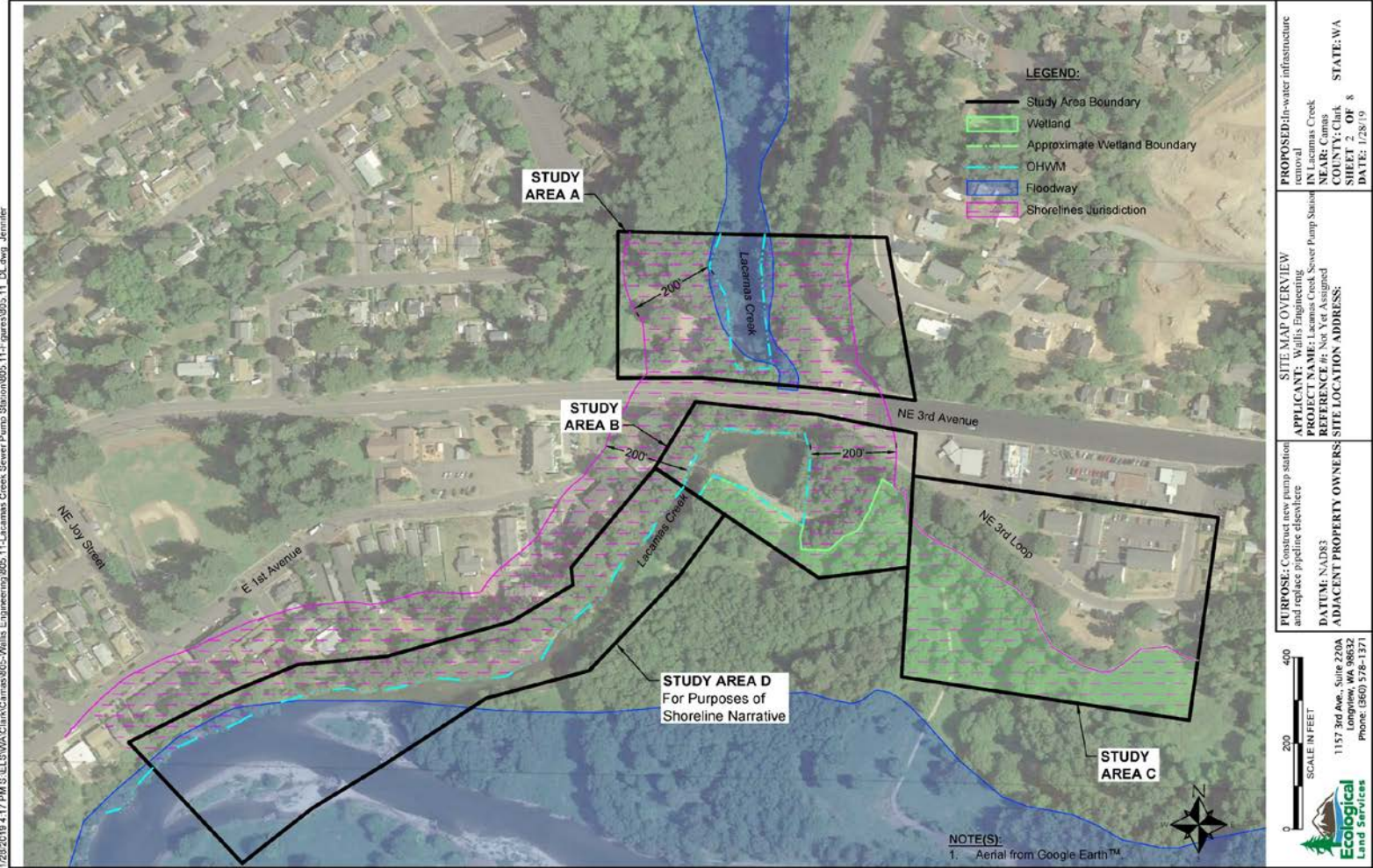




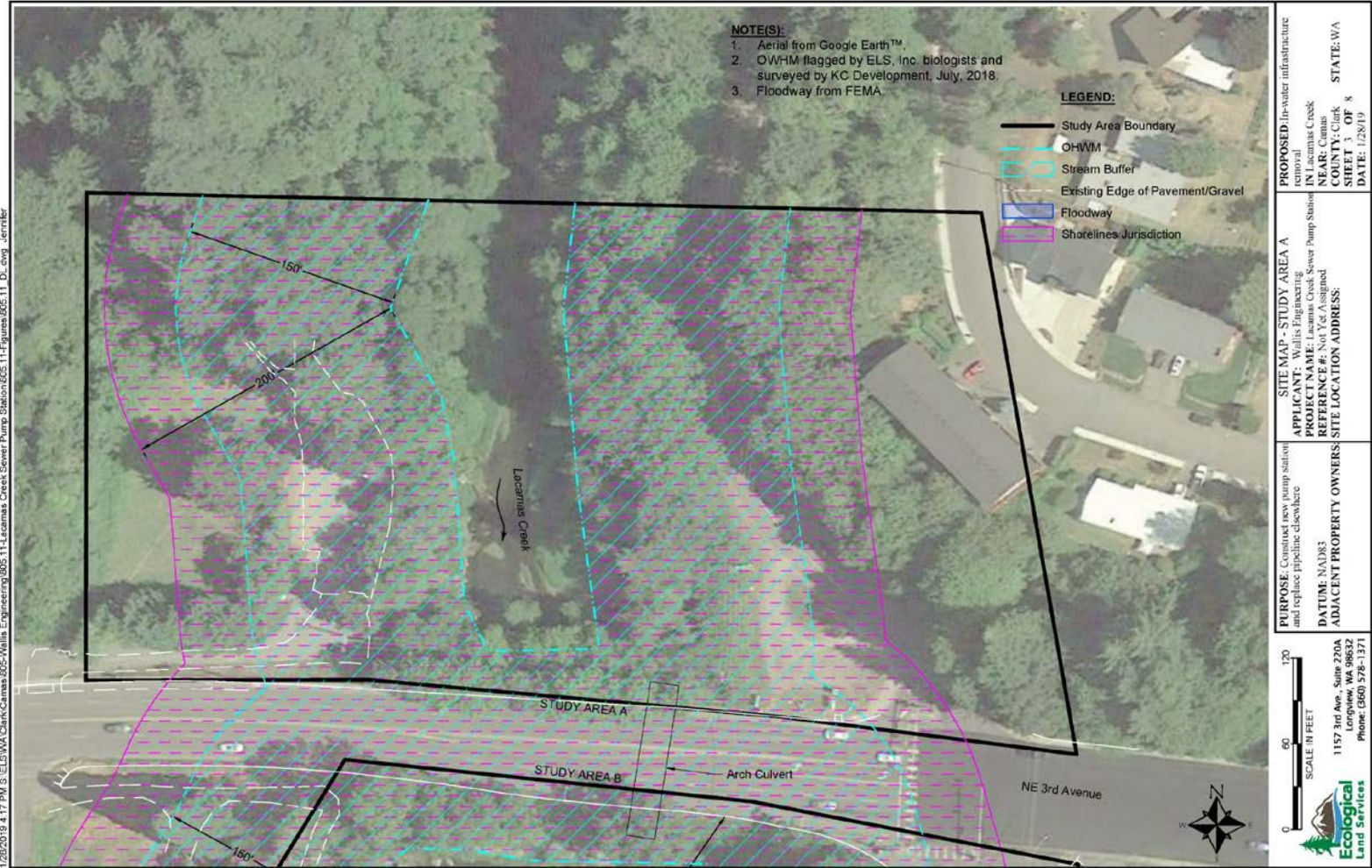
LACAMAS CREEK SANITARY SEWER PUMP STATION

Shorelines Substantial Development Permit Meeting
July 2019

PROJECT AREA



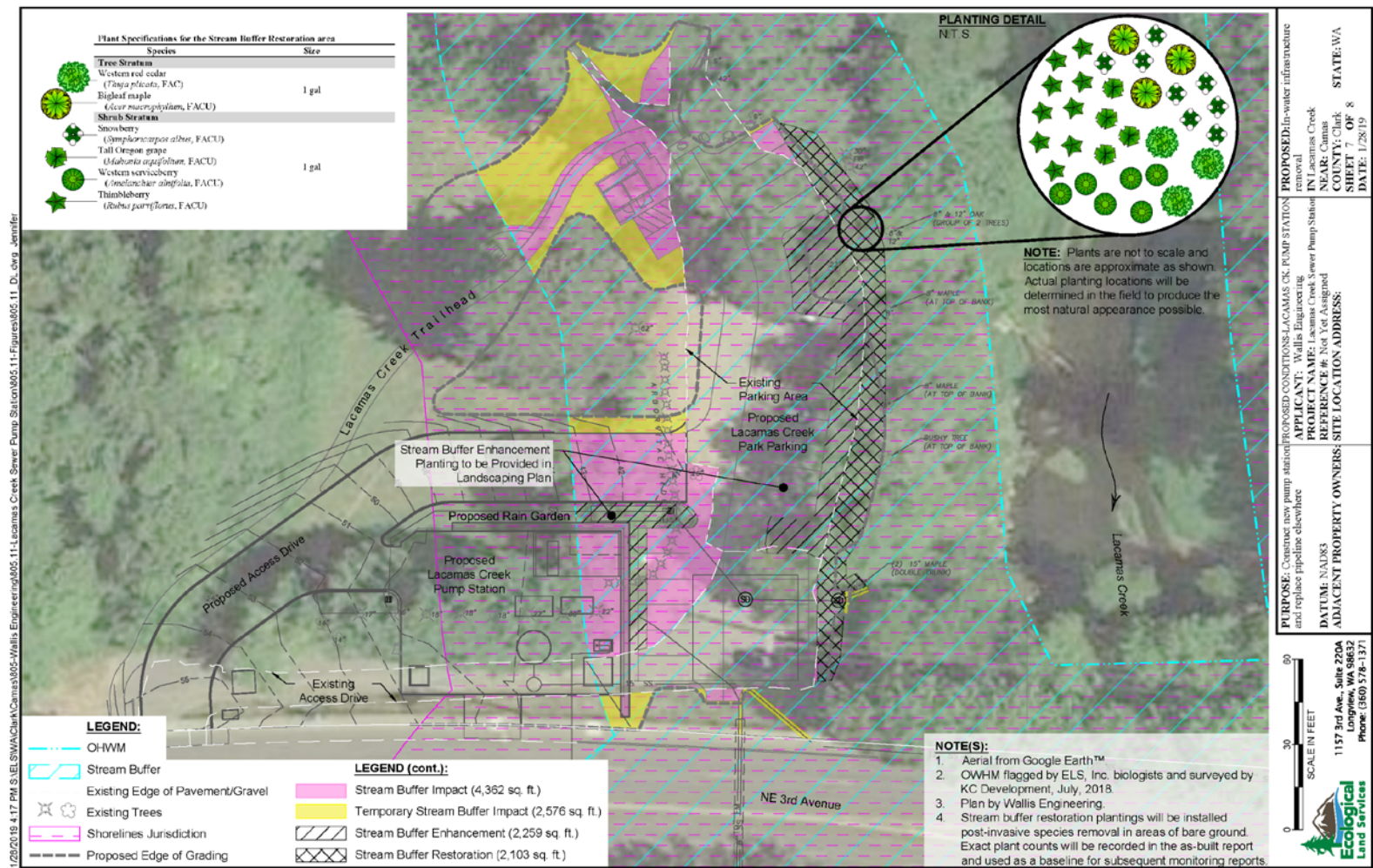
STUDY AREA "A"



