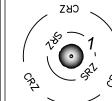


LEGEND



EXISTING TREE TO REMAIN WITH CRITICAL ROOT ZONE (CRZ) &, STRUCTURAL ROOT ZONE (SRZ), AND APPROX. CANOPY EXTENTS



EXISTING DC HERITAGE TREE





EXISTING TREE TO BE REMOVED BY ARBORIST (SEE SPECIFICATIONS)

EXISTING DC SPECIAL TREE



TREE TO BE TRANSPLANTED WITH TRANSPLANT ROOTBALL (SOLID LINE).



TRANSPLANT EXCAVATION AREA



PROPOSED TREE TRANSPLANT PATH





PROPOSED ROOT PRUNING (SEE DETAIL & SPECIFICATIONS)

KEYNOTES

HERITAGE TREE TO BE TRANSPLANTED.

EX. 4 FT CHAIN LINK FENCE TO BE DEMOLISHED. FENCE ALONG PROPERTY LINE TO REMAIN EXCEPT AS NOTED ON SHEET LR-3.

TRANSPLANT NARRATIVE

MARET SCHOOL IS PROPOSING TO CONSTRUCT ATHLETIC FIELDS AND THE EPISCOPAL CENTER FOR CHILDREN AT 5901 UTAH AVENUE NW. CONSTRUCTION OF THE FIELDS WILL REQUIRE REMOVAL OF SEVERAL REGULATED TREES --- SPECIAL TREES AND POOR CONDITION HERITAGE TREES. TREES TO BE REMOVED ARE SHOWN ON THIS SHEET.

FOUR (4) HERITAGE TREES ARE PROPOSED TO BE TRANSPLANTED PRIOR TO THE OTHER SITE DEVELOPMENT ACTIVITIES. THESE ARE TREES 363, 386, 391, AND 393. TRANSPLANT LOCATIONS AND PROCEDURES ARE SHOWN ON SUBSEQUENT SHEETS ALONG WITH THE CURRENT PROPOSED DESIGN.

TREES ON THE WEST SIDE OF THE PROPERTY AND ALL STREET TREES WILL BE UNAFFECTED BY THE PROPOSED TRANSPLANT ACTIVITY. TREE PROTECTION MEASURES ARE SHOWN ON SUBSEQUENT SHEETS. RECOMMENDATIONS FOR EACH TREE ARE PROVIDED IN THE TREE PROTECTION ACTION KEY (TPAK) ON SHEETS LR-6 AND LR-7.

THE MAINTENANCE PERIOD FOR THE TRANSPLANTED TREES IS THREE YEARS. PERMANENT IRRIGATION AND CONTINUED INSPECTION BEYOND THIS PERIOD IS RECOMMENDED.

THIS PLAN ADDRESSES ONLY THOSE TREE PRESERVATION ACTIVITIES THAT PERTAIN TO THE TREE TRANSPLANT OPERATION AND DOES NOT CONSTITUTE A TREE PRESERVATION PLAN FOR THE REMAINDER OF THE SITE WORK, TO INCLUDE CONSTRUCTION OF THE ATHLETIC FIELDS AND ASSOCIATED INFRASTRUCTURE. A TREE PRESERVATION PLAN FOR THIS WORK WILL BE PROVIDED SEPARATELY. SITE WORK ELEMENTS ARE SHOWN HERE FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE.

THE TRANSPLANT CONTRACTOR IS ANTICIPATED TO BE ENVIRONMENTAL DESIGN, INC. (EDI).

ANTICIPATED SEQUENCE

DORMANT SEASON 2021/2022 - INITIAL ROOT PRUNING. INSTALL TEMPORARY IRRIGATION PRIOR TO LEAF OUT.

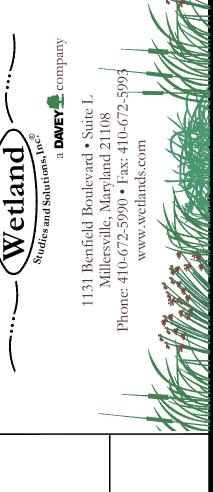
GROWING SEASON 2022 - ROOT BALL CONDITIONING AND INSPECTIONS. DORMANT SEASON 2022/2023 - TREE TRANSPLANT OPERATION

2023 TO 2026 - MAINTENANCE AND MONITORING.

(IN FEET)

1 inch = 40 ft.

SEQUENCE SUBJECT TO REVISION BASED ON EXTERNAL FACTORS SUCH AS PERMITTING TIMETABLE. IF ROOT PRUNING IS NOT POSSIBLE IN DORMANT SEASON OF 2021/2022, IT WILL BE RESCHEDULED FOR THE DORMANT SEASON OF 2022/2023. A FULL GROWING SEASON OF ROOT BALL CONDITIONING WILL TAKE PLACE REGARDLESS OF ANY DELAYS. SEE SHEET LR-5 FOR ADDITIONAL DETAIL ON THE TRANSPLANT PROCESS.





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Vertical Datum: NAVD 88

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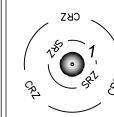
Vika Capitol

WSSI Project Number:

LR-1







EXISTING TREE TO REMAIN
WITH CRITICAL ROOT ZONE (CRZ) &,
STRUCTURAL ROOT ZONE (SRZ), AND
APPROX. CANOPY EXTENTS



EXISTING DC HERITAGE TREE



EXISTING DC SPECIAL TREE



EXISTING TREE TO BE REMOVED BY ARBORIST (SEE SPECIFICATIONS)



TREE TO BE TRANSPLANTED WITH TRANSPLANT ROOTBALL (SOLID LINE).



TRANSPLANT EXCAVATION AREA



PROPOSED TREE TRANSPLANT PATH



PROPOSED TREE PROTECTION FENCE (SEE DETAIL & SPECIFICATIONS)

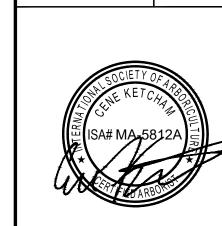


KEYNOTES

1 HERITAGE TREE TO BE TRANSPLANTED.

2 EX. 4 FT CHAIN LINK FENCE TO BE DEMOLISHED. FENCE ALONG PROPERTY LINE TO REMAIN EXCEPT AS NOTED ON SHEET LR-3.

AERIAL IMAGE FROM FEBRUARY 21, 2020 OBTAINED FROM NEARMAP.

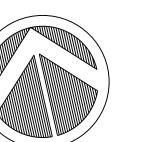


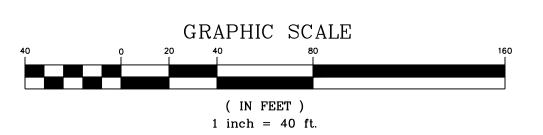
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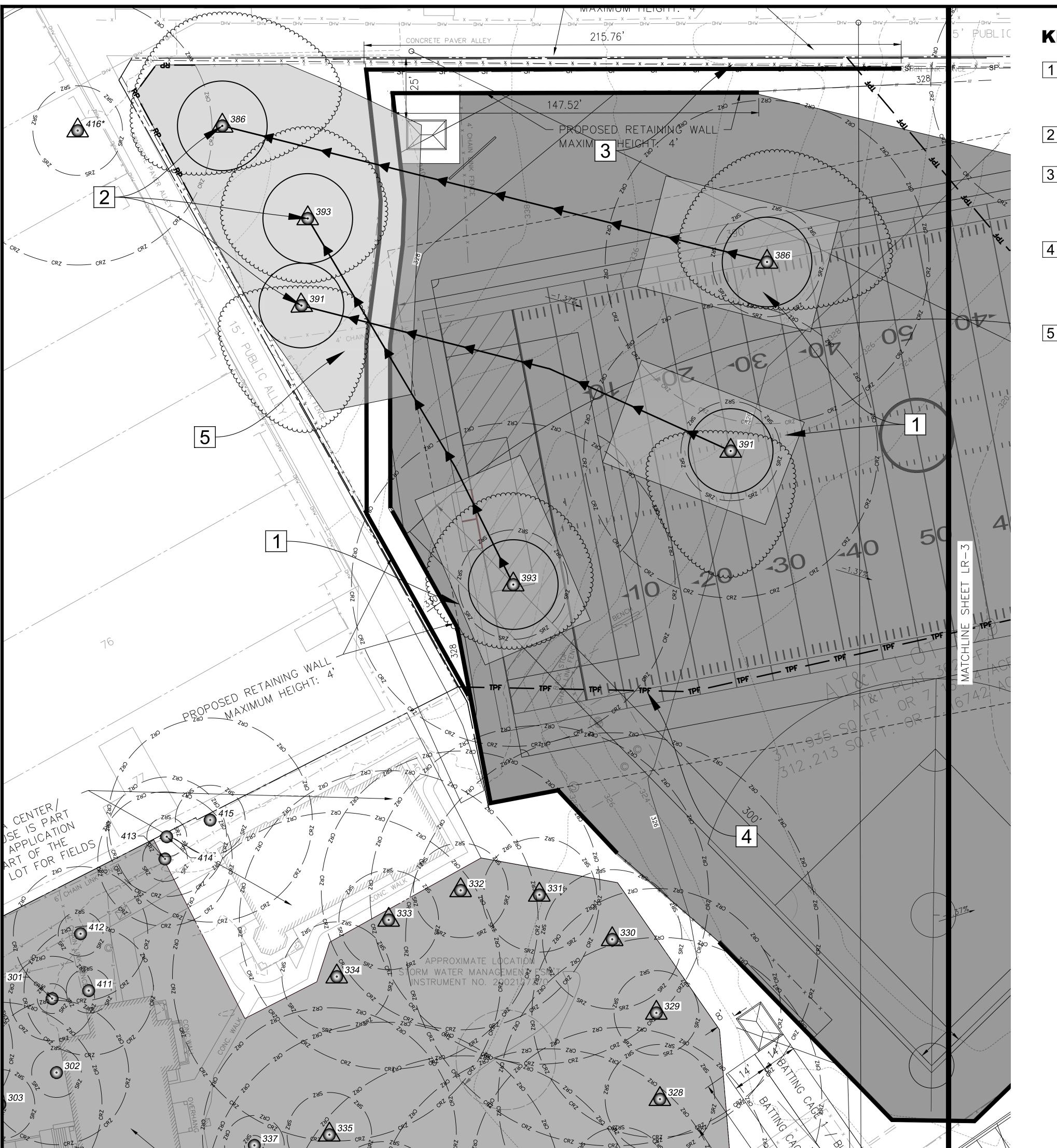
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Boundary and Topo Source: Vika Capitol

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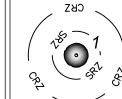


KEYNOTES

- 1 EXCAVATION FOR INSTALLATION.

 RAMP EXTENDS APPROX. 6 FT BEYOND THE EXCAVATION FOR INSTALLATION OF PIPE AND ROOTBALL ON THREE SIDES AND 25-30 FT IN DIRECTION OF TRAVEL.
- FINAL LOCATION OF TRANSPLANTED HERITAGE TREE.
- **EQUIPMENT FOR TRANSPLANT ACTIVITIES TO** ACCESS THE SITE THROUGH THE ALLEY. DEMOLISH ENOUGH OF THE EXISTING CHAIN LINK FENCE TO ALLOW ACCESS AND RETAIN THE
- COORDINATE INSTALLATION OF EROSION AND SEDIMENT CONTROL (ESC) MEASURES WITH TREE PROTECTION FENCE. WITHIN CRZS OF TREES TO BE RETAINED, USE ROOT-FRIENDLY ESC METHODS SUCH AS ON-GRADE SILT FENCE (SEE DETAIL 5 ON LR-5) OR FILTER SOCKS. (TYP.)
- 5 ESTIMATED SOIL VOLUME FOR THIS TRANSPLANT AREA IS ±28,320 CUBIC FEET, EXCLUDING SOIL UNDER ALLEY.

