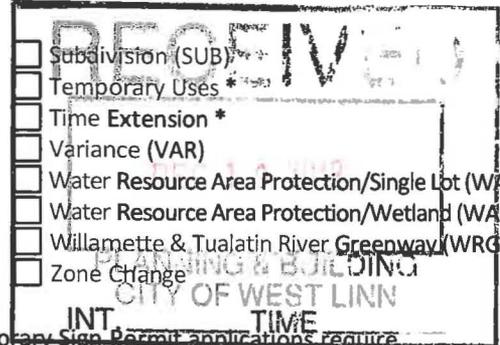


DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT ZACH DELZ	PROJECT NO(S). AP-12-02	
NON-REFUNDABLE FEE(S) 400	REFUNDABLE DEPOSIT(S) —	TOTAL 400

Type of Review (Please check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Historic Review |
| <input checked="" type="checkbox"/> Appeal and Review (AP) * | <input type="checkbox"/> Legislative Plan or Change |
| <input type="checkbox"/> Conditional Use (CUP) | <input type="checkbox"/> Lot Line Adjustment (LLA) */** |
| <input type="checkbox"/> Design Review (DR) | <input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) |
| <input type="checkbox"/> Easement Vacation | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities | <input type="checkbox"/> Planned Unit Development (PUD) |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Pre-Application Conference (PA) */** |
| <input type="checkbox"/> Flood Management Area | <input type="checkbox"/> Street Vacation |
| <input type="checkbox"/> Hillside Protection & Erosion Control | |



Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:

4260 Kenthorpe Way, WL 97068

Assessor's Map No.:

Tax Lot(s):

Total Land Area: 9.61

Brief Description of Proposal:

Water Treatment Plant

Applicant Name: Eric Dug
(please print)

Address: Same as below

City State Zip:

Phone: 503 534 4233

Email: eric.dug@ci.oregon.or.us

Owner Name (required): Lake Oswego ITigard
(please print)

Address: 4181 Krum Way

City State Zip: Lake Oswego, OR 97035

Phone:

Email:

Consultant Name:
(please print)

Address:

City State Zip:

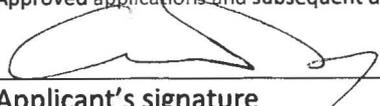
Phone:

Email:

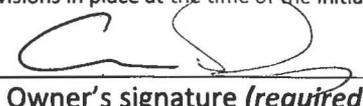
1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.**
One (1) complete set of digital application materials must also be submitted on CD in PDF format.
If large sets of plans are required in application please submit only two sets.

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.


Applicant's signature

12/10/12
Date


Owner's signature (required)

12/10/12
Date

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT <i>ZACH PEZZ</i>	PROJECT NO(S). <i>AP-12-03</i>	
NON-REFUNDABLE FEE(S) <i>400</i>	REFUNDABLE DEPOSIT(S) <i>—</i>	TOTAL <i>400</i>

Type of Review (Please check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Historic Review |
| <input checked="" type="checkbox"/> Appeal and Review (AP) * | <input type="checkbox"/> Legislative Plan or Change |
| <input type="checkbox"/> Conditional Use (CUP) | <input type="checkbox"/> Lot Line Adjustment (LLA) */** |
| <input type="checkbox"/> Design Review (DR) | <input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) |
| <input type="checkbox"/> Easement Vacation | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities | <input type="checkbox"/> Planned Unit Development (PUD) |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Pre-Application Conference (PA) */** |
| <input type="checkbox"/> Flood Management Area | <input type="checkbox"/> Street Vacation |
| <input type="checkbox"/> Hillside Protection & Erosion Control | |

RECEIVED

NOV 16 2012

CITY OF WEST LINN

INT. _____ TIME _____

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address: <i>N/A</i>	Assessor's Map No.: <i>/</i>
	Tax Lot(s): <i>/</i>
	Total Land Area: <i>/</i>

Brief Description of Proposal:

Water Pipe

Applicant Name: <i>Eric Day</i> <small>(please print)</small>	Phone: <i>503 534-4238</i>
Address: <i>SAME AS BELOW</i>	Email: <i>ericeday@ci.oswego.or.us</i>
City State Zip:	

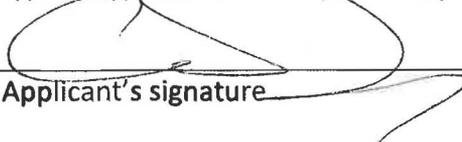
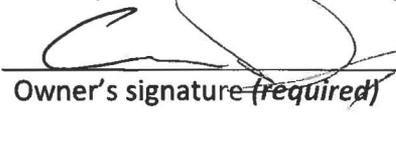
Owner Name (required): <i>Luke Oswego / Tigard</i> <small>(please print)</small>	Phone:
Address: <i>4101 Krum Way</i>	Email:
City State Zip: <i>Lake Oswego, OR 97035</i>	

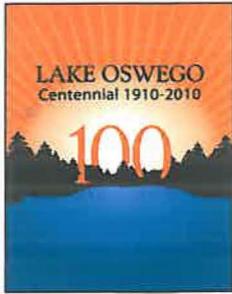
Consultant Name: <small>(please print)</small>	Phone:
Address:	Email:
City State Zip:	

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.**
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The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

 Applicant's signature	<i>12/10/12</i> Date	 Owner's signature (required)	<i>12/10/12</i> Date
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MEMORANDUM

TO: Honorable Mayor and Councilors of the City of West Linn

FROM: Joel Komarek, P.E., Director, Lake Oswego-Tigard Water Supply Partnership
Edward J. Sullivan, Legal Counsel, Lake Oswego-Tigard Water Supply Partnership
Eric Day, Senior Planner, City of Lake Oswego

SUBJECT: Appeals for Lake Oswego – Tigard Water Partnership:
CUP-12-02/DR-12-04 (water treatment plant) and
CUP-12-04/DR12-14 (water transmission line)

DATE: December 10, 2012

Pursuant to West Linn Community Development Code (“CDC”) 99.250, the applicant Lake Oswego Tigard Water Partnership (“Partnership”) hereby appeals two decisions made by the Planning Commission for a water treatment plant and water transmission lines. The applicable city file numbers are identified above. The applicable filing fee covering both appeals is also enclosed.

The Partnership is a party to these proceedings and has standing to pursue these appeals under CDC 99.140 because it is the applicant in both cases and Partnership representatives participated both orally and in writing during the proceedings before the Planning Commission.

Although an appellant need not identify any particular grounds in order to perfect an appeal under CDC 99.250, the Partnership intends to raise at least the following issues before the City Council:

1. Consistent application of West Linn policies and plans including the call to upgrade the City of West Linn’s “regional” water system will significantly benefit the City of West Linn.
 - Utility system demands and supply are shared by all citizens and communities alike. Consider West Linn’s water supply comes from South Fork Water Board which also serves the cities of Oregon City and Gladstone – it is a regional water system located within a residential zone. The Tri-City Sewer District is also a regional utility provider.
 - The City’s 2008 Water Master Plan directs the city to “pursue development of reliable emergency supply capacity with the cities of Lake Oswego, Tigard and others...” This Water Master Plan is an integral and required part of the state’s requirement for comprehensive land use planning.
 - The greatest advantage for a municipal retail water service provider comes from having the infrastructure and inter-governmental agreements necessary for immediate and safe transmission of that public commodity to any customer in its service area upon demand. Wholesale water facilities and mutual aid agreements are regional by their very nature. The City of West Linn does not currently enjoy any agreed to minimum back-up water supply adequate to meet its

present or future needs. This lack of a regional solution profoundly impacts the citizens of West Linn.

- Concurrent adoption of the IGA proposed by the Partnership will provide a more reliable emergency backup water supply than is available through any other municipal water provider through at least 2041. Assurance of this quantity of water will allow West Linn to move forward with its Bolton Reservoir improvements while eliminating the risk of water service reductions while construction takes place.
- Upgrading old underground pipes serving the intertie will provide the City of West Linn long-term access to 53 million gallons of combined reservoir storage and redundant supply sources from throughout the region.
- The City has never before imposed rigorous “community need” obligations on other conditional uses seeking to locate in residential zones within the City.
- The record shows that the guaranteed provision of water for a 30-year period, replacement of an seismically vulnerable water treatment facility and conveyance system, the resurfacing and providing sidewalks along Mapleton and portions of Kenthorpe streets (when the pipelines and plant proposals will not require any road removal activities on Kenthorpe), improvements to Mary S. Young Park, and all construction impact mitigation activities that have been identified, except for those that would serve to extend the inconvenience, are included as part of this proposal. Net benefit must be considered over the life of a proposed project and within the context of the community need as a whole. This proposal meets that standard.
- The Partnership has the ability to move water as appropriate to meet various community needs. However, when sizing this facility, a legal obligation is imposed upon the Partnership to provide sufficient capacity to serve its existing urban customers as well as those that may become customers within the 30-year planning horizon. The City of West Linn shares this planning for service obligation as well. The suggestion has been made that the proposal is designed and oriented to serve the Stafford area, which service is contrary to both the Lake Oswego and West Linn comprehensive plans. Providing any such service to Stafford will require: (1) the Court of Appeals to affirm the pending reserves challenges; (2) an adjacent city to amend their comprehensive plans to allow the annexation of Stafford; (3) a likely city-wide voter approval of annexation of Stafford; and (4) re-zoning of Stafford to urban densities. Only after all of these steps are accomplished and it has met its service obligations to the City of West Linn, could service be further extended from the Partnership.
- An evaluation of recent West Linn Planning Commission rulings demonstrates that the public benefit standard applied to the proposed plant expansion and pipeline applications was unreasonably rigorous when measured against all recent Planning Commission rulings. Good public policy dictates that consistent application of land use plan policies and regulations results in reliable and predictable decision-making.

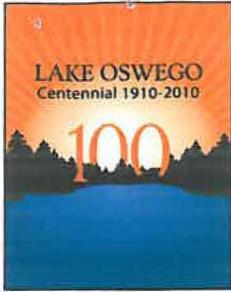
2. The plant design is suitable for this site and compatible with the surrounding residential neighborhood.

- Before the Planning Commission, the Partnership proposed a consolidated site design that resulted in a 12% increase in the overall footprint of structures. The Partnership is now proposing to remove the operations building, reducing the overall footprint by an additional 3%. The net result is a plant footprint that is approximately only 9% larger than the existing plant. This change also reduces overall construction duration from 32 months to 28 months.
- The current plant design is sterile, cold, and institutional in appearance, which the neighbors have testified, and earlier West Linn decisions found, is compatible with the neighborhood. The proposed design is much softer, incorporating residential design elements and materials.

- Understanding of seismic risk and construction and material technology has improved dramatically since the existing pipeline and plant was constructed. Removal of this out-of-date system and replacement with a state-of-the-art facility can only serve to reduce the seismic risk and enhance safety and reliability to the Robinwood neighborhood and community of West Linn.
 - All of the qualified expert testimony submitted into the record, coupled with the Partnership's long-standing record for safe operations at this site, suggests that all industry-standard safety precautions will be taken; pipe removal, installation, facility upgrades, and operation will be done in a way that protects the neighbors as well as their property.
 - Where new lighting or noise generation is proposed, the Partnership has responded by increasing the landscape buffering or sound baffling necessary to mitigate these impacts.
 - Inconveniences to pedestrians and vehicles travelling or accessing properties along Mapleton Drive will extend for only a three-month period rather than 32-months as the Planning Commission found. Moreover, construction on Mapleton Drive will occur during the winter months when pedestrian activity is likely to be lighter than during the spring, summer or fall.
3. As a quasi-judicial proceeding, review must focus solely on the applicable approval criteria.
- The strongly held emotional views of those who testify about the presence of the existing plant and the proposed project should play no role in how the applicable criteria are applied by the hearing body.
 - By allowing a "major utility" as a use conditionally permitted within the R-10 zone, temporary construction impacts are contemplated so long as the compatibility and benefits criteria are met.

We respectfully request you join us in helping to provide this necessary public benefit to the citizens of our West Linn, Tigard and Lake Oswego.





MEMORANDUM

TO: Zach Pelz, Associate Planner

FROM: Eric Day, Lake Oswego Water Expansion Project, Senior Planner

SUBJECT: Lake Oswego WTP application (CUP 12-02) and RWP/FWP application (CUP 12-04)

DATE: December 10, 2012

1. Background

The Lake Oswego Tigard Water Partnership (Partnership) submitted a land use application for CUP-12-04/DR-12-14/MISC-12-10/WA-12-03/WR-12-01 (Raw Water Pipeline [RWP] and Finished Water Pipeline [FWP]) on June 25, 2012. On August 20, 2012 the Partnership submitted revisions to CUP 12-02 and to CUP-12/02/DR-12-04 (Water Treatment Plant [WTP]). On September 27, 2012 the Partnership submitted a memorandum outlining revisions to both applications. This memorandum builds upon the materials previously submitted and supersedes those materials, as identified below.

On November 26, 2012 the West Linn Planning Commission issued a final decision on the RWP/FWP and WTP land use application. In response to these decisions, the Partnership improved the WTP proposal further to address persistent concerns about short term construction related impacts and concerns over the compatibility of our facility within the context of a residential neighborhood.

In response to the land use applications provided above. West Linn planning staff found that in all cases the proposed projects satisfied an overall community need, provided measurable benefits to the City of West Linn and its residents, and met all applicable underlying zoning, design review, environmental and supplemental land use regulations. The Partnership crafted all of the design modifications identified below so that the WTP/RWP/FWP proposals continue to comply with all applicable West Linn land use regulations. The modified proposal removes one large building, reduces impervious surface area shortens the construction period from 32 months to 28 months, and provides additional landscaping and buffering areas.

The purpose of this memorandum is to identify changes to the land use application materials that have evolved since September 2012 as the projects worked towards 60% design. This memorandum includes a matrix identifying the changes made to the application materials and the location of the changes within the application materials. The changes are specific to the WTP.

2. Amendments: Figures

The Partnership takes its commitment to minimize temporary and permanent impacts on the neighborhood and the citizens of West Linn seriously. During the public hearing process, citizens raised several concerns regarding WTP construction and operations. Consequently, the Partnership instructed its design team and consultants to find additional ways to further minimize possible WTP and overall construction impacts.

In an effort to address those concerns and provide even greater neighborhood benefits, the Partnership proposes to remove, rather than rehabilitate, the existing operations building. Neighborhood benefits accruing from this revised WTP proposal include:

- Reducing overall construction duration for the WTP by 4 months (32 vs. 28)
- Reducing overall lot coverage from 87,775 SF (21.8%) to 76,009 SF (18.9%)
- Reducing overall site impervious area from 135,651 S.F. (31%) to 129,027 S.F. (30%)

The Partnership has amended the land use application narrative, figures, and supporting documents to reflect these changes. This memorandum identifies sections of the land use application that have been modified. Table 1.1 of this memorandum summarizes the specific changes to the WTP site design and construction schedule. In general, the effects of many of these changes result in a 28 versus a 32 month construction duration, less noise during construction, reduced visual impacts, and an overall site disturbance (paving and buildings) reduction of 11,766 S.F. (0.27 acres) of building area from the original land use application.

Table 2.1 WTP Figure Amendments: Significant changes in design, operation, and construction

(See attached Figures and Reports.)