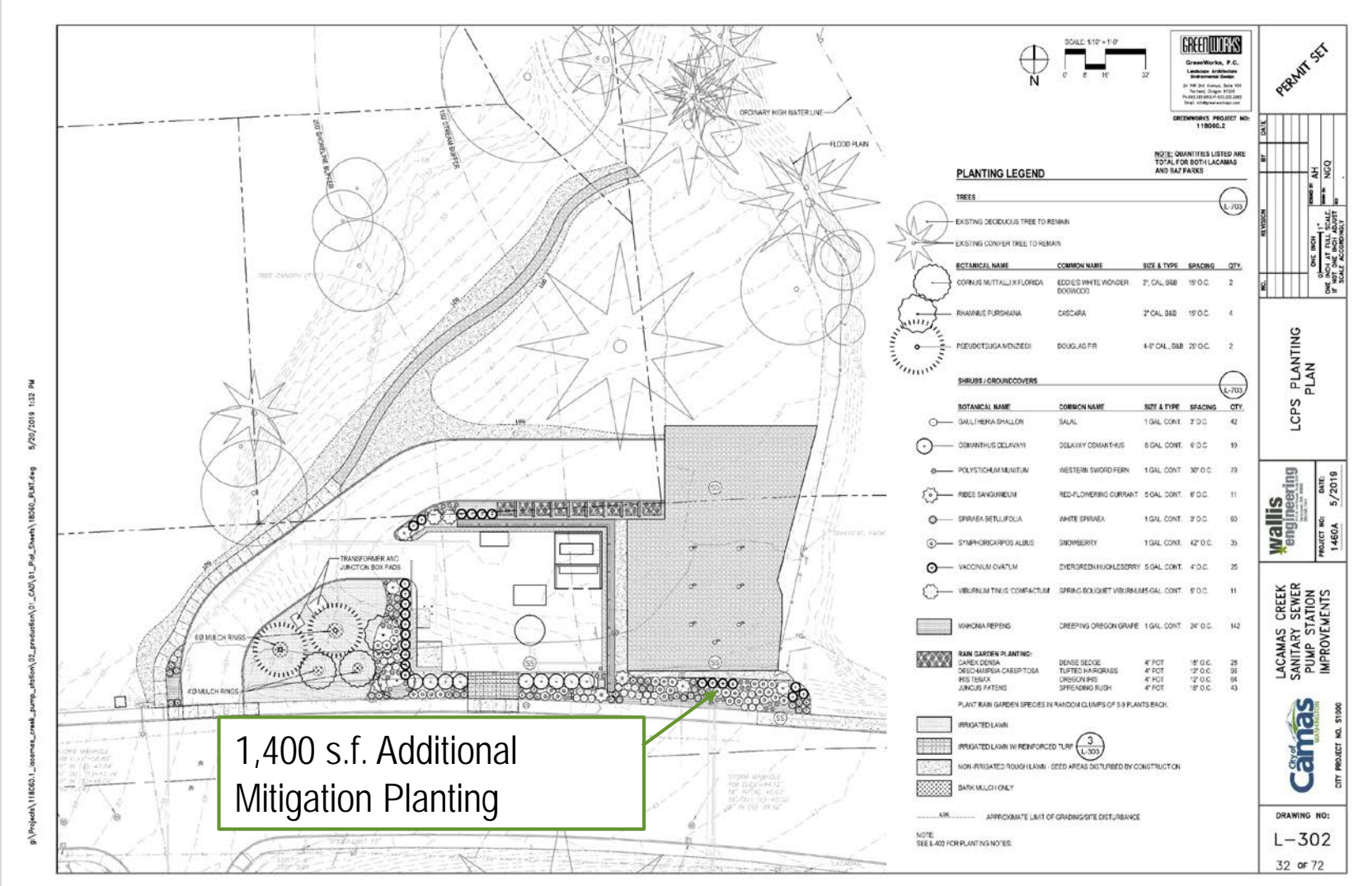
PROPOSED LACAMAS CREEK TRAILHEAD PARK MASTER PLAN



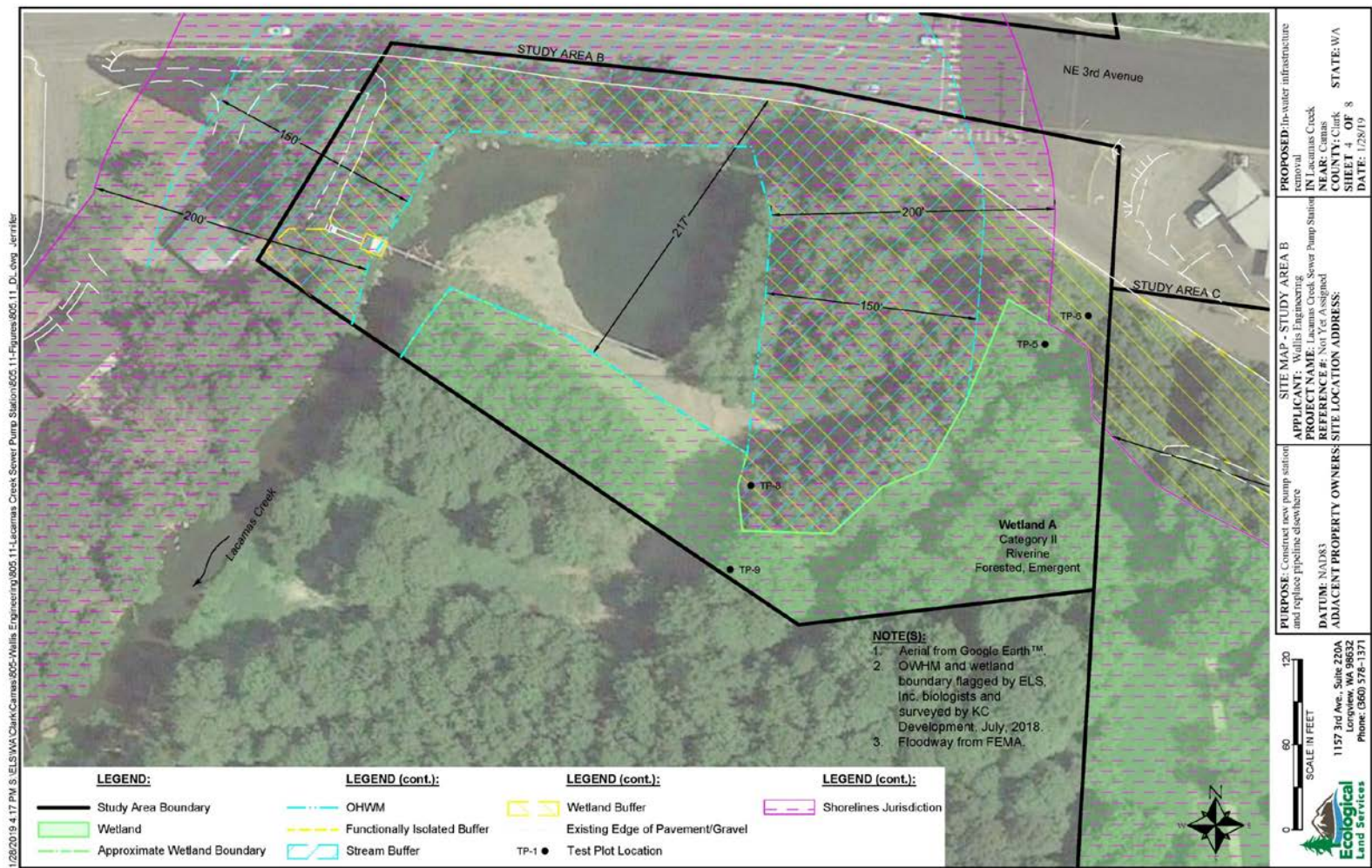
LACAMAS CREEK TRAILHEAD PARK: MITIGATION PLAN