LEGEND



EXISTING TREE TO REMAIN
WITH CRITICAL ROOT ZONE (CRZ) &,
STRUCTURAL ROOT ZONE (SRZ), AND
APPROX. CANOPY EXTENTS



EXISTING DC HERITAGE TREE



EXISTING DC SPECIAL TREE



ARBORIST (SEE SPECIFICATIONS)

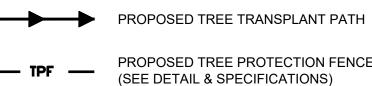
EXISTING TREE TO BE REMOVED BY



TRANSPLANT ROOTBALL (SOLID LINE).



TRANSPLANT EXCAVATION AREA



PROPOSED TREE PROTECTION FENCE



PROPOSED ROOT PRUNING (SEE DETAIL & SPECIFICATIONS)

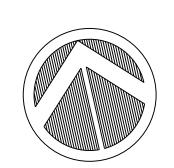
DATE	JOB	CONTRACTOR	NOTES	OK'd
DAIL	Pre-construction meeting	CONTINACTOR	NOTES	- OK u
	Apply tree growth regulator*			
	Install tree protection fencing*			
	Root pruning*			
	Mulch application			
	Tree removals*			
	Canopy pruning*			
	Arborist oversight of excavation*			
	Construction monitoring of tree protection devices and tree health*†			
	Vertical mulching*			
	Install temporary Root Protection Matting (as needed)*			
	Supplemental watering (note responsible party, watering method(s), and log application rate(s))			
	Year 1 Soil Care/Fertilization*§			
	Year 2 Soil Care/Fertilization*§			
	Year 3 Soil Care/Fertilization*§			
	Removal of tree protection devices.			
	Year 1 inspections*‡			
	Year 2 inspections*‡			
	Year 3 inspections*‡			

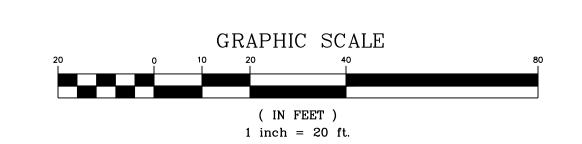
Performed by or under supervision of ISA Certified Arborist.

† Monthly during demolition and construction for non-transplant trees. Transplant trees and alternate(s) to be monitored weekly during the leaf-on season and monthly during dormancy. ‡ At least twice annually during the leaf-on season for non-transplant trees. Transplant trees and alternate(s) to be inspected weekly

during the leaf-on season and monthly during dormancy.

§ Note product(s) and application rate(s).





Wetland



Horizontal Datum: MD NAD 83

Vertical Datum: NAVD 88 Boundary and Topo Source: Vika Capitol

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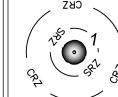
LR-3



KEYNOTES

- EXCAVATION FOR INSTALLATION OF PIPE AND RAMP EXTENDS APPROX. 6 FT BEYOND THE ROOTBALL ON THREE SIDES AND 25-30 FT IN DIRECTION OF TRAVEL.
- FINAL LOCATION OF TRANSPLANTED HERITAGE TREE.
- 3 EXISTING CHAIN LINK FENCE TO ACT AS TREE PROTECTION FENCE IN THIS AREA.
 - COORDINATE INSTALLATION OF EROSION AND SEDIMENT CONTROL (ESC) MEASURES WITH TREE PROTECTION FENCE. WITHIN CRZS OF TREES TO BE RETAINED, USE ROOT-FRIENDLY ESC METHODS SUCH AS ON-GRADE SILT FENCE (SEE DETAIL 5 ON LR-5) OR FILTER SOCKS. (TYP.)
- PROPOSED RETAINING WALL TO BE ON PIER FOOTINGS, ALLOWING ROOT ACCESS TO ADJACENT SOIL. FILL UNDER EDGE OF TURF (NON PLAYING FIELD) TO BE MODIFIED TO ACCOMMODATE ROOT GROWTH.

LEGEND



EXISTING TREE TO REMAIN
WITH CRITICAL ROOT ZONE (CRZ) &,
STRUCTURAL ROOT ZONE (SRZ), AND
APPROX. CANOPY EXTENTS



EXISTING DC HERITAGE TREE



EXISTING DC SPECIAL TREE



EXISTING TREE TO BE REMOVED BY ARBORIST (SEE SPECIFICATIONS)



TREE TO BE TRANSPLANTED WITH TRANSPLANT ROOTBALL (SOLID LINE).



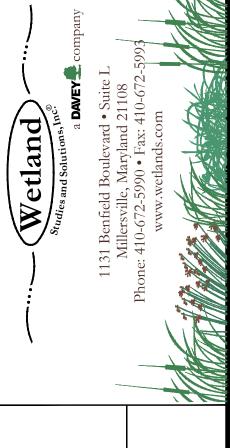
TRANSPLANT EXCAVATION AREA



PROPOSED TREE PROTECTION FENCE (SEE DETAIL & SPECIFICATIONS)



PROPOSED ROOT PRUNING (SEE DETAIL & SPECIFICATIONS)





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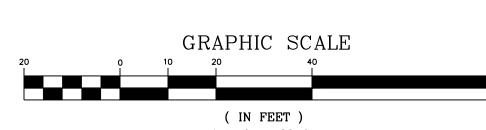
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LR-4

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WSSI Project Number:

(IN FEET) 1 inch = 20 ft.



THREE ENTITIES ARE TYPICALLY INVOLVED IN SUCCESSFUL LARGE TREE TRANSPLANT OPERATIONS: THE PROJECT/OWNER'S CONSULTING ARBORIST OR URBAN FORESTER; THE TRANSPLANT CONTRACTOR; AND THE RETAINED ARBORIST SUPPLYING REGULAR MAINTENANCE FOR THE TREES. THIS WORK IS HIGHLY SPECIALIZED AND REQUIRES CONSIDERABLE EXPERIENCE IN TRANSPLANTING AND MAINTAINING LARGE TREES MINIMUM CERTIFICATION IS INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST.

ALL WORK SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER AND OWNER'S CONSULTING ARBORIST.

REFERENCES FOR THIS WORK SHALL INCLUDE THE FOLLOWING:

ROOT PRUNING, RELOCATION AND REPLANTING SHALL OCCUR ONLY DURING THE PLANTING SEASON (OCTOBER 15 TO MAY 1)

SUBMIT MATERIALS LIST/LABELS FOR ALL ANTICIPATED MATERIALS (LIQUIDS, POWDERS, GRANULES, AND HARDWARE) FOR USE ON THE TREES OR SOILS.

THE LARGE TREE TRANSPLANT OPERATION IS BROKEN INTO FOUR PARTS AS FOLLOWS:

- ROOT BALL CONDITIONING THIS OPERATION IDEALLY IS TO BE SCHEDULED ONE YEAR IN ADVANCE OF THE TREE MOVING. SOIL SHALL BE NON-FROZEN OR OVER-SATURATED FOR THIS OPERATION. THE FOLLOWING TREATMENTS ARE TYPICALLY INCLUDED:
 - HYDRATE ROOT BALL WITHIN 20' (TWENTY FEET) OF THE TRUNKS FOR 2 WEEKS PRIOR TO THIS OPERATION
 - COORDINATE LOCATION OF EXISTING UNDERGROUND UTILITIES AND RESOLVE CONFLICTS. UTILITIES CAN BE LEFT IN PLACE FOR THIS OPERATION.
 - LAYOUT AND PAINT THE PROPOSED ROOT BALL PERIMETER USING THE MINIMUM NURSERY STANDARD RATIO OF 10" ROOT BALL DIAMETER FOR EACH INCH OF TRUNK CALIPER MEASURED ONE FOOT ABOVE GRADE. HAND EXCAVATE AND PRUNE ROOTS, ADJUSTING FOR SPECIES AND ROOTS ENCOUNTERED
 - ANY PRUNED ROOTS 2-INCHES DIAMETER OR LARGER SHOULD BE PLACED ALONGSIDE THE TRENCH FOR REVIEW AND THE LOCATION ON THE ROOTBALL MARKED WITH A FLAG OR STAKE ARBORIST TO NOTE THE SIZE, LOCATION, AND DEPTH OF THE SIGNIFICANT ROOTS
 - BACKFILL TRENCH AND INCLUDE BIOSTIMULENT MIX. HAND GRADE, WATER AND TAMP TO MATCH LAWN LANDSCAPE. MULCH BARE SOIL RING.
 - SET UP TEMPORARY RIGOROUS IRRIGATION AND TIMERS AS SOON AS PRACTICAL AND IN ALL CASES BEFORE BUDBREAK ADJUST FREQUENCY AND DURATION FOR SEASON AND SITE CONDITIONS.
 - PROVIDE LABELS OF RECOMMENDED ROOT STIMULANT FOR APPROVAL BY PROJECT ARBORIST AND INJECT ROOT BALL TO
 - PROMOTE GROWTH INSIDE THE ROOT BALL. CERTIFIED ARBORIST TO INSPECT HEALTH OF TREES WEEKLY
 - SEND EMAIL REPORT MONTHLY TO INCLUDE OWNER INCLUDE PHOTO(S) REPRESENTATIVE OF TREE HEALTH.

DURING LEAF ON AND MONTHLY DURING DORMANCY.

- MAINTAIN TRANSPLANTS FOR A MINIMUM OF ONE GROWING SEASON PRIOR TO TRANSPLANT OPERATION TO INCLUDE THE FOLLOWING:
 - INSECT & DISEASE INSPECTIONS AND TREATMENT DURING APPROPRIATE SEASONS
 - MONITOR AND ADJUST SUPPLEMENTAL WATERING DURING THE SEASONS AND WEATHER
 - MONITOR TREES AND PROVIDE MONTHLY REPORTS TO OWNER ON HEALTH AND CONDITION WITH PHOTOS

TRANSPLANTING OPERATION

- LOCATE EXISTING UNDERGROUND UTILITIES IN THE AREA OF PROPOSED TRANSPLANT EXCAVATION AREAS.
- REFER TO PLAN DRAWING FOR LIMITS OF EXCAVATION, DIRECTION OF TREE MOVING, AND LIMITS OF EQUIPMENT ACCESS, STOCKPILE, AND STORAGE.
- MEET WITH CONTRACTOR TO REVIEW LOCATION AND SET UP OF PERIMETER FENCING FOR THE TRANSPLANT OPERATION TO INCLUDE SITE MAINTENANCE OPERATIONS AND PEDESTRIANS. VERIFY AND REMOVE TREES, PLANTS, AND SITE OBSTACLES FOR THE TRANSPORT OPERATION.
- RE-DIG ROOT BALL ALLOWING FOR NEW OUTER ROOT GROWTH.
- WRAP BALL IN BIODEGRADABLE BURLAP. WRAP BALL WITH STEEL FENCING AND CRIMP TO TIGHTEN.
- WRAP BALL WITH PLASTIC SHEATHING DURING DRY MONTHS TO AVOID DESICCATION OR HOLD SOIL TOGETHER.
- EXCAVATE THE BORE PIT IN THE DIRECTION OF TRANSPORT.
- HYDRAULICALLY JACK STRUCTURAL PIPE UNDER ROOT BALL. MINIMUM PIPE DIAMETER IS 6 IN. DIAMETER WITH WALL THICKNESS OF 0.337-INCH. INSERT PIPE ON LESS THAN 10 IN. CENTERS TO ALLOW A MAXIMUM GAP OF 3 IN. BETWEEN PIPES.
- COMPLETE THE INSTALLATION OF THE STRUCTURAL FRAME TO THE TRANSPLANTS USING THE ENGINEERED STEEL PIPE AND CUSTOM I-BEAM CLAMPS.
- INSERT THE FIRST DEFLATED LIFT BAG UNDER THE EDGE OF THE STEEL FRAME AND SLOWLY INFLATE. THEN INSERT AND INFLATE THE REMAINING BAGS. LIFT AND TRANSPORT TREES ACROSS THE SITE USING ARBOR-LIFT ROLLING AIR- SUSPENSION TECHNOLOGY.