Item	Description	Section 21 Figure #
Architecture		
Operations Bldg.	Removed from application package (Operations Building floor plan)	9.0 Removed
Administration Building Floor Plans	Operations Building removed with program elements incorporated into the new Administration Building.	9.2 Removed
Administration/Operations Building Floor Plans	Reconfigured building with additional functions from the existing building being removed	9.3
Composite Elevations North/South	<ul style="list-style-type: none"> • North Elevation: Updated with reconfigured Administration Building, extension of site security wall fronted by additional landscaping and storm water swale • South Elevation: Updated Finish Water Pump Station (FWP) elevation and site walls 	10.0
Operations Building Elevation	Building has been removed (Operations Building floor plans)	10.2
Administration/Operations Building Elevations	Building name change, revised elevations based on plan reconfiguration	10.3
Finished Water Pump Station Elevations	Building height revised to accommodate process functions (bridge crane), roof hatch light monitors removed, window and louver reconfiguration and man doors relocated to the east and west walls	X10.5
Site/Civil		
Site Plan Overview	<ul style="list-style-type: none"> • Adjusted the entrance curb cuts to be less than, or equal to, the existing curb cuts along Kenthorpe. • The garbage and recycling moved south of the site wall to the southwest corner of the new Administration Building. • The Operations building will be demolished and the new Administration/Operations Building footprint/geometry is 	3.0

	<p>slightly adjusted.</p> <ul style="list-style-type: none"> • Bicycle parking – Both staff and visitor bicycle parking will be directly in front of the new Administration/Operations Building. • Parking stalls have moved to the south side of the parking lot (including handicapped parking), and 6 parallel spots have replaced the “old” perpendicular parking stalls. • The number of parking stalls was reduced by one (from 17 to 16). • The floor to area ratio (FAR) was reduced (due to an overall reduction in occupied space). • The proposed lot coverage was reduced (due to an overall reduction in building footprints). • The green roof over the chemical unloading area has been removed. 	
Grading Plan Overview	New stormwater basin replaces Operations Building.	4.0
Utility Plan Overview	<ul style="list-style-type: none"> • An additional fire hydrant was placed in the southwest corner of the facility near the electrical transformers and other fire hydrants onsite were moved to compensate. • The sanitary sewer pipe was routed directly south of the electrical building instead of through the emergency access road. • An 8” pipe was added to provide a connection between Mapleton and Kenthorpe. The pipe ‘corridor’ follows the emergency access road and path connection between the two streets (southeast corner). 	5.0
Full Illumination Lighting Plan Overview	The lighting concept was reconfigured around the Administration/Operations Building and the adjusted parking stall locations.	5.5
Construction Management Overview	<ul style="list-style-type: none"> • Reconfigured silt fence • Added orange tree protection and vegetative buffer fencing • Added a temporary construction fence • Added concrete washout stations • Altered the tire wash stations and shortened the construction entrance. 	6.0

Pedestrian and Vehicle Circulation Plan	Sidewalks adjusted near the admin building and the now 'removed' Operations Building. Internal sidewalks were adjusted slightly.	7.0
Planting Plan Colored Overview	Added stormwater and landscaped area in space vacated by the existing Operations Building. Added landscaping around the proposed Administration/Operations Building and a landscape median between the WTP and Kenthorpe Way. See details below.	12.0A
Irrigation Plan Overview	Created overview of irrigation lines to highlight new irrigation measures around the old Operations Building and the new Administration/Operations Building.	13.0A
Planting, Irrigation and Stormwater	Provided by Greenworks, PC	Sheet / Report
General Legends & Notes: Planting	Updated planting quantities	GL-11.0
General Legends & Notes: Irrigation	Continuation of Sheet GL-11.0	GL-11.1
Stormwater Report	Revised pervious and impervious area calculations. See description below.	GL-Figure 2.0
Stormwater Report	Revised drainage catchments and stormwater facility size and location. See description below.	GL-Figure 3.0
	Brown and Caldwell	
Disturbed surfaces	Current disturbed surface area and green space	
Proposed disturbed surfaces	Disturbed surface area and green space	
Traffic	Traffic impact analysis	5 sheets

3. WTP Narrative and Section Amendments

The Partnership decided to remove the existing Operation Building (approved in 1967) from the site. That decision caused a ripple effect through the design proposals affecting constructions schedules and impacts to changes in the site layout, and many things in between. The most significant changes affect the Kenthorpe Way side of the facility. The proposed changes have no effect on the constructions activity related to the underground RWP and FWP.

The purpose of this narrative is to describe how these changes reduce construction activity and duration, shrink the overall site design, and further reduce potential impacts within the neighborhood.

Architecture

The Partnership proposes to remove the existing Operations Building and will modify the Finished Water Pump Station.

- **Administration/Operations Building**

The Partnership will remove the existing Operations Building from the site. Administrative and general operations activities will occur within the single new Administration/Operations Building. Figure 3.0. A stormwater basin (Figure 4.) designed, constructed, and maintained to adopted West Linn standards will replace the existing impervious surface area. Figure 12.0A and 13.0A.

The existing Operation Building is 35 feet tall. The new Administration/Operations Building will be 27 feet tall from grade to the top of the roof. A penthouse, which will partially cap the roof, will add 7 feet to the total height of the new building. Because the Operations and Administration Building functions are now combined into one building the Administration/Operations Building will be 34 feet tall not 29 feet tall; still below the 35-foot height limit within the R-10 zoning district and one foot shorter than the existing Operations Building.

The materials surface of the Administration/Operations Building has not changed. Figure 10.3. Previously the Operations and Administration buildings had a combined floor area of 15,464 S.F. The two floors of the Administration/Operations Building enclose 7,152 S.F. of which approximately 4,500 S.F. of space is dedicated to office and work space. The gross floor area is reduced by 8,312 S.F. Figure 9.3.

The North (Kenthorpe Way side) elevation will change as a result of removal of the existing Operations Building. The architectural security wall, 9' 6" high, will extend between the eastern drive lane and the new Administration/Operations Building. Figure 10.0. Additional landscaping between the security wall and the visitor parking lot will soften and partially obscure the visual impact of the security wall. Figure 12.0A.

Three prior West Linn land use decisions found that the WTP, including the Operations Building, were compatible with the neighborhood. This fall West Linn staff recommended that the both the original Operations Building and the new Administration Building were compatible with the neighborhood. The Partnership believes that by removing the Operations Building, by making the new Administration/Operations Building shorter than the original building, and by screening the WTP operations behind an architectural security wall and additional landscaping, the new Administration/Operations Building is even more compatible with the neighborhood.

- **Finished Water Pump Station**

The design team modified the FWP Building to accommodate an internal bridge crane, removed the roof hatch light well, reconfigured the windows and louvers, and relocated the man doors to the east and west walls. Figure 10.5. To accommodate the bridge crane, the design team removed the four roof hatches and replaced them with seven feet of continuous building height. However, the total height of the FWP is reduced to 27 feet from grade. Figure X10.5. From Mapleton Drive, approximately 180 feet south of the FWP, the height of the FWP will appear as a brick wall with five openings, a composite panel and a metal seam parapet. Figure 10.0. The dense landscaping between Mapleton Drive and the FWP south elevation is unchanged. Figure 12.0A.

Civil and Site Design

- **Site Plan** Figure 3.0.

The changes to the site plan occur primarily on the north end of the property. The most significant change is the removal of the existing Operations Building. The curb cuts onto Kenthorpe Drive reflect the current curb cut widths of approximately 59 feet and 38 feet. The internal drives lanes are 26 feet wide as required by the TVF&R.

The revised lot coverage on the entire site is 76,009 S.F.; previously the proposed lot coverage was 87,775 S.F. As a result of removing the Operations Building, the design team was able to reduce the lot coverage by approximately 3%. The design team also reduced the overall site impervious area from 135,651 S.F. (31%) to 129,027 S.F. (30%). The design team removed the green roof from the chemical building but added a green roof to the FWP.

Although the WTP production will expand from 16 mgd to 38 mgd, site impacts will not double. The existing WTP site, prior to lot consolidation, was 5.44 acres. The site disturbance at that time was 121,775 S.F. or 2.80 acres. (Site disturbance includes all perceptible above ground impacts such as structures, driveways, lagoons, storage areas, and more.) Therefore, the percent of disturbed area on the original WTP parcel was 51.5%.

After lot consolidation the entire WTP site encompassed 9.24 acres. The inclusions of the Mapleton Drive houses, outbuildings, and driveways on the additional lots increased the total site disturbance to 142,784 S.F. The new WTP and all associated site disturbance elements, minus the Mapleton Drive houses, outbuildings and driveways, will be 156,000 S. F. This addition of 13,212 S.F. translates into only a 9.3% increase in site disturbance over the existing WTP facility and site. See Figure Lake Oswego: Approximate Existing Impact to Parcels.

Comparing the site disturbance on the original 5.44 acre site to the disturbance on the current 9.24 acres site shows that the overall site disturbance will decrease from 51.5% to 38.8%, a reduction of 12.7% of total site disturbance on the WTP site.

In other words: because the site is larger; because the area of the production activity is compressed into the center of the site; because the Partnership will remove previously disturbed areas (Operations Building and Mapleton Drive houses); and because the project will create additional usable open space and green space, the overall view of the WTP site will be more open, less disturbed and more green. See Figure Lake Oswego: Approximate Disturbance and Greenspace Treatment Plant without Existing Operations Building.

Prior configuration of two buildings created approximately 5,700 S.F. of office-related area which, at a ratio of one parking space for every 350 S.F. of office-related interior space, generated a need for 17 parking spaces. The gross interior floor area of the new Administration/Operations Building is approximately 7,152 S.F. At a ratio of one parking space for every 350 S.F. of gross floor area the minimum parking is 21 parking stalls. The total area dedicated to office spaces is approximately 4,500 S.F., setting a minimum parking standard of 13 stalls. The revised site plan comprises 16 parking spaces including two (2) ADA compliant spaces at the front of the Administration/Operations Building. See Figure 3.0.

Six parallel parking stall abutting the Kenthorpe Way landscape island replace the 17 perpendicular parking stalls. Visitors will still have direct pedestrian access into the primary Administration/Operations Building entrance. The staff parking area inside the WTP secured area is unchanged. The design team relocated the 12 covered visitor bicycle parking area from the front of the Operations Building to the front of the Administration/Operations Building.

The design team relocated the garbage and recycling areas from the northwest corner of the proposed Administration/Operations Building, outside of the security gate, to the southwest corner of the building, inside the security gate.

The prior proposed floor to area ratio (FAR) was 0.155. The new proposed FAR is 0.069. West Linn limits the FAR in the R-10 zone to 0.45. Therefore, the proposed improvements are well below the allowable FAR standard.

- **Grading/Stormwater**

See discussion regarding Stormwater Management Report, Section 16, below.

- **Utility Plan**

The design team placed an additional fire hydrant in the southwest corner of the facility near the electrical transformers and adjusted other fire hydrants onsite to compensate. The team routed the sanitary sewer pipe directly south of the electrical building instead of through the emergency access road. Finally, the team added an 8" diameter water distribution pipe to provide a connection between West Linn's Mapleton Drive and Kenthorpe Way distribution piping. This section of pipe is part of the Partnerships proposal to replace almost 6,000 linear feet of old Asbestos Cement pipe with new 8-inch diameter ductile iron pipe. The location of the new connecting pipe will allow the City to vacate existing easements for the old connecting pipe thereby benefiting the properties over which the easements exist. The pipe 'corridor' follows the emergency access road and path connection the two streets (southeast corner). See Figure 5.0.

- **Illumination**

The design team reconfigured the lighting concept around the Administration/Operations Building to account for the removal of the Operations Building, the reconfigured visitor parking area, and the reduction of parking spaces adjacent to the landscape island along Kenthorpe Way. The two new parking lot poles will provide nighttime light for WTP visitors. Light from the two new parking lot lights will not trespass beyond the property line. See Figure. 5.5.

- **Construction Management Plan**

The earlier Construction Management Overview figure proposed encircling the entire site with silt fencing. The design team revised Figure 6.0 to more tightly encircle the construction and construction staging area. Figure 6.0 proposes to install additional silt fencing in the contractor parking area, at storm inlets, and at the Mapleton Drive construction entrances. New Figure 6.0 depicts the location of required orange tree protection and vegetative buffer fencing. During construction, a temporary construction fence will encircle the entire site to enhance public safety and site security. Contractors will install concrete washout stations within the site close to the Kenthorpe Way entrances

Pedestrian and Vehicle Circulation

The design team removed the existing Operations Building. Consequently, a sidewalk connects the Administration Building to the drive lanes and a pedestrian connection continues to provide direct linkage to Kenthorpe Way. There are no other changes to the sidewalks along Kenthorpe Way or Mapleton Drive or to the proposed pedestrian path. The 16 visitor parking spaces are directly connected to the sidewalk fronting the Administration/Operations Building. See Figure 7.0.

The internal site circulation and emergency fire access is unchanged. Internal drive lanes continue to be 26 feet wide, consistent with West Linn and Tualatin Valley Fire and Rescue (TVF&R) regulations. The revised site plan retains the existing driveway approach widths along Kenthorpe Way; approximately 59 feet at the western entrance and 38 feet at the eastern entrance. See Figure 3.0.

- **Planting Plan**

General:

Sheet GL-12.0A reflects recent changes to site layout, primarily in the area in front of, and west of the Administration Building. This included adjustments to planting and hardscape areas, relocation of parking stalls to the south side of the access drive, and an extension to the security wall. Changes to the administration area as well as other more minor changes to design at other locations on site are outlined below.

Area A (Northwest Quadrant)

- Access road - Planting design updated to accommodate adjusted access road curb alignment.
- Administration/Operations Building - Planting and hardscape adjusted to accommodate new Administration/Operations Building area.
- Kenthorpe Rain garden – Refinement of rain garden planting and hardscape design to match 60% design drawing set.

Area B (Northeast Quadrant)

- No significant changes

Area C (Southwest Quadrant)

- Access road – Planting design updated to accommodate adjusted access road curb alignment.
- Operations Building removal – Planting and hardscape reflect the addition of the stormwater area in place of formerly proposed Operations Building.
- Pedestrian Trail at Kenthorpe Way – Planting design adjusted to accommodate new access path alignment.

Area D (Southeast Quadrant)

- West of Finished Water Pump Station – Planting and wall design adjusted to reflect removal of structure.
- Surge Tank area – Planting design adjusted to accommodate change in Surge Tank layout.
- Mapleton Drive Access – Planting and hardscape adjusted to accommodate widened fire truck access at Mapleton Drive.

- **Irrigation Plan**

The earlier land use materials did not include an overview plan illustrating the site planting layout. Sheet GL. 13.0A.

4. **WTP Report Amendments**

Modifications to WTP application reports are as follows:

- **Vehicle Trip Generation**

The new Administration/Operations Building will accommodate all plant employees. Removal of the existing Operations Building will not reduce the number of projected full time or part time employees. Consequently, the Partnership has not changed its earlier estimate of 19.04 average daily trips (ADT) at full plant operation.

- **Outdoor Lighting and Illumination Study, Section 13**

The design team reconfigured the lighting concept around the Administration/Operations Building to account for the removal of the Operations Building and the reduction of parking spaces adjacent to the landscape island along Kenthorpe Way. The Illumination Plan, Section 21, Figure 5.5 illustrates that the reconfigured outdoor site lighting will effectively manage light trespass along the northern property edge.

- **Construction Management, Section 14A**

The design team has decreased the overall project construction schedule from 32 months to 28 months. Shortening the duration of the project by four months will result in a slight increase in the volume of daily and hourly construction traffic and related impacts during construction but will significantly decrease the amount of time that residents experience these impacts. Figure 14A-1, WTP Construction Schedule, shown below incorporates the decreased construction duration and replaces the figure by the same name in previous land use application submittals. All project phases remain the same as previous applications submittals, but each project phase duration has been shortened to obtain the cumulative duration decrease of four months.

Lake Oswego-Tigard Water Treatment Plant	Estimated Construction Duration																											
	2013							2014											2015									
	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Month No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Pre-Construction Activities																												
1 Contractor Mobilization	█																											
2 Pre-Construction Site Preparation Activities	█																											
Primary Construction Activities																												
3 Phase A - Preparation / Ballasted Flocculation / Clearwell / Associated Work	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
4 Phase B - Preparation / Filters & Backwash / Associated Work																												
5 Phase C - Preparation / LOX / Ozone Treatment / Associated Work																												
6 Construct Balance of WTP Process Support Facilities																												
Project Completion Activities																												
7 Final Site Work / Remove Temporary Facilities																												
8 Contractor De-Mobilization																												

Figure 14A-1. WTP Construction Schedule

WTP construction traffic estimates have been updated according to the revised WTP schedule. Overall, daily and hourly construction traffic estimates based on the new schedule have slightly increased as a result of a more compressed schedule. However, the increase in daily and hourly construction traffic is small enough to not be noticed by residents. For example, the peak estimated combined daily construction traffic generated from WTP construction is now 151 one-way trips per day split between Mapleton Drive and Kenthorpe Way instead of the 141 one-way trips per day reported in previous submittals. Total construction traffic trips generated by WTP construction trips over the entire duration of the project have remained the same as in previous submittals. Table 14A-1 outlines average, 12 month peak, and 3 month peak hourly construction traffic volume generated from WTP construction. This table replaces the table by the same name in previous land use application submittals. Updated

versions of Section 14A- Appendix A - Figures 1 through 3 are included in this document and should replace all previous versions.