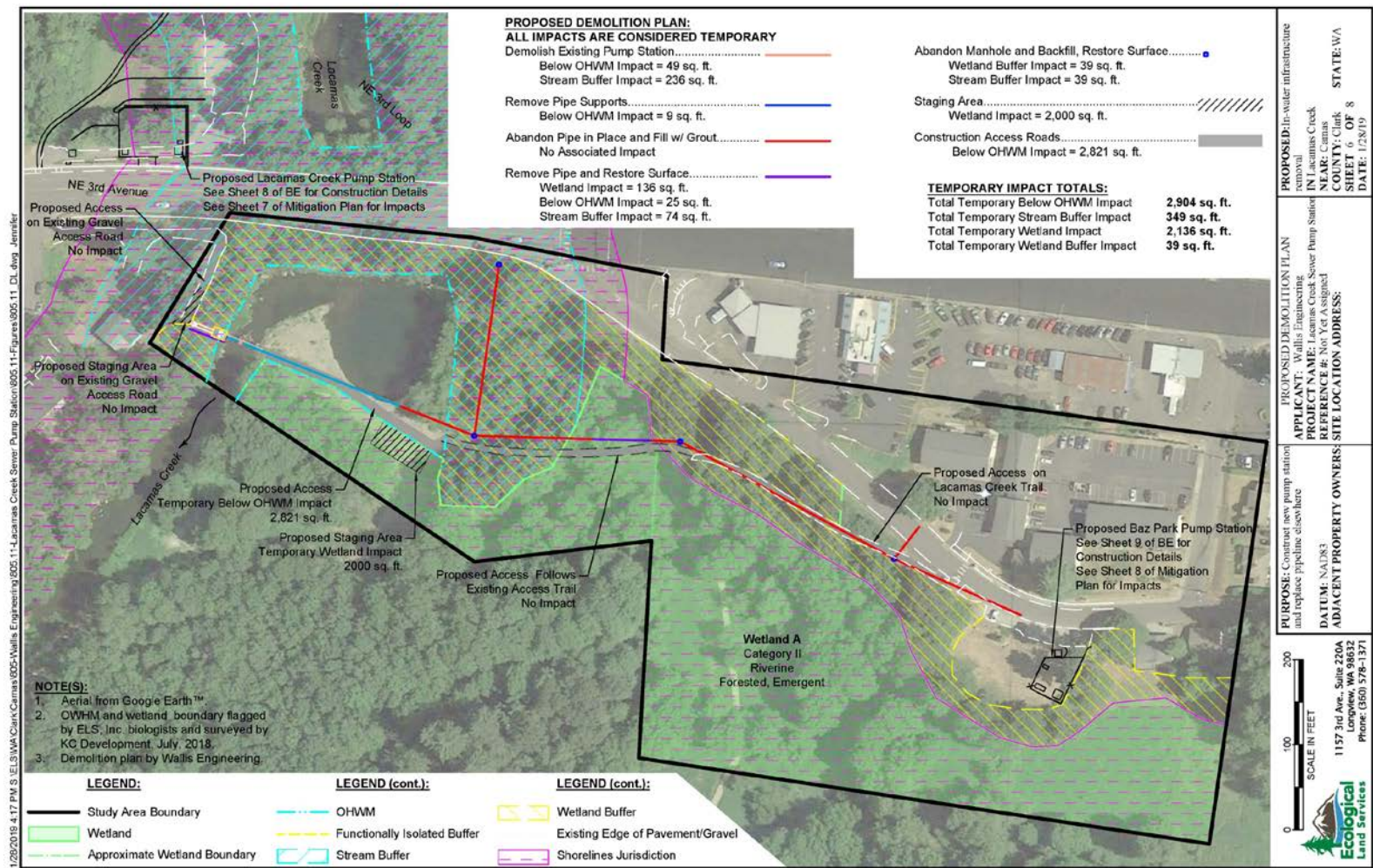
LACAMAS CREEK TRAILHEAD PARK: PHASE 1 PLANTING PLAN



STUDY AREA 'B'



PIPELINE IMPROVEMENTS



SEWER 'A'