NO CRANES OR TRACTOR TRAILERS ARE NEEDED WITH THIS METHOD. REVIEW LOCATIONS OF EXISTING WET UTILITIES WITH CM TO PROTECT FROM HEAVY EQUIPMENT COMPACTION OR

- **EXCAVATION.** PREPARE PLANTING PIT BY EXCAVATING TO THE DEPTH AS DETERMINED BY THE ROOT BALL PLUS STRUCTURAL FRAME TO EQUAL THE FINAL GRADE PLANNED. INSPECT THE SOILS AS THE PIT IS BEING DUG FOR OBJECTS OR CONDITIONS THAT MAY EFFECT DRAINAGE AND SURVIVAL SUCH AS CONCRETE, ROCK, WET CONDITIONS, CLAY LAYERS, AND UNDERGROUND UTILITIES. NOTIFY THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGEMENT AND OWNER'S ARBORIST UPON DISCOVERY OF THESE OR OTHER OBSTACLES. DETERMINE THE BEST COURSE TO PROCEED AND DOCUMENT FINDINGS AND DECISIONS MADE. POOR DRAINAGE MAY NECESSITATE THE ADDITION OF DRAINAGE STONE AND SUBSURFACE DRAINS AROUND THE ROOT BALL TO PREVENT PERSISTENT SATURATION AND ANAEROBIC CONDITIONS. DETERMINE IF THE DRAIN SHOULD DAYLIGHT, BLEED OFF INTO AN EXISTING STORM DRAIN NEARBY, OR CONSTRUCT
- SHOULD FINAL GRADE BE IN FILL, COORDINATE WITH THE CM AND LANDSCAPE ARCHITECT TO STAKE FINAL GRADE ON SITE FOR EACH TRANSPLANT AND SET TREES APPROPRIATELY. SOME TREES MAY BE SET ON EXISTING GRADE AND BACKFILLED AROUND FOR A TEMPORARY MOUND PRIOR TO SITE WORK GRADING. CM TO COORDINATE WITH PROJECT ARBORIST FOR MATCHING FINAL GRADE DURING SITE WORK.
- ONCE IN THE PLANTING PIT LOCATIONS, DEFLATE THE ARBOR LIFT SYSTEM AND SET TREES ON REQUIRED GRADE AND BACKFILL WITH A MIX OF SITE TOPSOIL. AMEND AS NEEDED UPON REVIEW WITH PROJECT ARBORIST.
- INSTALL GUYING SUPPORT SYSTEM TO STEEL FRAME FOR **SELECTED TREES**
- ONCE THE GROUND SURFACE OUTSIDE THE ROOT BALL IS CLEARED OF SPOILS AND EQUIPMENT. SCARIFY THE GRADE OUTSIDE THE ROOT BALL EXCAVATION TO A DEPTH OF 18 IN. THEN TRANSITION TO 12 IN. THEN 6 IN. TO A DISTANCE OUTSIDE EQUAL TO THE ROOT BALL WIDTH. (E.G., IF THE ROOT BALL IS 24 FT. WIDE THEN SCARIFY A TOTAL OF 24FT. OUTSIDE THE ROOT BALL.) CLEAN CONTAMINATED SOILS SUCH AS CONCRETE OR MASONRY RESIDUE AND AMEND WITH TOPSOIL AS NEEDED.
- BEGIN RIGOROUS WATERING IMMEDIATELY UPON BACKFILLING. ENSURE AIR POCKETS ARE ELIMINATED DURING BACKFILL WITH TAMP BAR AND WATER HOSE
- ESTIMATED GALLONS ARE 5 TO 10 PER TREE CALIPER PER WATERING. ADJUST FREQUENCY AND DURATION DUE TO SEASON AND WEATHER. SET TIMER FOR DRIP SYSTEM DEPENDING UPON TIME OF YEAR AND WEATHER ANTICIPATED. DURATION OF SUPPLEMENTAL WATERING SHALL BE 3-5 YEARS.
- INSTALL 3 IN. THICK LAYER OF AGED WHOLE TREE MULCH OUT TO 1-2 FT. BEYOND THE ROOT BALL EDGE. DO NOT ALLOW MULCH TO CONTACT TRUNK.
- INSTALL PROTECTIVE FENCE AT DESIGNATED LOCATIONS.
- A DISTRICT DEPARTMENT OF TRANSPORTATION (DDOT) ARBORIST SHALL BE GRANTED REASONABLE ACCESS TO THE PRIVATE PROPERTY WHERE THE HERITAGE TREE IS PLANTED FOR A PERIOD OF THIRTY-SIX (36) MONTHS FOLLOWING RELOCATION AND REPLANTING.

4. MAINTENANCE AND MONITORING

- CONTINUE RIGOROUS WATERING AND WEEKLY MONITORING DURING 6- MONTH GROWING SEASON. INSPECT FOR SETTLING AROUND THE ROOT BALL. BACKFILL DEPRESSIONS WITH TOPSOIL OR SHARP, MEDIUM COARSE SAND AND WASH IN AND HAND TAMP.
- ADJUST TO REDUCED WATERING, MAINTENANCE, AND MONITORING DURING DORMANT SEASON.
- EXTEND THE AREA OF IRRIGATION OUTSIDE THE ROOT BALL EACH **GROWING SEASON BY 3 FT.**
- COORDINATE WITH CONTRACTOR FOR DEMOLITION AND CONSTRUCTION ACCESS, STAGING, AND STOCKPILE FOR PROTECTION OF TREES.
- WEEKLY INSPECTIONS BY A CERTIFIED ARBORIST DURING THE GROWING SEASON THEN MONTHLY DURING THE DORMANCY. INSPECTIONS TO CONTINUE FOR THIRTY-SIX (36) MONTHS FOLLOWING INITIAL ROOT PRUNING.
- DDOT ARBORIST TO BE PROVIDED WITH MONTHLY REPORTS DURING FIRST TWO YEARS FOLLOWING INITIAL ROOT PRUNING.
- MONITORING OF HARMFUL INSECTS AND DISEASE SHALL ALSO BE DONE WITH NECESSARY TREATMENTS.
- ITEMS OF CONCERN WILL BE NOTED IN A MONTHLY EMAIL REPORT TO INCLUDE THE OWNER. INCLUDE PHOTOS OF ISSUES OR CONCERNS.
- MEET WITH RETAINED ARBORIST ONCE A YEAR TO ASSESS HEALTH AND CONDITION.
- DURING LEAF-ON SEASON ADEQUATE MOISTURE IS A KEY TO SURVIVAL. LAPSES OF WATERING OF ONE WEEK OR MORE IN HIGH HEAT WITH LOW RAINFALL CAN CAUSE DECLINE AND HEALTH THAT MAY BE IRREVERSIBLE.

ROOT BALL CONDITIONING



- ALL WORK IS HAND TOOLS BY EXPERIENCED TRADESMEN WITH DECADES OF EXPERIENCE WITH MATURE TREE TRANSPLANTING.
- LAYOUT OF ROOT BALL PER NURSERY STANDARDS; ROOT PRUNING AND SHAPING BY
- EXISTING WALKS, BUS PADS, OR UTILITIES- SUCH AS SITE LIGHTING AND SPRINKLERS ARE NOT CUT DURING THIS OPERATION.
- TRENCH IS BACKFILLED FOR ± 1 YEAR TO ALLOW FOR CONDITIONING.
- ROBUST WATERING BEGINS SAME DAY. TREE IS NOW UPON LIFE SUPPORT ROOTS ARE INOCULATED WITH AMENDMENTS AND MONITORED BY ARBORISTS UNTIL TRANSPLANTING.

ROOT BALL ENCAPSULATION



- READY FOR TRANSPLANTING. DEPTH OF ROOT BALL IS TYPICALLY 3 TO 3.5 FT. DEEP TO CAPTURE STRUCTURAL ROOTS THAT HELP HOLD THE BALL
- BURLAP AND WIRE FENCING IS INSTALLED AND TIGHTENED.
- THIS IS TYPICALLY A ONE DAY OPERATION FOR THREE OR FOUR SKILLED WORKERS.
- UNDERGROUND UTILITIES AND PAVEMENT WILL NEED TO BE CUT AND DEMOLISHED AT THIS TIME.

STRUCTURAL FRAME FABRICATION - 1

"ARBOR-LIFT" ROLLING TRANSPORT



- INSERTION OF ENGINEERED HIGH STRENGTH STEEL PIPE WITH PNEUMATIC RAM.
- THIS FORMS A STRUCTURAL
- ACCESS RAMP IS NEEDED IN THE DIRECTION OF TRAVEL.



- CUSTOM STEEL BEAMS WILL BE CLAMPED TO TOP AND BOTTOM OF PIPE ENDS TO HOLD IT TOGETHER.
- TYPICALLY, THIS STRUCTURAL FRAME IS THE SECOND DAY OF WORK PER TREE.

STRUCTURAL FRAME FABRICATION- 2



(ABOVE) PIPES ARE CUT EVEN TO PREPARE FOR END CLAMPS TO



- (ABOVE) STRUCTURAL FRAME IN PLACE READY FOR TRANSPORT PLASTIC SHEATHING IS USED TO
- PREVENT DESICCATION. MULTIPLE TREES ARE PREPARED AND



USING THE "ARBOR- LIFT" METHOD:

- DEFLATED LATEX RUBBER PNEUMATIC TUBES WITH ONE-INCH-THICK WALLS ARE SLID UNDER THE EDGE OF
- THE STRUCTURAL FRAME TUBES ARE INFLATED ONE BY ONE AS THE TREE IS SLOWLY RAISED.
- NO CRANES OR HEAVY TRAILERS ARE NEEDED.
- TRAK HOE(S) ARE USED TO CAREFULLY ROLL ACROSS THE SITE.

PLANTING THE TREE

- FINAL ROOT BALL ELEVATION IS CALCULATED TO DETERMINE PLANTING DEPTH AND LEVEL.
- SOME SITES ALLOW EXCAVATION WITH A RAMP TO ROLL THE TREE TO **GRADE THEN BACKFILL**
- OTHER SITES ALLOW THE TREE TO BE SET ON EXISTING GRADETHEN BACKFILL IS MOUNDED UP AROUND THE TREE.
- LATER SITE GRADING WILL MATCH GRADE. IRRIGATION IS SET UP THE SAME DAY AND TREE PROTECTION INSTALLED FOR DURATION OF CONSTRUCTION.

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Horizontal Datum: MD NAD 83 Vertical Datum: NAVD 88

Boundary and Topo Source:

Vika Capitol

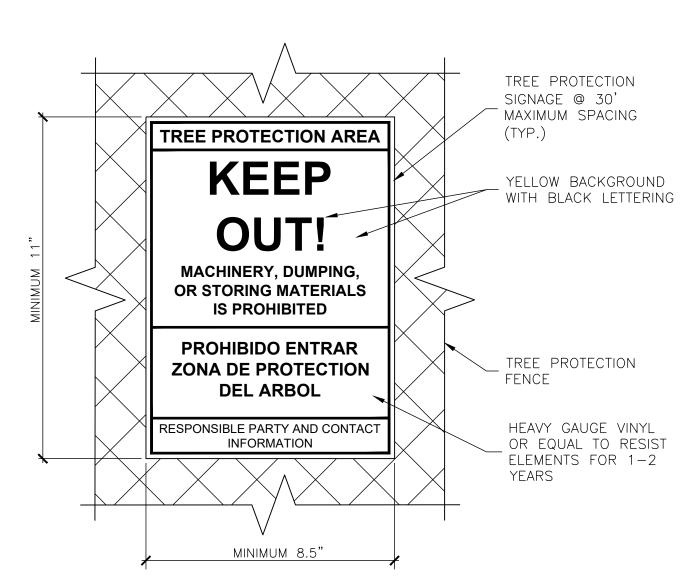
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LR-5

1. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.