Table 14A-1. Construction Traffic Estimates

WATER TREATMENT PLANT - CONSTRUCTION TRAFFIC ESTIMATES	
Average Traffic Volume over 28 Month Construction Period	Average Hourly Trips
Truck trips (1)	4
Workforce trips (during commute hour) (2)	25
Average hourly trips (during commute hour) (3)	29
Peak 12 Month Trip Volume	Peak 12 Month Hourly Trips
Truck trips (1)	6.6
Workforce trips (during commute hour) (2)	32.5
Average hourly trips (during commute hour) (3)	37.3
Peak 3 Month Trips Volume	Peak 3 Month Hourly Trips
Truck trips (1)	10.2
Workforce trips (during commute hour) (2)	34.5
Average hourly trips (during commute hour) (3)	38.9
Notes:	
(1) Hourly truck trips are based on daily truck trips per day spread over an 8 hour work period.	
(2) Workforce trips (commutes to / from the site) occur during A.M or P.M. commute periods assumed as follows: -A.M. commute hour: 6:00 a.m. to 7:00 a.m. -P.M. commute hour: 4:00 p.m. to 5:00 p.m.	
(3) Highest construction traffic volume occurs during A.M. and P.M. workforce commute hour.	
Trip Dateline Information	
A. Peak 12 month truck trip volume occurs during months 1 through 12.	
B. Peak 12 months of workforce trip volume occurs during months 8 and 21	
C. Peak 12 months of combined trip volume occurs during months 7 and 18	
D. Peak 3 months of truck trip volume occurs during months 8 through 10.	
E. Peak 3 months of workforce trip volume occurs during months 12 through 18.	
F. Peak 3 months of truck trip volume occurs during months 8 through 10.	
G. See Figure 14A-1 - "WTP Construction Schedule" for month number references.	

- **Traffic Section, Section 14B**

Changes in the daily and hourly construction trips do not appreciably change the traffic analysis.

- **Preliminary Stormwater Management Report, Section 16**

The design team re-calculated the pervious and impervious area takeoffs to reflect latest site design. See Figure 2.0, Stormwater Report for detailed area breakdown. The analysis of proposed site area and rights-of-way improvements demonstrates that the proposed site amendments will result in a slight decrease in impervious surfaces within the rights-of-way and a 2% decrease in on-site impervious surfaces, primarily due to the removal of the Operations Building.

Table 4.1 Pervious/impervious area calculation comparisons

		Current Proposal	June 21, 2012 Proposal: Section 16, Table G-3
Site	Pervious surfaces	263,830 S.F. (66% of site)	257,865 S.F. (64% of site)
	Impervious surfaces	108,057 S.F. (27% of site)	114,742 S.F. (29% of site)
	Other (open process tanks)	30,539 S.F. (7% of site)	29,819 S.F. (7% of site)
Right-of-way (ROW)	Pervious surfaces	7,849 S.F. (27% of ROW)	7,910 S.F.
	Impervious surfaces	20,970 S.F. (73% of ROW)	20,909 S.F.

Figure 3.0 shows revised drainage catchments and stormwater facility size and location. The proposed stormwater facilities will fulfill City of West Linn stormwater management requirements.

Table 4.2 Drainage catchments and stormwater facility size and location

	Drainage	Area
Impervious area reduction techniques	Green roofs	5,652 S.F.
	Pervious paving	18,794 S.F.
Stormwater management facilities	Total vegetated swale area	8,155 S.F.
	Total infiltration basin area	14,934 S.F.
	Total management area	23, 089 S.F.

- **Safe Operations Plan, Section 18B**

The project will install 54 fewer auger cast piles because the Partnership will remove the existing Operations Building rather than retrofit the building. Section 3.1, page 3. Fire suppression is only applicable to the new Administration/Operations Building because the Partnership will remove the existing Operations Building. Page 7.

- **September 27 Land Use Application Update Memo**

The September 27 land use application memo included combined construction related traffic on Mapleton Drive and Kenthorpe Way resulting from WTP and pipeline construction related activities. Updated Figures 1 and 2 are included in this document and reflect the four month decrease in WTP construction duration. Due to the change in WTP and pipelines construction overlap the maximum one-way construction traffic on Mapleton Drive will remain at 86 trips per day and the maximum one-way construction traffic on Kenthorpe Way will be reduced from 95 trips per day to 91 trips per day.

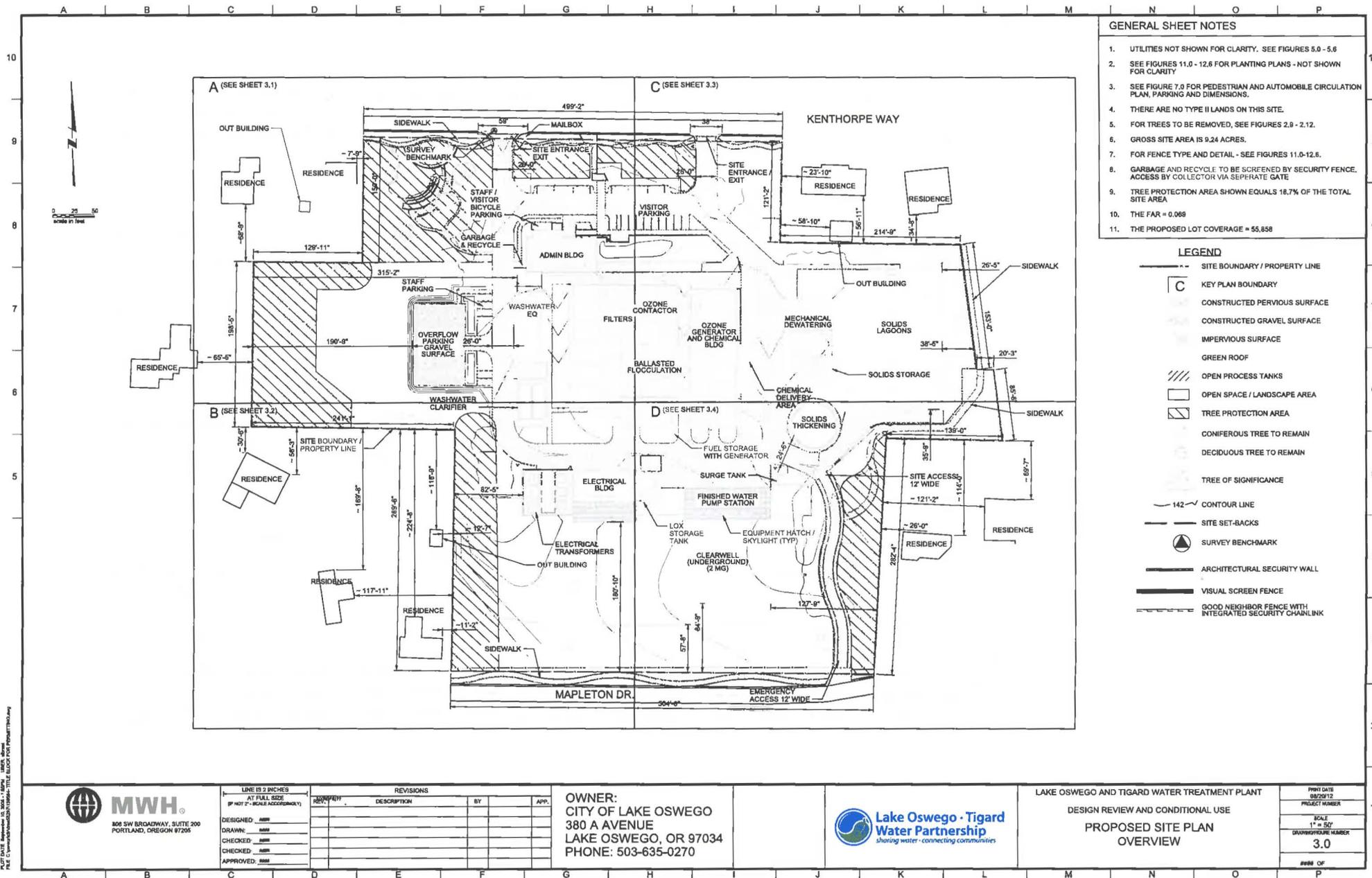
5. Conclusion

The Partnership crafted all of the design modifications identified herein so that the WTP/RWP/FWP proposals continue to comply with all applicable West Linn land use regulations. The modified proposal removes one large building, reduces impervious surface area by 2%, shortens the construction period from 32 months to 28 months, and provides additional landscaping and buffering areas.

Removing the 60s-style Operations Building eliminates the last vestige of a 60's era institutional structure and façade and creates additional opportunities for landscaping and will create additional opportunities for landscaping and will provide a greater buffer between Kenthorpe Way and the processing facility behind the architectural security wall. Relocating the visitor parking area away from the primary entrance and east of the new Administration/Operations Building will provide additional open space will help shield residents from the office parking lot. Eliminating the Operations Building will allow the Partnership to reduce impervious surface areas by 2% overall, thereby minimizing the effects of stormwater run-off. The smaller front façade of the new Administration/Operations Building is more in keeping with the size of building facades along Kenthorpe Way. Cumulatively, these design changes help make the proposed WTP facility more compatible with the surrounding neighborhood than the previous design proposal.

For these reasons, the Partnership believes that the revised building design and site design remains compliant with the applicable West Linn Design regulations.

Enclosures



GENERAL SHEET NOTES

1. UTILITIES NOT SHOWN FOR CLARITY. SEE FIGURES 5.0 - 5.8 FOR CLARITY
2. SEE FIGURES 11.0 - 12.8 FOR PLANTING PLANS - NOT SHOWN FOR CLARITY
3. SEE FIGURE 7.0 FOR PEDESTRIAN AND AUTOMOBILE CIRCULATION PLAN, PARKING AND DIMENSIONS.
4. THERE ARE NO TYPE II LANDS ON THIS SITE.
5. FOR TREES TO BE REMOVED, SEE FIGURES 2.0 - 2.12.
6. GROSS SITE AREA IS 9.24 ACRES.
7. FOR FENCE TYPE AND DETAIL - SEE FIGURES 11.0-12.6.
8. GARBAGE AND RECYCLE TO BE SCREENED BY SECURITY FENCE. ACCESS BY COLLECTOR VIA SEPARATE GATE
9. TREE PROTECTION AREA SHOWN EQUALS 18.7% OF THE TOTAL SITE AREA
10. THE FAR = 0.068
11. THE PROPOSED LOT COVERAGE = 55,858

LEGEND

- SITE BOUNDARY / PROPERTY LINE
- C KEY PLAN BOUNDARY
- CONSTRUCTED PERVIOUS SURFACE
- CONSTRUCTED GRAVEL SURFACE
- IMPERVIOUS SURFACE
- GREEN ROOF
- OPEN PROCESS TANKS
- OPEN SPACE / LANDSCAPE AREA
- TREE PROTECTION AREA
- CONIFEROUS TREE TO REMAIN
- DECIDUOUS TREE TO REMAIN
- TREE OF SIGNIFICANCE
- 142 --- CONTOUR LINE
- SITE SET-BACKS
- ▲ SURVEY BENCHMARK
- ARCHITECTURAL SECURITY WALL
- VISUAL SCREEN FENCE
- GOOD NEIGHBOR FENCE WITH INTEGRATED SECURITY CHAINLINK



305 SW BROADWAY, SUITE 200
PORTLAND, OREGON 97205

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APPROVED: <i>mm</i>

NO.	DATE	DESCRIPTION	BY	APP.

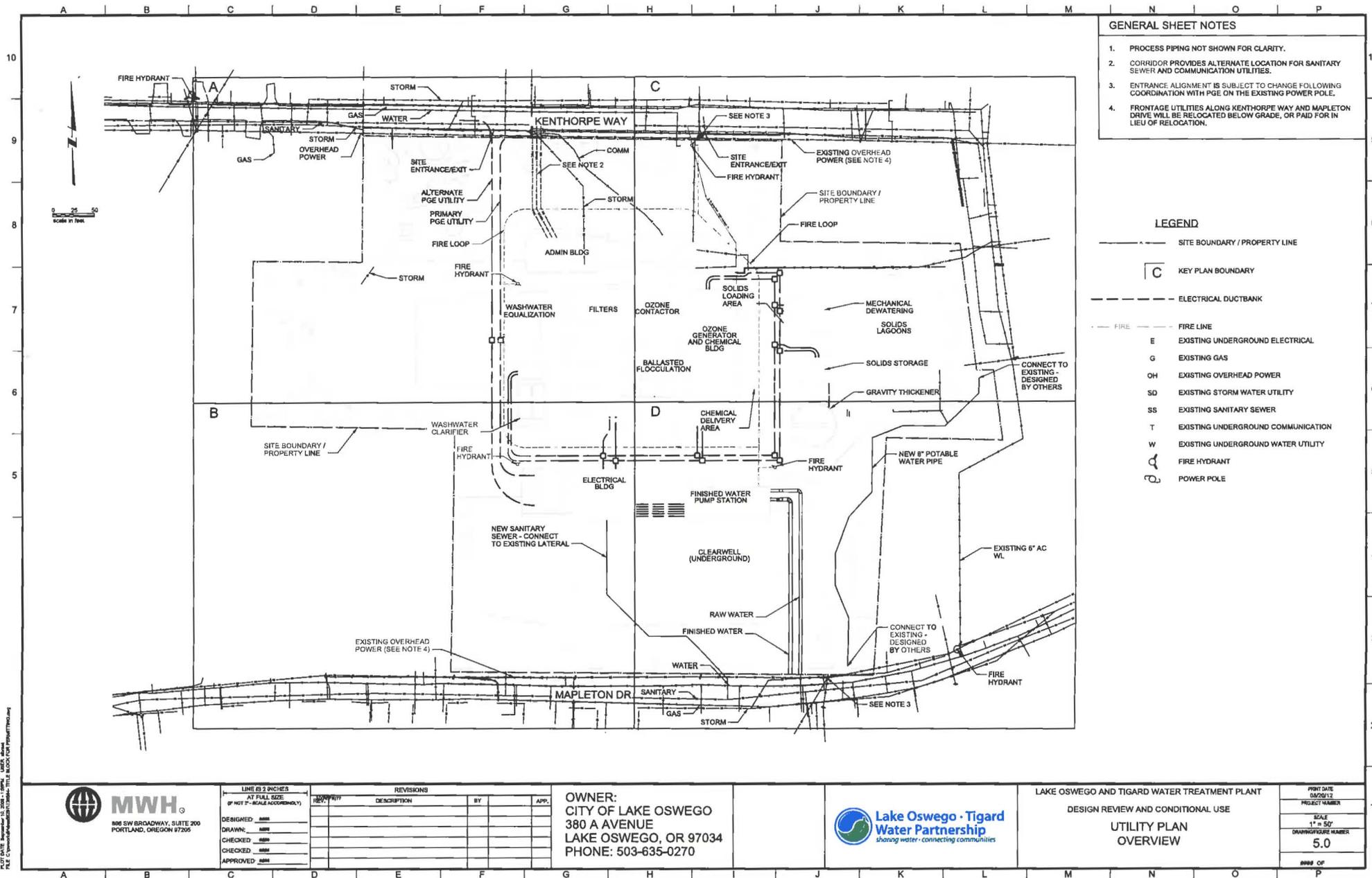
OWNER:
CITY OF LAKE OSWEGO
380 A AVENUE
LAKE OSWEGO, OR 97034
PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
DESIGN REVIEW AND CONDITIONAL USE
**PROPOSED SITE PLAN
OVERVIEW**

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OF

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- GENERAL SHEET NOTES**
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 2. CORRIDOR PROVIDES ALTERNATE LOCATION FOR SANITARY SEWER AND COMMUNICATION UTILITIES.
 3. ENTRANCE ALIGNMENT IS SUBJECT TO CHANGE FOLLOWING COORDINATION WITH PGE ON THE EXISTING POWER POLE.
 4. FRONTAGE UTILITIES ALONG KENTHORPE WAY AND MAPLETON DRIVE WILL BE RELOCATED BELOW GRADE, OR PAID FOR IN LIEU OF RELOCATION.