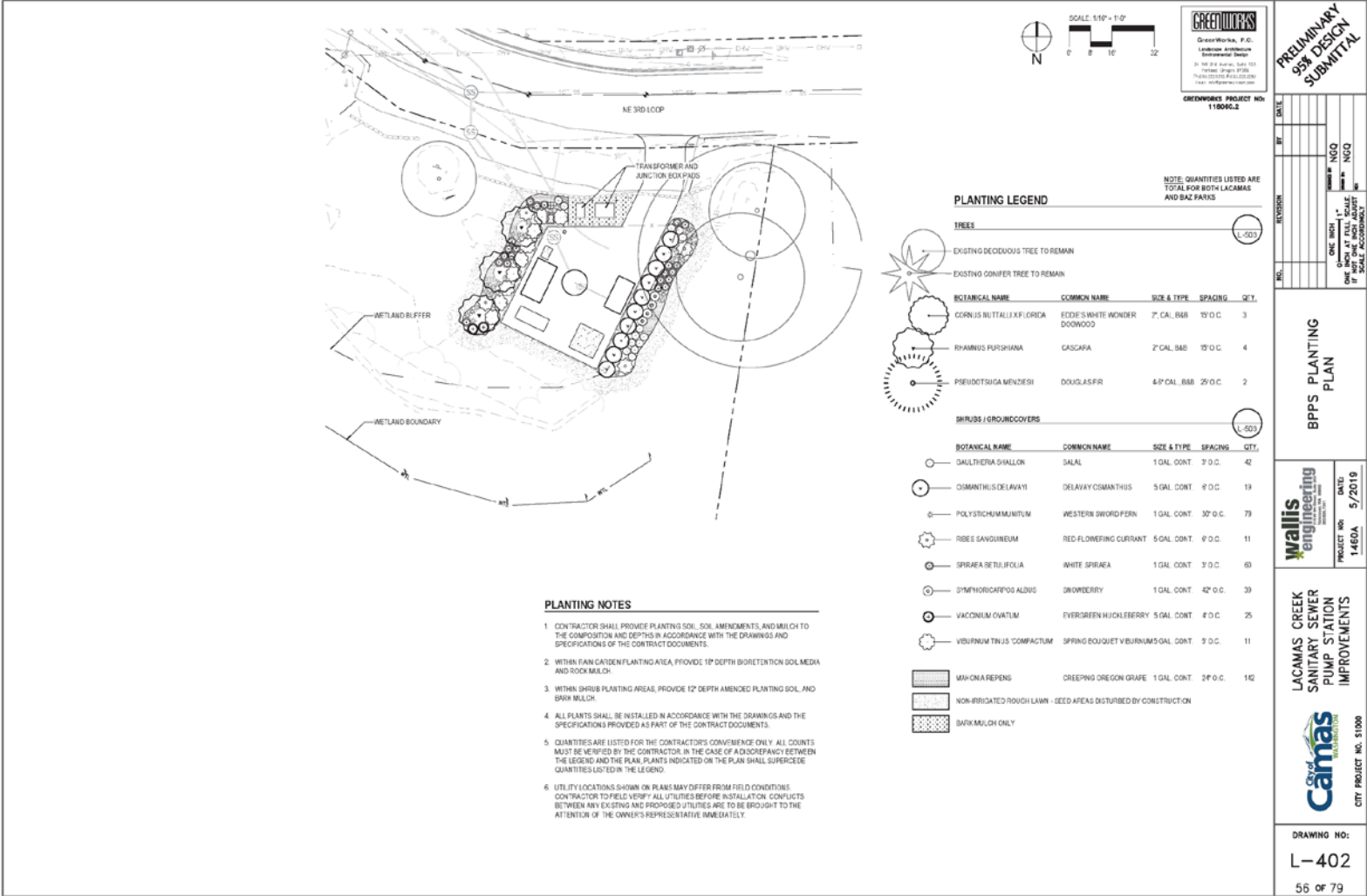
LACAMAS CREEK SANITARY SEWER PUMP STATION

STUDY AREA 'C'