- 2. SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS.
- TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN

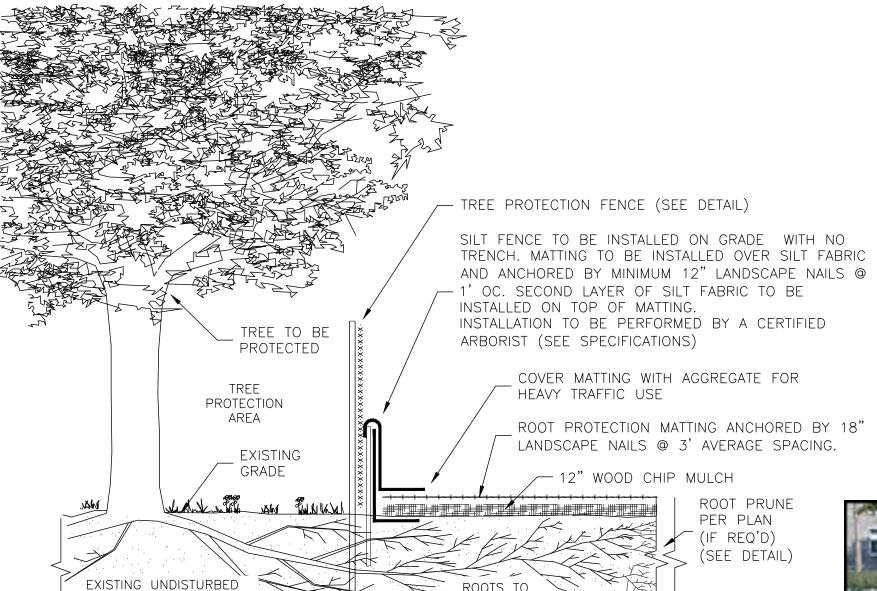
CHAIN LINK TREE PROTECTION FENCE (TYPICAL



- 1. SIGNS TO BE ATTACHED TO TREE PROTECTION FENCE OR POSTS AT READABLE LEVEL.
- 2. 30' MINIMUM SPACING AVERAGE ADJUSTED FOR MAXIMUM READABILITY.
- 3. MINIMUM ONE SIGN FOR SMALL TREE PROTECTION AREAS.
- AND OCCUPANCY. 5. SIGNS TO REMAIN ON NON RESIDENTIAL SITES FOR MAINTENANCE PERIOD.

4. SIGNS MAY BE REMOVED FROM RESIDENTIAL LOTS UPON ISSUANCE OF USE

TREE PROTECTION AREA SIGN (TYPICAL)

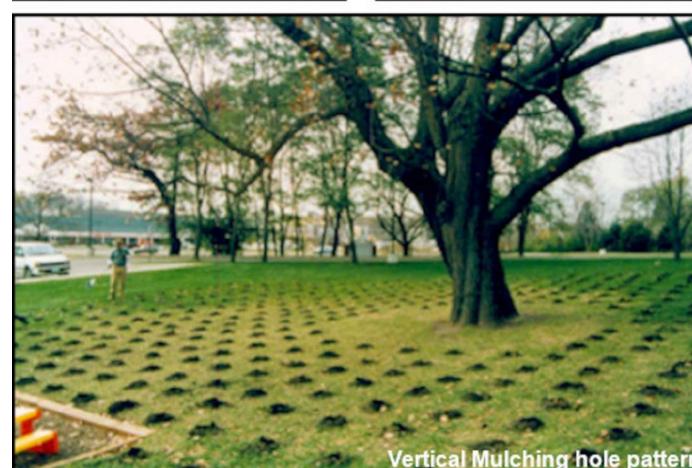


- 1. MATTING MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENSAR ROADRAIN RD7) OR APPROVED EQUIVALENT.
- 2. RPM SHALL BE INSTALLED BY A CERTIFIED ARBORIST 3. TO BE USED FOR DESIGNATED TEMPORARY CONSTRUCTION ACCESS AND STOCKPILE AREAS.
- 4. MATTING SHALL BE PLACED ON 12" WOOD CHIP MULCH UNLESS OTHERWISE DIRECTED.
- 5. FOR HEAVY TRAFFIC AREAS, MATTING SHALL BE COVERED WITH 6-8" WELL GRADED CRUSHED AGGREGATE. ADDITIONAL LAYERS OF GEOTEXTILE, OR HARDENED SURFACE LAYER MAY BE NEEDED.

TEMPORARY ROOT PROTECTION MATTING (TYPICAL) SCALE: NTS













1. FOR RESTORATION OF COMPACTED AND/OR OTHERWISE DEGRADED SOILS.

- 2. WORK TO BE PERFORMED BY OR UNDER THE SUPERIVISION OF AN ISA CERTIFIED ARBORIST. 2. USE SUPERSONIC AIRTOOL TO BORE 12-18 IN. VERTICAL HOLES, MINIMUM 2 IN. Ø, ON 3X3 FT. SPACING. 3. AREA OF TREATMENT TO BE 30 IN. FROM TRUNK TO ½ CRZ RADIUS AND ANY AREA PREVIOUSLY UNDER ROOT PROTECTION MATTING. EXACT CONFIGURATION TO VARY DEPENDING ON SITE CONDITIONS AND
- SPECIFIC AREAS OF COMPACTION.
- 4. BACKFILL WITH CHIP-SIZED, PRE-MOISTENED BIOCHAR TO 1 IN. FROM TOP OF HOLE AND COVER WITH TOPSOIL OR SOD. BACKFILL MAY BE AMENDED WITH UP TO 50% ORGANIC COMPOST.
- 5. IF FOLLOWED BY LIQUID FERTILIZER AND/OR POWDERED BIOCHAR INJECTION, INJECTION LOCATIONS TO BE OFFSET FROM VERTICAL MULCHING HOLES. CONTRACTOR TO SUBMIT RECOMMENDED MATERIALS FOR REVIEW.
- 6. OFFSET HOLES IF TREATEMENTS ARE REPEATED IN SUBSEQUENT YEARS.





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E TRANDetails

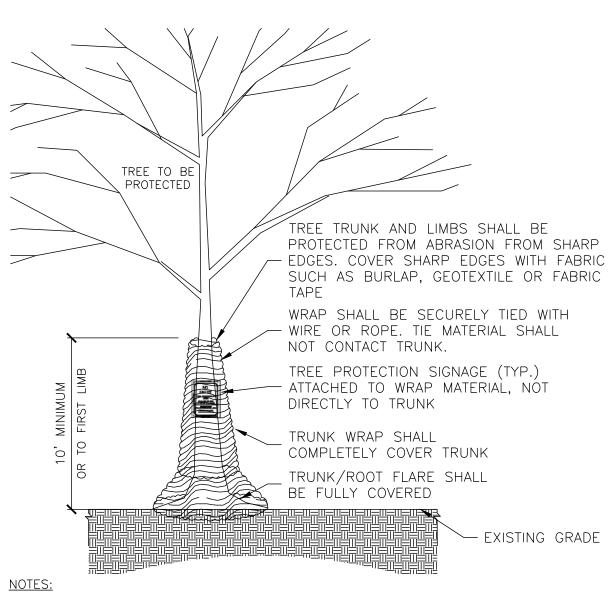
Horizontal Datum: MD NAD 83 Vertical Datum: NAVD 88

Boundary and Topo Source: Vika Capitol

Design Approved CK CK CCSheet #

LR-6

WSSI Project Number:



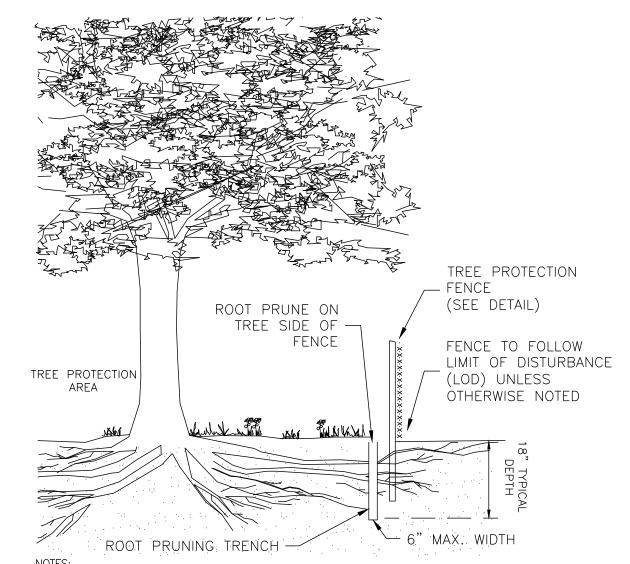
1. TRUNK WRAP MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENSAR ROADRAIN RD7) OR EQUIVALENT.

WRAP SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION. WRAP SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE WRAP ONLY WITH

APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED. WRAP SHALL BE REMOVED PROMPTLY AFTER CONSTRUCTION.

MAJOR SCAFFOLD LIMBS MAY ALSO REQUIRE THIS PROTECTION AS DIRECTED BY THE PROJECT ARBORIST.

TREE TRUNK & LIMB PROTECTION WRAP (TYP) LR-6/ SCALE: NTS

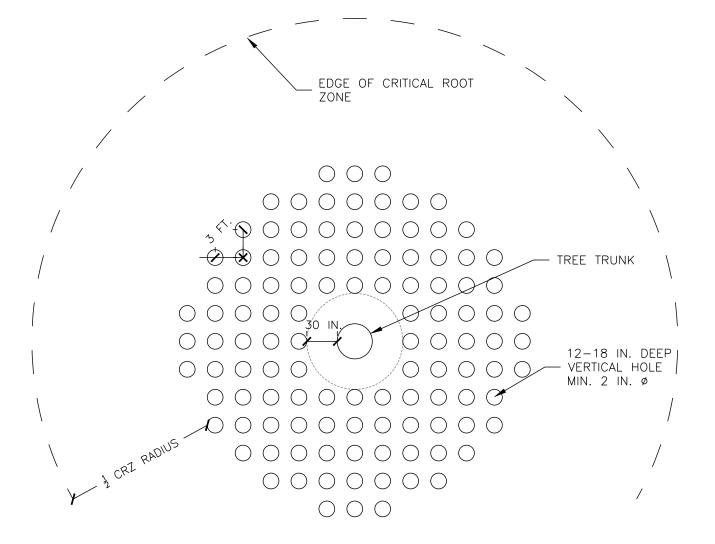


1. TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FIELD BY PROJECT

2. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING. 3. TRENCH SHOULD BE BACKFILLED IMMEDIATELY OR INCORPORATED WITH SILT FENCE INSTALLATION. 4. ROOTS SHOULD BE SEVERED BY ROCK SAW, TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. 5. ROOTS OVER 1.5" DIAMETER SHOULD BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO

SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT 6. COORDINATE WITH SILT FENCE INSTALLATION (IF REQUIRED) TO MINIMIZE ROOT IMPACTS FROM ADDITIONAL TRENCHING.

ROOT PRUNING (TYPICAL) SCALE: NTS



1. WORK TO BE PERFORMED BY OR UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST.

2. USE SUPERSONIC AIRTOOL TO BORE 12-18 IN. VERTICAL HOLES, MINIMUM 2 IN. Ø, ON 3x3 FT. SPACING . 3. AREA OF TREATMENT TO BE 30 IN. FROM TRUNK TO 1/2 CRZ RADIUS AND ANY AREA PREVIOUSLY UNDER ROOT PROTECTION MATTING, EXACT CONFIGURATION TO VARY DEPENDING ON SITE CONDITIONS AND SPECIFIC AREAS OF

4. BACKFILL WITH CHIP-SIZED, PRE-MOISTENED BIOCHAR TO 1 IN. FROM TOP OF HOLE AND COVER WITH TOPSOIL

OR SOD. 5. IF FOLLOWED BY LIQUID FERTILIZER AND/OR BIOCHAR INJECTION, INJECTION LOCATIONS TO BE OFFSET FROM

VERTICAL MULCHING HOLES.