- LEGEND**
- SITE BOUNDARY / PROPERTY LINE
 - [C] KEY PLAN BOUNDARY
 - ELECTRICAL DUCTBANK
 - FIRE LINE
 - E EXISTING UNDERGROUND ELECTRICAL
 - G EXISTING GAS
 - OH EXISTING OVERHEAD POWER
 - SD EXISTING STORM WATER UTILITY
 - SS EXISTING SANITARY SEWER
 - T EXISTING UNDERGROUND COMMUNICATION
 - W EXISTING UNDERGROUND WATER UTILITY
 - ⊕ FIRE HYDRANT
 - ⊙ POWER POLE

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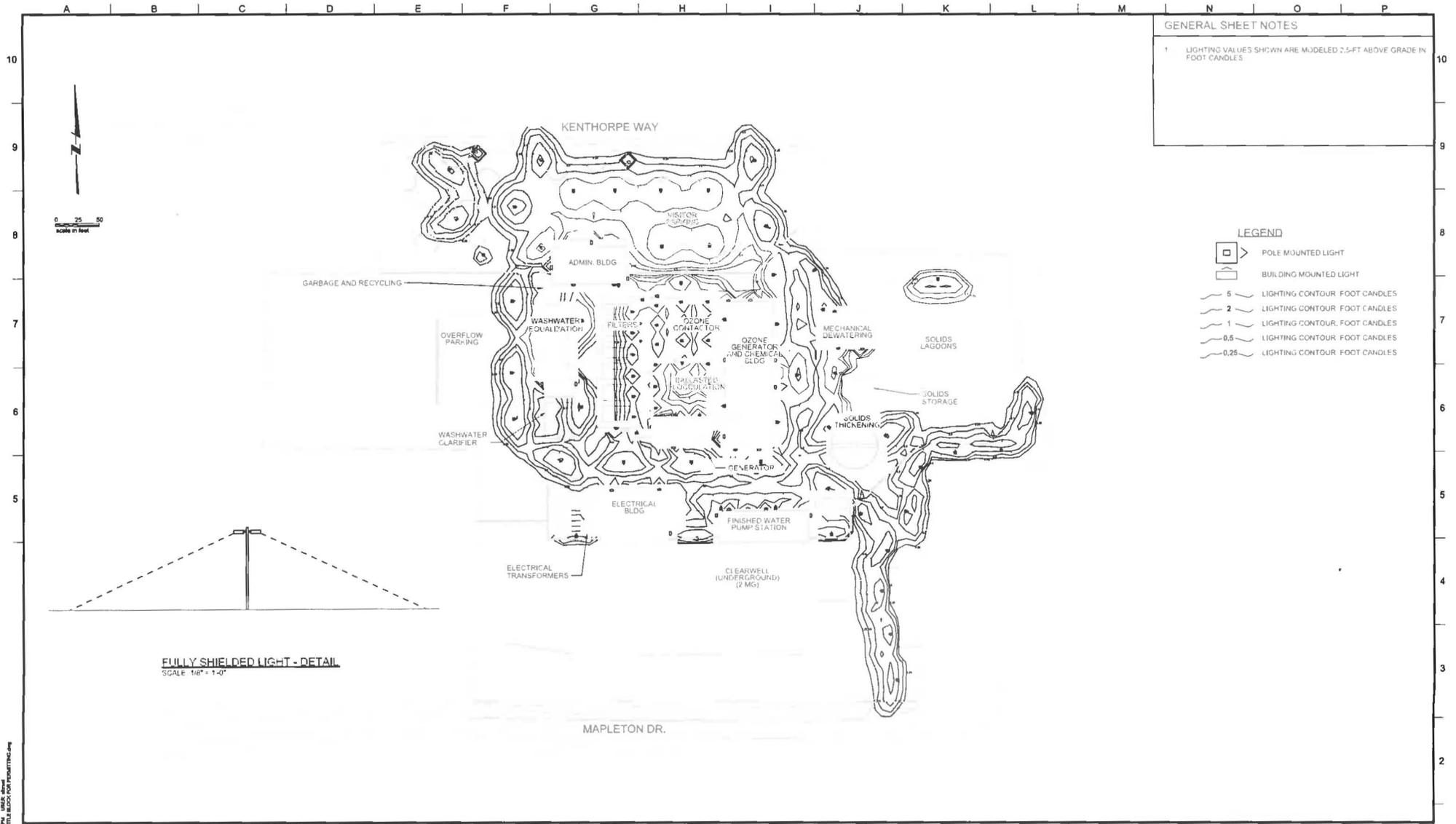
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 CITY OF LAKE OSWEGO
 380 A AVENUE
 LAKE OSWEGO, OR 97034
 PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 DESIGN REVIEW AND CONDITIONAL USE
UTILITY PLAN OVERVIEW

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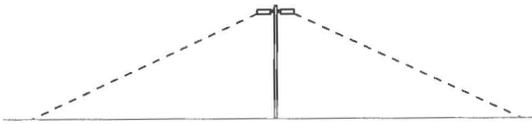
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 - BUILDING MOUNTED LIGHT
 - 5 LIGHTING CONTOUR: FOOT CANDLES
 - 2 LIGHTING CONTOUR: FOOT CANDLES
 - 1 LIGHTING CONTOUR: FOOT CANDLES
 - 0.5 LIGHTING CONTOUR: FOOT CANDLES
 - 0.25 LIGHTING CONTOUR: FOOT CANDLES



FULLY SHIELDED LIGHT - DETAIL
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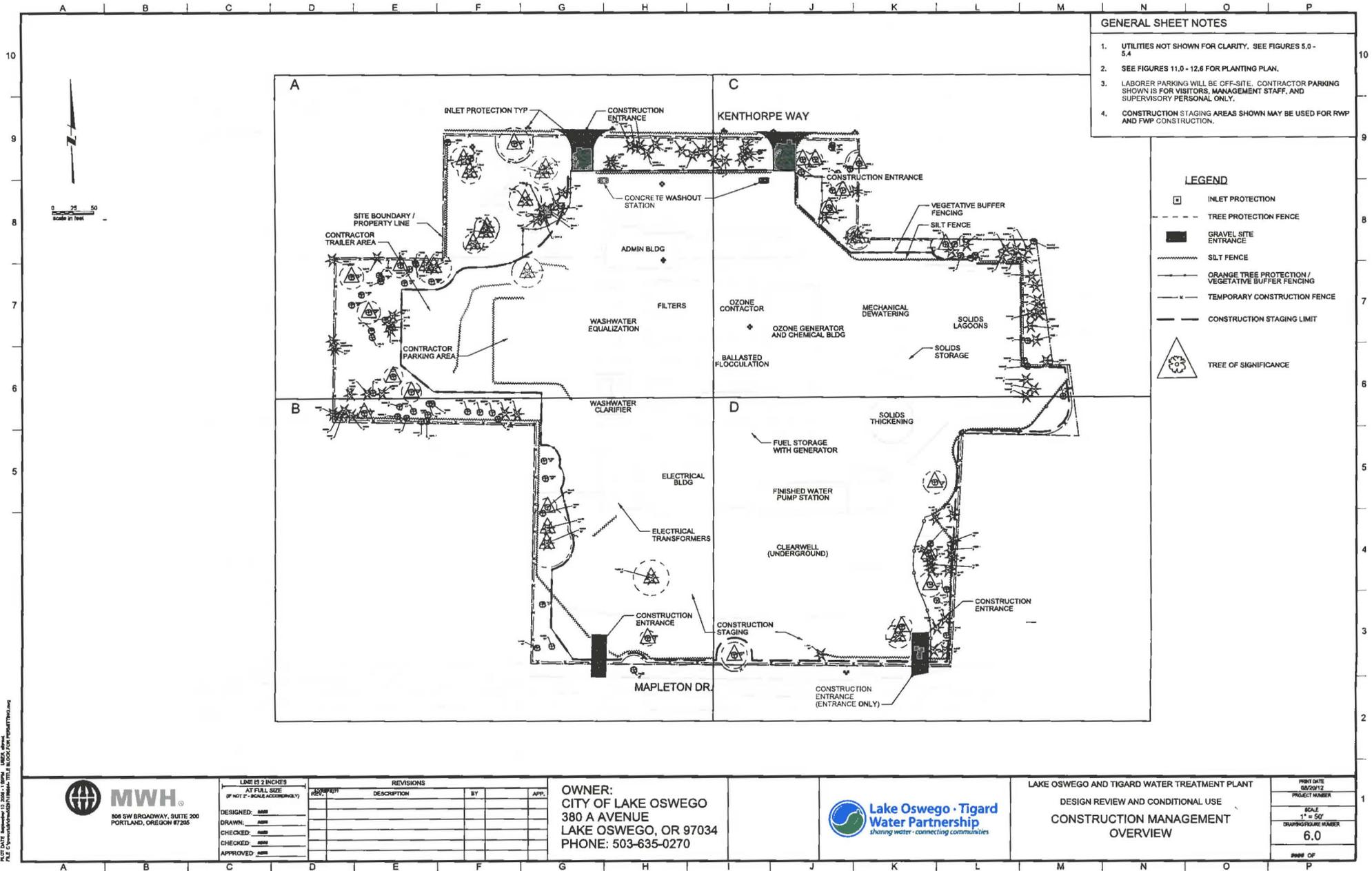
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OWNER:
 CITY OF LAKE OSWEGO
 380 A AVENUE
 LAKE OSWEGO, OR 97034
 PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 DESIGN REVIEW AND CONDITIONAL USE
**FULL ILLUMINATION LIGHTING PLAN
 OVERVIEW**

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5.5
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- GENERAL SHEET NOTES**
1. UTILITIES NOT SHOWN FOR CLARITY. SEE FIGURES 5.0 - 5.4
 2. SEE FIGURES 11.0 - 12.6 FOR PLANTING PLAN.
 3. LABORER PARKING WILL BE OFF-SITE. CONTRACTOR PARKING SHOWN IS FOR VISITORS, MANAGEMENT STAFF, AND SUPERVISORY PERSONAL ONLY.
 4. CONSTRUCTION STAGING AREAS SHOWN MAY BE USED FOR RWP AND FWP CONSTRUCTION.

- LEGEND**
- INLET PROTECTION
 - TREE PROTECTION FENCE
 - GRAVEL SITE ENTRANCE
 - SILT FENCE
 - ORANGE TREE PROTECTION / VEGETATIVE BUFFER FENCING
 - TEMPORARY CONSTRUCTION FENCE
 - CONSTRUCTION STAGING LIMIT
 - TREE OF SIGNIFICANCE



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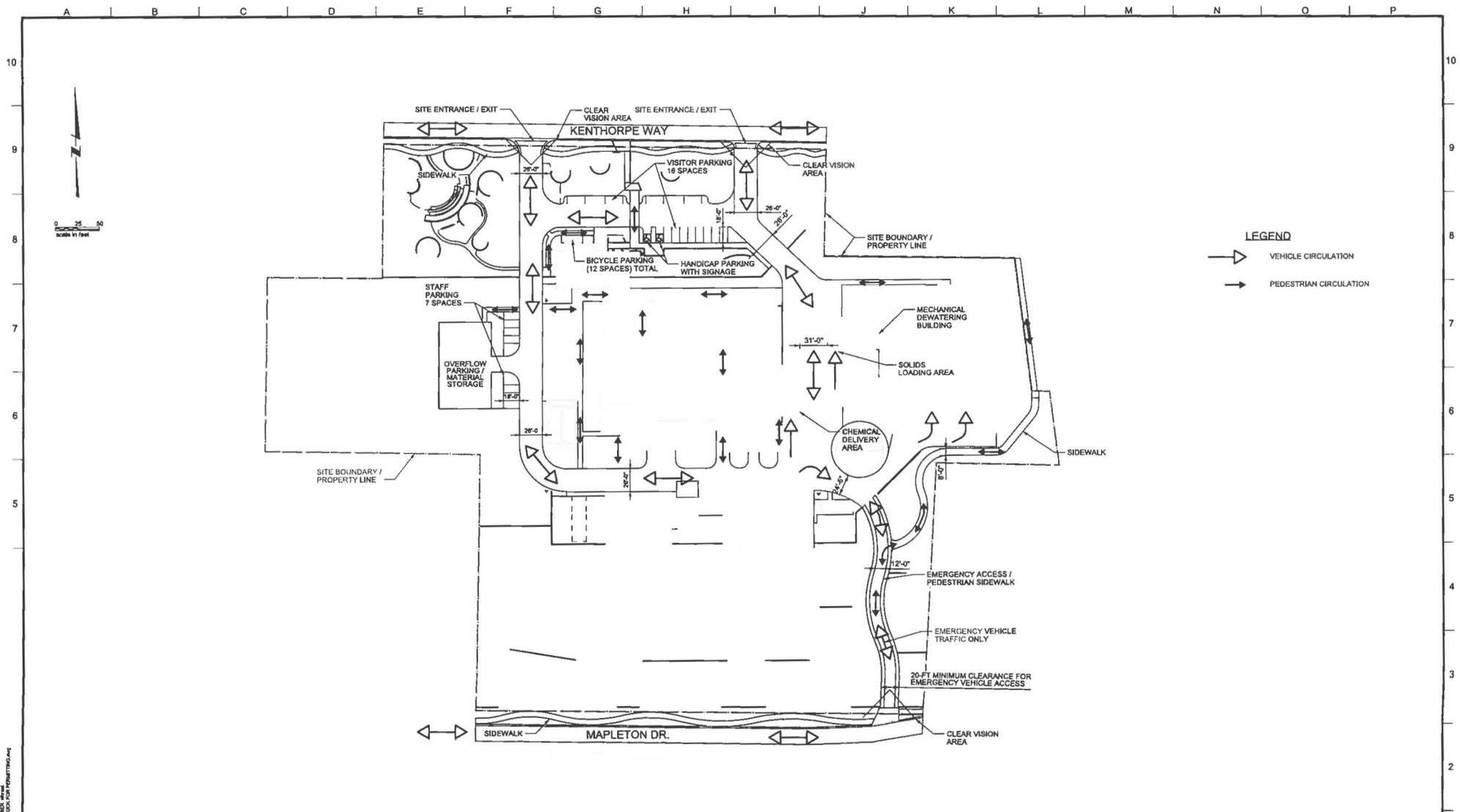
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 380 A AVENUE
 LAKE OSWEGO, OR 97034
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LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 DESIGN REVIEW AND CONDITIONAL USE
 CONSTRUCTION MANAGEMENT
 OVERVIEW