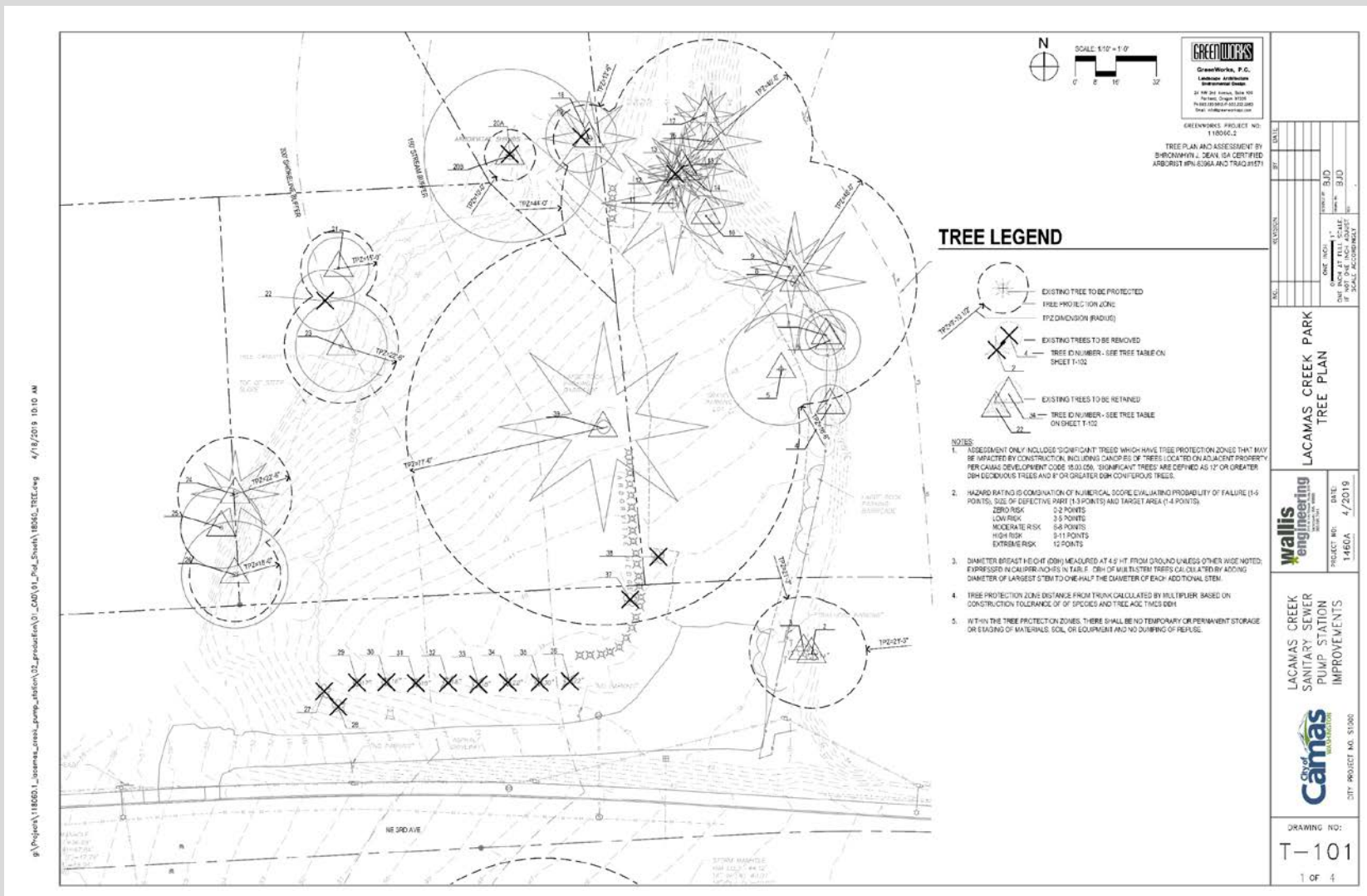


BAZ PARK LANDSCAPE PLAN

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TREE SURVEY - LACAMAS CREEK TRAILHEAD



