELECTRICAL
BC ENGINEERS
5720 REEDER ST
SHAWNEE, KS 66203
(913) 262-1772

CIVIL & LANDSCAPE
BAUGHMAN COMPANY
315 S ELLIS
WICHITA, KS 67211
(316) 262-7271

SHEET INFO

ISSUE DATE: 05/05/22
ISSUED FOR: PERMIT

REVISION SCHEDULE

NO	DESCRIPTION	DATE

PROFESSIONAL'S SEAL:

AARON HARNDEN
LICENSED
886
05/05/2022
KANSAS
LANDSCAPE ARCHITECT

LANDSCAPE PLAN

L1.0

Wichita-Sedgwick County Metropolitan Area Planning Department

June 25, 2018

Calamar, Inc.
Attn: Jerry Hill
15 NW 114th Court
Kansas City, MO 64115

Professional Engineering Consultants
Attn: Rebecca Grief
303 South Topeka
Wichita, KS 67202

Twenty First Growth, LLC
8415 East 21st Street North
Wichita, KS 67206

RE: CUP2018-00021 - City request to approve Amendment #3 of DP-238 Twenty-First Commercial Community Unit Plan – Parcel 1 on property located on the east side of north 127th Street East and north of East 21st Street North.

Dear Applicants:

At its regular meeting on **June 21, 2018**, the Wichita - Sedgwick County Metropolitan Area Planning Commission considered the above captioned request. The action of the MAPC was to **APPROVE** the request as recommended by staff, subject to changes addressing the alignment of access to 127th Street with the drive entrance to the church on the west side; the guarantee of turn lanes along the east side of 127th Street; the elimination of the sidewalk along the south side of Camden Chase; the installation of additional evergreen trees for screening along the south side of Camden Chase; limitation of signage for residential uses to 300 square feet; use of stone siding as presented for architectural standards for residential use; keeping the height limitation as shown on the existing CUP of 35 feet maximum; and, installation of pedestrian connections to existing sidewalk on north side of Camden Chase as presented.

Property owners opposed to the application may file with the City Clerk a signed, written protest of the MAPC's recommendation. (Unsigned e-mails are not considered to be legal protests.) To be effective, the protest must be filed by 5:00 p.m. on **July 5, 2018**. In order to be considered a "valid" petition, the signatures must reflect the correct and entire ownership of the property, the property must be at least partially located within 200 feet of the property for which the application was filed, and must be submitted to the City Clerk by **July 5, 2018 at 5:00 p.m.**

If there is no formal protest filed on this case, the MAPC action will be considered final and a letter outlining the final actions needed will be sent to you. If there is a formal protest, this application will be presented to the Wichita City Council on **Tuesday, August 7, 2018, beginning at 9:00 a.m.** The City Council meeting will be held in the City Council Chambers, First Floor, City Hall, 455 N. Main, Wichita, Kansas.

This is a reminder that the zoning notification signs should now be removed from the property.

If you have any questions concerning this application, please contact our office at 268-4421.

Sincerely,

David L. Yearout, AICP
Principal Planner

Copies to: WCC II, Pete Meitzner, Mail Stop 1-13
Laura Rainwater, CSR II, Mail Stop 1-135
MABCD
Jeff Van Zandt, City Law, Mailstop 1-134
Julianne Kallman, Engineering, Mail Stop 1-71
Bill Martin, 2406 N. Peckham St., Wichita, KS 67228
Keith W. Wagner, 2409 N Peckham Ct Wichita, KS 67228
Avery M Elofsson, 2437 N Peckham CT., Wichita, KS 67228

CITY OF WICHITA

Wichita-Sedgwick County Metropolitan Area Planning Department

May 20, 2015

MKEC Engineering, Inc.
Attn: Brian Lindebak
411 North Webb Road
Wichita, KS 67206-2521

RE: City Community Unit Plan Administrative Adjustment (CUP2015-00010) to modify the Twenty-First Commercial Community Unit Plan (CUP) DP-238 to modify the boundaries and associated development standards of Parcels 2, 3, and 4; create Parcel 2A and its development standards; modify access controls, easements and other minor modifications as detailed on the attached letter dated April 27, 2015, on land located at the northeast corner of East 21st Street North and North 127th Street East.

Currently, with respect to parcel area: Parcel 2 contains 12.55 acres; Parcel 3 contains 1.11 acres; Parcel 4 contains 1.05 acres and Parcel 2A does not exist. The applicant proposes the following areas: Parcel 2 11.27 acres; Parcel 3 1.07 acres; Parcel 4 1.41 acres and Parcel 2A .96 acres.

Requested modification of the parcel areas for the subject parcel results in the following maximum building coverage/maximum gross floor area (30 percent): Parcel 2 147,222 square feet; Parcel 3 14,030 square feet; Parcel 4 18,443 square feet and Parcel 2A 12,588 square feet.

Parcel 2A uses are to be the same uses as allowed in Parcel 2; maximum building height of 35 feet; maximum number of building 1and parking per code.

Access control is proposed to be shifted eastward from the intersection of 127th Street and East 21st Street but remains the same as the existing CUP with three openings. The number of access controls remain the same on 127th Street; however the first entrance has been moved northward from the intersection of 127th and East Central.

General Provision No. 2 is proposed to be modified to reflect 7 parcels instead of 6.

General Provision No. 8 is proposed to be modified to eliminate reference to Parcel 6 in the first sentence "...and the east property lines of Parcels 2 ~~and 6~~.

General Provision No. 11 is proposed to be modified to eliminate the screening wall along the east property line of Parcel 6.

General Provision No. 15 is proposed to be modified to allow one free standing monument type sign on Parcels 1, 2A, 3, 4, 5 and 6 and to permit two monument type signs for Parcel 2.

General Provision No. 18 is proposed to be modified as shown hereon as per VAC2015-17.

Parcel 1 uses are proposed to be amended to include clarify that "sexually oriented business in the City" is prohibited.

Setbacks for all parcels are proposed to be "as per the LC zoning district or as set forth herein."

We have reviewed your request and have approved the requested adjustment as described above and shown on the revised CUP drawing submitted with CUP2015-00010, except that General Provision 18 needs additional clarification. The first opening on the south on 127th Street is allowed as a full movement drive provided the land use on the corner parcel has traffic trip generation of equal to or less than a bank with a drive-thru. The access points on 21st Street labeled as conditional are allowed full movement drives; however, if the City exercises its right to extend the median in 21st Street, if warranted to aid in traffic control, the conditional drives will revert to right-in right-out only. A final CUP document with that explanation shall be submitted before the Administrative Adjustment is completed.

All other applicable development standards shall apply unless specifically adjusted or amended.

Except as expressly stated above, this adjustment shall not be deemed to alter any other provisions of the CUP. The zoning notification signs may now be removed from the property.

John L. Schlegel
Director of Planning

Tom J. Stolz
Director of the Metropolitan Area Building and Construction Department

cc: Pete Meitzner, WCC
J.R. Cox, MABCD

11/7/2019 10:44:13 AM

Planting Ordinance Calculations

Required Street Yard

127th street frontage: 934.31' E. Camden Chase frontage: 828.24', Maximum distance to street wall: 195.48'

Method 2 Calculation: 934.31+828.24-195.48= 967.07

Maximum lot depth greater than 375 for a landscape yard factor of 20

967.07 x 20= 19025.4 SF of required street yard

Street yard provided: 89,235.8 SF

Required Street Trees.

1 tree per 500 sf of street yard

19025.4 sf of street yard required

38 Street Trees required

52 provided: 4 new shade trees, 19 conifers to provide addition screening along E. Camden Chase, and 29 existing screening trees are within the street yard.

Required Buffers

The existing screening along the north and east boundaries are required to be maintained per CUP. Additional evergreen screening has been added per CUP. Buffers are not required along south property boundary.

Parking Lot Perimeter Landscaping

Perimeter parking lot screening will be required along 127th and will be provided at new parking within 150' of property line abutting the 127th street right of way. North parking lot is screened by existing plantings.

Parking Lot Trees

1 tree is required for every 20 stalls

Number of parking spaces provided: 122

Parking lot trees required: 6

Parking Lot Trees Provided: 6

Plant List

Scientific Name	Common Name	Plant Size	Container Size	Condition	Remarks
TREES					
Picea glauca 'Densata'	Black Hills Spruce	6' Height	b&b		
Pinus flexilis 'Vanderwolf's Pyramid'	Limber Pine	6' Height	b&b		
Zelkova serrata	Japanese Zelkova	2 1/2" Cal.	b&b		
Quercus shumardi	Shumard Oak	2 1/2" Cal.	b&b		
Ulums parvifolia 'Elmerit'	Lacebark Elm	2 1/2" Cal.	b&b		
SHRUBS					
Cotoneaster horizontalis 'Perpusillus'	Rockspray Cotoneaster	medium	#3	Container	Full & Healthy
Juniperus x pfitzeriana 'Aurea Improved'	Gold Coast Juniper	large	#5	Container	Full & Healthy
Syringa meyeri 'Palibin'	Dwf. Korean Lilac	medium	#3	Container	Full & Healthy
ORNAMENTAL GRASSSES					
Pennisetum orientale 'Karley Rose	Karley Rose Fountain Grass	Orn. Grass	#1	container	Full & Healthy
SOD					
Kansas premium fescue blend	sod blend shall include a fescue/ bluegrass blend				

LEGEND

- SHADE TREE PLANTING, SEE SHEET LP501
- ORNAMENTAL TREE PLANTING, SEE SHEET LP501
- CONIFER PLANTING, SEE SHEET LP501
- SHRUB PLANTING, SEE SHEET LP501
- ORNAMENTAL GRASS, SEE SHEET LP501
- AREA TO BE SODDED WITH KANSAS PREMIUM FESCUE SOD
- GRASS PAVER , COORDINATE FESCUE TURF INSTALLATION WITH PAVER MANUFACTURER'S RECOMMENDATIONS
- 2"-3" RIVER ROCK OVER 5. OZ GEOTEXTILE