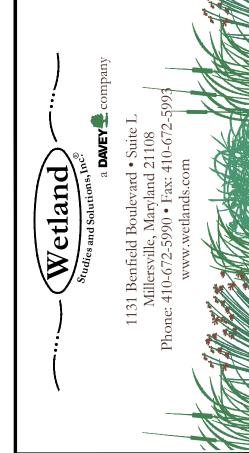
6. OFFSET HOLES IF TREATEMENTS ARE REPEATED IN SUBSEQUENT YEARS.

<u>vertical mulching — plan view</u> $1R-6/\overline{SCALE}$: NTS

WRAP SHALL BE INSTALLED BY A CERTIFIED ARBORIST.

/ertical mulching and soil amendment — photo detail

	DBH								SRZ CR	Z C	anopy (F	Γ)			Pr	eservatio	n Measu	res				
Tree #	(Diameter at 4.5 feet above grade)	Common Name	Botanical Name	Condition Rating %	Condition Rating	Dead Tree (Y/N)	REGULATED STATUS	Number of Stems	Critical Root Zone Radius in Ft (1.5	NORTH	EAST	WEST	Removal By Arborist	Root Prune Tree Protection Fence	Mulch Year 1 Soil Care	Year 2 Soil Care Year 3 Soil Care	Vertical Mulching Tree Growth Regulator Tree Condition Inspections	Watering Temp Root Protection Matting	Construction Oversight/Monitoring Canopy Prune		Preservation/ Transplant Notes	Assessment Notes
30			Acer saccharum	14114455		l NO		1		ERCE.										NO DISTURBANCE		Included Bark/Weak Union Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems Minor mower damage. Heavy sap
30		9 spruce, Norway 27 ash, green	Picea abies Fraxinus pennsylvanica	60% 50%	6 Fair 6 Fair		SPECIAL SPECIAL	1		29 —								++		NO DISTURBANCE NO DISTURBANCE		buildup near base on building side. Full Crown, Large DW (3"+), Small DW (1-2"), Insect/Disease Problem EAB exit holes visible.
30	04 2	21 ash, green	Fraxinus pennsylvanica	55%	6 Fair	NO		1	15.160	32 —										NO DISTURBANCE		Co-Dominant Stems, Mechanical Damage, Small DW (1-2"), Insect/Disease Problem EAB
30			Cornus kousa Picea abies		6 Good		SPECIAL	1	11											NO DISTURBANCE NO DISTURBANCE		Mechanical Damage DBH @ 10cm. Multistem. Surface Roots, Restricted rooting area Minor sapsucker damage.
30			llex opaca Picea abies	70% 55%	6 Good 6 Fair		SPECIAL SPECIAL	1		27 —										NO DISTURBANCE NO DISTURBANCE		Restricted rooting area Girdling Roots, Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2") Probable belowground GR. Minor
30		0 dogwood, Kousa	Comus kousa	1	6 Good		SPECIAL	1	5	15								++		NO DISTURBANCE		mower and sapsucker damage. Small DW (1-2"), Fungal Fruiting Bodies DBH @ 10 cm. Multistem. Fungi at base does not appear to be associated with
31			Ilex opaca	30000000	6 Good	100 Marie 2002	SPECIAL	1	12	35 —										NO DISTURBANCE		significant decay. Trunk Decay, Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2") trunk decay from failed stem
31		1 0 / 0	Cornus florida Ilex opaca		6 Good 6 Fair		SPECIAL	1	6	17 —										NO DISTURBANCE NO DISTURBANCE		Mechanical Damage, Branch Decay DBH @ 2.5 ft. Included Bark/Weak Union, Co-Dominant Stems, Mechanical Damage
31			Quercus phellos	2000	6 Good	-	HERITAGE	1	25	75 —										NO DISTURBANCE		Full Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Branch Decay, Fungal Fruiting Bodies Decay fungi visible on ~10 in. branch and on broken stubs. Could use a cleaning prune.
31		6 dogwood, flowering	Cornus florida			d NO		1	3	9 —		,								NO DISTURBANCE		Mechanical Damage, Small DW (1-2"), Low Vigor Branch Decay Long (~15 ft.) crack in large branch - nearly sealed over but concerning. Additional branch decay
31	15 2	4 honeylocust	Gleditsia triacanthos		6 Fair		SPECIAL	1	12	36 —			\perp					++-		NO DISTURBANCE		associated with pruning cuts. Basal Decay, Trunk Decay, Small DW (1-2"), Low Vigor, Stressed, Restricted rooting area Severe basal decay from
31		9 arborvitae, eastern 7 holly, American	Thuja occidentalis Ilex opaca		6 Poor	NO NO		1	5	14 —										NO DISTURBANCE NO DISTURBANCE		failed stem. Girdling Roots, Restricted rooting area 2 in. GR from nearby honeysuckle shrub.
31	20	pine, eastern white	Pinus strobus	45%	- C- V		HERITAGE	1												NO DISTURBANCE		Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Broken Limbs, Crown dieback Many large pruning cuts. Little advancement of decay but poor woundwood formation.
31		7 dogwood, flowering	Cornus florida			l NO		1	4	11 —										NO DISTURBANCE		One Sided, Small DW (1-2")
32		holly, American a arborvitae, eastern	Ilex opaca Thuja occidentalis		6 Good 6 Poor	NO NO	HERITAGE	1	16	18 —										NO DISTURBANCE NO DISTURBANCE		Girdling Roots Possible belowground GR. Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2"), Low Vigor, Stressed, Vines, Restricted rooting area
32	22 2		Picea abies		6 Fair		The state of confidence of the	1	13	38 —										NO DISTURBANCE		Four large codomimant stems. Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2"), Restricted rooting area
32			Pinus strobus Prunus spp.		6 Good 6 Fair	NO NO	HERITAGE	1		53 — 15 —	<u> </u>									NO DISTURBANCE NO DISTURBANCE		Mechanical Damage, Broken Limbs Surface Roots, Girdling Roots, Root Damage/Decay Probable belowground GR. Mower damage.
32			Quercus phellos		6 Good		HERITAGE	1	9390	72 —										NO DISTURBANCE		One Sided, Root Damage/Decay, Fungal Fruiting Bodies Many pruning cuts. Fungal bodies associated with pruning cut @ base of large branch. Mower damage.
32	26 4	oak, willow	Quercus phellos	65%	6 Good	d NO	HERITAGE	1	24	71 —										NO DISTURBANCE		Full Crown, Root Damage/Decay, Large DW (3"+), Small DW (1-2") Light mower damage. One buttress root decayed.
32			Quercus phellos Quercus phellos		6 Good		HERITAGE HERITAGE	1												NO DISTURBANCE NO DISTURBANCE		Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+) Mower damage. Full Crown, Included Bark/Weak Union, Small DW (1-2")
32			Quercus phellos		6 Good		HERITAGE	1												NO DISTURBANCE		One Sided, Small DW (1-2"), Branch Decay
33	100		Quercus phellos	22.500.00	6 Fair		THE PROPERTY OF THE PROPERTY O	1				,								NO DISTURBANCE		Full Crown, Basal Decay, Small DW (1-2") Sounding/probing suggest basal decay on N side. Soid elsewhere, so unlikely to compromise structure. Resistograph would be reasonable follow-up.
33	32 3		Quercus phellos Quercus phellos	25,000,000	6 Good	THE AMERICA	HERITAGE HERITAGE	1	TOWARD .	159011										NO DISTURBANCE NO DISTURBANCE		Full Crown, Large DW (3"+), Small DW (1-2") Root Damage/Decay, Large DW (3"+), Small DW (1-2"), Branch Decay Minor decay on one buttress root.
33			Quercus phellos Quercus phellos		6 Good		HERITAGE HERITAGE	1		60 — 66 —										NO DISTURBANCE NO DISTURBANCE		Full Crown, Small DW (1-2") Full Crown, Small DW (1-2")
33			Quercus phellos		6 Good		HERITAGE	1	0.000	51 —										NO DISTURBANCE		Root Damage/Decay, Mechanical Damage, Large DW (3"+), Small DW (1-2") Prior mechanical damage on buttress roots. Sounding does not suggest decay.
33	70		Quercus phellos Comus florida	2.7. 2.2.2.	6 Good 6 Poor	21 //2004	HERITAGE	1		72 — 12 —										NO DISTURBANCE NO DISTURBANCE		Full Crown, Included Bark/Weak Union, Large DW (3"+), Small DW (1-2") Basal Decay, Trunk Decay, Low Vigor, Stressed, Branch Decay
33	38 2	27 chestnut, Chinese	Castanea mollisima	60%	6 Fair	NO		1	14	41 —			X							NO DISTORBANCE		Co-Dominant Stems, Large DW (3"+), Small DW (1-2") DBH @ 1.5 ft.
33		arborvitae, eastern pine, eastern white	Thuja occidentalis Pinus strobus	0/00/00/00	6 Fair 6 Poor		SPECIAL HERITAGE	3	93//5/	42 — 69 —			X									Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2") Bottom limbs being shaded out. Basal Decay, Trunk Decay, Small DW (1-2"), Broken Limbs, Vines Severe trunk decay. Top broken out.
34	11 4	pine, eastern white	Pinus strobus	40%	6 Poor	NO	HERITAGE	1	23	69 —			x									Girdling Roots, Basal Decay, Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Broken Limbs Trunk wound w/ decay to 18 ft. No woundwood formation evident. GRs on two sides (3"+)
34			Acer saccharum		_	NO	HERITAGE	1					X									Girdling Roots, Root Damage/Decay, Co-Dominant Stems Probable belowground GR. Mower damage Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Serious Decline, Broken Limbs, Branch Decay,
34			Robinia pseudoacacia Robinia pseudoacacia		6 Poor			1		51 —			^									Vines, Crown dieback Top dead and broken out. English iw. Root Damage/Decay, Basal Decay, Trunk Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+),
34	3.00	66 locust, black	Robinia pseudoacacia	5550000	1// (Act (1/)	YES	Seem Merchanian	1		27			X									Small DW (1-2"), Stressed, Vines One stem dead. English ivy. Snag. ~20 ft. high
34		•	Betula nigra		1	l NO	055044	1					X									Included Bark/Weak Union, Co-Dominant Stems Basal Decay, Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Broken Limbs, Branch Decay,
34	17 3	locust, black	Robinia pseudoacacia	30%	6 Poor	NO	SPECIAL	1	15	45 —			×									Fungal Fruiting Bodies, Vines Top dead. Large branch dead. English ivy. Surface Roots, Root Damage/Decay, Co-Dominant Stems, Small DW (1-2"), Low Vigor, Broken Limbs, Branch Decay,
34	18 3	maple, red	Acer rubrum	50%	6 Fair	NO	HERITAGE	1	19	57 —	- -			X	X		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		X			Insect/Disease Problem, Fungal Fruiting Bodies DBH @ 2 ft. Possible soft rot fungus on large branch. Tar spot fungus. Mower damage/root decay on downhill side.
34	11,6,5,	4 locust, black	Robinia pseudoacacia	55%	6 Fair	NO	SPECIAL	4	7	21 —	8		Х									Included Bark/Weak Union, Mechanical Damage Clump of stump sprouts. Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+), Small DW (1-
35	31,1	8 cherry, black	Prunus serotina	40%	6 Poor	NO	HERITAGE	2	18	54 —	- -		x									2"), Stressed, Branch Decay Heavy dieback, thin canopy. Excessive sprouting in lower crown. Irreversible decline. Mower damage.
35	51 3	0 oak, pin	Quercus palustris	55%	6 Fair	NO	SPECIAL	1	15	45 —			х									Included Bark/Weak Union, Large DW (3"+), Small DW (1-2"), Stressed, Branch Decay, Fungal Fruiting Bodies, Crown dieback Decay fungi associated with pruning cuts and dead limbs.
35			Quercus palustris	68 X 200 C	6 Fair			1					Х									One Sided, Suppressed, Large DW (3"+), Small DW (1-2"), Low Vigor Strongly suppressed by neighbor. Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+), Small DW (1-2")
35	104		Prunus serotina	50%				1			26 35	16		X	XX		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		×	Prune canopy for proposed fi	eld. Pruning may occur over two seasons.	Very long inclusion (~4.5 ft.). Mower and other root damage. Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Branch Decay, Fungal Fruiting Bodies DBH @ 10 cm.
35		27 cherry/plum spp. 36 tuliptree	Prunus spp. Liriodendron tulipifera		6 Fair 6 Dead			1				_	X					++				Multistem. Recent branch failure.
35			Prunus serotina		6 Fair			1	000	38 —		/	Х									Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Insect/Disease Problem Scale insects present.
35			Betula nigra Betula nigra		6 Good		SPECIAL SPECIAL	3					X									Full Crown, Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems Mower damage. Full Crown, Included Bark/Weak Union, Co-Dominant Stems
35		22 cherry, black	Prunus serotina		6 Good 6 Fair		SPECIAL	1		33 —		_	X									Narrow Crown, Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Stressed, Broken Limbs, Branch Decay Mower damage.
36	- 1		Prunus serotina		6 Fair		SPECIAL	1	13	38 —			Х									Root Damage/Decay, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Branch Decay Mech. damage to one buttress root.
36	11,8,4,	4 birch, river	Betula nigra	75%	6 Good	l NO	SPECIAL	4		22 —			X									Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems Mower damage.
36		9 mulberry, white 34 royal paulownia	Morus alba Paulownia tomentosa		6 Good 6 Fair		SPECIAL HERITAGE	1	17	29 — 51 23	 18 27		X	хх	x x	x x z	X X X	X	X			One Sided, Root Damage/Decay, Small DW (1-2") Invasive. Mower damage. Girdling Roots, Basal Decay, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Branch Decay Invasive. ~8 in. GR
36		The Decision of Management Country (Management Country)	Morus alba	786255815	60 (300)	· NO		1	4	1700			Х									on one side. Basal decay due to damage from adjacent mulberry. Suppressed, Excessive Lean, Trunk Decay Growing from base of Tree 363. Invasive.
36			Morus alba	27022000	6 Poor			1	5	15 —			x									Suppressed, Excessive Lean, Included Bark/Weak Union, Co-Dominant Stems Growing from base of Tree 363. Invasive.
36			Robinia pseudoacacia Prunus serotina		6 Fair 6 Fair			3		33 — 29 —			X									Included Bark/Weak Union, Co-Dominant Stems, Small DW (1-2"), Low Vigor, Broken Limbs Surface Roots, Root Damage/Decay, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Broken Limbs, Branch
36			Prunus serotina		6 Fair	AX.SMPS	SPECIAL	1	139.23	23 —			Y									Decay Mower damage. One Sided, Surface Roots, Root Damage/Decay, Small DW (1-2"), Low Vigor Mower damage. Completely defoliated
36	197	2 cherry/plum spp.	Prunus serouna Prunus spp.		6 Fair			2		31 —			X									before other bl. cherries on site. May be stressed. Lower branches dead. Surface Roots, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Broken Limbs, Branch
37		22 locust, black	Robinia pseudoacacia		6 Critica	7	6	1		33 —			X									Decay, Insect/Disease Problem Large pruning woumd at base. No woundwood formation. Trunk canker. Excessive Lean, Basal Decay, Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Serious Decline,
37			Robinia pseudoacacia	1 2 2 2	6 Dead	etr lection		1	88	32 —			X									Broken Limbs, Branch Decay, Fungal Fruiting Bodies Severe basal and trunk decay Basal Decay, Trunk Decay, Low Vigor, Stressed, Serious Decline, Broken Limbs, Branch Decay, Fungal Fruiting Bodies
37	***	COMPANY OF THE CONTRACT OF THE	ZZ Unknown dead tree		6 Dead		Walter Committee	2					X									Only a few live sprouts.
37	73 5	55 maple, silver	Acer saccharinum	50%	6 Fair	NO	HERITAGE	1	28	83 —		_	х									Full Crown, Surface Roots, Root Damage/Decay, Trunk Decay, Small DW (1-2"), Low Vigor, Broken Limbs, Branch Decay, Fungal Fruiting Bodies, Crown dieback Mower damage.
37	74 2	29 walnut, black	Juglans nigra	45%	6 Fair	NO	SPECIAL	1	15	44 —			Х									Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Broken Limbs, Branch Decay, Vines English ivy.
37	75 3	maple, sugar	Acer saccharum	45%	6 Fair	NO	SPECIAL	1	15	45 —			X									Surface Roots, Basal Decay, Trunk Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Branch Decay, Fungal Fruiting Bodies Trunk decay associated with large wound from failed
7	76	12 12 12 12 12 12 12 12	Dakinin		, 5		0.55.0		42	25												codom. Root Damage/Decay, Basal Decay, Trunk Decay, Large DW (3"+), Small DW (1-2"), Low Vigor, Stressed, Serious Decline Braken Limbs Branch Decay Funds Fulfilling Redice Futerains based decay from feiled codors. Meyers
37	2	23 locust, black	Robinia pseudoacacia	25%	6 Poor			1	12	35 —		-	X									Decline, Broken Limbs, Branch Decay, Fungal Fruiting Bodies Extensive basal decay from failed codom. Mower damage. Surface Poets, Poet Damage (Decay, Included Bark/Week Union, Co Deminant Stoms, Large DW (2"+), Small DW (1)
37	24,1	5 cherry, black	Prunus serotina	55%	6 Fair	NO	SPECIAL	2	14	42 —			X									Surface Roots, Root Damage/Decay, Included Bark/Weak Union, Co-Dominant Stems, Large DW (3"+), Small DW (1-2"), Low Vigor Mower damage.