TREE SURVEY - LACAMAS CREEK TRAILHEAD

TABLE OF TREES						HAZARD (RATING)	RECOMMENDATION
TREE NUMBER	COOPER OR DOC.	COMMON NAME	BOTANICAL NAME	SIZE (DBH)	CONDITION (STRUCTURAL STABILITY)		
1	-	Ø NUMBER NOT USED					
2	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	17	FAIR	#9 AND #10 ARE CO-DOMINANT STEMS OF SAME TREE. ABNORMAL BARK PATTERNS MAY INDICATE DECAY IN STEMS. NO CONKS EVIDENT BUT HEAVY IVY COVER MAY BE CONCEALING ANY ON GROUND. SOUNDING REVEALED NO OBVIOUS DECAY COLUMN. THIS TREE SHOULD BE RE-EVALUATED ONCE CANOPY LEAVES OUT. MORE IN-DEPTH TESTING (DRILLING, SONIC TOMOGRAPHY) MAY BE HELD IF DESIRE IS TO RETAIN TREE.	RETAIN AND MONITOR
3	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	17	FAIR		
4	D	NOT SIGNIFICANT TREE		8			
5	D	OREGON WHITE OAK	QUERCUS GARRYANA	22	GOOD	WELL HEALED WOUNDS AT 3' HIT AND BELOW.	RETAIN. PROVIDE TREE PROTECTION ZONE AS SHOWN ON PLANS PRIOR TO START OF CONSTRUCTION.
6	D	OREGON WHITE OAK	QUERCUS GARRYANA	12	FAIR	TREE LOCATED AT TOP OF SLOPE OVERLOOKING CREEK. NUMEROUS SMALL CONKS ON TRUNK MAY INDICATE COLUMN OF INTERNAL DECAY NOT REVEALED BY SOUNDING. HEAVY IVY COVER OBSCURES INSPECTION OF ROOT FLARE OR SUBGROUNDING GROUND. SEASONAL LACK OF FOLIAGE MEANS CANOPY HEALTH CANNOT BE REVIEWED FOR OTHER SIGNS OF INTERNAL DECAY. THIS TREE SHOULD BE RE-EVALUATED ONCE FOLIAGE IS PRESENT. DUE TO TREE'S LOCATION AND LEAN, IF IT WERE TO FALL, IT WOULD MOST LIKELY FALL EAST INTO THE CREEK (LOW TARGET RATINGS).	RETAIN AND MONITOR
7	D	NOT SIGNIFICANT TREE		8			
8	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	48	GOOD	SUPPRESSED BY #9	RETAIN
9	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	35	GOOD	SUPPRESSED BY #8	RETAIN
10	D	NOT SIGNIFICANT TREE		8			
11	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	44	GOOD		RETAIN
12	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	17	FAIR	SUPPRESSED BY #13. SELF-CORRECTED LEAN.	RETAIN
13	C	WESTERN RED CEDAR	THUJA PLICATA	15	FAIR	DECAYED STUB ON SE SIDE WITH CENTRAL COLUMN OF DECAY. TOP GONE. SUPPRESSED BY #1 AND #15.	YES (9) REMOVE FOR CONDITION. ALTHOUGH THUJA PLICATA CAN REMAIN STANDING WITH CENTRAL COLUMN OF DECAY, THIS TREE'S ADJACENCY TO THE TRAIL MEANS THE TARGET RATING IS VERY HIGH. A CO-DOMINANT STEM IS ALREADY GONE LEAVING A DECAY CAVITY. IF DESIRE IS TO RETAIN THIS TREE, MORE INVASIVE TESTING (DRILLING/SONIC TOMOGRAPHY) SHOULD BE USED TO GIVE MORE INFO ON EXTENT OF INTERNAL DECAY AND THICKNESS OF STEM WALL.
14	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	28	GOOD	SELF-CORRECTED LEAN. ROOTED UNDER #15.	RETAIN
15	C	WESTERN RED CEDAR	THUJA PLICATA	28	GOOD		RETAIN
16	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	40	GOOD	TREE AT CREST OF SLOPE. SWELLING ON UPRILL SIDE AT BASE OF TRUNK APPEARS TO CONTAIN OLD PHAEOLUS SCHWENITZII CONK. NO OTHER CONKS OR RESINOSUS OBSERVED.	RETAIN AND MONITOR
17	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	25	GOOD	LOW CROWN RATIO. SLOPE. SLIGHT SELF-CORRECTED LEAN.	RETAIN
18	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	28	GOOD	SUPPRESSED ON NORTH SIDE BY TREES UPRILL (OFF-SITE).	RETAIN
19	D	OREGON OAK	QUERCUS GARRYANA	18	POOR	TOP GONE. DECAYED STUB AT 16' HT. LOTS OF PRUNING CUTS NOT WELL HEALED. LARGE NUMBERS OF SMALL YOUNG FUNGUS ON STEM. TREES LOCATED ON SLOPE ABOVE LAWN AREA.	YES (7) REMOVE FOR CONDITION
20A	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	18 + 20	FAIR	SURVEY GROUPING 1 STEMS AS ONE TREE, ACTUALLY TWO TREES. ONE MAPLE WITH TWO STEMS AND ONE SMALLER OAK GROWING IN CLOSE PROXIMITY. THE MAPLE HAS TWO CO-DOMINANT STEMS WITH INCLUDED BARK SPLIT ALONG INCLUSION LINE AND CAVITY WITH CALLUSED EDGES. NO OBVIOUS DECAY COLUMN REVEALED BY SOUNDING WITH HALL ET. GROUND INSPECTION LIMITED BY HEAVY IVY GROWTH.	YES (3) EITHER REMOVE OR DO CROWN REDUCTION TO REDUCE PROBABILITY OF FAILURE IF DESIRE IS TO RETAIN TREE. TREE IS ON SLOPE ABOVE LAWN (HIGH TARGET RATING FREQUENTLY OCCUPIED) AND ANOTHER TREE HAS RECENTLY FAILED TO THE SOUTH OF THIS ONE.