NOTE: SEE SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS

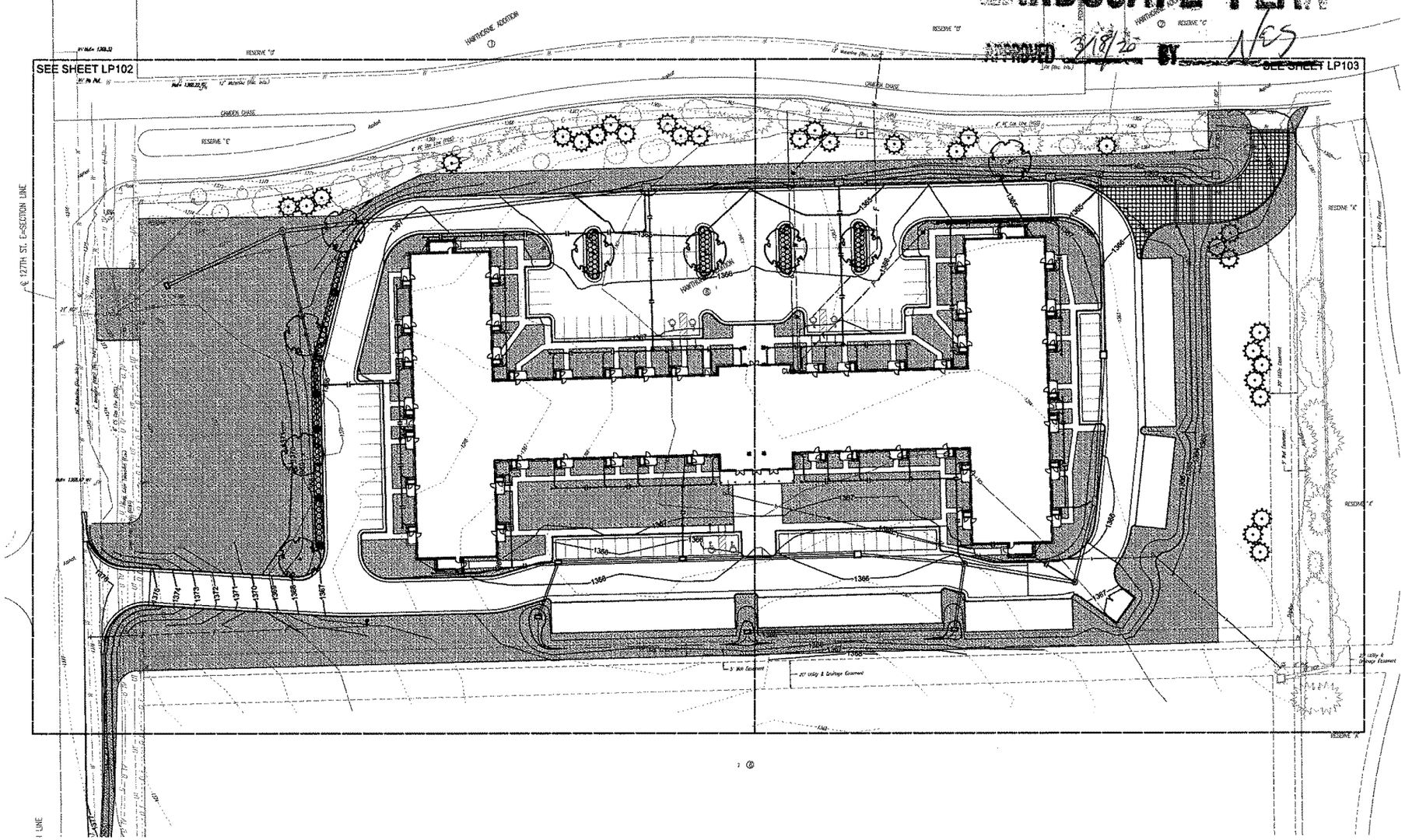
0 30 60
SCALE IN FEET

MABCD REVIEWER:

DP-238

LANDSCAPE PLAN

APPROVED 3/18/20 BY



MEANINGFUL DESIGN

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691
www.pec1.com

CAMDEN CHASE SENIOR LIVING
INDEPENDENT

KURT M HUINKS LICENSED 642 11/07/2019 KANSAS LANDSCAPE ARCHITECT

HCR SHARS NO.:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

These documents and all the ideas, arrangements, designs and data included therein or contained therein are owned by and remain the property of EWBR and no part thereof shall be utilized by any person, firm, or corporation for any purpose whatsoever except with the specific written permission of EWBR. All rights reserved.

Revisions

Calamar Wichita

2430 N. 127th St, E. Wichita, KS 67229

EWBR Project Number

Richard Lyonsm
Director of Construction Operations
Calamar
3848 Forest Parkway, Suite 100
Wheatfield, NY 14120

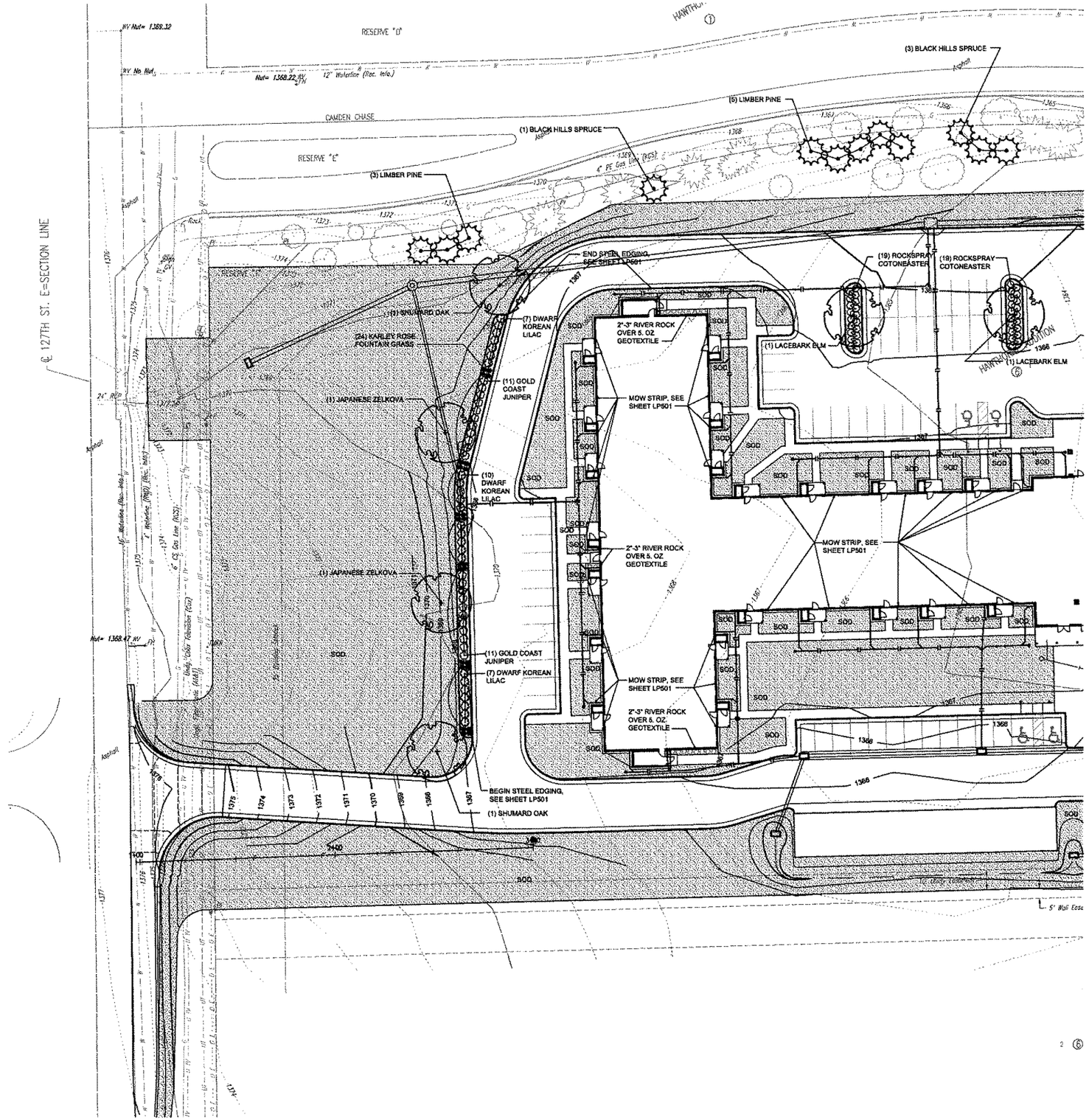
LP101

OVERALL PLANTING PLAN

11/05/2019
Final Review Submission-
Not for Construction

FILE PATH: U:\WICHITA-CIVIL\2017\171321001\IN\DRAWINGS\PLANS\171321-001-LP101.DWG

11/7/2019 10:44:34 AM



LEGEND

- SHADE TREE PLANTING, SEE SHEET LP501
- CONIFER PLANTING, SEE SHEET LP501
- SHRUB PLANTING, SEE SHEET LP501
- ORNAMENTAL GRASS, SEE SHEET LP501
- AREA TO BE SODDED WITH KANSAS PREMIUM FESCUE SOD
- GRASS PAVER. COORDINATE FESCUE TURF INSTALLATION WITH PAVER MANUFACTURER'S RECOMMENDATIONS
- 2"-3" RIVER ROCK OVER 5. OZ GEOTEXTILE

NOTE: SEE SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS

MABCD REVIEWER:

MEANINGFUL DESIGN

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KURT M. HUNTAS LICENSED 11/07/2019 KANSAS LANDSCAPE ARCHITECT

HCR SHARS NO.:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

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Revisions

Calamar Wichita
2430 N. 127th St. E. Wichita, KS 67228
SHSBR Project Number

Richard Lynam
Director of Construction Operations
Calamar
3948 Forest Parkway, Suite 100
Wheatfield, NY 14120

LP102

WEST PLANTING PLAN

11/05/2019
Final Review Submission-Not for Construction

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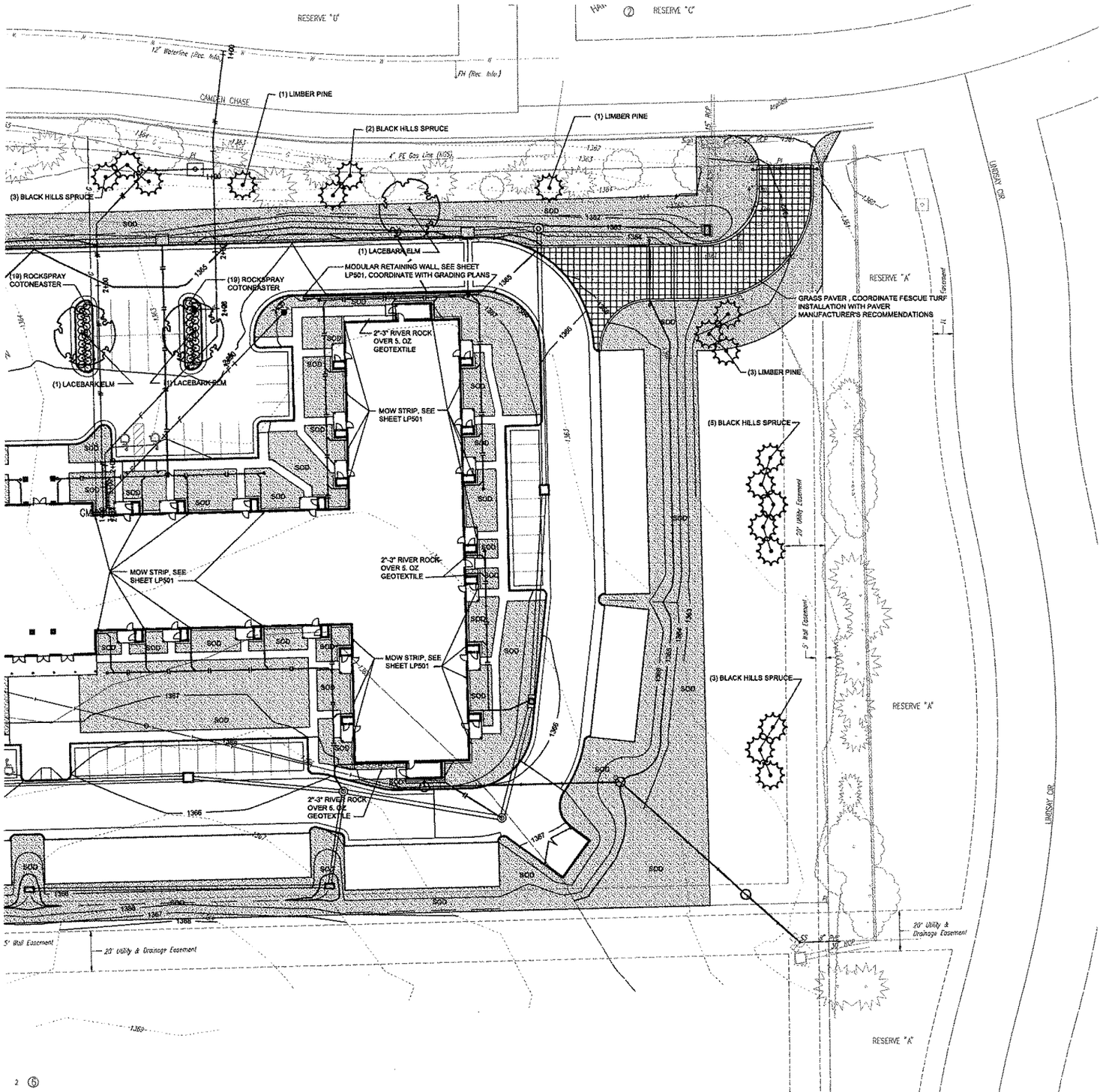

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SCALE IN FEET

MABCD
REVIEWER:

LEGEND

- SHADE TREE PLANTING, SEE SHEET LP501
- CONIFER PLANTING, SEE SHEET LP501
- SHRUB PLANTING, SEE SHEET LP501
- ORNAMENTAL GRASS, SEE SHEET LP501
- AREA TO BE SODDED WITH KANSAS PREMIUM FESCUE SOD
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NOTE: SEE SHEET LP501 FOR LANDSCAPE NOTES AND DETAILS

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KURT M HUIRAS LICENSED 11/07/2019 KANSAS LANDSCAPE ARCHITECT

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Project Manager:	DG

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Revisions

Calamar Wichita

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LP103

EAST PLANTING PLAN

11/05/2019
Final Review Submission-
Not for Construction

FILE PATH: U:\WICHITA-CIVIL\2017\171321\001\MUNI\DRAWINGS\PLANS\171321-001-LP103.DWG

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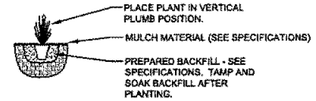
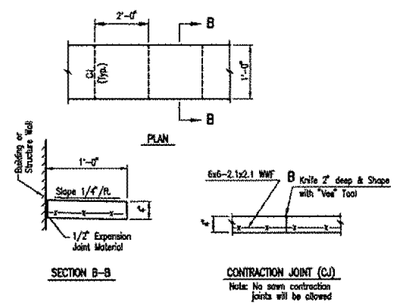
GENERAL PLANTING NOTES

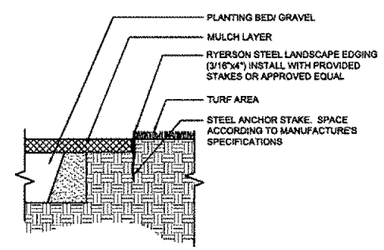
1. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE LANDSCAPE ARCHITECT FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK. REPORT ANY ISSUES IN SITE CONDITIONS AND CONSTRUCTION THAT MAY AFFECT THE PLANTING LAYOUT TO THE PROJECT ARCHITECT PRIOR TO STARTING CONSTRUCTION.
2. LANDSCAPE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND SERVICE NECESSARY TO FURNISH AND INSTALL PLANTINGS AS SPECIFIED HEREIN AND AS SHOWN ON THESE PLANS.
3. NO MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT LANDSCAPE ARCHITECT'S APPROVAL. ALTERNATIVE MATERIALS OF SIMILAR SIZE AND CHARACTER MAY BE CONSIDERED IF SPECIFIED PLANT MATERIALS CANNOT BE OBTAINED. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REVISE PLANT LIST AS DEEMED NECESSARY.
4. LANDSCAPE CONTRACTOR IS TO STAKE ALL PLANT MATERIAL (TREE AND SHRUB) LOCATIONS PRIOR TO INSTALLATION. CONTRACTOR IS TO CONTACT OWNER'S REPRESENTATIVE FOR PRE-INSTALLATION CONFERENCE AND FINAL APPROVAL OF STAKING. ADJUST PLANT LOCATIONS ONLY AS NECESSARY TO AVOID SITE CONFLICTS.
5. UTILITIES HAVE BEEN SHOWN ON THE PLAN FOR ROUGH LOCATION OF SERVICES. CONTRACTOR SHALL LOCATE ALL UTILITIES BEFORE WORK. LOCATE EXACT UTILITY LOCATIONS BY CONTACTING UTILITY LOCATOR SERVICES. CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE HE MAY CAUSE TO UTILITIES.
6. GENERAL CONTRACTOR SHALL PROVIDE 4" OF TOPSOIL AT ALL SOD AND PLANTING AREAS. GRADE SHALL BE ADJUSTED FOR SOD THICKNESS. ANY BERMS SHOWN ON PLANS ARE REFLECTED ON GRADING PLAN. FINISH GRADING SHALL BE PERFORMED BY LANDSCAPE CONTRACTOR.
7. WHEN CLAY SOIL IS ENCOUNTERED IN THE ESTABLISHMENT OF THE LAWN OR THE INSTALLATION OF THE PLANT MATERIAL IT SHALL BE IMPROVED IN ACCORDANCE WITH STANDARD TRADE PRACTICE.
8. BACKFILL FOR PLANT EXCAVATIONS TO BE CLEAN NATURAL SOIL, EXCAVATED FROM PLANTING PITS MIXED WITH COMPOST AND WELL-ROTTED MANURE AT A RATIO OF THREE (3) PARTS SOIL TO ONE (1) PART COMPOST AND WELL-ROTTED MANURE.
9. CULTIVATE GROUND COVER PLANTING BEDS TO A DEPTH OF 6". TILL COMPOST AND WELL-ROTTED MANURE INTO THE PLANTING BED AT THE APPROXIMATE RATIO OF ONE (1) PART COMPOST/ MANURE TO THREE (3) PARTS SOIL.
10. ALL PLANT MATERIALS SHALL BE PROTECTED FROM THE DRYING ACTION OF THE SUN AND WIND AFTER BEING DUG, WHILE BEING TRANSPORTED, AND WHILE AWAITING PLANTING. BALLS OF PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY SHALL BE PROTECTED FROM DRYING ACTION BY COVERING THEM WITH MOIST MULCH. PERIODICALLY, APPLY WATER TO MULCH-COVERED BALLS TO KEEP MOIST. IF PLANTING SHOULD OCCUR DURING GROWING SEASON, APPLY ANTI-DESICCANT TO LEAVES BEFORE TRANSPORT TO REDUCE LIKELIHOOD OF WINDBURN. REAPPLY ANTI-DESICCANT AFTER PLANTING TO REDUCE TRANSPIRATION.
11. AFTER PLANTING IS COMPLETED, REPAIR INJURIES TO ALL PLANTS AS REQUIRED. LIMIT AMOUNT OF PRUNING TO A MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. PRUNE IN SUCH A MANNER AS NOT TO CHANGE NATURAL HABIT OR SHAPE OF PLANT. MAKE CUTS FLUSH, LEAVING NO STUBS. CUTS OF ONE INCH (1") OR MORE TO BE PAINTED WITH TREE PAINT. CENTRAL LEADERS SHALL NOT BE REMOVED.
12. PLANTING BEDS ARE TO BE FREE OF WEEDS AND GRASS. TREAT PLANTING BEDS WITH A PRE-EMERGENT HERBICIDE PRIOR TO PLANTING. APPLY IN ACCORDANCE WITH STANDARD TRADE PRACTICE. DO NOT APPLY HERBICIDE IN PERENNIAL BEDS.
13. THE CONTRACTOR SHALL PROVIDE ALL WATER, WATERING DEVICES AND LABOR NEEDED TO IRRIGATE PLANT MATERIALS UNTIL ACCEPTANCE OF PLANT MATERIALS AS DESCRIBED WITHIN SPECIFICATIONS. THE CONTRACTOR SHALL SUPPLY ENOUGH WATER TO MAINTAIN THE PLANT'S HEALTHY CONDITION.
14. USE SHREDDED CEDAR MULCH IN ALL PLANTING BEDS UNLESS OTHERWISE NOTED. LANDSCAPE CONTRACTOR SHALL SUBMIT A SAMPLE OF MULCH FOR APPROVAL PRIOR TO STARTING CONSTRUCTION. SIZE OF MATERIAL TO RANGE FROM 1" TO 3" ONLY. PLACE 3" TO 4" OF MULCH IN ALL SHRUB BEDS. PLACE 1" OF MULCH IN GROUNDCOVER BEDS. PLACE 4" OF MULCH IN ALL TREE SAUCERS.
15. REMOVE ALL RUBBISH, EQUIPMENT AND MATERIAL AND LEAVE THE AREA IN A NEAT, CLEAN CONDITION EACH DAY. MAINTAIN PAVED AREAS UTILIZED FOR HAULING EQUIPMENT AND MATERIALS BY OTHER TRADES IN A CLEAN AND UNOBSTRUCTED CONDITION AT ALL TIMES. REMOVE SOIL OR DIRT THAT ACCUMULATED DURING OR AS A RESULT OF PLANTING OPERATIONS EACH DAY.
16. ALL PLANTS SHALL BE INSPECTED BY THE OWNER AND LANDSCAPE ARCHITECT AT SUBSTANTIAL COMPLETION. CONTRACTOR SHALL REPLACE IMMEDIATELY ANY PLANTS NOT IN HEALTHY AND VIGOROUS CONDITION AT THAT TIME AT NO EXPENSE TO THE OWNER.
17. ANY VEGETATED AREAS DISTURBED BY THE CONSTRUCTION PROCESS MUST BE RESTORED BY REPAIRING THE SOIL BED AND RE-ESTABLISHING ORIGINAL PLANTINGS.
18. LANDSCAPE CONTRACTOR IS REQUIRED TO REMOVE THE TREE STAKES AND ALL DEAD WOOD ON TREES ONE YEAR AFTER PROVISIONAL/ FINAL ACCEPTANCE. ALL PRUNING ACTIVITIES SHALL BE PER ANSI A300: STANDARDS FOR THE TREE CARE INDUSTRY, PART 1 PRUNING AND TRIMMING OPERATIONS.
19. ALL TREES SHALL BE CALLIPERED AND TRUNKS SHALL BE STRAIGHT. TREE DIAMETER MEASUREMENT SHALL BE TAKEN FROM DBH (DIAMETER AT BREAST HEIGHT OF 4.5 FEET ABOVE GROUND. ALL UNDERSIZED AND TREES WITH UNSATISFACTORY FORM SHALL BE REJECTED.
20. ANY DEVIATION TO THE APPROVED FINAL LANDSCAPE PLAN SHALL REQUIRE THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
21. FERTILIZE ALL PLANT MATERIALS AND TURF WITH MILORGANITE FERTILIZER AT MANUFACTURERS RECOMMENDED RATE.
22. REFER TO IRRIGATION CONCEPT PLAN FOR AREAS AND METHODS FOR IRRIGATION.
23. APPLY MYKE (OR EQUAL) MYCORRHIZAL FUNGI TO PLANT MATERIAL PER THE MANUFACTURERS INSTRUCTIONS.
24. ALL PLANT MATERIALS SHALL HAVE BACKFILL CAREFULLY PLACED AROUND BASE AND SIDES OF BALL TO TWO-THIRDS (2/3) DEPTH OF BALL. THEN THOROUGHLY SOAKED WITH WATER TO ALLOW SETTLEMENT. ALL WIRE, BURLAP FASTENERS AND LOOSE BURLAP AROUND BASE OF TREE SHALL BE REMOVED AT THIS TIME. REMAINDER OF PIT SHALL THEN BE BACKFILLED, ALLOWING FOR DEPTH OF MULCH, SAUCER AND SETTLEMENT OF BACKFILL. BACKFILL SHALL THEN BE THOROUGHLY WATERED ONCE AGAIN.
25. PLANTING BEDS ARE TO BE FREE OF WEEDS AND GRASS. DO NOT INSTALL WEED BARRIER IN PLANTING AREAS.
26. SOD ALL AREAS SHOWN ON PLAN PER SPECIFICATIONS.



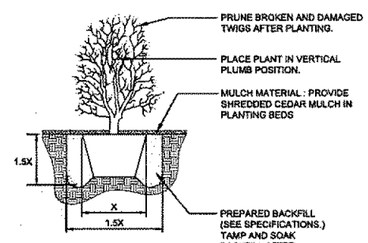
1 ORNAMENTAL GRASS PLANTING DETAIL
NO SCALE



2 MOW STRIP
NO SCALE

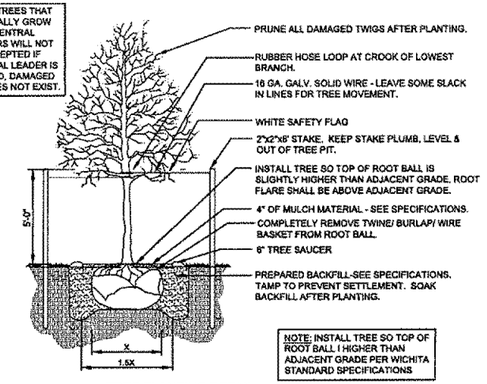


3 STEEL EDGING DETAIL
NO SCALE



4 SHRUB PLANTING DETAIL
NO SCALE

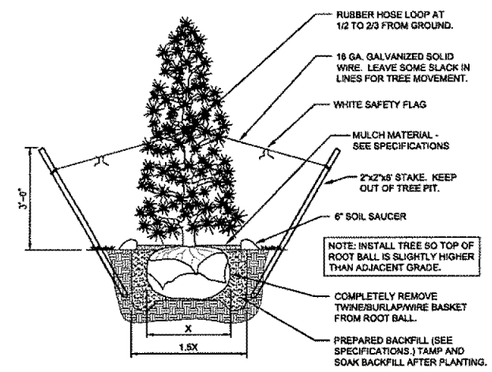
NOTE: TREES THAT NATURALLY GROW WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF CENTRAL LEADER IS PRUNED, DAMAGED OR DOES NOT EXIST.