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 PORTLAND, OREGON 97205

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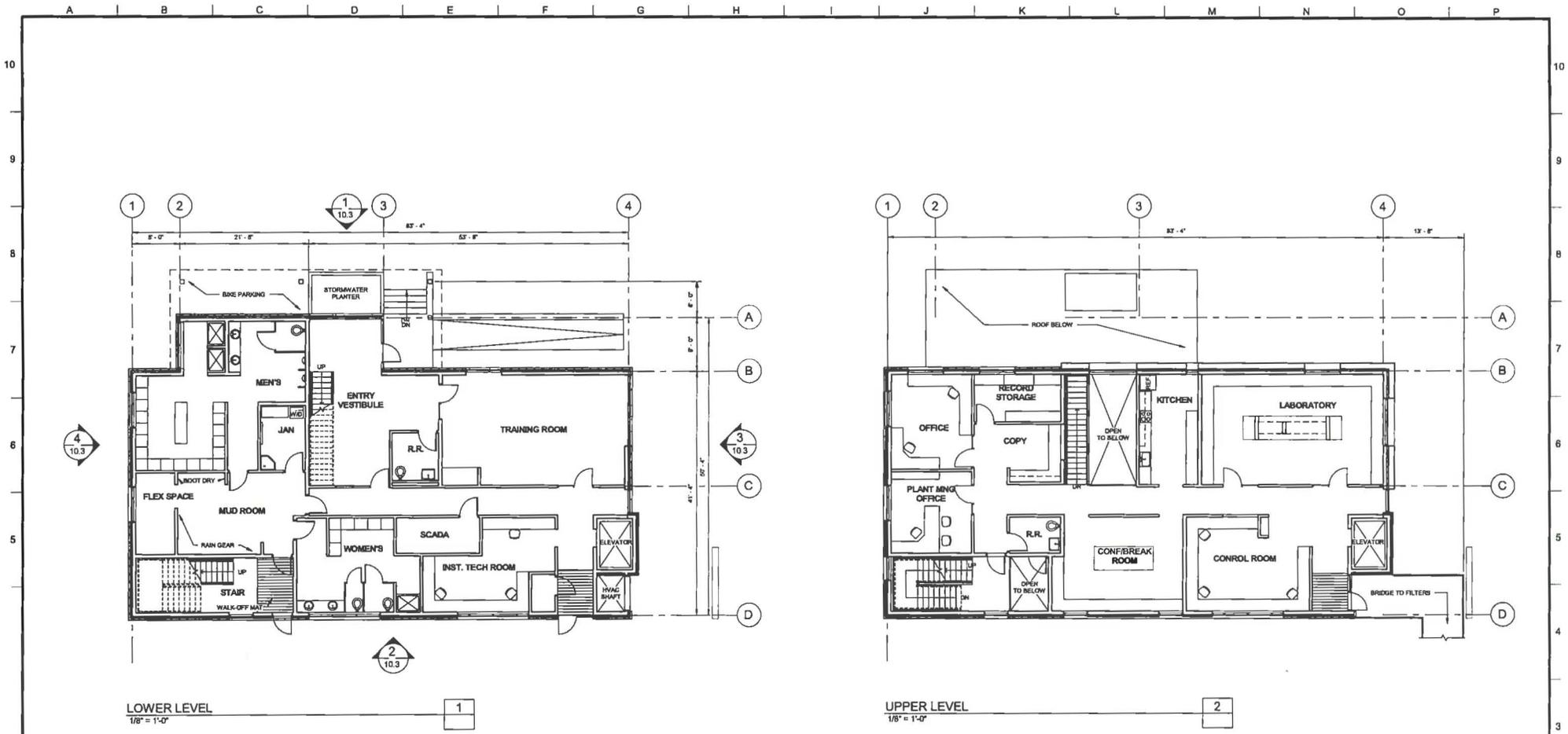
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 CITY OF LAKE OSWEGO
 380 A AVENUE
 LAKE OSWEGO, OR 97034
 PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 DESIGN REVIEW AND CONDITIONAL USE
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 CIRCULATION PLAN**

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UPPER LEVEL
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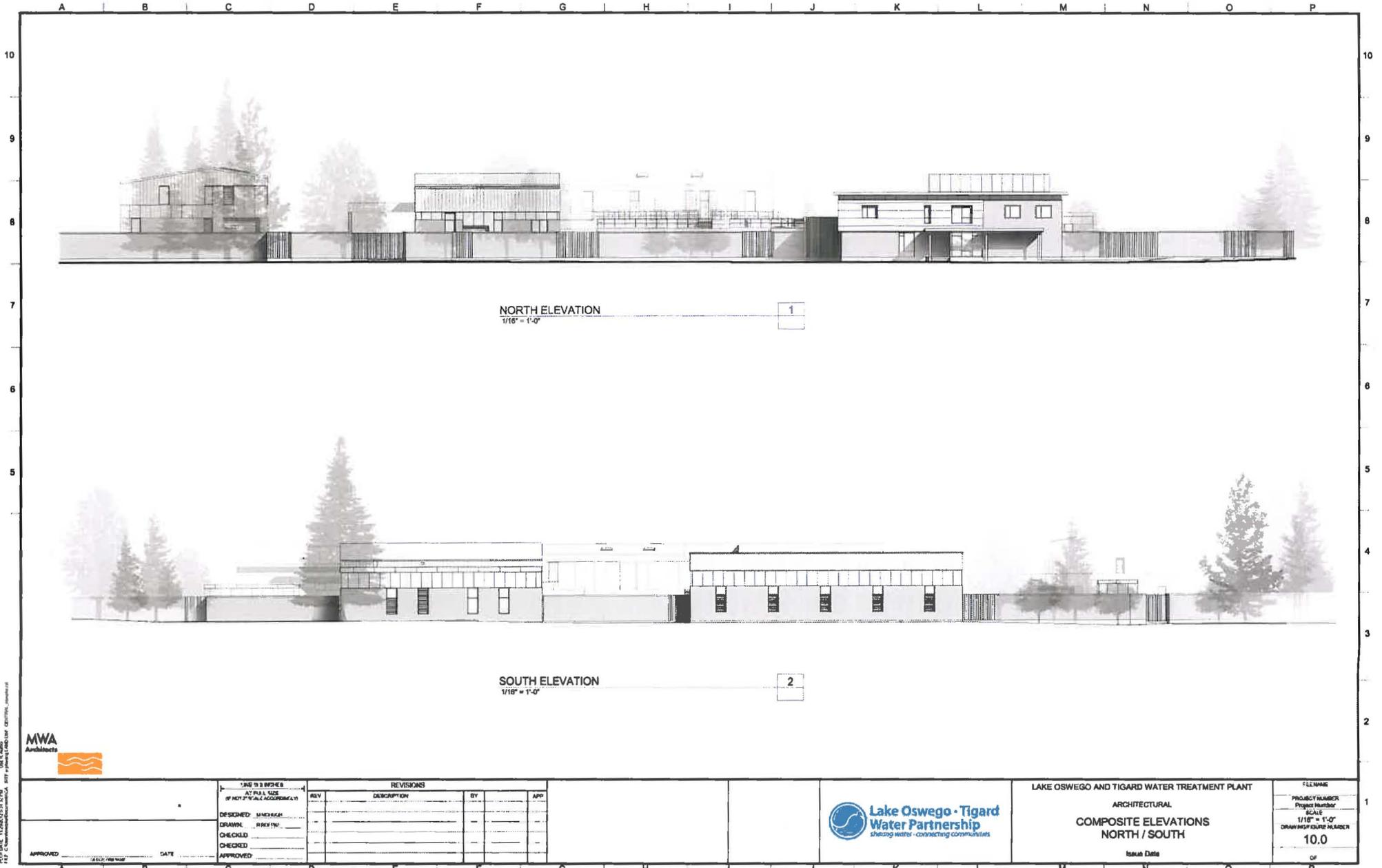
LAND USE



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 ARCHITECTURAL
 ADMINISTRATION / OPERATIONS BUILDING
 FLOOR PLANS

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A B C D E F G H I J K L M N O P



PROJECT: LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
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 APPROVED BY: J. BISHOP



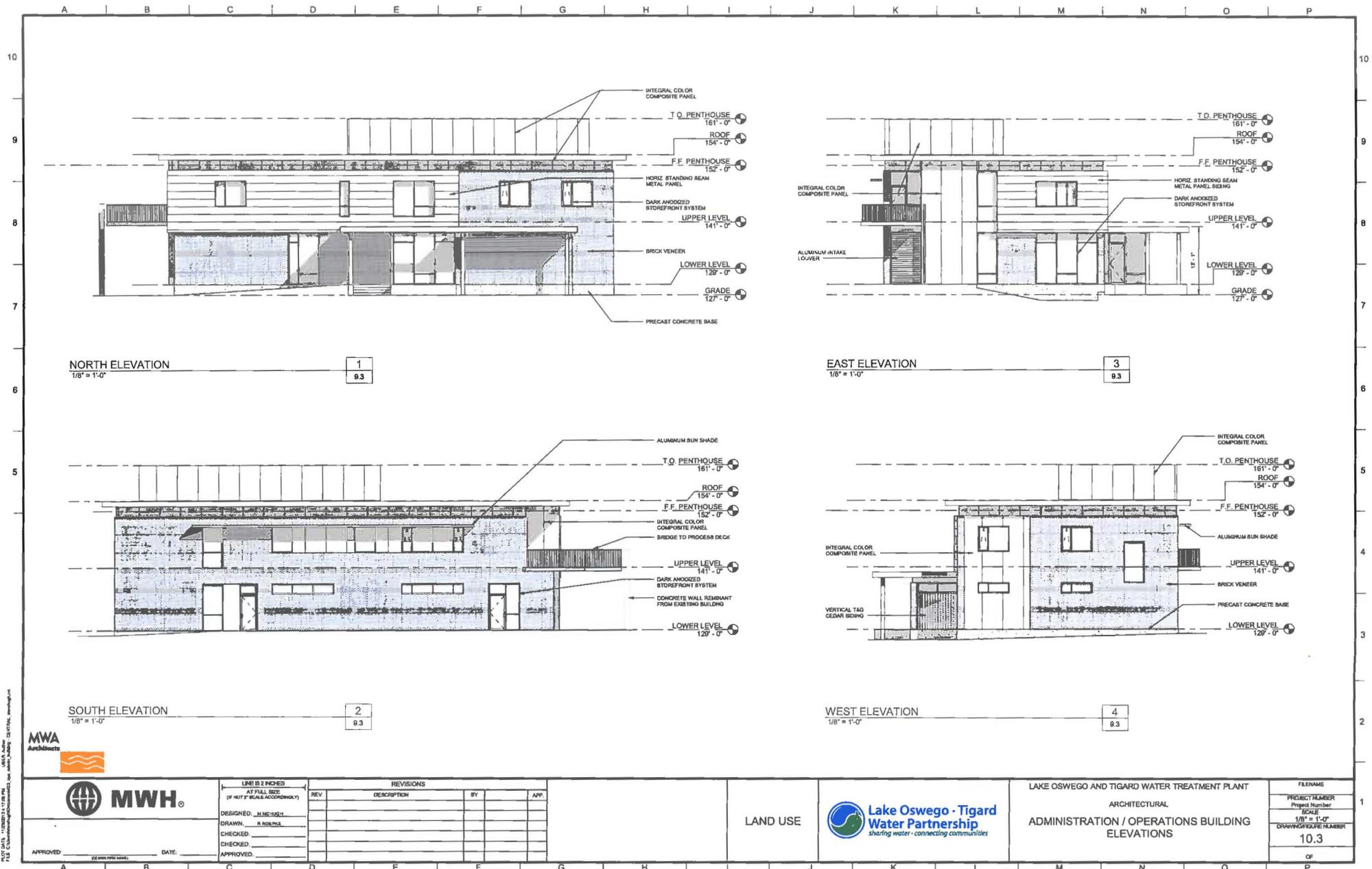
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APPROVED: J. BISHOP	DATE: 11/20/2018



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
 ARCHITECTURAL
 COMPOSITE ELEVATIONS
 NORTH / SOUTH
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NORTH ELEVATION
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EAST ELEVATION
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SOUTH ELEVATION
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2
9.3

WEST ELEVATION
1/8" = 1'-0"

4
9.3



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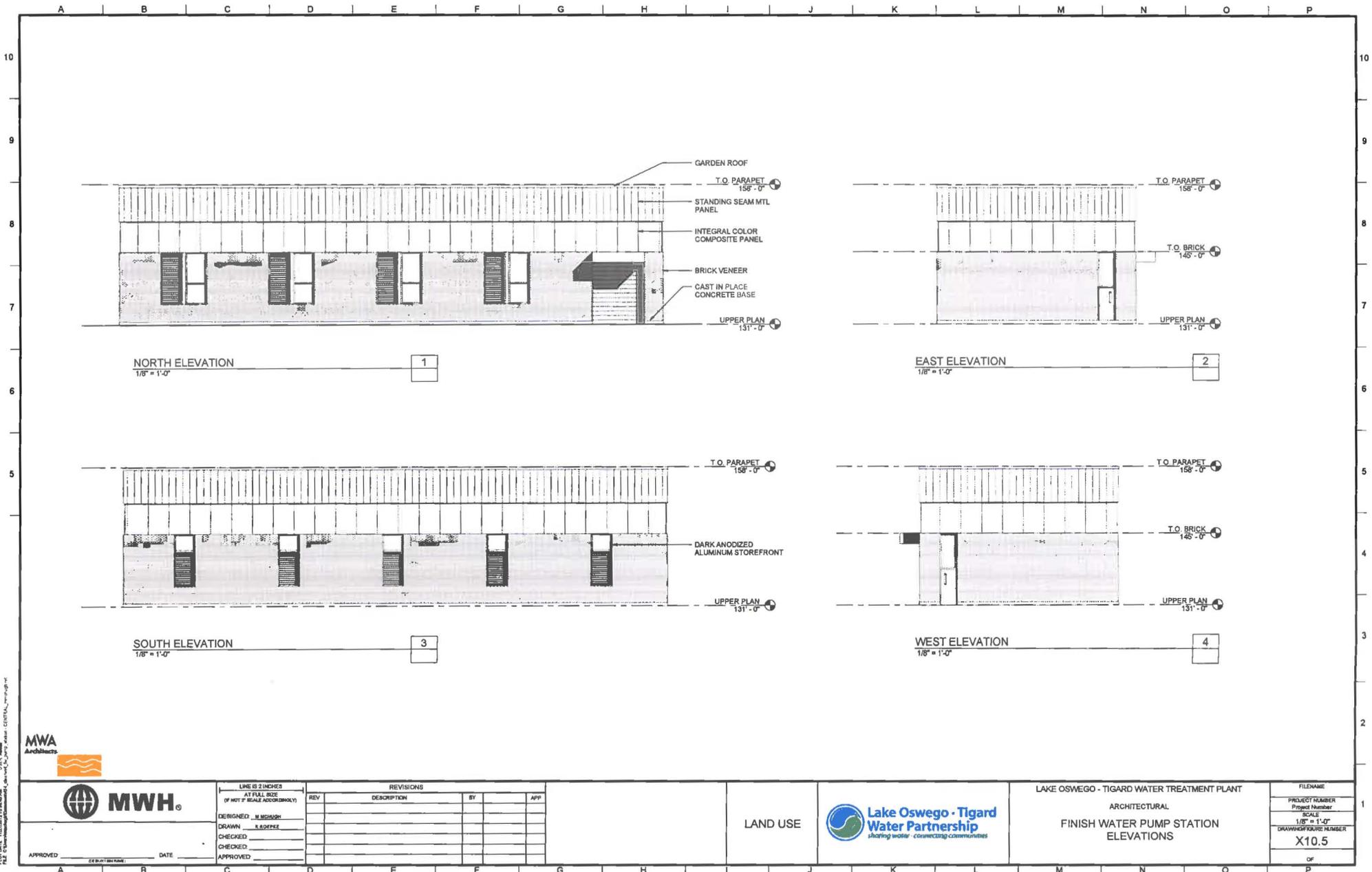
LAND USE



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
ARCHITECTURAL
ADMINISTRATION / OPERATIONS BUILDING
ELEVATIONS

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PROJ. NUMBER
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DRAWING NUMBER
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OF

MWA Architects
 11000 NE 28th St, Suite 100, Portland, OR 97219
 TEL: 503.253.8800 FAX: 503.253.8801
 WWW.MWAARCHITECTS.COM



NORTH ELEVATION
1/8" = 1'-0" 1

EAST ELEVATION
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SOUTH ELEVATION
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WEST ELEVATION
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REVISIONS			
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LAND USE



LAKE OSWEGO - TIGARD WATER TREATMENT PLANT
 ARCHITECTURAL
 FINISH WATER PUMP STATION
 ELEVATIONS

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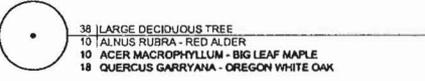
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TREES

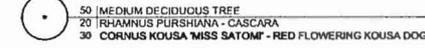
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12.6



EXISTING TREE TO REMAIN



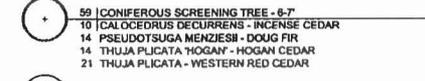
- 38 LARGE DECIDUOUS TREE
- 10 ALNUS RUBRA - RED ALDER
- 10 ACER MACROPHYLLUM - BIG LEAF MAPLE
- 18 QUERCUS GARRRYANA - OREGON WHITE OAK



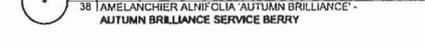
- 50 MEDIUM DECIDUOUS TREE
- 20 RHAMNUS PURSHIANA - CASCARA
- 30 CORNUS KOUSA 'MISS SATOMI' - RED FLOWERING KOUSA DOGWOOD



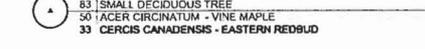
- 18 CONIFEROUS SCREENING TREE - 12-14'
- 18 THUJA PLICATA - WESTERN RED CEDAR



- 59 CONIFEROUS SCREENING TREE - 6-7'
- 10 CALOCEDRUS DECURRENS - INCENSE CEDAR
- 14 PSEUDOTSUGA MENZIESII - DOUG FIR
- 14 THUJA PLICATA 'HOGAN' - HOGAN CEDAR
- 21 THUJA PLICATA - WESTERN RED CEDAR



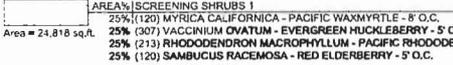
- 38 MEDIUM ACCENT TREE
- 38 AMELANCHIER ALNIFOLIA 'AUTUMN BRILLIANCE' - AUTUMN BRILLIANCE SERVICE BERRY



- 83 SMALL DECIDUOUS TREE
- 50 ACER CIRCINATUM - VINE MAPLE
- 33 CERCIIS CANADENSIS - EASTERN REDBUD

SHRUBS/GRASSES/
GROUNDCOVERS

2,3 3,4
12.5 12.8



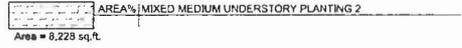
- AREA% SCREENING SHRUBS 1
- 25% (120) MYRICA CALIFORNICA - PACIFIC WAXMYRTLE - 8' O.C.
- 25% (307) VACCINIUM OVATUM - EVERGREEN HUCKLEBERRY - 5' O.C.
- 25% (213) RHODODENDRON MACROPHYLLUM - PACIFIC RHODODENDRON - 6' O.C.
- 25% (120) SAMBUCUS RACEMOSA - RED ELDERBERRY - 5' O.C.