HERITAGE TREE TRANSPLANT PLAN Tree Protection Action Key (TPAK)

Episcopal Center for Children
Washington, DC
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	7						
	Rev. By	ХЭ					:2,
							C.I.:2'
REVISIONS		/ REVISED LOCATIONS					SCALE:N/A
REV	Description	PER DDOT COMMENTS / REVISED LOCATIONS					5/2021
	No. Date	1 01/17/22					DATE: 10/25/2021
	No.	-					DAT
Horiz	zontal l	Datı	ım:	MD	NA	D 83	3

Vertical Datum: NAVD 88

Boundary and Topo Source: Vika Capitol

Draft Design Approved CK CK Sheet #

LR-7

CC

WSSI Project Number: 31089.01

NO DISTURBANCE

DDOT Street Tree, DBH and condition from DDOT database.

0% Fair NO SPECIAL 1 14 43 -- -- -- --

28.8 oak, pin

Quercus palustris

Wetland

TRAN Action

pal



		REV	REVISIONS	
No.	No. Date	Description		Rev. By
-	1 01/17/22	PER DDOT COMMENTS / REVISED LOCATIONS	/ REVISED LOCATIONS	CK
DA.	DATE: 10/25/2021	5/2021	SCALE:N/A	C.I.:2'

Horizontal Datum: MD NAD 83

Vertical Datum: NAVD 88

Boundary and Topo Source: Vika Capitol

Design Approved CK CK

Sheet # LR-8

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WSSI Project Number:

31089.01

- PRIOR TO ANY DEMOLITION OR CONSTRUCTION WORK WITHIN OR ADJACENT TO TREE PROTECTION AREAS (TPA), A PRE-CONSTRUCTION SITE WALK SHALL BE HELD TO INCLUDE THE RETAINED ARBORIST AND PROJECT FORESTER WITH THE CONTRACTOR, ARCHITECT, DDOT, AND
- SUBSTITUTIONS OR ALTERNATIVE METHODS OR MATERIALS SHALL BE REVIEWED AND APPROVED BY DDOT
- ALL TREE PROTECTION MEASURES MUST BE IN PLACE PRIOR TO COMMENCEMENT OF DEMOLITION, SITE CLEARING OR CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION. TREE PROTECTION MEASURES MAY ONLY BE REMOVED WITH DDOT APPROVAL
- ALL MEASURES WILL BE REVIEWED AFTER INSTALLATION AND APPROVED BY OWNER AND *DDOT*.

REMOVAL BY ARBORIST

- TREES DESIGNATED AS "REMOVAL BY ARBORIST" SHALL BE REMOVED BY A QUALIFIED ARBORIST "BY HAND", TO MINIMIZE POTENTIAL FOR DAMAGE TO REMAINING TREES AND ROOTS.
- CREWS SHALL BE DIRECTLY SUPERVISED BY A CERTIFIED ARBORIST
- TRUCKS AND MECHANIZED EQUIPMENT SHALL NOT ENTER THE FENCED TREE PROTECTION AREAS, EXCEPT WHERE EXPLICITLY APPROVED BY THE PROJECT FORESTER AND UTILIZING APPROVED ROOT PROTECTION DEVICE.
- 2.4. STUMPS SHALL BE LEFT IN PLACE OR GROUND OUT AT THE OWNERS DISCRETION. STUMPS IN TURF/LANDSCAPE AREAS OR WITHIN ROOT AERATION MATTING AREAS SHALL BE GROUND
- STUMP GRINDING SHALL BE DONE WITH SMALL MACHINES SPECIFICALLY DESIGNED FOR THAT PURPOSE. NO STUMPS SHALL BE EXCAVATED EXCEPT AS DESCRIBED HEREIN. STUMPS SHALL BE GROUND NOT MORE THAN 8" BELOW GRADE AND CARE MUST BE TAKEN TO MINIMIZE DAMAGE TO ROOTS OF RETAINED TREES.

TREE PROTECTION FENCE

- INSTALL AND MAINTAIN TEMPORARY TREE PROTECTION FENCE FOR EACH TREE PROTECTION AREA AS SHOWN ON THE PLAN. INSTALLATION IS TYPICALLY AFTER ROOT PRUNING AND PRIOR TO CLEARING & GRADING.
- FENCE SHALL BE (SEE DETAIL) 6' HIGH CHAIN LINK FENCE FABRIC MOUNTED ON 8', 1.5"Ø GALVANIZED STEEL PIPE LINE POSTS. CORNER POSTS SHALL BE 2"Ø. FENCE SHALL BE ATTACHED TO POSTS USING ALUMINUM TIES. PLASTIC "ZIP" TIES SHALL NOT BE USED
- 3.3. SILT FENCE SHALL BE COORDINATED FOR INSTALLATION TO ENHANCE PROTECTION AND AVOID UNNECESSARY ROOT CUTS BY SILT FENCE INSTALLATION.
- 3.4. FENCE SHALL REMAIN FOR THE DURATION OF CONSTRUCTION. FENCE MAY BE REMOVED ONLY AFTER ALL CONSTRUCTION AND FINAL LANDSCAPING IS COMPLETE AND WITH DDOT APPROVAL.

TREE PROTECTION AREA SIGNS

- TREE PROTECTION AREA SIGNS SHALL BE AFFIXED TO ALL TREE PROTECTION FENCE AT 30' SPACING AVERAGE.
- SIGNS SHALL BE BILINGUAL (ENGLISH AND SPANISH).
- SIGNS SHALL NOT BE AFFIXED DIRECTLY TO TREES. SEE DETAIL.
- SIGN MATERIAL SHALL BE WATERPROOF, HEAVY VINYL OR SIMILAR.
- SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

ROOT PRUNE

- THE EXACT LOCATION AND DEPTH WILL BE DETERMINED DURING THE PRE-CONSTRUCTION MEETING. SPECIFIC EQUIPMENT & METHODS WILL BE DETERMINED BY PROJECT FORESTER AND DDOT BASED UPON DEPTH & TREE IMPACT. (SEE DETAIL)
- HAND PRUNE ROOTS OVER 1" DIAMETER WITHIN CRZS OF SIGNIFICANT TREES. STEEP SLOPES, DEEP EXCAVATIONS AND PAVEMENT/CURB REMOVAL WILL BE REVIEWED WHEN OPEN FOR HAND ROOT PRUNING DURING CONSTRUCTION.
- COORDINATE WITH SILT FENCE INSTALLATION TO MINIMIZE UNNECESSARY ROOT DAMAGE.
- ROOT PRUNING SHALL BE PERFORMED BY A CERTIFIED ARBORIST.