20B	D	GARRY OAK	QUERCUS GARRYANA	10	FAIR	THE OAK OF THIS GROUP HAS NO OBVIOUS HEALTH PROBLEMS, BUT IS LEANING SIGNIFICANTLY ON THE SLOPE ABOVE THE LAWN AREA. HEAVY IVY INFESTATION OF GROUND MAKES DETECTION OF ANY FUNGAL FRUITING BOODIES ON ROOTS IMPOSSIBLE. RE-EVALUATE WHEN CANOPY LEAVES OUT FOR ANY SIGNS OF ROOT ROT.	RETAIN AND RE-EVALUATE. CROWN REDUCTION TO REDUCE WEIGHT.
21	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	12	GOOD	SELF-CORRECTED LEAN DUE TO SLOPE. HEAVY IVY INFESTATION.	RETAIN
22	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	13	FAIR	TOP IS GONE. HEAVY IVY INFESTATION. CAVITY AT ROOT FLARE ON DOWNHILL SIDE. TREE ON SLOPE ABOVE LAWN AREA.	REMOVE
23	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	12 + 16	GOOD	CO-DOMINANT AT 2' HIT. NO CRACK OR SPLIT AT INCLUSION LINE. HEAVY IVY INFESTATION.	RETAIN
24	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	30	GOOD	HEAVY IVY INFESTATION.	RETAIN
25	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	16	FAIR	HEAVY IVY INFESTATION OBSCURING BASE. LEANS 15° TOWARDS LAWN ON STEEP SLOPE. RECOMMEND RE-EVALUATION ONCE CANOPY LEAVES OUT.	RETAIN AND MONITOR
26	D	BIGLEAF MAPLE	ACER MACROPHYLLUM	14 + 15	FAIR	CO-DOMINANT STEMS AT 2' HIT. NO CRACKS, CAVITIES OR CONKS OBSERVED. HEAVY IVY INFESTATION OBSCURING BASE. RECOMMEND RE-EVALUATION ONCE CANOPY LEAVES OUT TO DETERMINE AMOUNT OF DEADWOOD IN CROWN AND REVIEW FOLIAGE HEALTH. FROM FAILURE OF LARGER TREE TO SOUTH.	RETAIN AND MONITOR. MAY NEED CROWN CLEANING TO REDUCE WEIGHT ON BRANCHES LEAVING OUT TO LAWN (TARGET AREA).
27	D	RED ALDER	ALNUS RUBRA	16	POOR	DEADENING. MULTIPLE BARKPHYLLOPHYTE CONKS ON STEM.	YES (10) REMOVE FOR CONDITION
28	D	RED ALDER	ALNUS RUBRA	17	POOR	DEADENING. LARGE AREA OF DECAY AT BASE OF STEM ON EAST WHERE CO-DOMINANT STEM TORN OUT. CONKS. LEANING IN TO LAWN AREA.	YES (10) REMOVE FOR CONDITION
29	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	17	GOOD		REMOVE FOR CONSTRUCTION
30	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	16	GOOD		REMOVE FOR CONSTRUCTION
31	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	15	GOOD		REMOVE FOR CONSTRUCTION
32	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	20	GOOD		REMOVE FOR CONSTRUCTION
33	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	15	GOOD		REMOVE FOR CONSTRUCTION
34	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	22	FAIR	CO-DOMINANT STEMS WITH INCLUDED BARK UP TO 5'	REMOVE FOR CONSTRUCTION
35	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	25 @ 2'	FAIR	FOUR STEMS. INCLUDED BARK AT ATTACHMENTS	REMOVE FOR CONSTRUCTION
36	C	LEYLAND CYPRRESS	XILIPRESSOCYPARIS LEYLANDII	28 @ 2'	GOOD		REMOVE FOR CONSTRUCTION
37	D	BURPESSE TREE	PAULOWNIA TOMENTOSA	34	GOOD	ONSHEDD CROWN TO SOUTH.	REMOVE FOR CONSTRUCTION
38	D	RED ALDER	ALNUS RUBRA	31 @ 2'	POOR	CONKS VISIBLE WHITE ROT WHERE STEM TO NORTH BROKE OUT IN PAST AND NOW WOUND CLOSURE HAS OCCURRED.	YES (3) REMOVE FOR CONDITION
39	C	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	52	GOOD	CO-DOMINANT STEMS WITH INCLUDED BARK UP TO 6'. WEST STEM TOP GONE	RETAIN AND MONITOR. PROVIDE TREE PROTECTION FENCING AS SHOWN ON PLANS. THE PLANNED FULL BUILT CULVERT WILL IMPACT APPROXIMATELY 10% OF THIS TREE'S TPC. RECOMMENDATION IS TO MINIMIZE IMPACTS WHERE POSSIBLE BY MOVING PLANNED IMPROVEMENTS FURTHER FROM TREE. CONSTRUCTING HARD SURFACES ON GRADE WHERE POSSIBLE AND REDUCING AREA OF FILL BY USE OF RETAINING WALLS. WALLS SHALL BE MIN. 16" FROM TRUNK TO MAINTAIN ORIGINAL GRADE WITHIN CRITICAL ZONE CLOSE TO TRUNK. MINIMIZE ROOT DAMAGE BY LIMITING WORK TO ONLY HAND TOOLS WHERE TREESHEDING MUST PENETRATE THE MORPHOLOGY OVER 3' TO BE SEVERED. ANY ROOTS THAT ARE PRUNED SHOULD LEAVE FULL SURFACE WITH CLEAN EDGES. ROOTS SHALL NOT BE LEFT UNCOVERED AND ALLOWED TO DRY OUT. ARBORIST SHOULD MONITOR EXCAVATION IN CASE ROOTS OVER 3' ARE INCARCERATED. DOUG FIRS ARE RELATIVELY TOLERANT OF FILL AS LONG AS IT DOES NOT EXCEED 25% OF THE TPC. THIS TREE WILL NEED TO BE MONITORED ANNUALLY AFTER CONSTRUCTION TO CHECK FOR SIGNS OF DECLINE.