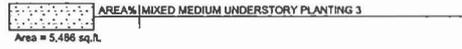
- AREA% SCREENING SHRUBS 2
- Area = 453 sq.ft.



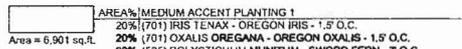
- AREA% MIXED MEDIUM UNDERSTORY PLANTING 1
- 20% (362) RIBES SANGUINEUM - RED FLOWERING CURRANT - 5' O.C.
- 15% (432) ROSA NUTKANA - NUTKA ROSE - 4' O.C.
- 20% (252) HOLIDISCUS DISCOLOR - OCEAN SPRAY - 6' O.C.
- 20% (1,006) SPIRAEA DOUGLASSII - DOUGLASS SPIREA - 3' O.C.
- 15% (189) CORNUS STOLONIFERA - REDTWIG DOGWOOD - 6' O.C.
- 10% (503) SYMPHORICARPUS ALBUS - SNOWBERRY - 3' O.C.



- AREA% MIXED MEDIUM UNDERSTORY PLANTING 2
- Area = 8,228 sq.ft.



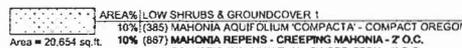
- AREA% MIXED MEDIUM UNDERSTORY PLANTING 3
- Area = 5,486 sq.ft.



- AREA% MEDIUM ACCENT PLANTING 1
- 20% (701) IRIS TENAX - OREGON IRIS - 1.5' O.C.
- 20% (701) OXALIS OREGANA - OREGON OXALIS - 1.5' O.C.
- 60% (525) POLYSTICHUM MUNITUM - SWORD FERN - 3' O.C.



- AREA% MEDIUM ACCENT PLANTING 2
- Area = 0 sq.ft.



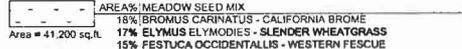
- AREA% LOW SHRUBS & GROUNDCOVER 1
- 10% (385) MAHONIA AQUIFOLIUM 'COMPACTA' - COMPACT OREGON GRAPE - 3' O.C.
- 10% (687) MAHONIA REPENS - CREEPING MAHONIA - 2' O.C.
- 10% (385) POLYSTICHUM MUNITUM - SWORD FERN - 3' O.C.
- 10% (1,538) BLECHNUM SPICANT - DEER FERN - 1.5' O.C.
- 10% (1,538) DICENTRA FORMOSA - PACIFIC BLEEDING HEART - 1.5' O.C.
- 10% (1,538) SPIRAEA BETULIFOLIA 'TOR' - BIRCHLEAF SPIREA - 1.5' O.C.
- 10% (1,538) WALDSTEINIA FRAGARIODES - BARREN STRAWBERRY - 1.5' O.C.
- 15% (577) CALAMAGROSTIS ACUTIFLORA 'OVERDAM' - VARIEGATED FEATHER REED GRASS - 3' O.C.
- 15% (2,307) DESCHAMPSIA CAESPITOSA 'GOLD TAU' - GOLD DEW TUFTED HAIRGRASS - 1.5' O.C.



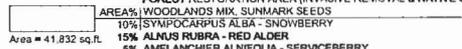
- AREA% LOW SHRUBS & GROUNDCOVER 2
- Area = 5,261 sq.ft.



- AREA% STORMWATER FACILITY PLANTING
- 25% (4,580) CAREX OBNUPTA - SLOUGH SEDGE - 1.5' O.C.
- 25% (4,580) JUNCUS PATENS - SPREADING RUSH - 1.5' O.C.
- 25% (4,580) SCIRPUS MICROCARPUS - SMALL FRUITED BULLRUSH - 1.5' O.C.
- 10% (1,932) GALLIHERIA SHALLON - SALAL - 2' O.C.
- 5% (516) MAHONIA REPENS - CREEPING MAHONIA - 2' O.C.
- 10% (458) POLYSTICHUM MUNITUM - SWORD FERN - 3' O.C.



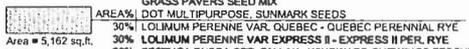
- AREA% MEADOW SEED MIX
- 18% (BROMUS CARINATUS - CALIFORNIA BROME
- 17% ELYMUS ELYMOIDES - SLENDER WHEATGRASS
- 15% FESTUCA OCCIDENTALIS - WESTERN FESCUE
- 15% KOeleria CRISTATA - PRAMIE JUNGGRASS
- 5% LOTUS PURSHIANUS - SPANISH CLOVER
- 5% CLARGIA UNGUICULATA - ELEGANT CLARKIA
- 10% LUPINUS ALBACULUS - SICKLE KEELED LUPINE
- 5% ESCHSCHOLZIA CALIFORNICA - CALIFORNIA POPPY
- 10% GAILLARDIA ARISTATA - GAILLARDIA



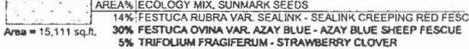
- AREA% WOODLANDS MIX, SUNMARK SEEDS
- 10% SYMPHORICARPUS ALBA - SNOWBERRY
- 15% ALNUS RUBRA - RED ALDER
- 5% AMELANCHIER ALNIFOLIA - SERVICEBERRY
- 10% ROSA NUTKANA - NUTKANA ROSE
- 8% MAHONIA REPENS - CREEPING OREGON GRAPE
- 15% SAMBUCUS RACEMOSA - RED ELDERBERRY
- 15% HOLIDISCUS DISCOLOR - OCEAN SPRAY
- 22% CORNUS STOLONIFERA SERICA - RED OSIER DOGWOOD



- GREEN ROOF PLANTING MIX
- MEADOW MIX WITH SEDUM VARIETIES
- Area = 11,046 sq.ft.



- AREA% GRASS PAVERS SEED MIX
- DOT MULTIPURPOSE, SUNMARK SEEDS
- 30% LOLIUM PERENNE VAR. QUEBEC - QUEBEC PERENNIAL RYE
- 30% LOLIUM PERENNE VAR EXPRESS II - EXPRESS II PER. RYE
- 20% FESTUCA RUBRA SPP. FALLAX - WINDWARD CHEWINGS FESCUE
- 20% FESTUCA RUBRA VAR. GARNET - GARNET CREEPING RED FESCUE



- AREA% ECO-LAWN SEED MIX
- ECOLOGO MIX, SUNMARK SEEDS
- 14% FESTUCA RUBRA VAR. SEALINK - SEALINK CREEPING RED FESCUE
- 30% FESTUCA OVINA VAR. AZAY BLUE - AZAY BLUE SHEEP FESCUE
- 5% TRIFOLIUM FRAGIFERUM - STRAWBERRY CLOVER
- 3% NEMOPHILA MENZIESII - BABY BLUE EYES
- 10% LIMNANTHES DOUGLASSII - DOUGLAS MEADOWFOAM
- 10% ARMERIA MARITIMA - SEA PINK
- 10% TRIFOLIUM REPENS - WHITE CLOVER
- 8% ALYSSUM MARITIMUM - DWARF WHITE ALYSSUM
- 15% ACHILLEA MILLEFOLIUM - WESTERN YARROW
- 15% BELIS PERENNIS - DWARF ENGLISH DAISY



- LOW SITE WALL POCKET PLANTING
- Area = XXX

PLANTING PLAN NOTES

1. ALL NEW PLANTING AREAS SHALL BE IRRIGATED UTILIZING AN FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM SHALL INCORPORATE A SMART CONTROLLER. IN COMBINATION WITH LOW PRECIPITATION SPRAY HEADS. IRRIGATION INTENT IS TO PROVIDE SUFFICIENT WATER TO ESTABLISH NEW PLANTINGS WITHIN THE FIRST TWO YEARS, AND THEN SLOWLY DECREASE WATERING, LIMITED TO DRY MONTHS, OR PERIODS OF DROUGHT THE FOLLOWING (3) YEARS.
2. CONTRACTOR SHALL PROVIDE TOPSOIL, SOIL AMENDMENTS AND MULCH AS SPECIFIED.
3. ALL PLANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS PROVIDED AS PART OF THE CONSTRUCTION DOCUMENT PACKAGE.
4. QUANTITIES ARE LISTED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL COUNTS MUST BE VERIFIED BY THE CONTRACTOR. IN THE CASE OF A DISCREPANCY BETWEEN THE LEGEND AND THE PLAN, PLANTS INDICATED ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN THE LEGEND.



LINE #	DESCRIPTION	BY	APP.

OWNER:
CITY OF LAKE OSWEGO
380 A AVENUE
LAKE OSWEGO, OR 97034
PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
DESIGN REVIEW AND CONDITIONAL USE
GENERAL LEGENDS & NOTES
PLANTING



PRINT DATE: 08/09/12
PROJECT NUMBER:
SCALE: NO SCALE
DRAWING NUMBER: 11.0

IRRIGATION LEGEND

IRRIGATION HEADS

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.	PSI	RAD.	GPM
①	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP100090	40	8'-15"	0.10 - 0.43
②	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP1000270	40	8'-15"	0.57
③	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP1000360	40	8'-15"	0.75
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-06-PRS40-MP100090	40	8'-15"	0.19 - 0.43
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-06-PRS40-MP1000360	40	8'-15"	0.75
①	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP200090	40	13'-21"	0.40 - 0.86
②	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP2000270	40	13'-21"	1.10
③	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP2000360	40	13'-21"	1.47
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-06-PRS40-MP200090	40	13'-21"	0.40 - 0.86
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-06-PRS40-MP2000360	40	13'-21"	1.47
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP300090	40	22'-30"	0.86 - 2.12
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP3000270	40	22'-30"	2.73
▽	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MP3000360	40	22'-30"	3.64
□	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPCORNER	40	8'-15"	0.45
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPLCS15	40	5' x 15'	0.22
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPRCS15	40	5' x 15'	0.22
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPSS530	40	5' x 30'	0.44
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPLCS15	40	5' x 15'	0.22
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPRCS15	40	5' x 15'	0.22
■	SPRAY ROTARY NOZZLE	HUNTER	PROS-12-PRS40-MPSS530	40	5' x 30'	0.44
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS0	30	5'	0.10
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS4	30	5'	0.20
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS5	30	5'	0.41
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS8	30	8'	0.26
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS10	30	8'	0.52
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS12H	30	10'	0.29
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS10H	30	10'	0.79
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS10TT	30	10'	1.18
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS10F	30	10'	1.58
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS12Q	30	12'	0.65
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS12H	30	12'	1.30
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS15Q	30	15'	0.92
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-MPRS15H	30	15'	1.85
●	ROTARY NOZZLE	RAINBIRD	1812-SAM-P30-VAN15-8DARC	30	15'	1.85
■	DRIFLINE - DRIP ZONE	RAINBIRD	LD-09-12-100	NA	NA	NA



IRRIGATION EQUIPMENT

SYMBOL	DESCRIPTION
⊖	REMOTE CONTROL VALVE - RAINBIRD PESB-R
■	DRIP ZONE CONTROL KIT - RAINBIRD XCZ-150-PRB-COM
⊕	FLUSH VALVE
⊖	AIR VACUUM RELIEF VALVE
⊕	QUICK COUPLER
⊖	GATE VALVE
⊖	BACKFLOW PREVENTION DEVICE
⊖	IRRIGATION CONTROLLER - HUNTER ICC W/ SOLAR SYNC MODULE
⊖	MANUAL DRAIN VALVE
—	IRRIGATION LATERAL LINE
—	IRRIGATION LATERAL LINE / ZONE CONNECTION
-----	2" - IRRIGATION MAIN LINE
----	IRRIGATION SLEEVE



CONTROL VALVE TARGET



IRRIGATION PLAN NOTES

- CALL UTILITIES TO LOCATE EXISTING SERVICES PRIOR TO EXCAVATION.
- SYSTEM OPERATION AND DESIGN IS BASED ON 50 POUNDS OF PRESSURE AND 50 GALLONS PER MINUTE AT THE SHUTOFF VALVE. THE CONTRACTOR SHALL VERIFY THE DESIGN PRESSURE AND VOLUME BEFORE INSTALLATION AND NOTIFY OWNER IF THERE IS A DISCREPANCY.
- CONTRACTOR SHALL REFERENCE PLANTING PLAN(S) PRIOR TO INSTALLATION OF VALVES. LOCATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE. ADJUST VALVE LOCATIONS TO ELIMINATE CONFLICT WITH PROPOSED PLANTINGS AND PLANTING PATTERNS.
- VALVE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
- THE CONTRACTOR SHALL VERIFY THE DIMENSIONS AND LAYOUT OF ALL NEW PLANTING AND LAWN AREAS ON SITE BEFORE STARTING WORK AND IMMEDIATELY NOTIFY OWNER OF ANY DEVIATIONS FROM PLAN.
- NEW TREE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
- THE CONTRACTOR SHALL INSTALL QUICK COUPLING VALVES A MINIMUM OF 200' ALONG MAINLINE AND AS SHOWN ON PLANS AND DETAILS.
- THE CONTRACTOR SHALL INSTALL THE IRRIGATION CONTROLLER(S) AT THE LOCATION(S) SHOWN ON THE DRAWINGS, ON THE SPECIFIED PEDESTAL PER THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION WITH THE OWNER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL EXTEND CONTROL WIRE CONDUIT FROM CONTROLLER AND DAYLIGHT SIX INCHES INTO PLANTING BED FOR INSTALLATION OF AUTOMATIC VALVE WIRES.
- ALL BACKFLOW PREVENTION DEVICES SHALL BE LOCATED A MINIMUM OF 5'-0" AWAY FROM CURBS OR PAVING WHEREVER POSSIBLE.
- MAIN AND LATERAL LINES MAY BE SHOWN DIAGRAMMATICALLY FOR CLARITY. MAIN AND LATERAL LINES SHOWN IN PAVED AREAS SHALL BE PLACED IN ADJACENT PLANTING BEDS UNLESS SPECIFICALLY SHOWN AS PASSING UNDER PAVING IN SLEEVE (SEE LEGEND FOR SLEEVE SYMBOL). THE CONTRACTOR MUST OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL BEFORE MAKING CHANGES IN ROUTING OF PIPE OR LOCATION OF VALVES.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING AN APPROPRIATE POWER SUPPLY TO THE IRRIGATION CONTROLLER LOCATION.
- COORDINATE WATER SOURCE, BACKFLOW PREVENTION, AND ROOF PENETRATIONS FOR IRRIGATION / WATER SUPPLY TO GREENROOF LOCATIONS.