WOOD CHIP MULCH

- INSTALL MULCH FOR DESIGNATED SIGNIFICANT TREES. MULCH AREA SHALL BE ONE OF THE FOLLOWING, AT THE DISCRETION OF THE RETAINED ARBORIST AND OWNER:
- INSTALL MULCH BED RINGS. MULCH SHOULD COVER AT LEAST THE ENTIRE STRUCTURAL ROOT ZONE. LARGER MULCH BEDS ARE PREFERRED.
- PROVIDE CONTINUOUS MULCH STRIP 10' TO 15' WIDE ALONG LOD WITHIN PRESERVED CRZ AREAS.
- MULCH SHALL BE INSTALLED TO A DEPTH OF 4". TOTAL MULCH DEPTH SHALL NOT EXCEED 4" SHOULD EXISTING MULCH BE PRESENT.
- MULCH SHALL BE DOUBLE GROUND SHREDDED HARDWOOD, AGED FOR AT LEAST 6 MONTHS FROM AN APPROVED SOURCE. INSUFFICIENTLY OR IMPROPERLY AGED MULCH CONTAINING HIGH BACTERIAL COUNTS OR HIGH LEVELS OF BARK, WALNUT, INVASIVE SPECIES, OR OTHER MATERIALS RESISTANT TO DECOMPOSITION SHALL NOT BE USED.
- MULCH SHALL NOT CONTACT TRUNK OF TREES
- EDGING SHALL NOT BE USED.

CONSTRUCTION MONITORING/INSPECTIONS

- 7.1. A CERTIFIED ARBORIST SHALL ACTIVELY MONITOR THE SITE TO ENSURE ADHERENCE TO ALL TREE PROTECTION REQUIREMENTS.
- THIS WORK IS TYPICALLY PREFORMED BY THE RETAINED ARBORIST, TO BE HIRED BY THE GENERAL CONTRACTOR OR OWNER.

- 7.3. SCHEDULE:
- 7.3.1. PHASE 1 (DURING INITIAL CLEARING AND INSTALLATION OF TREE PROTECTION AND PERIMETER E&S CONTROLS) INSPECTIONS SHALL BE AT LEAST WEEKLY.
- PHASE 2 (DURING ALL REMAINING SITE WORK AND UNTIL PROJECT COMPLETION) INSPECTIONS SHALL BE AT LEAST MONTHLY. TRANSITION FROM WEEKLY TO MONTHLY SCHEDULE SHALL REQUIRE
- OWNER AND DDOT APPROVAL 7.4. REPORTS SHALL BE PROVIDED TO THE OWNER AND *DDOT*. REPORTS
- SHALL DOCUMENT CONDITION OF TREE PROTECTION DEVICES AND PROVIDE RECOMMENDATIONS FOR MAINTENANCE AND/OR ADDITIONAL
- ADDITIONAL ARBORIST INSPECTIONS AND/OR DIRECT ARBORIST OVERSIGHT OF CRITICAL TREE PRESERVATION ACTIVITIES, TREE PRUNING, TREE REMOVAL. OR OTHER SENSITIVE ACTIVITIES MAY BE REQUIRED. WEEKLY INSPECTIONS DO NOT SATISFY THE NEED FOR DIRECT ARBORIST OVERSIGHT THAT MAY BE REQUIRED FOR SPECIFIC ACTIVITIES.

MISCELLANEOUS TREE PROTECTION REQUIREMENTS

- 8.1. NO TOXIC MATERIALS SHALL BE STORED WITHIN 100' OF TREE PROTECTION AREAS.
- ALL WORK IN OR NEAR TREE PROTECTION AREAS SHALL BE PERFORMED IN A MANNER TO MINIMIZE DAMAGE TO TREES, SHRUBS, GROUND COVER, SOIL AND ROOT SYSTEMS.
- MECHANIZED EQUIPMENT SHALL NOT BE PERMITTED TO ENTER ANY TREE PROTECTION AREAS WITHOUT EXPLICIT APPROVAL BY THE PROJECT FORESTER AND DDOT, AND WITH ADEQUATE APPROVED ROOT PROTECTION DEVICES.

CANOPY PRUNING & SUPPORT CABLES

- 9.1. CANOPY PRUNING SHALL BE CLEANING PRUNING AND/OR RESTORATION PRUNING AND SHALL BE IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES
- PRUNING SHALL REMOVE ONLY DEAD, DYING, DAMAGED OR BROKEN BRANCHES GREATER THAN 1" IN DIAMETER. PRUNING OF SMALL TREES MAY INCLUDE REMOVAL OF LIMBS TO IMPROVE STRUCTURE.
- 9.3. FOLIAGE REMOVAL SHALL NOT BE MORE THAN 25% OF THE TOTAL LIVE CANOPY VOLUME OF ANY TREE IN ANY ONE SEASON. PRUNING SHALL NOT REMOVE INTERIOR BRANCHING EXCEPT AS OTHERWISE STATED.
- PRUNING FOR SPECIFIC CLEARANCE (FOR CONSTRUCTION ACCESS OR PROPOSED IMPROVEMENTS) SHALL BE REVIEWED AND APPROVED BY THE OWNER AND DDOT.
- 9.5. SUPPORT CABLES SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.

10. CONSTRUCTION STRATEGIES FOR TREE PROTECTION

- CONSTRUCTION STAGING, STOCKPILING, EQUIPMENT STORAGE, MASONRY SET-UP AND WASHOUT, ETC. SHALL BE LIMITED TO AREAS OF EXISTING PAVEMENT AND AREAS WITHIN THE LOD EXCEPT AS OTHERWISE NOTED.
- CONSTRUCTION EQUIPMENT ACCESS BETWEEN VARIOUS WORK AREAS SHALL REMAIN ON EXISTING PAVEMENT/IMPROVED SURFACES TO THE GREATEST EXTENT POSSIBLE. WHERE THIS IS NOT POSSIBLE AND WITHIN THE CRITICAL ROOT ZONE (CRZ) OF ANY TREE TO REMAIN, ACCESS SHALL BE MADE ON ROOT PROTECTION MATTING (RPM)(SEE DETAIL) OR APPROVED ALTERNATIVE. CONTRACTOR TO DETERMINE ACCESS NEEDS AND COORDINATE RPM INSTALLATION WITH THE RETAINED ARBORIST AT THE PRE-CONSTRUCTION MEETING OR BEFORE.

11. ROOT PROTECTION MATTING

- 11.1. TEMPORARY MATTING TO PROTECT EXISTING ROOTS AND SOILS FROM PROPOSED SHORT-TERM CONSTRUCTION TRAFFIC IMPACTS.
- 11.2. TO PREPARE SITE, REMOVE ANY DEBRIS BY HAND AND SPREAD AN EVEN LAYER OF WOOD CHIP MULCH 12" THICK OVER THE ENTIRE AREA TO RECEIVE MATTING.
- 11.3. MATTING SHALL BE INSTALLED IN A SINGLE LAYER ON MULCH.
- TOPSOIL SHALL NOT BE DISTURBED OR REMOVED. NO GRUBBING. GRADING, EXCAVATION OR EQUIPMENT TRAFFIC SHALL BE ALLOWED IN THE AREA TO RECEIVE RPM. EQUIPMENT MAY TRAVEL ON RPM AFTER IT IS INSTALLED, BUT SHOULD BE MINIMIZED. TRACKED EQUIPMENT SHOULD NOT TURN ON RPM TO AVOID DAMAGE
- 11.5. MATTING MATERIAL SHALL BE TENSAR ROADRAIN RD7 OR APPROVED **EQUIVALENT**
- RPM SHALL BE INSTALLED BY A CERTIFIED ARBORIST
- RPM SHALL NOT BE REMOVED OR DISTURBED BY SITE CONTRACTORS.
- INSTALLATION OF SILT FENCE FOR EROSION CONTROL SHALL BE COORDINATED WITH THE PROJECT FORESTER AND DESIGN TEAM TO PREVENT DAMAGE TO TREE ROOTS FROM TRENCHING OPERATIONS. TRENCHLESS EROSION CONTROL MEASURES (SUCH AS COMPOST FILTER SOCKS OR SIMILAR DEVICES) MAY BE USED IN LIEU OF OR IN COMBINATION WITH SILT FABRIC

12. SOIL CARE/ FERTILIZATION

- 12.1. INITIAL SOIL TESTING WITHIN TREE PROTECTION AREAS IS REQUIRED. CONDUCT INDIVIDUAL SOIL TESTS FOR SEPARATE TREE PROTECTION AREAS (SMALL ADJACENT AREAS MAY BE TESTED TOGETHER). SOIL TEST SHALL BE A REPRESENTATIVE SAMPLE FROM EACH AREA.
- 12.2. TREATMENTS TO THE TREE PROTECTION AREAS FOR SPECIFIED TREES (SEE TPAK) SHALL BE BASED ON THE RESULTS OF THE SOIL ANALYSIS. FERTILIZATION SHALL BE CONSISTENT WITH THE RECOMMENDATIONS OF THE CURRENT ANSI A-300 (PART 2) TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (FERTILIZATION)
- 12.3. APPLICATION RATES SHALL NOT EXCEED A RATE OF 1 POUND OF ACTUAL NITROGEN PER 1,000 SQUARE FEET ANNUALLY. FERTILIZER USED SHOULD INCLUDE HUMIC ACIDS, SOLUBLE SEAWEED EXTRACTS AND SOIL BIOLOGICAL INOCULANTS.

13. TREE CONDITION MONITORING INSPECTIONS

13.1. RETAINED ARBORIST SHALL PROVIDE MONITORING OF THE CONDITION OF

- RETAINED TREES IN TREE PROTECTION AREAS, AND TREATMENT OF DETRIMENTAL CONDITIONS (INSECTS, DISEASES, NUTRIENT DEFICIENCIES, SOIL MOISTURE, ETC.), AS THEY OCCUR, OR AS APPROPRIATE FOR EFFECTIVE MANAGEMENT.
- 13.2. INSPECTIONS SHALL BE PERFORMED AT LEAST MONTHLY DURING THE GROWING SEASON, BEGINNING PRIOR TO CONSTRUCTION AND CONTINUING THROUGHOUT CONSTRUCTION AND FOR AT LEAST ONE YEAR SUBSEQUENT TO COMPLETION OF CONSTRUCTION ACTIVITIES.
- 13.3. A WRITTEN SUMMARY REPORT INCLUDING SPECIFIC TREATMENTS MADE AND RECOMMENDATIONS FOR ADDITIONAL TREATMENTS SHALL BE PROVIDED TO THE OWNER AND PROJECT FORESTER SUBSEQUENT TO EACH INSPECTION.

14. TREE GROWTH REGULATOR (TGR)

- 14.1. PACLOBUTRAZOL SOIL-APPLIED TREE GROWTH REGULATOR (CAMBISTAT® OR EQUIVALENT) SHALL BE APPLIED TO INDICATED TREES. APPLICATIONS SHALL FOLLOW MANUFACTURER'S LABEL AND APPLICABLE LAWS.
- 14.2. TGR REDUCES CANOPY GROWTH WHICH CAN INCREASE FIBROUS ROOT SYSTEM GROWTH OVER 2-3 YEARS. THIS CAN INCREASE TOLERANCE TO DROUGHT STRESS AND IMPROVE ABSORPTION OF NUTRIENTS AND MOISTURE DURING THE STRESS RECOVERY PERIOD.