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GREENWORKS PROJECT NO: 110050-2

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REVISION: [Signature]
NO.: [Signature]

LACAMAS CREEK PARK
TREE TABLE

wallis
engineering
INC.
PROJECT NO: 110050-2
DATE: 7/1/2024

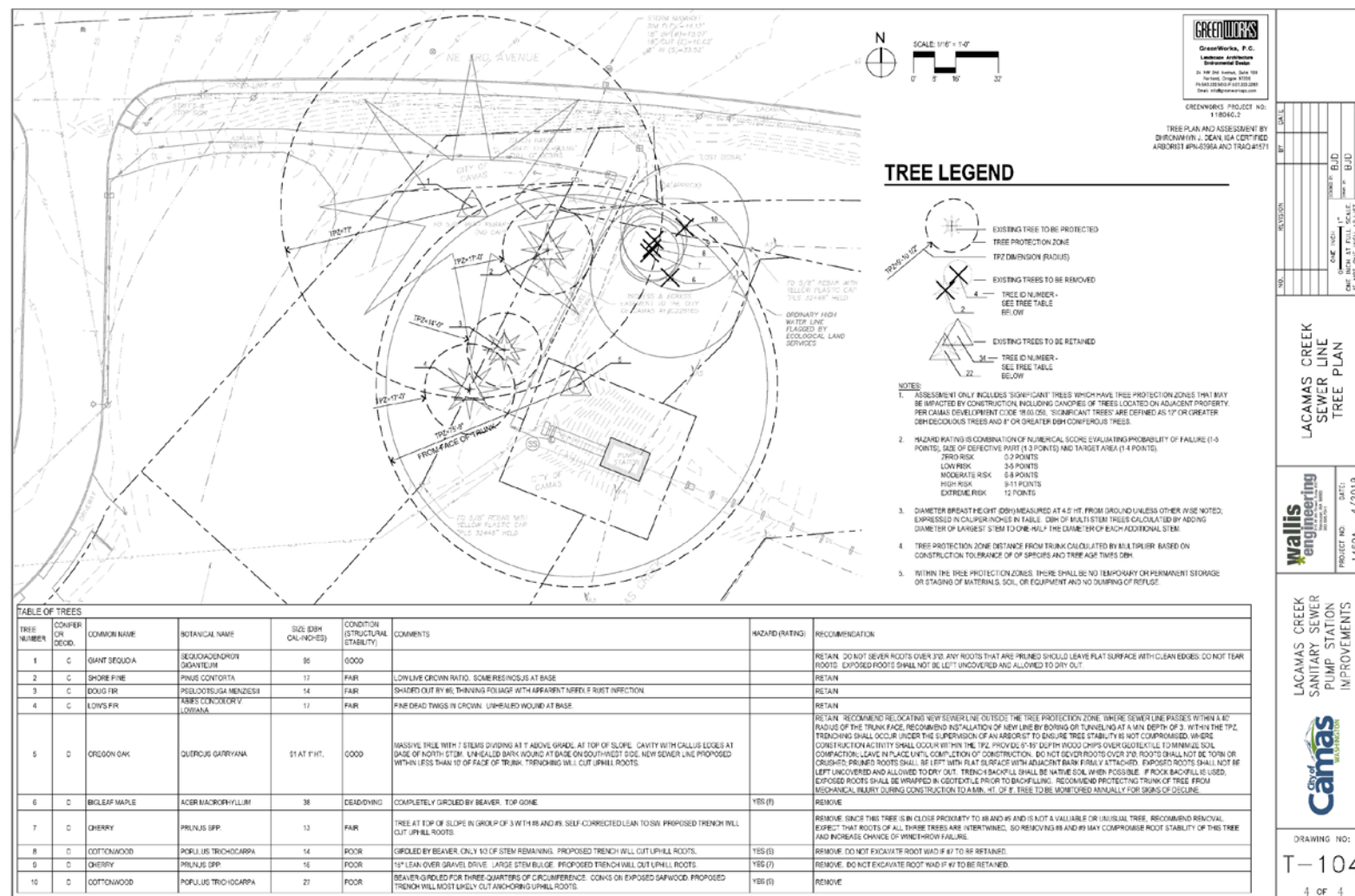
LACAMAS CREEK
SANITARY SEWER
PUMP STATION
IMPROVEMENTS

Camas
WASHINGTON

DRAWING NO: T-102

2 OF 2

TREE SURVEY - EXISTING PUMP STATION



TREE SURVEY - BAZ PARK