DESIGNED:	BY:	APP:

OWNER:
CITY OF LAKE OSWEGO
380 A AVENUE
LAKE OSWEGO, OR 97034
PHONE: 503-635-0270



LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT

DESIGN REVIEW AND CONDITIONAL USE
GENERAL LEGENDS & NOTES
IRRIGATION



PRINT DATE	09/09/12
PROJECT NUMBER	
SCALE	NO SCALE
DRAWING NUMBER	11.1

MEMORANDUM

DATE: 12/7/2012
TO: City of West Linn Planning Department
FROM: GreenWorks, P.C.
PROJECT: Lake Oswego – Tigard Water Treatment Plant (110387.1)
RE: Land Use Submission: Drawing Update Outline

To whom it may concern,

Outlined below are recent revisions made by GreenWorks, P.C., to the planting, hardscape, irrigation and stormwater designs at the LO-Tigard WTP, in response to changes to building layout and road alignment at the site, primarily in the area around the Administration Building.

Sheet GL- 11.0, Planting Legend

- Planting quantities were updated to be consistent with current planting design following revisions to the overall site design.

Sheet GL- 11.1, Irrigation Legend

- GL-11.1 was added to the drawing set after space became insufficient for both the Planting and Irrigation Legend on GL-11.0.

Sheet GL- 12.0A, Planting Plan Color Overview

General:

- Sheet GL-12.0A was updated to reflect recent changes to site layout, primarily in the area in front of, and west of the Administration Building. This included adjustments to planting and hardscape areas, relocation of parking stalls to the south side of the access drive, and an extension to the security wall.
- Changes to the Administration area as well as other more minor changes to design at other locations on site have been outlined below.

Area A (Northwest Quadrant)

- Access road - Planting design updated to accommodate adjusted access road curb alignment.
- Administration Building - Planting and hardscape adjusted to accommodate new Administration Building area.



- Kenthorpe Raingarden – Further refinement of rain garden planting and hardscape design to match 60% design drawing set.

Area B (Northeast Quadrant)

- No significant changes

Area C (Southwest Quadrant)

- Access road – Planting design updated to accommodate adjusted access road curb alignment.
- Operations Building removal – Planting and hardscape now reflect the addition of the stormwater area in place of formerly proposed Operations Building.
- Pedestrian Trail at Kenthorpe Way – Planting design adjusted to accommodate new access path alignment.

Area D (Southeast Quadrant)

- West of Finished Water Pump Station – Planting and wall design adjusted to reflect removal of structure.
- Surge Tank area – Planting design adjusted to accommodate change in Surge Tank layout.
- Mapleton Drive Access – Planting and hardscape adjusted to accommodate widened fire truck access at Mapleton Drive.

Sheet GL-13.0A, Irrigation Plan Overview

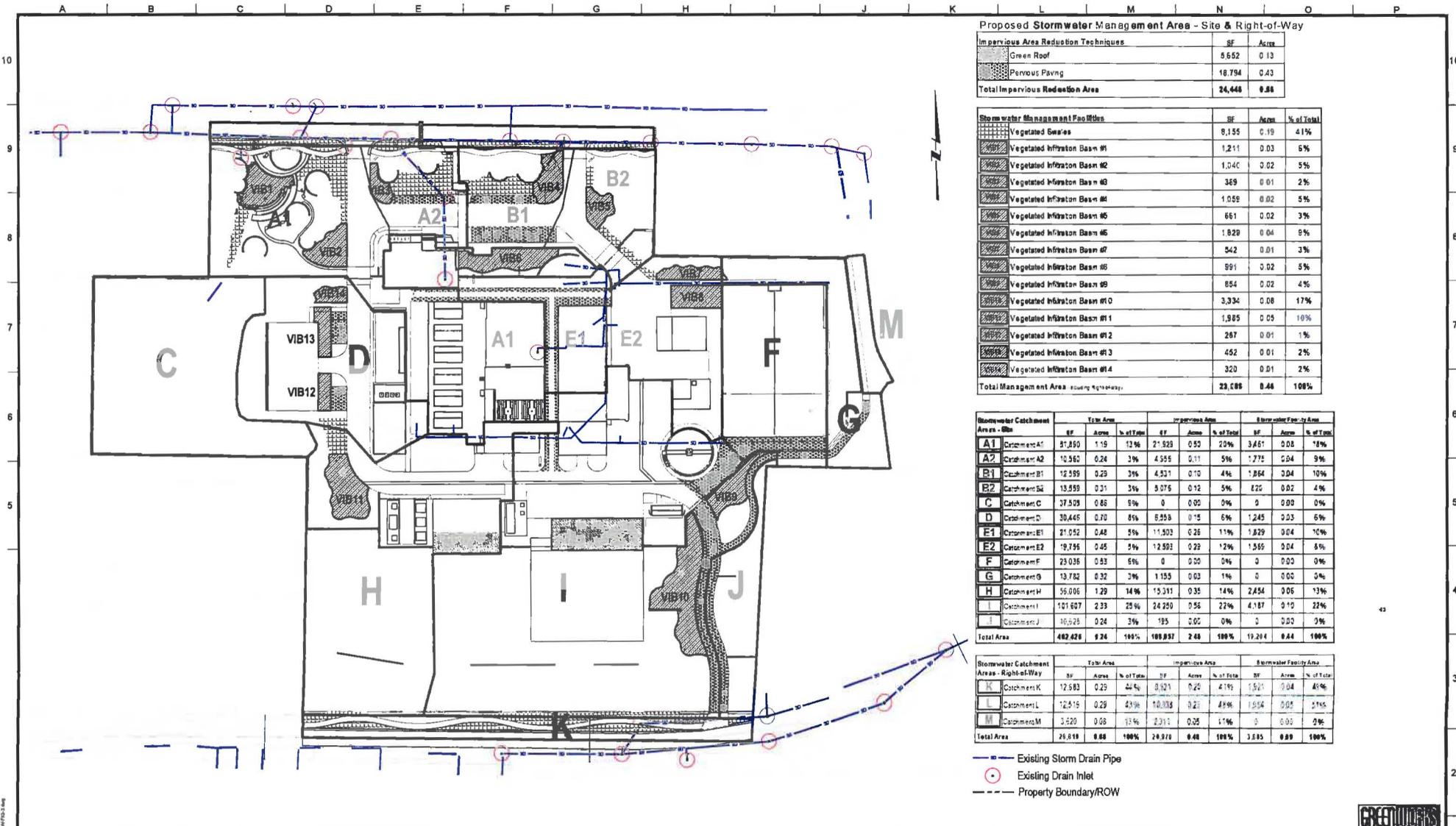
- Previously not included in Land Use submission, this overview plan illustrates revised irrigation design to fit latest site hardscape & planting layout.

Stormwater Report, Figure 2.0

- Pervious and impervious area takeoffs were updated to reflect latest site design.
- These areas breakdown as follows:
 - Site
 - Pervious Surfaces = 263,830 sf (66% of site)
 - Impervious Surfaces = 108,057 sf (27% of site)
 - Other (open process tanks) = 30,539 sf (7% of site)
 - Right-of-Way
 - Pervious Surfaces = 7,849 sf (27% of ROW)
 - Impervious Surfaces = 20,970 sf (73% of ROW)
- See attached Figure 2.0 for more detailed area breakdown

Stormwater Report, Figure 3.0

- Figure 3.0 shows drainage catchments and stormwater facility size and location, revised to match the current site design and fulfill City of West Linn stormwater management requirements.
- See attached Figure 3.0 for a more detailed breakdown of:
 - Impervious Area Reduction Techniques
 - Green Roofs = 5,652 sf
 - Pervious Paving = 18,794 sf
 - Stormwater Management Facilities
 - Total Vegetated Swale Area = 8,155 sf
 - Total Infiltration Basin area = 14,934 sf
 - Total Management Area = 23,089 sf
 - Catchment Area Take-offs (see Figure 3.0)



Proposed Stormwater Management Area - Site & Right-of-Way

Impervious Area Reduction Techniques	SF	Acres
Green Roof	5,652	0.13
Pervious Paving	18,794	0.43
Total Impervious Reduction Area	24,446	0.56

Stormwater Management Facility	SF	Acres	% of Total
Vegetated Swales	8,155	0.19	41%
Vegetated Infiltration Basin #1	1,211	0.03	6%
Vegetated Infiltration Basin #2	1,040	0.02	5%
Vegetated Infiltration Basin #3	369	0.01	2%
Vegetated Infiltration Basin #4	1,059	0.02	5%
Vegetated Infiltration Basin #5	661	0.02	3%
Vegetated Infiltration Basin #6	1,829	0.04	9%
Vegetated Infiltration Basin #7	342	0.01	3%
Vegetated Infiltration Basin #8	991	0.02	5%
Vegetated Infiltration Basin #9	854	0.02	4%
Vegetated Infiltration Basin #10	3,334	0.08	17%
Vegetated Infiltration Basin #11	1,985	0.05	10%
Vegetated Infiltration Basin #12	267	0.01	1%
Vegetated Infiltration Basin #13	452	0.01	2%
Vegetated Infiltration Basin #14	320	0.01	2%
Total Management Area (including Right-of-Way)	23,285	0.48	100%

Stormwater Catchment Area - Bldg	SF	Acres	% of Total	Total Area		Impervious Area		Stormwater Facility Area	
				SF	% of Total	SF	% of Total	SF	% of Total
A1 Catchment A1	27,850	1.19	13%	27,850	95%	21,928	79%	3,461	12%
A2 Catchment A2	10,560	0.24	5%	10,560	3%	4,555	0%	5%	9%
B1 Catchment B1	12,599	0.29	3%	12,599	4%	4,531	0%	7,864	10%
B2 Catchment B2	13,959	0.31	3%	13,959	5%	5,076	0%	820	4%
C Catchment C	27,529	0.63	9%	27,529	0%	0	0%	0	0%
D Catchment D	30,445	0.70	8%	30,445	6%	8,558	0%	1,245	6%
E1 Catchment E1	21,052	0.48	5%	21,052	11%	11,303	0%	8,229	10%
E2 Catchment E2	19,795	0.45	5%	19,795	12%	12,593	0%	1,569	8%
F Catchment F	23,036	0.53	6%	23,036	0%	0	0%	0	0%
G Catchment G	13,782	0.32	3%	13,782	1%	1,155	0%	0	0%
H Catchment H	55,006	1.27	14%	55,006	14%	15,311	0%	2,454	13%
I Catchment I	101,697	2.33	25%	101,697	22%	24,300	0%	4,187	22%
J Catchment J	10,525	0.24	3%	10,525	0%	195	0%	0	0%
Total Area	482,426	11.06	100%	482,426	100%	189,897	2.48	19,204	100%

Stormwater Catchment Area - Right-of-Way	SF	Acres	% of Total	Total Area		Impervious Area		Stormwater Facility Area	
				SF	% of Total	SF	% of Total	SF	% of Total
K Catchment K	12,583	0.29	4%	12,583	0%	4,521	0%	4,195	4%
L Catchment L	12,515	0.29	4%	12,515	0%	10,338	0%	898	5%
M Catchment M	3,520	0.08	1%	3,520	0%	2,311	0%	0	0%
Total Area	28,618	0.66	100%	28,618	100%	24,970	0.48	5,193	100%

- Existing Storm Drain Pipe
- Existing Drain Inlet
- Property Boundary/ROW



LINE IS 3 INCHES
AT FULL SIZE
(BY 1/8" = 1" SCALE APPROXIMATELY)

DESIGNED _____
DRAWN _____
CHECKED _____
APPROVED _____

NO.	REVISIONS	BY	APP
1	PROVIDE FILE		
2	FILED TO BE USED FOR REVISION		
3	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
4	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
5	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
6	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
7	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
8	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
9	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
10	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
11	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
12	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
13	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
14	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
15	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
16	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
17	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
18	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
19	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
20	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
21	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
22	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
23	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
24	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
25	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
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35	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
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42	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
43	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
44	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
45	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
46	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
47	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
48	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
49	LOWRY_C_PERSPECTIVE_DRAWING.dwg		
50	LOWRY_C_PERSPECTIVE_DRAWING.dwg		

OWNER:
CITY OF LAKE OSWEGO
380 A AVENUE
LAKE OSWEGO, OR 97034
PHONE: 503-635-0270



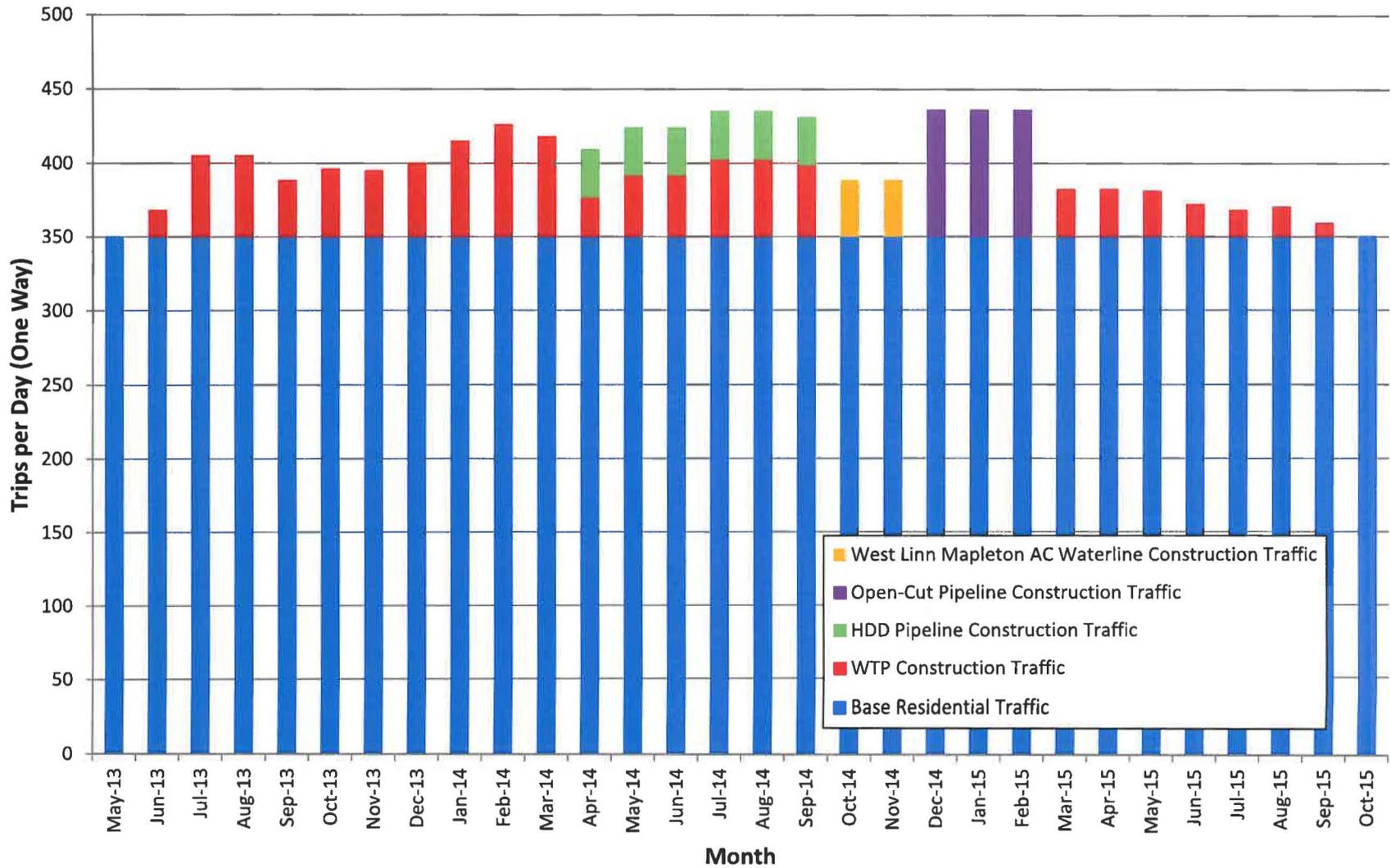
LAKE OSWEGO AND TIGARD WATER TREATMENT PLANT
DESIGN REVIEW AND CONDITIONAL USE
STORMWATER REPORT
PROPOSED STORMWATER
MANAGEMENT AREAS