5 TREE PLANTING DETAIL
NO SCALE

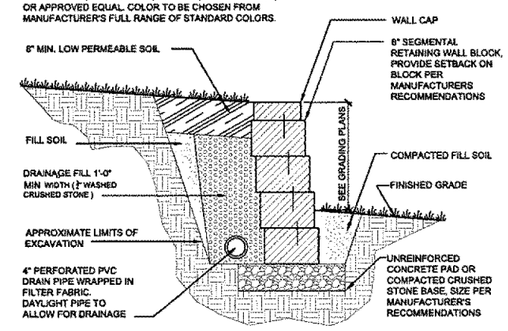
SINGLE LEADER ONLY.

NOTE: DO NOT CUT CENTRAL LEADER OR PRUNE NEW CANDLES.



6 EVERGREEN TREE PLANTING DETAIL
NO SCALE

BASIS OF DESIGN: KEYSTONE COMPAC II, AS MANUFACTURED BY KEYSTONE RETAINING WALL SYSTEMS LLC, MINNEAPOLIS, MN 55435, PH:800.747.8971, OR APPROVED EQUAL. COLOR TO BE CHOSEN FROM MANUFACTURER'S FULL RANGE OF STANDARD COLORS.



7 MODULAR RETAINING WALL
NO SCALE

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NOR SHARS NO.:

Drawn by: RFY
Checked By: DRC
Project Manager: DG

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Revisions

Coleman Wichita

2430 N. 127th St. E. Wichita, KS 67228

SWBR Project Number

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LP501

LANDSCAPE DETAILS

11/05/2019
Final Review Submission-
Not for Construction

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SECTION 32 91 13
SOIL PREPARATION

part 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Retain or delete this article in all Sections of Project Manual.

B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes planting soils specified by composition of the mixes.

B. Related Requirements:

1. Section 32 92 00 "Turf and Grasses" for placing planting soil for turf and grasses.
2. Section 32 93 00 "Plants" for placing planting soil for plantings.

1.3 ALLOWANCES

A. Preconstruction and field quality-control testing are part of testing and inspecting allowance.

1.4 UNIT PRICES

1.5 DEFINITIONS

A. AAPFCO: Association of American Plant Food Control Officials.

B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended or unamended soil as indicated.

C. CEC: Cation exchange capacity.

D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.

E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.

F. Imported Soil: Soil that is transported to Project site for use.

G. Layered Soil Assembly: A designed series of planting soils, layered on each other, that together produce an environment for plant growth.

H. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.

I. NAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.

J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."

K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

L. RCRA Metals: Hazardous metals identified by the EPA under the Resource Conservation and Recovery Act.

M. SSSA: Soil Science Society of America.

N. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

O. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.

P. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.

Q. USCC: U.S. Composting Council.

1.6 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.7 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include recommendations for application and use.
2. Include test data substantiating that products comply with requirements.
3. Include sieve analyses for aggregate materials.
4. Material Certificates: For each type of imported soil and soil amendment and fertilizer before delivery to the site, according to the following:
   a. Manufacturer's qualified testing agency's certified analysis of standard products.
   b. Analysis of fertilizers, by a qualified testing agency, made according to AAPFCO methods for testing and labeling and according to AAPFCO's SUIP #25.
   c. Analysis of nonstandard materials, by a qualified testing agency, made according to SSSA methods, where applicable.

B. Samples: For each bulk-supplied material, 1-quart (1-L) volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture.

1.8 INFORMATIONAL SUBMITTALS

A. Qualification Data: For each testing agency.

B. Preconstruction Test Reports: For preconstruction soil analyses specified in "Preconstruction Testing" Article.

C. Field quality-control reports.

1.9 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

1. Multiple Laboratories: At Contractor's option, work may be divided among qualified testing laboratories specializing in physical testing, chemical testing, and fertility testing.

1.10 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction soil analyses on existing, on-site soil.

1. Notify Architect seven days in advance of the dates and times when laboratory samples will be taken.

B. Preconstruction Soil Analyses: For each unamended soil type, perform testing on soil samples and furnish soil analysis and a written report containing soil-amendment and fertilizer recommendations by a qualified testing agency performing the testing according to "Soil-Sampling Requirements" and "Testing Requirements" articles.

1. Have testing agency identify and label samples and test reports according to sample collection and labeling requirements.

1.11 SOIL-SAMPLING REQUIREMENTS

A. General: Extract soil samples according to requirements in this article.

B. Sample Collection and Labeling: Have samples taken and labeled by state-certified, -licensed, or -registered soil scientist under the direction of the testing agency.

1. Number and Location of Samples: Minimum of three representative soil samples from varied locations for each soil to be used or amended for landscaping purposes.
2. Procedures and Depth of Samples: According to USDA-NRCS's "Field Book for Describing and Sampling Soils."
3. Division of Samples: Split each sample into two, equal parts. Send half to the testing agency and half to Owner for its records.
4. Labeling: Label each sample with the date, location keyed to a site plan or other location system, visible soil condition, and sampling depth.

1.12 TESTING REQUIREMENTS

A. General: Perform tests on soil samples according to requirements in this article.

B. Physical Testing:

1. Soil Texture: Soil-particle, size-distribution analysis by one of the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
   a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.
   b. Hydrometer Method: Report percentages of sand, silt, and clay.
2. Total Porosity: Calculate using particle density and bulk density according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
3. Water Retention: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
4. Saturated Hydraulic Conductivity: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods"; at 85% compaction according to ASTM D 698 (Standard Proctor).

C. Chemical Testing:

1. CEC: Analysis by sodium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
2. Clay Mineralogy: Analysis and estimated percentage of expandable clay minerals using CEC by ammonium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 1- Physical and Mineralogical Methods."
3. Metals Hazardous to Human Health: Test for presence and quantities of RCRA metals including aluminum, arsenic, barium, copper, cadmium, chromium, cobalt, lead, lithium, and vanadium. If RCRA metals are present, include recommendations for corrective action.
4. Phytotoxicity: Test for plant-available concentrations of phytotoxic minerals including aluminum, arsenic, barium, cadmium, chlorides, chromium, cobalt, copper, lead, lithium, mercury, nickel, selenium, silver, sodium, strontium, tin, titanium, vanadium, and zinc.

D. Fertility Testing: Soil-fertility analysis according to standard laboratory protocol of SSSA NAPT NCR-13, SSSA NAPT NEC-67, SSSA NAPT SERA-6, SSA NAPT WERA-103, including the following:

1. Percentage of organic matter.
2. CEC, calcium percent of CEC, and magnesium percent of CEC.
3. Soil reaction (acidity/alkalinity pH value).
4. Buffered acidity or alkalinity.
5. Nitrogen ppm.
6. Phosphorous ppm.
7. Potassium ppm.
8. Manganese ppm.
9. Manganese-availability ppm.
10. Zinc ppm.
11. Zinc availability ppm.
12. Copper ppm.
13. Sodium ppm.
14. Soluble-salts ppm.
15. Presence and quantities of problem materials including salts and metals cited in the Standard protocol. If such problem materials are present, provide additional recommendations for corrective action.
16. Other deleterious materials, including their characteristics and content of each.

E. Organic-Matter Content: Analysis using loss-by-ignition method according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."

F. Recommendations: Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated to produce satisfactory planting soil suitable for healthy, viable plants indicated. Include, at a minimum, recommendations for nitrogen, phosphorous, and potassium fertilization, and for micronutrients.

1. Fertilizers and Soil Amendment Rates: State recommendations in weight per 1000 sq. ft. for 6-inch depth of soil.
2. Soil Reaction: State the recommended liming rates for raising pH or sulfur for lowering pH according to the buffered acidity or buffered alkalinity in weight per 1000 sq. ft. for 6-inch depth of soil.

1.13 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Do not move or handle materials when they are wet or frozen.
4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

part 2 - PRODUCTS

2.1 PLANTING SOILS SPECIFIED BY COMPOSITION

A. General: Soil amendments, fertilizers, and rates of application specified in this article are guidelines that may need revision based on testing laboratory's recommendations after preconstruction soil analyses are performed.

B. Planting-Soil Type mixed on-site: Existing, on-site surface soil, with the duff layer, if any, retained; and stockpiled on-site; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:

1. Ratio of Loose Compost to Soil: 1:3 by volume.
2. Ratio of Loose Sphagnum Peat to Soil: 1:3 by volume.
3. Weight of Lime: as recommended by soils analysis.

C. Planting-Soil Type Imported Soils: Imported, naturally formed soil from off-site sources and consisting of loamy sand soil according to USDA textures; and modified to produce viable planting soil.

1. Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least 4 inches (100 mm) deep, not from, bogs, or marshes; and that do not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants including, but not limited to, quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and bromegrass.
2. Additional Properties of Imported Soil before Amending: Soil reaction of pH 6 to 7 and minimum of 4 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.

of 4 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.

3. Unacceptable Properties: Clean soil of the following:
   a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
   b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 8 percent by dry weight of the imported soil.
   c. Second option in "Large Materials" Subparagraph below allows generally acceptable soil clods to remain. Revise subparagraph to suit required soil structure, texture, and appearance.
   d. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches (50 mm) in any dimension.
4. Amended Soil Composition: Blend imported, unamended soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
   a. Ratio of Loose Compost to Soil: 1:3 by volume.
   b. Ratio of Loose Sphagnum, Muck Peat to Soil: by volume.
   c. Weight of Lime: as recommended by soils anaylsis.

2.2 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:

1. Class: T, with a minimum of 99 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through a No. 60 (0.25-mm) sieve.
2. Class: O, with a minimum of 95 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through a No. 60 (0.25-mm) sieve.
3. Form: Provide lime in form of ground dolomitic limestone.

B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through a No. 40 (0.425-mm) sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Perlite: Horticultural perlite, soil amendment grade.

E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through a No. 50 (0.30-mm) sieve.

F. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C 33/C 33M.

2.3 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:

1. Feedstock: Limited to leaves.
2. Reaction: pH of 5.5 to 8.
3. Soluble-Salt Concentration: Less than 4 dS/m.
4. Moisture Content: 35 to 55 percent by weight.
5. Organic-Matter Content: 50 to 60 percent of dry weight.
6. Particle Size: Minimum of 98 percent passing through a 4-inch (100-mm) sieve.

B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture with 100 percent passing through a 1/2-inch (13-mm) sieve, a pH of 3.4 to 4.8, and a soluble-salt content measured by electrical conductivity of maximum 5 dS/m.

C. Wood Derivatives: Shredded and composted, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.

1. Partially Decomposed Wood Derivatives: In lieu of shredded and composted wood derivatives, mix shredded and partially decomposed wood derivatives with ammonium nitrate at a minimum rate of 0.15 lb/cu. ft. (2.4 kg/cu. m) of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of 0.25 lb/cu. ft. of loose sawdust or ground bark.

D. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

2.4 FERTILIZERS

A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.

B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 1 lb/1000 sq. ft. (0.5 kg/100 sq. m) of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.

C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.

