



MEMORANDUM

DATE: September 9, 2021
TO: Erin Holsonback, Otten + Associates Landscape Architects, Inc
FROM: Terrence P. Flanagan, ISA Board Certified Master Arborist, PN-0120BMTL
RE: Manhasset Tree Plan

Introduction

Teragan & Associates, Inc. was contracted to complete a tree inventory at the address of 10500 SW Manhasset Dr, Tualatin, OR where a commercial development is to occur.

We also asked to review and offer corrections to the needed the tree protection plan for the trees on the east neighboring property created by Erin Holsonback of Otten + Associates Landscape Architects, Inc.

Observations

The tree inventory was complete by Kyle Offerdahl, an associate of Teragan & Associates. The tree inventory can be found in appendix 3.

Erin Holsonback provided the site plan with trees marked for removal and the location of tree protection fencing as well as areas of pervious paving. All of the trees marked with X will have to be removed to accommodate the construction of the new building and paved areas.

The eastern neighbor's Oregon white oaks (*Quercus garryana*) will be protected during construction from long term impacts by the erection of the tree protection fence whose location is shown on the site plan. In addition, oak number 42 and 45 will have areas of pervious pavement placed just east of the of the trees with no curbs to prevent the need to cut roots and allow moisture to reach the roots of the oaks in the areas of the protected tree rooting protection zone. On the site plan, those areas are shown as greyed out and should be treated as extensions of the tree protection areas. No cut or fill beyond four inches shall be allowed within the tree protection areas or areas that are to have pervious pavement nor shall the area have the soil compacted. If a curb of some type is desired, an asphalt curb or concrete parking stop could be placed on top of the pervious pavement. Either pervious asphalt or concrete can be used with the idea that the base would be no deeper than four inches thick placed on top of the existing soil with the duff layer removed. No soil cut shall be allowed. As the pervious payment is only to be placed at the end of the parking stall, it shouldn't have to support too much weight as only the vehicle's front or rear end will have to be supported.

On the site plan, the area of protected tree rooting protection is shown as extending onto the neighboring property. It should be understood that there should be no need to extend any tree protection fencing onto the neighboring property and only in the areas where the fence is shown on the plan.

Conclusion

All of the trees marked with X on the site plan need to be removed to accommodate the construction of the new building.

The location of the tree protection fencing should adequately provide protection to the trees long term as long as the areas where pervious pavement is to be placed has no excavation or fill greater than four inches.

Sincerely,



Terrence P. Flanagan
ISA Board Certified Master Arborist, #PN-0120 BMTL
PNW/ISA Board Certified Tree Risk Assessor, #PN-0152
Member, American Society of Consulting Arborists

Enclosures:

- Appendix 1: Certification of Performance
- Appendix 2: Assumptions and Limiting Conditions
- Appendix 3: Tree Protection Steps
- Appendix 4: Tree Inventory
- Appendix 5: Site Plan with Tree Protection Fencing and Pervious Pavement Locations