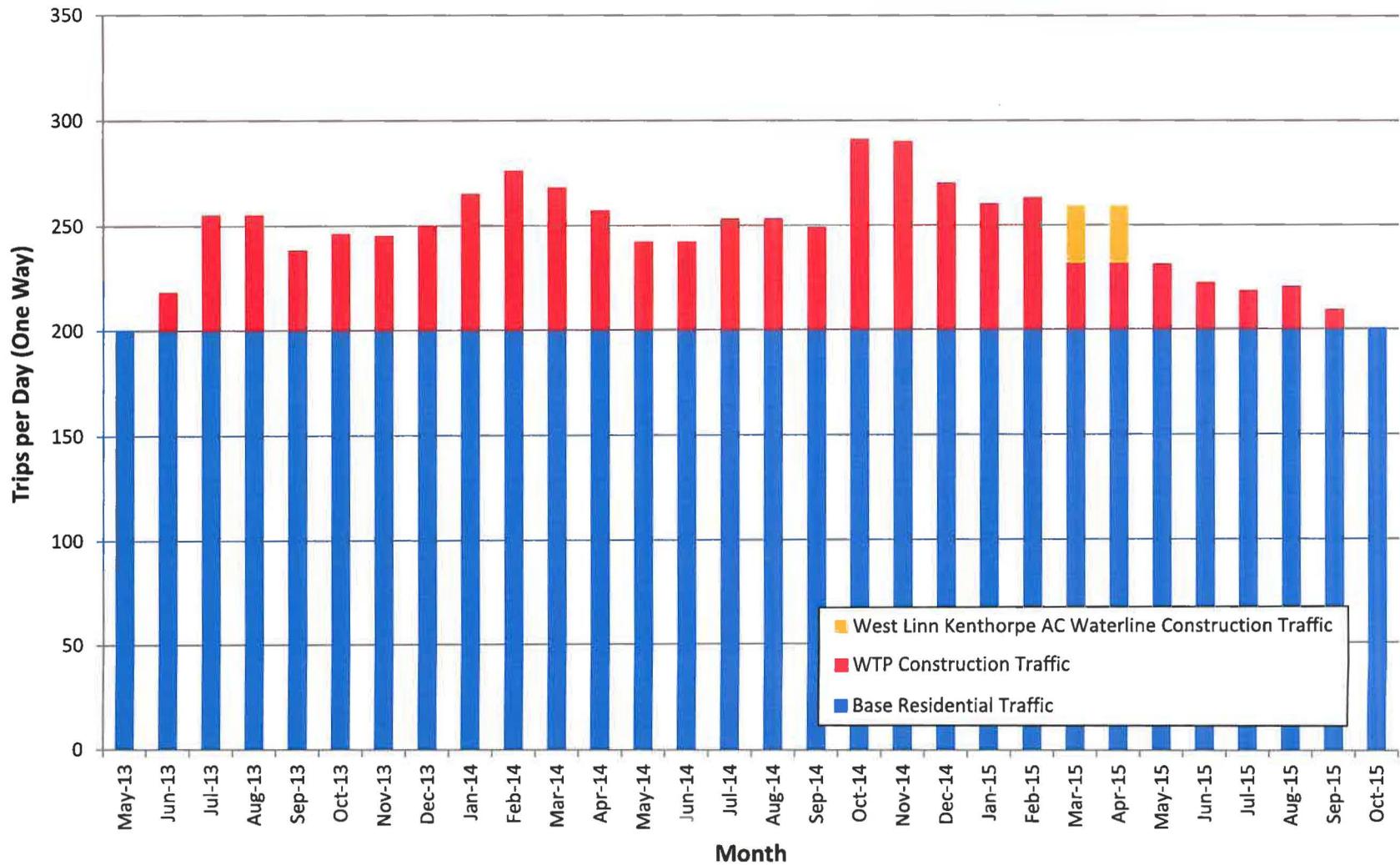
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08/20/12
PROJECT NUMBER
SCALE
1" = 50'
DRAWING NUMBER
3.0
47 OF

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 PLOT: 1

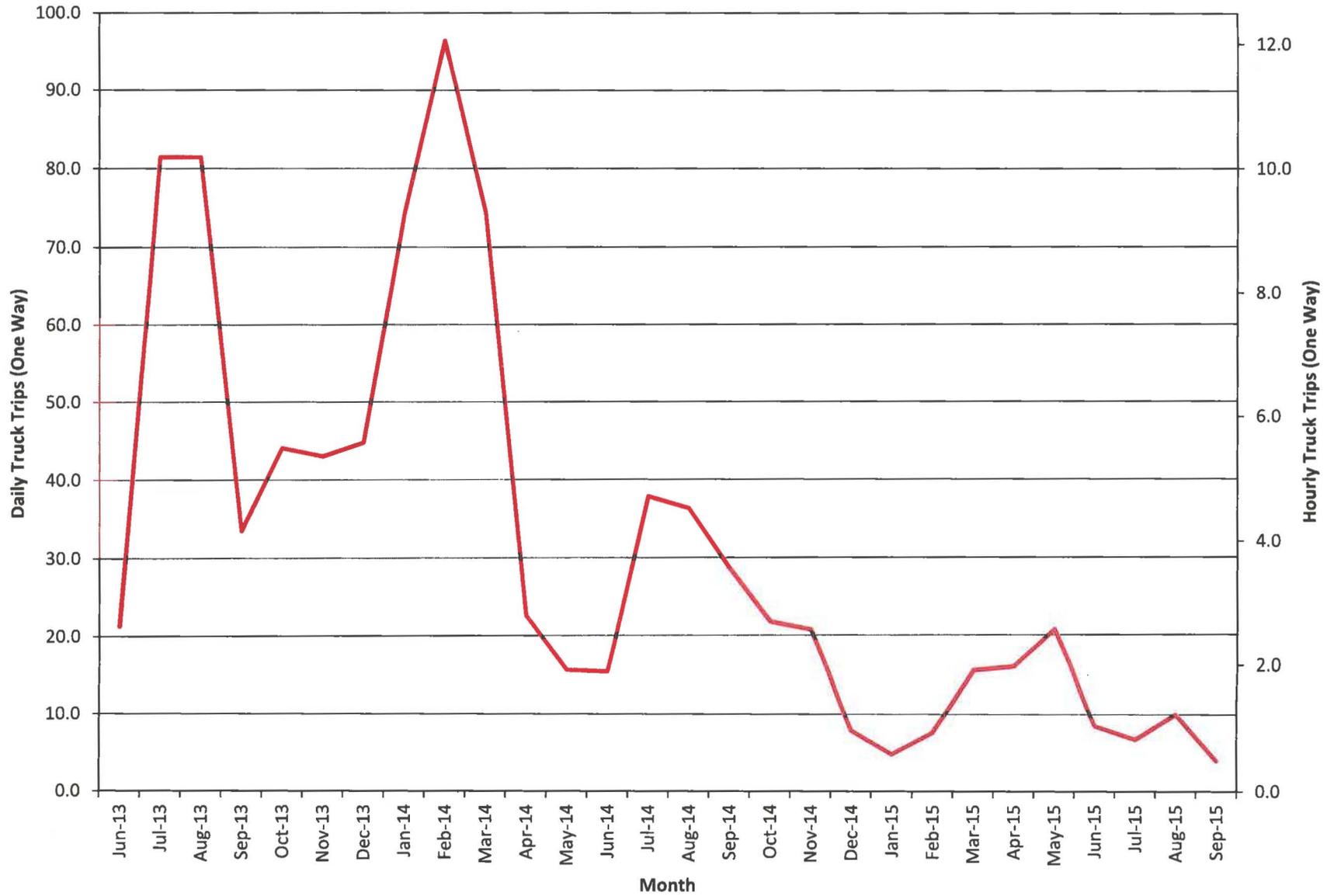
September 27 Update - Figure 1. Combined construction project traffic on Mapleton Drive



September 27 Update - Figure 2. Combined construction project traffic on Kenthorpe Way



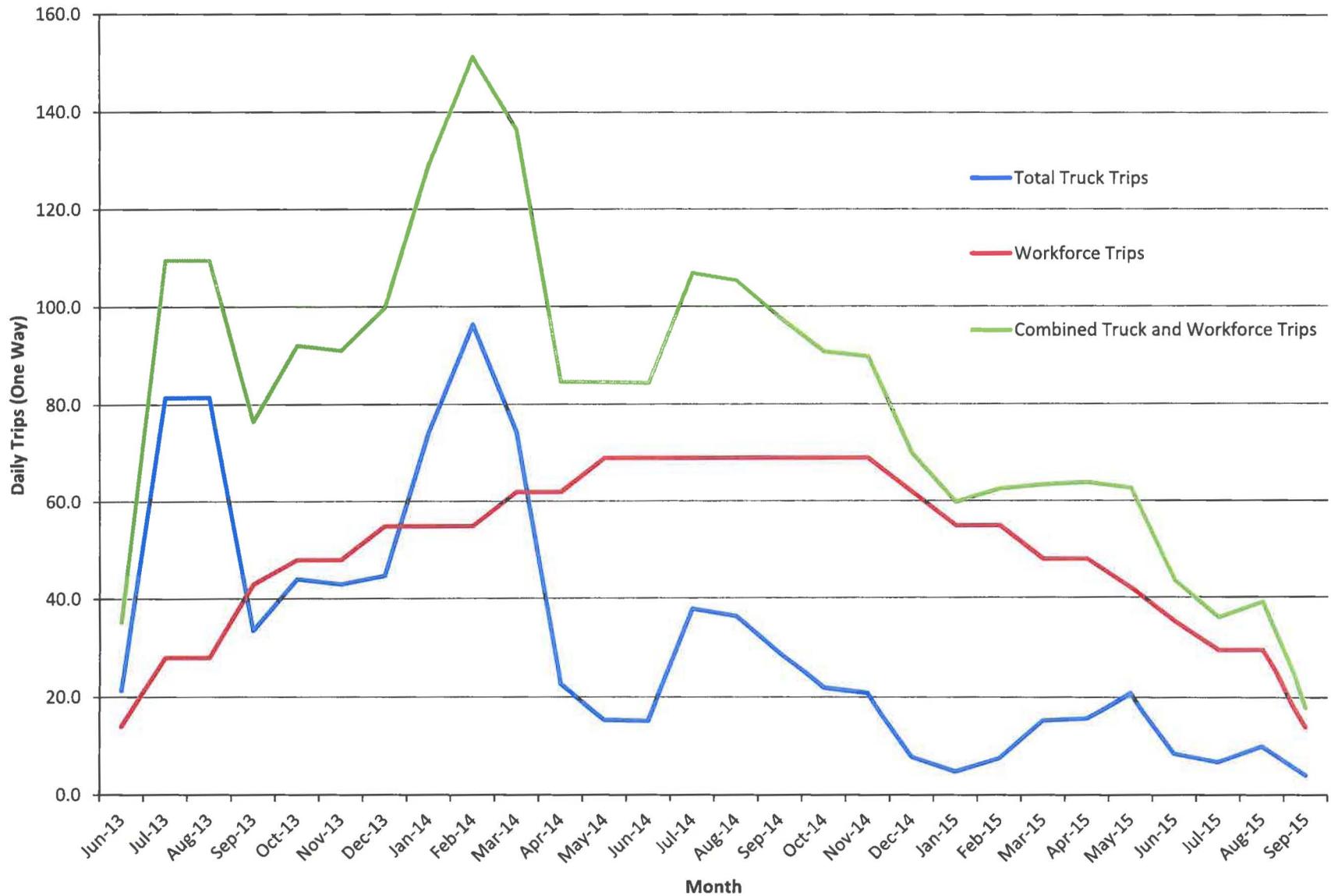
Section 14A - Appendix A - Figure 1. WTP Truck Trips



Section 14A - Appendix A - Figure 2. WTP Workforce Trips

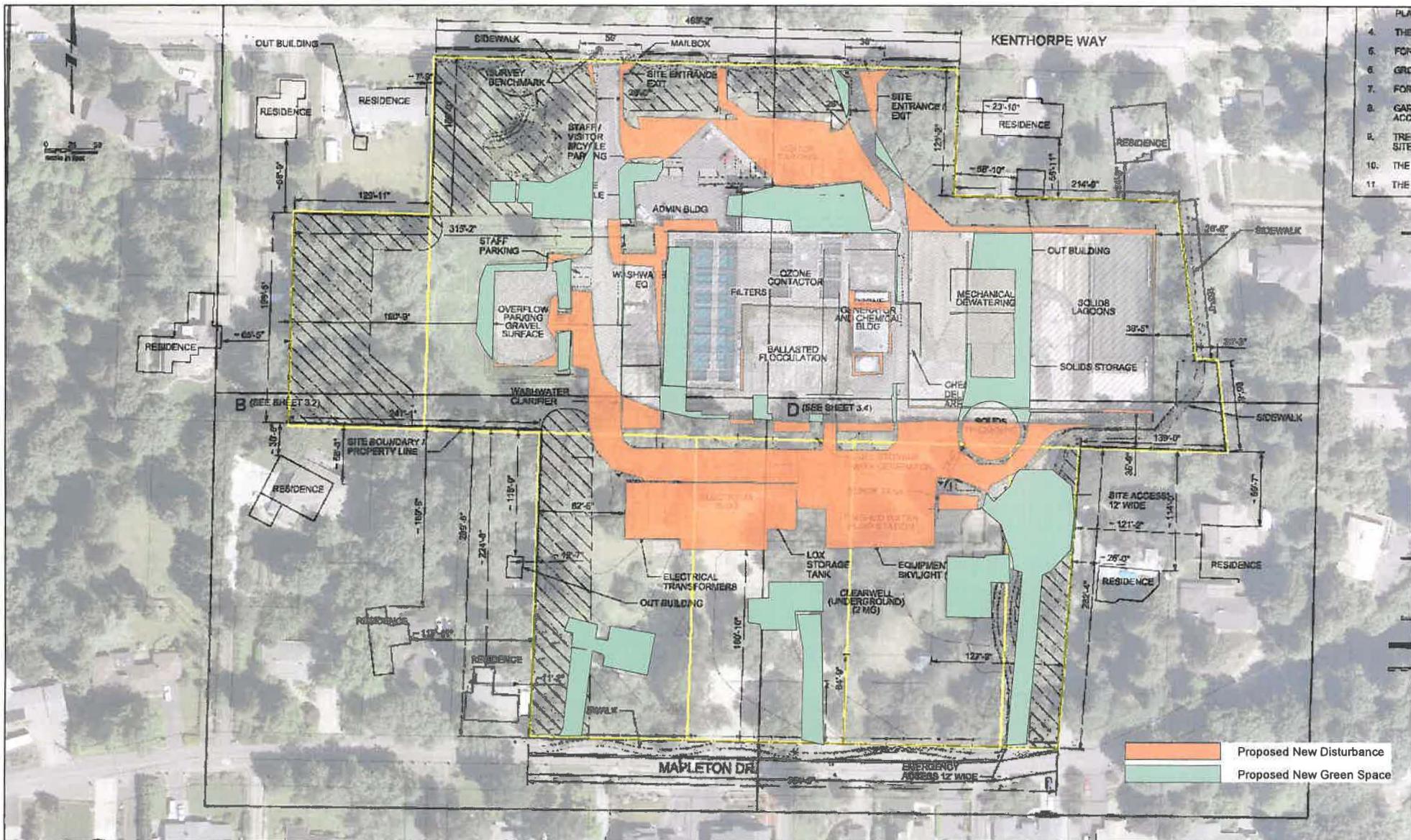


Section 14A - Appendix A - Figure 3. WTP Truck and Workforce Trips





Name	Area (Sq Ft)
Existing W P Building Disturbances	
Parking Lot Shed	496
Sedimentation Building	10766
Admin Building	3488
Filters	6820
Finished Water Pump Station	1053
Chem Building	1426
Existing W P Ground and Tank Disturbances	
Lime Silo	391
Lagoons	39423
WTP Ground Disturbance	57620
CO2 Tank	292
Mapleton Disturbances	
Mapleton House 1	2552
Mapleton House 2	2447
Mapleton House 3	2909
Mapleton Ground Disturbance 1	1594
Mapleton Ground Disturbance 2	2023
Mapleton Ground Disturbance 3	9485
Total	142,784



- 4. THE
- 5. FOR
- 6. GRD
- 7. FOR
- 8. GAR
- 9. ACC
- 10. THE
- 11. THE