D. Chelated Iron: Commercial-grade FeEDDHA for dicots and woody plants, and commercial-grade FeDTPA for ornamental grasses and monocots.

part 3 - EXECUTION

3.1 GENERAL

A. Place planting soil and fertilizers according to requirements in other Specification Sections.

B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

C. Proceed with placement only after unsatisfactory conditions have been corrected.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

A. Excavation: Excavate soil from designated area(s) to a depth of 6 inches (150 mm) and stockpile until amended.

B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.

C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.

D. Screening: Pass unamended soil through a 2-inch (50-mm) sieve to remove large materials.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Subgrade Preparation: Till subgrade to a minimum depth of 6 inches. Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply, add soil amendments, and mix approximately half the thickness of unamended soil over prepared, loosened subgrade according to "Mixing" Paragraph below. Mix thoroughly into top 4 inches (100 mm) of subgrade. Spread remainder of planting soil.

C. Mixing: Spread unamended soil to total depth of 6 inches (150 mm), but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

1. Amendments: Apply soil amendments, and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
   a. Mix lime and sulfur with dry soil before mixing fertilizer.
   b. Mix fertilizer with planting soil no more than seven days before planting.
2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

D. Compaction: Compact each blended lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place except where a different compaction value is indicated on Drawings.

E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.4 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Subgrade Preparation: Till subgrade to a minimum depth of 6 inches. Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply approximately half the thickness of planting soil over prepared, loosened subgrade. Mix thoroughly into top 4 inches (100 mm) of subgrade. Spread remainder of planting soil.

C. Application: Spread planting soil to total depth of 6 inches (150 mm), but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

1. Lifts: Apply planting soil in lifts not exceeding 8 inches (200 mm) in loose depth for material compacted by compaction equipment, and not more than 6 inches (150 mm) in loose depth for material compacted by hand-operated tampers.

D. Compaction: Compact each lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698.

E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.5 BLENDING PLANTING SOIL IN PLACE

A. General: Mix amendments with in-place, unamended soil to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Preparation: Till unamended, existing soil in planting areas to a minimum depth of 6 inches (150 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

C. Mixing: Apply soil amendments and fertilizer, if required, evenly on surface, and thoroughly blend them into full depth of unamended, in-place soil to produce planting soil.

1. Mix lime with dry soil before mixing fertilizer.
2. Mix fertilizer with planting soil no more than seven days before planting.

D. Compaction: Compact blended planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698 except where a different compaction value is indicated on Drawings.

E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.6 APPLYING COMPOST TO SURFACE OF PLANTING SOIL

A. Application: Apply 6 inches (150 mm) of compost to surface of in-place planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Finish Grading: Grade surface to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Perform the following tests:

1. Compaction: Test planting-soil compaction after placing each lift and at completion using a densitometer or soil-compaction meter calibrated to a reference test value based on laboratory testing according to ASTM D 698. Space tests at no less than one for each 1000 sq. ft. (100 sq. m) of in-place soil or part thereof.

C. Soil will be considered defective if it does not pass tests.

D. Prepare test reports.

E. Label each sample and test report with the date, location keyed to a site plan or other location system, visible conditions when and where sample was taken, and sampling depth.

3.8 PROTECTION

A. Protection Zone: Identify protection zones according to Section 015639 "Temporary Tree and Plant Protection."

B. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Vehicle traffic.
4. Foot traffic.
5. Erection of sheds or structures.
6. Impoundment of water.
7. Excavation or other digging unless otherwise indicated.

C. If planting soil or subgrade is overcompacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the subgrade as directed by Architect and replace contaminated planting soil with new planting soil.

3.9 CLEANING

A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.

B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION

MABCD
REVIEWER:

MEANINGFUL DESIGN

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691
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KURT M HUIRAS
LICENSED
11/07/2019
KANSAS
LANDSCAPE ARCHITECT

HCR SHARS NO.:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

Revisions

Calamar Wichita
2430 N. 127th St. E. Wichita, KS 67226
SWBR Project Number

Richard Lyman
Director of Construction Operations
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LP502

LANDSCAPE SPECIFICATIONS

11/05/2019
Final Review Submission-
Not for Construction

FILE PATH: U:\WICHITA-CIVIL\2017\171321\001\MUN\DRAWINGS\PLANS\171321-001-LP502.DWG

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SECTION 32 93 00
PLANTS

part 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Plants.
2. Tree stabilization.
3. Tree-watering devices.
4. Landscape edgings.

B. Related Requirements:

1. Section 329200 "Turf and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

1.3 UNIT PRICES

A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

B. Unit prices apply to authorized work covered by quantity allowances.

C. Unit prices apply to additions to and deletions from the Work as authorized by Change Orders.

1.4 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than sizes indicated; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.

C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than sizes indicated.

D. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.

E. Finish Grade: Elevation of finished surface of planting soil.

F. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.

G. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

H. Planting Area: Areas to be planted.

I. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Section 329113 "Soil Preparation" for drawing designations for planting soils.

J. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.

K. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

L. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.

M. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.5 COORDINATION

A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.

1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.6 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.7 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
2. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

B. Samples for Verification: For each of the following:

1. Trees and Shrubs: Three Samples of each variety and size delivered to site for review. Maintain approved Samples on-site as a standard for comparison.
2. Organic Mulch: 1-pint (0.5-L) volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
3. Slow-Release, Tree-Watering Device: One unit of each size required.

1.8 INFORMATIONAL SUBMITTALS

A. Qualification Data: For landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.

B. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:

1. Manufacturer's certified analysis of standard products.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

C. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

D. Sample Warranty: For special warranty.

1.9 CLOSEOUT SUBMITTALS

A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before expiration of required maintenance periods.

1.10 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.

1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
2. Experience: Three years' experience in landscape installation in addition to requirements in Section 014000 "Quality Requirements."
3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
   a. Landscape Industry Certified Technician - Exterior.
   b. Landscape Industry Certified Interior.
   c. Landscape Industry Certified Horticultural Technician.
5. Pesticide Applicator: State licensed, commercial.

B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

1. Selection of plants purchased under allowances is made by Architect, who tags plants at their place of growth before they are prepared for transplanting.

C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.

1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.
2. Other Plants: Measure with stems, petioles, and foliage in their normal position.

D. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and lying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

D. Handle planting stock by root ball.

E. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F (16 to 18 deg C) until planting.

F. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.

G. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

H. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

1.12 FIELD CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.13 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
   b. Structural failures including plantings falling or blowing over.
   c. Faulty performance of tree stabilization.
   d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
2. Warranty Periods: From date of Substantial Completion.
   a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
   b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
3. Include the following remedial actions as a minimum:
   a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
   b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
   c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
   d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

part 2 - PRODUCTS

2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; or with stem girdling roots are unacceptable.
2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

D. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.

E. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

2.2 FERTILIZERS

A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.

1. Size: 10-gram tablets.
2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

2.3 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood.
2. Size Range: 3 inches (76 mm) maximum, 1/2 inch (13 mm) minimum.
3. Color: Natural.

2.4 WEED-CONTROL BARRIERS

A. Do not use.

2.5 PESTICIDES

A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.

C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.6 TREE-STABILIZATION MATERIALS

A. Trunk-Stabilization Materials:

1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal (38-by-38-mm actual) by length indicated, pointed at one end.
2. Wood Deadmen: Timbers measuring 8 inches (200 mm) in diameter and 48 inches (1200 mm) long, treated with specified wood pressure-preservative treatment.
3. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes or compression springs.
4. Guys and Tie Wires: ASTM A641/A641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch (2.7 mm) in diameter.
5. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
6. Guy Cables: Five-strand, 3/16-inch- (4.8-mm-) diameter, galvanized-steel cable, with zinc-coated compression springs, a minimum of 3 inches (75 mm) long, with two 3/8-inch (10-mm) galvanized eyebolts.
7. Flags: Standard surveyor's plastic flagging tape, white, 6 inches (150 mm) long.

2.7 LANDSCAPE EDGINGS

A. Steel Edging: Standard commercial-steel edging, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.

1. Edging Size: 3/16 inch (4.8 mm) thick by 4 inches (100 mm) deep.
2. Stakes: Tapered steel, a minimum of 12 inches (300 mm) long.
3. Accessories: Standard tapered ends, corners, and splicers.
4. Finish: Manufacturer's standard paint.
   a. Paint Color: Black.

2.8 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

B. Burlap: Non-synthetic, biodegradable.

C. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb (0.45 kg) of vesicular-arbuscular mycorrhizal fungi and 85 million spores per lb (0.45 kg) of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

part 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive plants, with Installer present, for compliance with requirements and conditions affecting installation and performance of the Work.

1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
4. Uniformly moisten excessively dry soil that is not workable or which is dusty.

B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.

B. Install 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.

C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.

D. Lay out plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

3.3 PLANTING AREA ESTABLISHMENT

A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."

B. Placing Planting Soil: Place and mix planting soil in-place over exposed subgrade.

C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

D. Application of Mycorrhizal Fungi: At time directed by Architect, broadcast dry product uniformly over prepared soil at application rate according to manufacturer's written recommendations.

3.4 EXCAVATION FOR TREES AND SHRUBS

A. Planting Pits and Trenches: Excavate circular planting pits.

1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
2. Excavate approximately three times as wide as ball diameter for balled and burlapped stock.
3. Excavate at least 12 inches (300 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
5. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
6. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
7. Maintain supervision of excavations during working hours.
8. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
9. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.

B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.

C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

1. Hardpan Layer: Drill 6-inch- (150-mm-) diameter holes, 24 inches (600 mm) apart, into free-draining strata or to a depth of 10 feet (3 m), whichever is less, and backfill with free-draining material.

D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.

E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE and SHRUB

A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.

C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch (25 mm) above adjacent finish grades.

1. Backfill: Planting soil. For trees, use excavated soil for backfill.
2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch (25 mm) from root tips; do not place tablets in bottom of the hole.
   a. Quantity: Three for each caliper inch of plant.
5. Continue backfilling process. Water again after placing and tamping final layer of soil.

D. Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare 1 inch (25 mm) above adjacent finish grades.

1. Backfill: Planting soil. For trees, use excavated soil for backfill.
2. Carefully remove root ball from container without damaging root ball or plant.
3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about 1 inch (25 mm) from root tips; do not place tablets in bottom of the hole.
   a. Quantity: Three for each caliper inch of plant.
5. Continue backfilling process. Water again after placing and tamping final layer of soil.

E. Watering Pipe: During backfilling, install watering pipe 4 feet (1.25 m) deep into the planting pit outside the root ball as indicated on Drawings and with top of pipe 1 inch (25 mm) above the mulched surface.

F. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.6 MECHANIZED TREE-SPADE PLANTING

A. Trees may be planted with an approved mechanized tree spade at the designated locations. Do not use tree spade to move trees larger than the maximum size allowed for a similar field-grown, balled-and-burlapped root-ball diameter according to ANSI Z60.1, or larger than manufacturer's maximum size recommendation for the tree spade being used, whichever is smaller.

B. Use the same tree spade to excavate the planting hole as will be used to extract and transport the tree.

C. When extracting the tree, center the trunk within the tree spade and move tree with a solid ball of earth.

D. Cut exposed roots cleanly during transplanting operations.

E. Plant trees following procedures in "Tree, Shrub, and Vine Planting" Article.

F. Where possible, orient the tree in the same direction as in its original location.

3.7 TREE and SHRUB

A. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Prune, thin, and shape trees, shrubs, and vines as directed by Architect.

C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

D. Do not apply pruning paint to wounds.

3.8 TREE STABILIZATION

A. Trunk Stabilization by Upright Staking and Tying: Install trunk stabilization as follows unless otherwise indicated:

1. Upright Staking and Tying: Stake trees of 2- through 5-inch (50- through 125-mm) caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches (450 mm) below bottom of backfilled excavation and to extend to the dimension indicated on Drawings above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
2. Upright Staking and Tying: Stake trees with two stakes for trees up to 12 feet (3.6 m) high and 2-1/2 inches (63 mm) or less in caliper; three stakes for trees less than 14 feet (4.2 m) high and up to 4 inches (100 mm) in caliper. Space stakes equally around trees.
3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
4. Support trees with two strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk. Allow enough slack to avoid rigid restraint of trees.