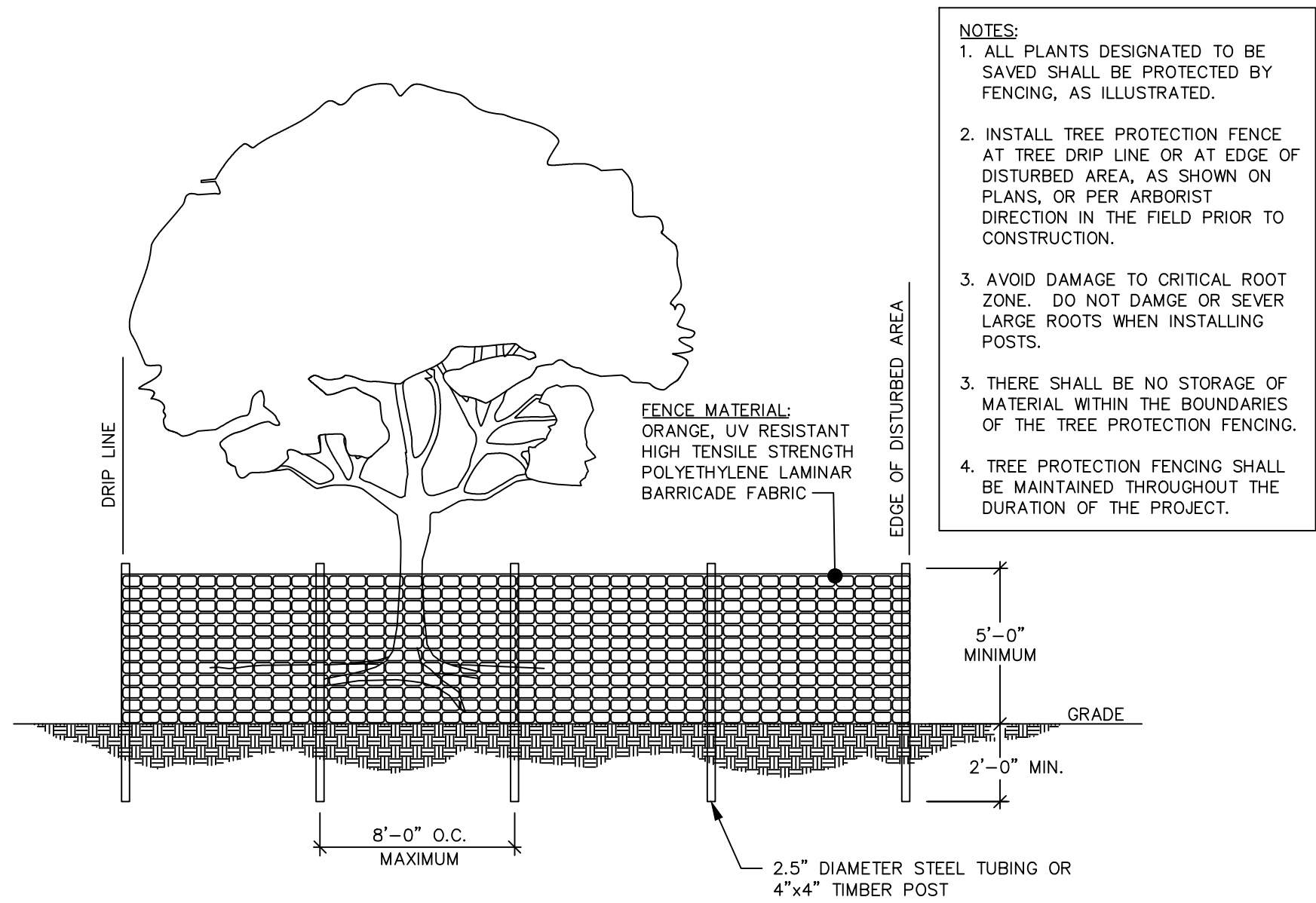
Appendix 1: Certification of Performance

I, Terrence P. Flanagan, certify:

- That a representative of Teragan & Associates, Inc., has inspected the tree(s) and/or the property referred to in this report. The extent of the evaluation is stated in the attached report.
- That Teragan & Associates, Inc. has no current or prospective interest in the vegetation of the property that is the subject of this report, and Teragan & Associates, Inc. has no personal interest or bias with respect to the parties involved.
- That Teragan & Associates, Inc.'s compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, or upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.
- That the analysis, opinions, and conclusions that were developed as part of this report have been prepared according to commonly accepted arboricultural practices.
- That a Board-Certified Master Arborist has overseen the gathering of data.

Appendix 2: Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Teragan and Associates, Inc. checked the species identification and tree diameters in the field.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultants' role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.



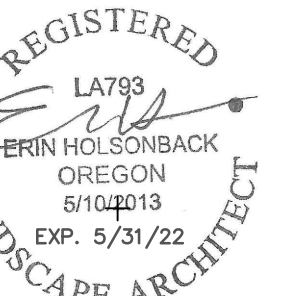
- NOTES:**
1. ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING, AS ILLUSTRATED.
 2. INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA, AS SHOWN ON PLANS, OR PER ARBORIST DIRECTION IN THE FIELD PRIOR TO CONSTRUCTION.
 3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 3. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
 4. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