15. TREE TRUNK PROTECTION WRAP

- 15.1. TRUNKS OF TREES IN CLOSE PROXIMITY TO CONSTRUCTION SHALL BE PROTECTED WITH A SINGLE WRAP OF GEOCOMPOSITE. GEOCOMPOSITE SHALL BE DOUBLE SIDED, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENSAR ROADRAIN RD7) OR EQUIVALENT
- 15.2. WRAP SHALL BE NOT LESS THAN 10' HIGH ON TRUNK OR UP TO THE LOWEST LIMB (WHICHEVER IS LESS). EXPOSED ROOT FLARE SHALL ALSO BE FULLY COVERED.
- 15.3. WRAP SHALL BE TIED WITH ROPE OR WIRE. TIE MATERIAL SHALL NOT CONTACT TRUNK.
- 15.4. WRAP SHALL BE REMOVED PROMPTLY AFTER CONSTRUCTION

16. QUALITY ASSURANCE

- 16.1. GENERAL CONTRACTOR'S ON-SITE (RETAINED) ARBORIST:
- THE GENERAL CONTRACTOR SHALL ENTER INTO A CONTRACTUAL RELATIONSHIP WITH AN EXPERIENCED ARBORICULTURE/TREE CARE FIRM TO PERFORM THE WORK SPECIFIED HEREIN. THIS CONTRACT SHALL BE FULLY EXECUTED PRIOR TO RELEASE OF THE DEMOLITION/BUILDING PERMIT. THE GENERAL CONTRACTOR SHALL PROVIDE PROOF OF SUCH CONTRACT TO DDOT TO THE EXTENT DDOT IS ASSURED WORK WILL BE EXECUTED BY A COMPETENT FIRM AS OUTLINED BELOW:
- THE RETAINED ARBORIST IS TO BE AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) AND LICENSED IN THE JURISDICTION WHERE PROJECT IS LOCATED, AS APPLICABLE. ALL WORK PERFORMED BY THE RETAINED ARBORIST SHALL BE REVIEWED AND APPROVED BY THE OWNER'S ARBORIST CONSULTANT OR AS APPROVED BY *DDOT*.
- 16.2. RETAINED ARBORIST FIRM QUALIFICATIONS:
 - RETAINED ARBORIST FIRM SHALL COMPLY WITH THE FOLLOWING: ESTABLISHED BUSINESS WITH DOCUMENTED EXPERIENCE OF AT LEAST FIVE YEARS.
- 16.2.3. EXPERIENCE WORKING ON A MINIMUM OF THREE COMMERCIAL NONGOVERNMENTAL OR GOVERNMENTAL PROJECTS WHERE SIMILAR TREE PRESERVATION PROGRAMS HAVE BEEN SUCCESSFULLY IMPLEMENTED.
- PROPERLY LICENSED AND INSURED TO PERFORM ARBORICULTURAL WORK IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.
- PROVIDE NAMES OF EACH INDIVIDUAL TO COMPLY WITH THE FOLLOWING: CERTIFICATION BY ISA (CERTIFIED ARBORIST OR BOARD CERTIFIED MASTER ARBORIST)
- MINIMUM BS OR AS DEGREE IN FORESTRY, ARBORICULTURE, OR RELATED FIELD
- RESUMES SHOULD REFLECT COMBINED 5 YEARS FULL-TIME EXPERIENCE ON SIMILAR TREE PRESERVATION PROJECTS.
- 16.4. PROVIDE INDIVIDUAL(S) NAMES, CERTIFICATIONS, AND EACH ANTICIPATED ROLE IN THIS PROJECT. ROLE(S) SHALL BE DEFINED AS ONE OR MORE OF THE FOLLOWING:
- PROJECT MANAGER
- 16.4.2. TECHNICAL OVERSIGHT
- FIELD ARBORIST/TECHNICIAN
- 16.5. FOR EACH STAFF MEMBER, LIST A MINIMUM OF THREE CONSTRUCTION PROJECTS AND A MINIMUM THREE YEARS EXPERIENCE IN THE FOLLOWING **TECHNICAL APPLICATIONS:**
- SOIL AMENDMENT PRESCRIPTIONS AND APPLICATIONS
- ROOT PROTECTION MATTING (RPM) OR SIMILAR APPLICATIONS
- CONSTRUCTION OVERSIGHT AND MONITORING
- COORDINATION OF ARBORICULTURAL ACTIVITIES WITH CONSTRUCTION PROJECT MANAGERS

17. PUBLICATIONS INCLUDED BY REFERENCE

- PUBLICATIONS LISTED HEREIN ARE PART OF THIS WORK TO EXTENT REFERENCED:
- 17.1. ANSI A300 STANDARD PRACTICES FOR TREES, SHRUBS, AND OTHER WOODY PLANT MAINTENANCE
- PART 1 -- 2017, TREE PRUNING
- 17.1.2. PART 2 -- 2011, SOIL MANAGEMENT
- 17.1.3. PART 3 -- 2013, SUPPLEMENTAL SUPPORT SYSTEMS PART 4 -- 2014, LIGHTNING PROTECTION SYSTEMS
- PART 5 -- 2012, MANAGEMENT OF TREES AND SHRUBS DURING SITE 17.1.5. PLANNING, SITE DEVELOPMENT, AND CONSTRUCTION
- 17.1.6. PART 6 -- 2012, PLANTING AND TRANSPLANTING
- PART 8 -- 2013, ROOT MANAGEMENT
- PART 9 -- 2017, TREE RISK ASSESSMENT
- PART 10 -- 2016, IPM
- 17.2. ANSI Z133.1 -- 2017 AND MOST RECENT UPDATES. ARBORICULTURAL

OPERATIONS -- SAFETY REQUIREMENTS

18. VERTICAL MULCHING

- 18.1. THE AREA DESIGNATED FOR THIS OPERATION SHALL BE 30" FROM TREE BASE TO 1/2 THE CRZ RADIUS. FOLLOW UP IF NEEDED CAN TREAT THE OUTER 1/2 OF THE CRZ AREA. ALSO TREAT ANY AREA UNDER ROOT PROTECTION MATTING INSIDE CRZS, ONCE THE RPM IS REMOVED.
- USE SUPERSONIC AIR TOOL (SSAT 150 OR 300CFM AS SITE DICTATES) TO VERTICALLY BORE 12"-18" DEEP HOLES MINIMUM OF 2" DIAMETER ON A SPACING OF ONE HOLE PER SQUARE YARD 3' x 3'.
- BACKFILL WITH CHIP-SIZED, PRE-MOISTENED BIOCHAR UP TO TOP AND
- CERTIFY THAT ADEQUATE SOIL MOISTURE IS AVAILABLE OR PRE-WATER
- 18.5. THE OPERATOR SHALL ATTEMPT TO CAUSE HORIZONTAL FRACTURING WITH THE SSAT AMONG THE SOIL LAYERS TO INCREASE PORE SPACE.
- 18.6. TYPICALLY THIS OPERATION IS FOLLOWED BY HIGH PRESSURE LIQUID FERTILIZATION INJECTION. OFFSET EACH HOLE TO FILL FISSURES. REFER TO SOIL CARE/FERTILIZATION.

19. SUPPLEMENTAL WATERING

- 19.1. RETAINED ARBORIST SHALL PROVIDE SUPPLEMENTAL WATERING FOR SIGNIFICANT TREES DURING SEASONAL DROUGHT TIMES.
- TREES REQUIRING THIS TREATMENT ARE INDICATED IN THE TPAK. OTHER TREES WILL NOT RECEIVE THIS TREATMENT.
- 19.5. MINIMUM WATERING SHALL BE CONSIDERED TO BE 6 APPLICATIONS PER GROWING SEASON, TYPICALLY JULY THRU OCTOBER WITH THE EXACT TIMING AND DURATION TO BE DETERMINED BY THE PROJECT FORESTER AND DDOT. CALIBRATE FOR 5 TO 10 GALLONS PER DIAMETER INCH PER TREE. FOR EXAMPLE, A 30" DBH TREE = 150-300 GALLONS PER WATERING
- BASED UPON THE NUMBER AND SIZE OF TREES VARIOUS STRATEGIES CAN BE CONSIDERED TO MAINTAIN ADEQUATE SOIL MOISTURE DURING THESE TIMES. THESE STRATEGIES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
- FIRE HYDRANT CONNECTION WITH TIMER AND DRIP IRRIGATION HOSE
- WATER TANK TRUCK AND HAND APPLIED AS DIRECTED.
- TEMPORARY ABOVE GRADE POLY TANK WITH TIMERS FOR DRIP OR SOAKER HOSES AT EACH TPA.
- 30-50 GALLON WATERING CANS WITH 6-8 DRILLED HOLES IN BOTTOM TO ALLOW SLOW SEEPING OF WATER WITH SPACING AND ROTATION TO REACH DESIRED GALLONS.
- EQUIVALENT MEANS OF EFFECTIVELY WATERING TREES AS APPROVED BY PROJECT FORESTER AND DDOT.
- 19.7. DROUGHT TIMES SHALL BE DEFINED AS:
- 19.7.1. PERIODS DURING THE GROWING SEASON OF TWO WEEKS OR LONGER WHERE DAYTIME HIGH TEMPERATURES REACH 80 DEGREES FAHRENHEIT OR HIGHER AND LESS THAN 3/4" RAINFALL IS RECORDED
- PER WEEK; OR, 19.7.2. PERIODS DURING THE GROWING SEASON DESIGNATED AS "ABNORMALLY DRY" OR "DROUGHT" OF ANY SEVERITY. BY THE U.S. DROUGHT MONITOR (HTTP://DROUGHTMONITOR.UNL.EDU/); OR,
- 19.7.3. ANY PERIOD OF EXTRAORDINARY CIRCUMSTANCE, AS DETERMINED BY THE PROJECT FORESTER OR DDOT 19.8. A PRESCRIPTION FOR THE NUMBER OF GALLONS AND STRATEGY FOR
- WATERING DESIGNATED TREES WILL BE DEVELOPED. LARGE MATURE TREES WITH IMPACTS TO ROOT SYSTEMS REQUIRE AS MUCH AS 100- 250 GALLONS PER WEEK DURING 90 DEGREE DAYS DURING SUMMER DROUGHT TIMES. PERIODIC INSPECTIONS BY AN ISA CERTIFIED ARBORIST (PROVIDED BY

THE RETAINED ARBORIST) AT THIS TIME ARE CRITICAL. DEPTH OF

MOISTURE IN SOILS SHALL BE DETERMINED BY SOIL SAMPLE TUBE OR

OTHER EXPLORATORY MEANS. 19.10. PRIOR TO CONSTRUCTION COMPLETION, THE RETAINED ARBORIST SHALL PROVIDE A POST-CONSTRUCTION AFTERCARE PROGRAM FOR UP TO THREE (3) YEARS DURATION TO BE APPROVED BY THE PROJECT

DEFINITIONS

FORESTER, OWNER, AND DDOT.

- Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and valid to qualify to use the copyrighted designation of "Certified Arborist". Refer to www.isa-arbor.com for additional information.
- **Project Forester:** Natural resource consulting firm contracted by the developer to develop tree preservation plans, methods, details, and specifications in collaboration with the project design team. Project Forester may provide site investigation and documentation (root investigation studies, GPR, tree inventories, assessments, forest stand delineations, etc.); construction-phase monitoring; coordinate between design team, construction team, and Retained Arborist; review submittals; and/or other management or oversight tasks.
- Retained Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews conducting arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration, soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and tree removal.



Horizontal Datum: MD NAD 83

Vertical Datum: NAVD 88 Boundary and Topo Source: Vika Capitol

CK CCCK Sheet # LR-9

Approved