B. Trunk Stabilization by Staking and Guying: Install trunk stabilization as follows unless otherwise indicated on Drawings. Stake and guy trees more than 14 feet (4.2 m) in height and more than 3 inches (75 mm) in caliper unless otherwise indicated.

1. Site-Fabricated, Staking-and-Guying Method: Install no fewer than three guys spaced equally around tree.
   a. Securely attach guys to stakes 30 inches (750 mm) long, driven to grade. Adjust spacing to avoid penetrating root balls or root masses. Provide compression spring for each guy wire and tighten securely.
   b. For trees more than 6 inches (150 mm) in caliper, anchor guys to wood deadmen buried at least 36 inches (900 mm) below grade. Provide compression spring for each guy wire and tighten securely.

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KURT M HUIRAS
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11/07/2019
KANSAS
LANDSCAPE ARCHITECT

HCR SHARS NO.:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

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Revisions

Calamar Wichita

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SWBR Project Number

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LP503

LANDSCAPE SPECIFICATIONS

11/05/2019
Final Review Submission-
Not for Construction

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c. Support trees with bands of flexible ties at contact points with tree trunk and reaching to compression spring. Allow enough slack to avoid rigid restraint of tree.

d. Support trees with multiple strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk and reaching to compression spring. Allow enough slack to avoid rigid restraint of tree.

e. Attach flags to each guy wire, 30 inches (760 mm) above finish grade.

f. Paint compression springs with luminescent white paint.

3.9 GROUND COVER AND PLANT PLANTING

A. Set out and space ground cover and plants other than trees and shrubs in even rows with triangular spacing. See plans for spacing requirements.

B. Use planting soil for backfill.

C. Dig holes large enough to allow spreading of roots.

D. For rooted cutting plants supplied in flats, plant each in a manner that minimally disturbs the root system but to a depth not less than two nodes.

E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

H. Mulch backfilled surfaces of planting areas and other areas indicated.

1. Trees in Turf Areas: Apply organic mulch ring of 3-inch (75-mm) average thickness, with 24-inch (600-mm) radius around trunks or stems. Do not place mulch within 3 inches (75 mm) of trunks or stems.

2. Organic Mulch in Planting Areas: Apply 3-inch (75-mm) average thickness of organic mulch extending 12 inches (300 mm) beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches (75 mm) of trunks or stems.

3.10 EDGING INSTALLATION

A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately 30 inches (760 mm) apart, driven below top elevation of edging.

3.11 PLANT MAINTENANCE

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.

B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.12 PESTICIDE APPLICATION

A. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and ground-cover areas according to manufacturer's written recommendations. Do not apply to seeded areas.

C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.13 REPAIR AND REPLACEMENT

A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.

1. Submit details of proposed pruning and repairs.

2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.

3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.

1. Provide new trees of same size as those being replaced for each tree of 4 inches (100 mm) or smaller in caliper size.

2. Species of Replacement Trees: Species selected by Architect.

3.14 CLEANING AND PROTECTION

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

D. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

E. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

3.15 MAINTENANCE SERVICE

A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:

1. Maintenance Period: 12 months from date of Substantial Completion.

B. Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:

1. Maintenance Period: Three months from date of Substantial Completion.

END OF SECTION

SECTION 32 92 00
TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Sodding.

1.2 SUBMITTALS

A. Product Certificates
1. For fertilizers, from manufacturer.

B. Maintenance Instructions
1. Recommended procedures to be established by Owner for maintenance of turf and native grasses during a calendar year. Submit before expiration of required initial maintenance periods.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
1. Installer's field supervision: require installer to maintain an experienced full-time supervisor on Project site when work is in progress.
2. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Land/Care Network:
a. Landscape Industry Certified Technician - Exterior.
b. Landscape Industry Certified Lawncare Manager.
c. Landscape Industry Certified Lawncare Technician.
3. Pesticide Applicator: State licensed, commercial.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Sod
1. Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

B. Bulk Materials
1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

C. Maintenance Period
1. Sodded Turf: 30 days from date of substantial completion.

PART 2 - PRODUCTS
1. Temporary Seeding
a. Annual Ryegrass
1) Seed Rate: 6 lbs per 1,000 sq.ft.

2.2 TURFGRASS SOD

A. Turfgrass Sod
1. Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted. Turf shall be mowed to approximately two (2) inches, the sod freshly cut, and kept moist until planting.

B. Turfgrass Species
1. As specified in the plans.

2.3 Fertilizer

A. Fertilizer shall be proportioned as specified herein or on the Drawings and shall be of commercial grade, uniform in composition, free-flowing and suitable for application with approved equipment, delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable State Fertilizer Laws, and bearing the same trade name or trade mark, analysis and warranty of the producer.

2.4 WATER

A. Water shall not contain substances in the amounts considered harmful for the normal growth of vegetation.

2.5 PESTICIDES

A. GENERAL
1. Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do no use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 SOIL PREPARATION

A. Project Coordination
1. After the construction has been completed, (except as provided below), the site has been brought to final grades as shown on the Drawings, and other plantings have been accomplished, the Contractor shall prepare the areas to be grassed as specified. When so directed or permitted by the Engineer, portions of the construction site may be grassed at different periods of time provided that the planting occurs in proper seasons as specified. Any grassed areas damaged by subsequent operations of the Contractor shall be replanted as directed by the Engineer at no additional cost to the Owner.

B. Tillage
1. The areas required to be grassed shall be prepared for planting by cultivation, removal of all objectionable material, and filing of the gullies or depressions. The soil preparation shall be accomplished by disking, harrowing firming. (Plowing will also be required if so indicated on the Drawings.) The minimum depth of soil preparation shall be three (3) inches. Existing weed stubble, small weeds and grass that can be disked shall be cut by the disk and partially incorporated into the soil. Several diskings and harrowings over some areas may be required to provide a satisfactory seedbed. Areas too steep or otherwise inaccessible for disking shall be prepared by hand methods. The minimum depth of preparation of the seedbed where hand methods must be employed shall be two (2) inches. Disking, harrowing and raking shall be done longitudinally on slope areas. The soil preparation on all slope areas shall be performed with disks and harrows unless demonstration shows such methods impracticable and that hand methods must be used.

C. Protection
1. During the process of soil preparation, extreme care shall be exercised to avoid injury to all trees that have been planted or designated by the Engineer to be saved. The Engineer may designate local areas of desirable native perennial grasses to be omitted during the soil preparation.

D. Weed Destruction
1. Areas of annual grasses such as cheat, crab grass, triple-awn, etc., shall be destroyed by thorough disking prior to seeding.

3.2 SODDING

A. Pre-watering
1. The areas to be sodded or sprigged shall be watered prior to planting when the ground is excessively dry.

B. Sodding
1. Grass sod shall be established by means of setting plugs or strips of sod in the soil. The Drawings will show the size of plugs and/or the width of strips required and the required spacing of plugs or strips. Excavation shall be made for each plug or strip so that after tamping, the sod will be flush with the final grade. All plugs or stips shall be firmly tamped and thoroughly watered. After placing, all sods shall be firmed by use of an approved roller, a temper or other approved methods. On steep slopes the sod may be firmed by compacting with hand shovels. The firming process shall remove all air pockets and shall pack the sod roots firmly into the prepared soil.

C. Stability of Soil
1. On steep slopes, staking of plugs or strips may be required as shown on the Drawings or as directed by the Engineer. Stakes shall be of lath or similar materials and shall be driven six (6) inches into the ground, leaving approximately one-half (1/2) inch of the top above the sod line. Metal staples may be used in lieu of wood lath upon approval of the Engineer.

D. Watering
1. Sodded Areas
a. The Contractor shall water all sods immediately after placing. All sodded areas shall be kept thoroughly watered by the Contractor for twenty (20) days after laying and as often as required thereafter until completion of other items of work in the Contract.

3.3 APPLICATION OF FERTILIZER

A. Fertilizer shall be distributed uniformly at rates indicated and over the area to be planted, and shall be incorporated into the soil to a depth of at least 2 inches by disking, harrowing or other methods approved by the Engineer. Distribution by means of an approved seed drill equipped to sow seed and distribute fertilizer at the same time will be acceptable unless otherwise noted on the Drawings.

3.4 TURF MAINTENANCE

A. During the maintenance period, the Contractor shall maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

B. Watering
1. Coordinate turf installation with irrigation contractor. If irrigation system is not operable upon turf installation the contractor shall be responsible for all materials required to provide temporary irrigation until irrigation system is operational. Install and maintain temporary piping, hoses, and/or turf-watering equipment to convey water as required for the establishment and maintenance of grassed areas.
a. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Mow turf grass at 2 ½-3" height.

3.5 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Engineer:
1. Satisfactory Sodded Turf
a. At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory. All costs in connection with replanting grassed areas shall be borne by the Contractor until an acceptable stand of grass is obtained, with no additional cost of the Owner.

3.6 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION

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KURT M HUIRAS LICENSED 11/07/2019 KANSAS LANDSCAPE ARCHITECT

HCR SHARS NO.:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

Revisions

Calamar Wichita
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SWBR Project Number

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Calamar
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LP504
LANDSCAPE SPECIFICATIONS

11/05/2019
Final Review Submission-
Not for Construction

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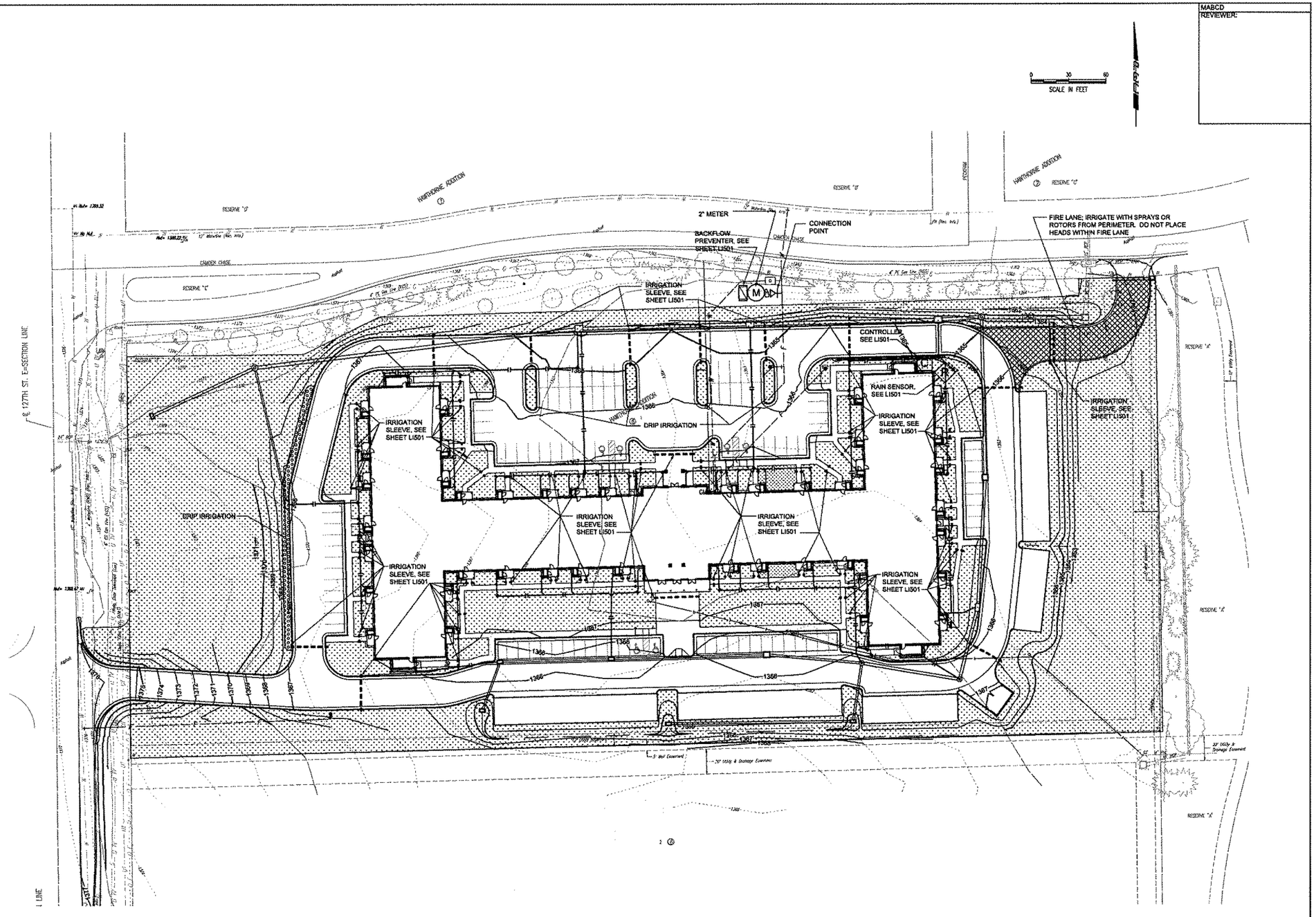

NOTES:

1. THIS PLAN SHOWS DESIGN INTENT. IRRIGATION CONTRACTOR SHALL PROVIDE FULL IRRIGATION DESIGN, IRRIGATION SCHEDULE, AND AS BUILT DRAWINGS AS PART OF SUBMITTAL DOCUMENTS.
2. SEE SHEET LI501 FOR NOTES AND DETAILS.