○ TREE PROTECTION FENCING
N.T.S

Manhasset Industrial Tree Inventory						
Tree #	Common	Scientific	DBH ¹	Condition ²	Structure ²	Comments
1	Oregon white oak	Quercus garryana	18	Good	Fair	No central leader
2	Oregon white oak	Quercus garryana	18, 15	Good	Fair	Co-dominant stem with included bark
3	Oregon white oak	Quercus garryana	10	Good	Fair	No central leader
4	Oregon white oak	Quercus garryana	12	Good	Fair	No central leader
5	Oregon white oak	Quercus garryana	22	Good	Fair	Co-dominant stem with included bark
6	Oregon white oak	Quercus garryana	26	Fair	Fair	Multiple bark inclusions, dbh measured below the split
7	Oregon white oak	Quercus garryana	21	Good	Good	
8	Oregon white oak	Quercus garryana	32	Good	Good	
9	black cottonwood	Populus trichocarpa	17	Good	Good	
10	Oregon white oak	Quercus garryana	30	Good	Fair	Multiple bark inclusions, DBH measured below the split
11	Oregon ash	Fraxinus latifolia	9	Fair	Good	Thin crown
12	Oregon white oak	Quercus garryana	34	Good	Fair	Co-dominant stem with bark inclusion, DBH measured below the split
13	Oregon white oak	Quercus garryana	10	Good	Fair	Slight lean
14	Oregon white oak	Quercus garryana	19	Good	Good	
15	Oregon white oak	Quercus garryana	15	Good	Fair	Co-dominant stems with included bark
16	Oregon white oak	Quercus garryana	21	Good	Fair	Multiple bark inclusions
17	Oregon white oak	Quercus garryana	29	Good	Fair	Co-dominant stem with included bark
18	Oregon ash	Fraxinus latifolia	14	Good	Good	
19	armstrong maple	Acer rubrum 'Armstrong'	7	Good	Fair	Multiple bark inclusions
20	armstrong maple	Acer rubrum 'Armstrong'	8	Good	Fair	Multiple bark inclusions
21	armstrong maple	Acer rubrum 'Armstrong'	7	Fair	Poor	Multiple bark inclusions, adventitious sprouting
22	armstrong maple	Acer rubrum 'Armstrong'	9	Good	Fair	Multiple bark inclusions
23	armstrong maple	Acer rubrum 'Armstrong'	8	Good	Fair	Multiple bark inclusions
24	Oregon white oak	Quercus garryana	35	Good	Good	
25	Oregon ash	Fraxinus latifolia	8	Good	Fair	Slight lean
26	Oregon white oak	Quercus garryana	36	Good	Fair	Large broken limbs
27	Oregon white oak	Quercus garryana	13	Good	Good	
28	black cottonwood	Populus trichocarpa	25	Fair	Poor	Co-dominant stem with bark inclusion, DBH measured below the split
29	black cottonwood	Populus trichocarpa	25	Good	Good	
30	Oregon white oak	Quercus garryana	34	Good	Fair	Heavily loaded to one side
31	armstrong maple	Acer rubrum 'Armstrong'	6	Fair	Poor	Multiple stems
32	Oregon white oak	Quercus garryana	44, 25	Good	Fair	Multiple bark inclusions
33	Oregon white oak	Quercus garryana	57	Good	Fair	Multiple stems with bark inclusions
34	raywood ash	Fraxinus oxycarpa 'Raywood'	8	Good	Fair	Multiple bark inclusions
35	raywood ash	Fraxinus oxycarpa 'Raywood'	13	Good	Fair	Over-extended limbs
36	western red cedar	Thuja plicata	11	Fair	Good	Thin crown
37	western red cedar	Thuja plicata	12	Fair	Fair	Thin crown, limited rooting volume
38	English hawthorn	Crataegus monogyna	9	Fair	Fair	Unconventional growth pattern, In the shade of the larger trees
39	Oregon white oak	Quercus garryana	34	Good	Fair	Interior decay, woodpecker holes
40	armstrong maple	Acer rubrum 'Armstrong'	6	Fair	Fair	Multiple stems, thin crown
41	Oregon white oak	Quercus garryana	23	Good	Fair	Multiple bark inclusions
42	Oregon white oak	Quercus garryana	20	Good	Good	
43	western red cedar	Thuja plicata	9	Fair	Good	Stem canker on upper stem
44	English hawthorn	Crataegus monogyna	14, 12	Poor	Poor	Broken top, co-dominant stem
45	Oregon white oak	Quercus garryana	25	Very Poor	Very Poor	Large stem canker from 10 to 20-feet high

DBH¹ - tree diameter measured at 4.5 ft above the soil grade, or according to local municipal code. Diameter is rounded down to the nearest whole number.
Condition² & Structure² - ratings range from dead, very poor, poor, fair, to good.

APPENDIX 4 - TREE INVENTORY



OTTEN + ASSOCIATES
LANDSCAPE ARCHITECTURE

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Project:

**MANHASSET
INDUSTRIAL**

10500 SW MANHASSET
DRIVE - SITE B
TUALATIN, OR

Sheet Title:

TREE PLAN

Revisions:

#	Description	Date

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Date: 9/8/2021

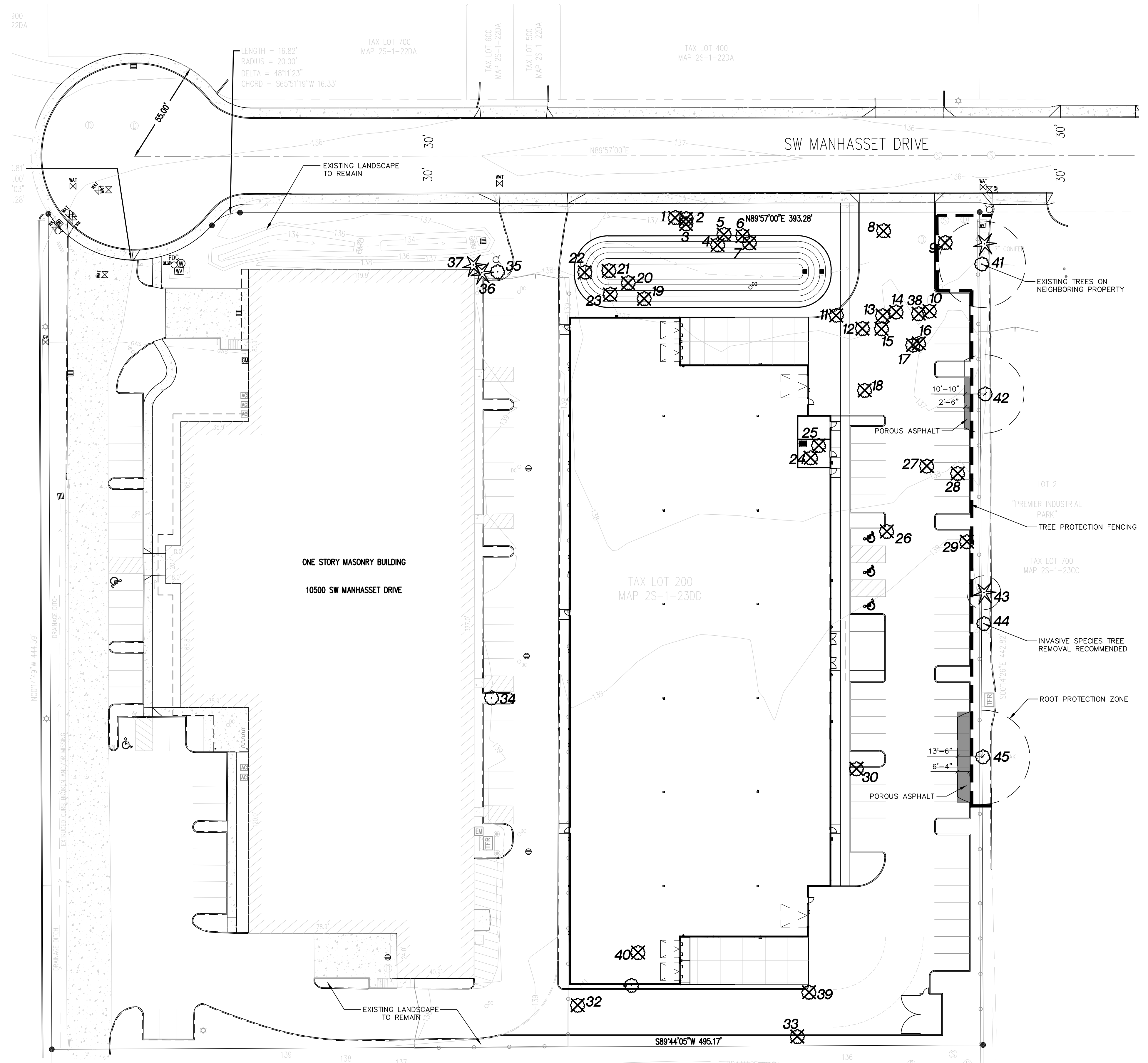
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Job Number: 121067

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TREE PLAN LEGEND:

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- ROOT PROTECTION ZONE
- TREE PROTECTION FENCING SEE DETAIL
- POROUS PAVEMENT AREA PER ARBORIST RECOMMENDATION



TREE PLAN

SCALE 1" = 30'-0"