LEGEND

- BACKFLOW PREVENTOR, PER CITY REQUIREMENTS
- 2" WATER METER
- CONNECTION POINT TO 6" LINE
- RAIN SENSOR
- IRRIGATION CONTROLLER
- IRRIGATION SLEEVE
- PLANTING BED; PROVIDE DRIP IRRIGATION
- TURF AREA: IRRIGATE WITH ROTORS AND SPRAYS
- GRASS PAVER FIRE LANE: IRRIGATE FROM PERIMETER WITH SPRAYS OR ROTORS, DO NOT PLACE HEADS WITHIN FIRE LANE

MEANINGFUL DESIGN

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Drawn By: RFT
Checked By: DRC
Project Manager: DG

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Revisions

Coleman Wichita

2430 N. 127th St. E. Wichita, KS 67228

EWSR Project Number

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LI101

IRRIGATION PLAN

11/05/2019
Final Review Submission-
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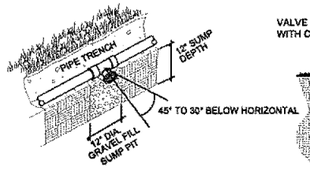
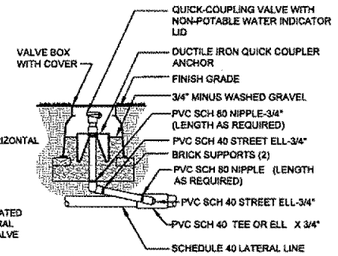
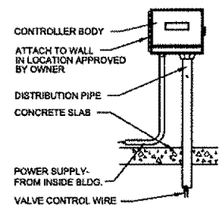


AUTOMATIC VALVES ARE TO BE LOCATED AT LOW POINTS AND ENDS OF LATERAL LINES. LOCATE END AUTO. DRAIN VALVE 12" UP STREAM FROM LAST HEAD

1 AUTOMATIC DRAIN VALVE
NO SCALE



2 QUICK COUPLER
NO SCALE



3 IRRIGATION CONTROLLER
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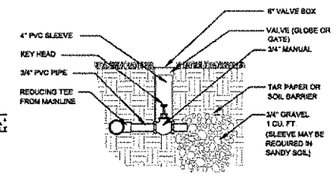
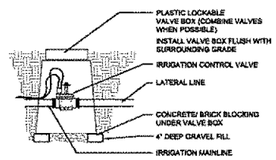


9 MANUAL VALVE
NO SCALE



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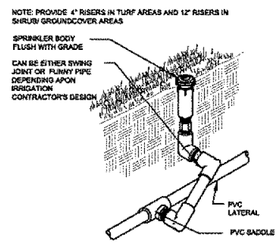

5 SPRAY HEAD INSTALLATION
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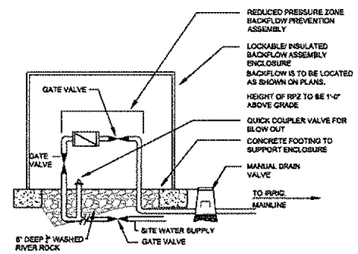
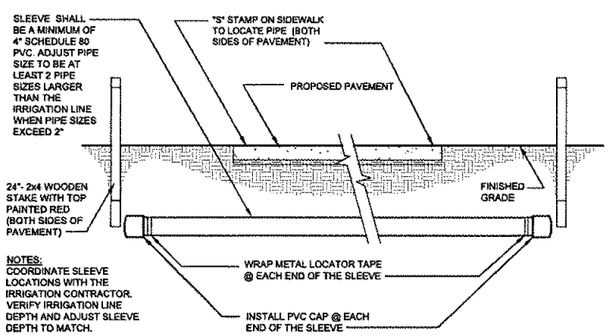


6 RPZ INSTALLATION
NO SCALE



NOTES:
COORDINATE SLEEVE LOCATIONS WITH THE IRRIGATION CONTRACTOR. VERIFY IRRIGATION LINE DEPTH AND ADJUST SLEEVE DEPTH TO MATCH.

7 IRRIGATION SLEEVE
NO SCALE

1. THE DESIRED AREAS OF IRRIGATION SYSTEM COVERAGE IS SCHEMATICALLY SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO COMPLETE THE SYSTEM DESIGN. SUBMIT IT AS SHOP DRAWINGS AND INSTALL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE, FUNCTIONAL SYSTEM THAT IS IN COMPLIANCE WITH THE SPECIFICATIONS, APPLICABLE CODES, AND REGULATIONS. THE CONTRACTOR WILL VERIFY THE SITE'S STATIC PRESSURE AND VOLUME OF SITE WATER SUPPLY AND DESIGN ENTIRE IRRIGATION SYSTEM ACCORDINGLY.

2. THE LOCATION OF THE IRRIGATION WATER METER, BACKFLOW AND ENCLOSURE, RAIN SWITCH, SLEEVES AND CONTROLLER ARE SHOWN ON THE PLANS.

3. SHOP DRAWINGS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION FOR REVIEW. ILLUSTRATING THE TYPE AND LOCATION OF IRRIGATION HEADS, VALVES, PIPING, CONTROLLER, BLOW OUT VALVE, ISOLATION GLOBE VALVES, DRAIN VALVES AND ACCESSORIES. SHOW DESIGN PRESSURE, VALVE SIZES, GPM REQUIREMENTS, PIPE SIZES AND PRESSURE LOSS CALCULATIONS FROM THE SITE WATER SUPPLY TO THE FURTHEST HEAD OF THE LARGEST ZONE AND FROM THE SITE WATER SUPPLY TO THE FURTHEST HEAD FROM THE SUPPLY.

4. ALL APPLICABLE PERMITS FOR IRRIGATION INSTALLATION WITHIN THE RIGHT-OF-WAY IS TO BE SECURED AND PAID FOR BY THE IRRIGATION CONTRACTOR.

5. THE CONTRACTOR SHALL LOCATE ALL UTILITIES BEFORE COMMENCEMENT OF ANY WORK. IDENTIFY EXACT UTILITY LOCATIONS BY CONTACTING UTILITY OWNERS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE HE MAY CAUSE TO UTILITIES.

6. PROVIDE PVC SLEEVES FOR IRRIGATION THRU WALL, PIPES AND WIRING THAT CROSSES UNDER WALKS, STREETS AND CONCRETE PADS. DO NOT COMBINE PIPES WITHIN SLEEVES.

7. WHEN INSTALLING IRRIGATION PIPE ALONG CURBS OR IN ISLANDS, PLACE PIPE AS CLOSE TO CURB AS POSSIBLE TO ALLOW FOR PLANTING TREES AND SHRUBS.

8. MANUAL DRAIN VALVES ARE TO BE LOCATED AT THE LOW POINT(S) ON THE IRRIGATION MAIN LINE. ENSURE LINE DRAINS TO VALVE BY PROVIDING A MINIMUM OF 0.5% SLOPE TOWARDS VALVE. PLACE MANUAL VALVES IN LATCHABLE VALVE BOX FOR EASY ACCESS. PLACE ONE CUBIC FOOT OF GRAVEL BELOW VALVE. VALVES SHALL BE LOCATED AT LINE DEPTH AT THE LOW SPOT IN THE SYSTEM.

9. THE SYSTEM IS TO CONSIST OF SEPARATE SHRUB / GROUNDCOVER SPRAY ZONES AND TURF SPRAY HEAD ZONES EACH WITH SEPARATE VALVES AND STATIONS ON THE CONTROLLER. IF DIFFERENT TURF IRRIGATION SPRINKLER TYPES ARE USED, EACH TYPE IS TO BE GROUPED TOGETHER ON SEPARATED ZONES. THE CONTRACTOR SHOULD BE FAMILIAR WITH WATER REQUIREMENTS OF ALL PLANT MATERIALS AND DESIGN SYSTEM ACCORDINGLY. GROUP LIKE PLANTS ON SAME ZONES WITH SIMILAR WATER REQUIREMENTS. COORDINATE RUNNING TIMES OF EACH ZONE WITH LANDSCAPE ARCHITECT.

10. ALL IRRIGATION EQUIPTMENT SHALL BE FROM SAME MANUFACTURER. PRE-APPROVED MANUFACTURERS INCLUDE RAINBIRD, HUNTER INDUSTRIES, TORO, AND NETAFIM.

11. ADJUST ALL IRRIGATION EQUIPMENT SO SIDEWALKS, PAVING AND BUILDING REMAIN DRY OF DIRECT SPRAY OR EXCESS WATER RUN-OFF. SEE CITY STANDARD SPECIFICATIONS FOR SPACING REQUIREMENTS.

12. THE CONTRACTOR SHALL EVALUATE THE IRRIGATED AREAS AND PROVIDE PIPE SIZING THAT MEETS THE HYDRAULIC REQUIREMENTS OF THE SYSTEM. VELOCITIES ON THE PIPE SHALL NOT EXCEED 5 FEET PER SECOND.

13. ALL IRRIGATION SLEEVES SHALL BE SCHEDULE 40 PVC PIPE PER ASTM D1785.

14. MAINLINE OR TURF BOXES SHALL BE SHALL BE RAINBIRD PVB PROFESSIONAL IRRIGATION VALVE BOXES , AS MANUFACTURED BY RAINBIRD, 6991 EAST SOUTHPOINT ROAD TUCSON, AZ 85756, WWW.RAINBIRD.COM, OR APPROVED EQUAL. VALVE BOXES SHALL BE SIZED BASED ON RECOMMENDED VALVE INSTALLATION. PROVIDE VALVE BOX EXTENSIONS AS REQUIRED TO ALLOW THE VALVE TO BE INSTALLED PER RECOMMENDATION AND ALLOW THE BOX LID TO BE FLUSH WITH FINISHED GRADE. IRRIGATION BOXES SHALL HAVE GREEN LIDS. PROVIDE A 6" DEEP MINIMUM LAYER OF ¾" CRUSHED STONE DRAINAGE IN THE BOTTOM OF ALL VALVE BOXES.

15. ALL IRRIGATION CONNECTIONS SHALL BE PER MANUFACTURER, WITH PRODUCTS AS RECOMMENDED BY MANUFACTURER UNLESS OTHERWISE NOTED ON PLANS.

16. WIRE SPLICES SHALL BE MADE WITH 3M-DIRECT BURY WEATHER PROOF SPLICE KITS, OR APPROVED EQUAL.

17. ALL GATE VALVES ON MAIN LINE SHALL BE BRONZE, CROSS -HANDLE GATE VALVE .

18. CONTRACTOR SHALL PROVIDE AS BUILT PLANS AND IRRIGATION SCHEDULE TO OWNER UPON COMPLETION OF IRRIGATION INSTALLATION. THE CONTRACTOR SHALL PROVIDE A WIRING DIAGRAM FOR THE CONTROLLER AS PART OF THE AS-BUILT DRAWINGS.

19. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF (2) OF EACH OF THE FOLLOWING: IRRIGATION CURB VALVE KEYS, CONTROLLER ENCLOSURE KEYS, QUICK COUPLER VALVE KEYS, IRRIGATION HEAD KEYS, ETC.

20. CONTRACTOR SHALL PERFORM A LEAK TEST AFTER INSTALLATION, BUT BEFORE BURYING NETWORK PIPING BY CHARGING SYSTEM TO OPERATING PRESSURE AND EXAMINING FOR LEAKS. LEAKS MUST BE REPAIRED AND ADDITIONAL TESTS BE PERFORMED UNTIL NO LEAKS ARE PRESENT.

21. THE CONTRACTOR MUST TEST AND SCHEDULE CONTROLLER AFTER INSTALLATION AND ENSURE PROPER OPERATION PRIOR TO HANDING THE SYSTEM OVER TO OWNER.

MEANINGFUL DESIGN

PEC
PATTISON ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691
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KURT M HUIBAS
LICENSED
11/07/2019
KANSAS
LANDSCAPE ARCHITECT

HCR SHARE NO:

Drawn By: RFT
Checked By: DRC
Project Manager: DG

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Revisions

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8430 N. 127th St. E. Wichita, KS 67226

SWBR Project Number

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LI501

IRRIGATION NOTES AND DETAILS

11/05/2019
Final Review Submission-
Not for Construction

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SECTION 32 84 00
PLANTING IRRIGATION

part 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Piping.
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 PERFORMANCE REQUIREMENTS

A. Irrigation zone control shall be 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 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 indicated.

1. Available land records indicate the following soil conditions:

a. See Soils Report.

D. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties unless otherwise indicated:

1. Irrigation Main Piping: 200 psig (1380 kPa).
2. Circuit Piping: 150 psig (1035 kPa).

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Wiring Diagrams: For power, signal, and control wiring.

C. Delegated-Design Submittal: For irrigation systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Zoning Chart: Show each irrigation zone and its control valve.

B. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.

C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.6 QUALITY ASSURANCE

A. 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 PIPES, TUBES, AND FITTINGS

A. Comply with requirements in the piping schedule for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

B. Marking tape shall be installed in continuous runs the entire length of pipe. The tape shall be lavender in color with the following printed: "Caution: Buried Effluent Line Below - Do Not Drink."

C. Galvanized-Steel Pipe: ASTM A53/A53M, Standard Weight, Type E, Grade B.

1. Galvanized-Steel Pipe Nipples: ASTM A733, made of ASTM A53/A53M or ASTM A106/A106M, Standard Weight, seamless-steel pipe with threaded ends.
2. Galvanized, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.
3. Malleable-Iron Unions: ASME B16.39, Class 150, hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface, and female threaded ends.
4. Cast-Iron Flanges: ASME B16.1, Class 125.

D. Ductile-Iron Pipe with Push-on Joint: AWWA C151, with push-on-joint bell and spigot ends.

1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

a. Gaskets: AWWA C111, rubber.

E. Soft Copper Tube: ASTM B88, Type L (ASTM B88M, Type B), water tube, annealed temper.

1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

F. Hard Copper Tube: ASTM B88, Type L (ASTM B88M, Type B), water tube, drawn temper.

1. Copper Pressure Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper solder-joint fittings. Furnish wrought-copper fittings if indicated.
2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end.
3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

G. PVC Pipe: ASTM D1785, PVC 1120 compound, Schedule 40.

1. PVC Socket Fittings: ASTM D2466, Schedule 40.
2. PVC Threaded Fittings: ASTM D2464, Schedule 80.
3. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket ends.

H. PVC Pipe, Pressure Rated: ASTM D2241, PVC 1120 compound, SDR 21.

1. PVC Socket Fittings: ASTM D2467, Schedule 80.
2. PVC Socket Unions: Construction similar to MSS SP-107, except both headpiece and tailpiece shall be PVC with socket or threaded ends.

2.2 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 according to ASTM B813.

E. Solvent Cements for Joining PVC Piping: ASTM D2564. Include primer according to ASTM F656.

F. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.

2.3 MANUAL VALVES

A. Install quick couplers with purple lids and non-potable/effluent marking plate.

B. Curb Valves:

1. Description:

a. Standard: AWWA C800.
b. NPS 1 (DN 25) and Smaller Pressure Rating: 100 psig (690 kPa) minimum.
c. NPS 1-1/4 to NPS 2 (DN 32 to DN 50) Pressure Rating: 80 psig (550 kPa) minimum.
d. Body Material: Brass or bronze with ball or ground-key plug.
e. End Connections: Matching piping.
f. Stem: With wide-tee head.

C. 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 (75-mm) diameter.
4. Plug: With lettering "WATER."
5. Bottom Section: With base of size to fit over valve.
6. Base Support: Concrete collar.

D. Shutoff Rods for Curb-Valve Casings: Furnish one 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.

E. Brass Ball Valves:

1. Description:

a. Standard: MSS SP-110.
b. SWP Rating: 150 psig (1035 kPa).
c. CWP Rating: 600 psig (4140 kPa).
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.

F. Bronze Ball Valves:

1. Description:

a. Standard: MSS SP-110.
b. SWP Rating: 150 psig (1035 kPa).
c. CWP Rating: 600 psig (4140 kPa).
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.

H. Plastic Ball Valves:

1. Description:

g. Standard: MSS SP-122.
h. Pressure Rating: 125 psig (860 kPa) minimum.
i. Body Material: PVC.
j. Type: Union.
k. End Connections: Socket or threaded.
l. Port: Full.

J. 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 (125-mm) diameter.
4. Plug: With lettering "WATER."
5. Bottom Section: With base of size to fit over valve.
6. Base Support: Concrete collar.

K. Operating Wrenches for Iron Gate Valve Casings: Furnish one 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.

2.4 AUTOMATIC CONTROL VALVES

A. Install quick couplers with purple lids and non-potable/effluent marking plate.

B. Bronze, Automatic Control Valves:

1. Description: Cast-bronze body, normally closed, diaphragm type with manual-flow adjustment, and operated by 24-V ac solenoid.
2. Provide two-wire decoder module

C. 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. Provide 2 wire decoder module

2.5 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 (17 to 20 kPa).

2.6 SPRINKLERS

A. General Requirements: Designed for uniform coverage over entire spray area indicated at available water pressure.

B. Plastic, Pop-up, Gear-Drive Rotary Sprinklers:

1. Rainbird 5000 PRS Series.
2. Large radius appropriate for sports field application.
3. Description:

i. Body Material: ABS.
j. Nozzle: ABS.
k. Retraction Spring: Stainless steel.
l. Internal Parts: Corrosion resistant.

C. Plastic, Surface, Pop-up Spray Sprinklers:

1. Rainbird 1800-PRS.
2. Description:

a. Body Material and Flange: ABS.
b. Height: 4".
c. Pressure regulated.

2.7 Drip Irrigation

A. Rainbird XFD On-Surface Drip line.

1. Inline emitter, size and spacing per manufacturers recommendation for soil type.
2. Fittings: per manufacturer
3. Valve: Rainbird Control Zone Kit.

a. Pressure Regulated
b. Integral filtration : 200 mesh stainless steel screen
c. Compatible with two-wire decoder
d. Size per zone flow requirements.

2.8 Quick Couplers

A. Description: ¾" 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 one matching key(s).

2.9 CONTROLLERS

A. Rainbird EXP-LXD Two-wire Decoder Controller Series

B. Description:

1. Controller Stations for Automatic Control Valves: Each station is variable from approximately 0 to 12 hours with seasonal adjust. 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 or pedestal - see plan for location and type.

3. Control Input: 120VAC, 60Hz.
4. Timing Device: Adjustable, 24-hour, 365 day.clock with 4 independent programs that allow for overlap, 6 start times per program, 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.

5. 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.

6. 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. Rainbird PUBSTDG Series value box
b. Size: As required for valves and service.

B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch (19 mm) minimum to 3 inches (75 mm) maximum.

part 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."

B. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from, to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.

C. Provide minimum cover over top of underground piping according to the following:

1. Irrigation Main Piping: Minimum depth of 30 inches below.
2. Circuit Piping: 12 inches (300 mm).
3. Drain Piping: 12 inches (300 mm).
4. Sleeves: 24 inches (600 mm).

3.2 PIPING INSTALLATION

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 (DN 50) or smaller pipe connection.

G. Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 (DN 65) or larger pipe connection.

H. Install underground thermoplastic piping according to 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 according to AWWA C600.

L. Install PVC piping in dry weather when temperature is above 40 deg F (5 deg C). Allow joints to cure at least 24 hours at temperatures above 40 deg F (5 deg C) 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 according to 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, 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 according to 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 according to 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 according to piping manufacturer's written instructions.

I. PVC Piping Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to 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 according to ASTM D2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D2855.
3. PVC Nonpressure Piping: Join according to ASTM D2855.

3.4 VALVE INSTALLATION

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 SPRINKLER INSTALLATION

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 (100 mm) from walls and 2 inches (50 mm) from other boundaries unless otherwise indicated.

3.6 drip irrigation installation

A. Install a drip irrigation components per manufacturer's standard detail. Provide dripper line spacing per manufacturer's recommendation for soil type.

3.7 Automatic Irrigation-contropl system installation.

A. Install control cable in same trench as irrigation piping and at least 2 inches (51 mm) below or beside piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas.

3.8 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 220553 "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.

3.9 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.

C. Any irrigation product will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.10 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 (13 mm) above, finish grade.

3.11 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, NPS 4 (DN 100) and smaller, shall be the following:

1. Galvanized-steel pipe and galvanized-steel pipe nipples; galvanized, gray-iron threaded fittings; and threaded joints.
2. Type L hard copper tube, wrought- or cast-copper fittings, and soldered joints.
3. Schedule 40, PVC pipe; socket-type PVC fittings; and solvent-cemented joints.
4. Schedule 80, PVC pipe; Schedule 80, threaded PVC fittings; and threaded joints.

D. Underground irrigation main piping, shall be one of the following:

1. Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.

E. Circuit piping, shall be one of the following:

1. Schedule 40, PVC pipe and 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: Schedule 80, PVC pipe and socket fittings; and solvent-cemented joints.

H. Drain piping shall be one of the following:

1. Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.

3.12 VALVE SCHEDULE

A. Underground, Shutoff-Duty Valves: Use the following:

1. NPS 2 (DN 50) and Smaller: Curb valve, curb-valve casing, and shutoff rod.
2. NPS 3 (DN 80) and Larger: Iron gate valve, resilient seated; iron gate valve casing; and operating wrench(es).

B. Aboveground, Shutoff-Duty Valves:

1. NPS 2 (DN 50) and Smaller: Brass ball valve.
2. NPS 2-1/2 (DN 65) and Larger: Iron ball valve.

C. Throttling-Duty Valves:

1. NPS 2 (DN 50) and Smaller: Plastic automatic control valve.
2. NPS 2 (DN 50) and Smaller: Plastic ball valve.
3. NPS 2-1/2 and NPS 3 (DN 65 and DN 80): Plastic automatic control valve.
4. NPS 2-1/2 and NPS 3 (DN 65 and DN 80): Iron ball valve.

D. Drain Valves:

1. NPS 1/2 and NPS 3/4 (DN 15 and DN 20): Automatic drain valve.
2. NPS 1/2 and NPS 3/4 (DN 15 and DN 20): Plastic ball valve.
3. NPS 1 to NPS 2 (DN 25 to DN 50): Plastic ball valve.

END OF S

MABCD
REVIEWER:

MEANINGFUL DESIGN

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IRRIGATION SPECIFICATIONS

11/05/2019
Final Review Submission-
Not for Construction

FILE PATH: U:\WICHITA-CIVIL\2017\171321\001\MUNI\DRAWINGS\PLANS\171321-001-LI502.DWG