



City of Tualatin

www.tualatinoregon.gov

June 19, 2015

ARCHITECTURAL REVIEW FINDINGS AND DECISION

**** APPROVAL WITH CONDITIONS ****

Case #: AR-15-07
Project: Thermal Modification Technologies Additional Building
Location: [19830 SW Teton Ave](#) (Tax Lot 2S1 23CC 01300)
Applicant: Steve Mason, Integrated Facility Services, LLC (503-345-0334) (Job No. 16)

TABLE OF CONTENTS

I.	INTRODUCTION.....	2
II.	CONDITIONS OF APPROVAL	2
III.	FINDINGS	5
A.	Previous Land Use Actions:.....	5
B.	Other Permit Actions:	6
C.	Planning Districts and Adjacent Land Uses:.....	6
D.	Lot Sizes:.....	6
E.	Setback Requirements:	7
F.	Structure Height:.....	7
G.	Site Planning:	8
H.	Structure Design:.....	10
I.	Mixed Solid Waste and Source Separated Recyclables Storage Areas:.....	11
J.	Landscaping:	13
K.	Tree Preservation:	18
L.	Grading:.....	20
M.	Bicycle Parking, Off-Street Parking and Loading:.....	20
N.	Lighting:.....	23

Arrangements can be made to provide these materials in alternative formats such as large type or audio recording. Please contact the Planning Division at 503-691-3026 and allow as much lead time as possible.

O. Loading Berths:24
P. Access:25
Q. Environmental:25
R. Signs:26
S. Time Limit on Approval:26
IV. APPEAL27

I. INTRODUCTION

The proposal is to erect a pre-fabricated metal shed of 9,855 square feet (sq ft) for warehousing of large equipment for large metal treating by redeveloping a paved asphalt area at the northeast corner of both Tax Lot 2S1 23CC 01300 (Lot 1300) and the existing main building occupied by Thermal Modification Technologies (f.k.a. Beaver Heat Treating).

The subject property fronts SW Teton Avenue to the west, is about 600 feet (ft) south of SW Tualatin-Sherwood Road, and is north of one of the two Portland & Western Railroad tracks in town, the one also used by the TriMet Westside Express Service (WES) commuter rail.

The neighborhood/developer meeting was on November 5, 2014. Staff received no letters of comment from property owners within 1,000 ft of the subject property, including pursuant to Tualatin Development Code (TDC) 31.064(1) within any residential subdivisions platted through the City, during the comment period that ended May 1, 2015.

II. CONDITIONS OF APPROVAL

Based on the Findings and Conclusions presented, AR-15-07 is approved, subject to the following Architectural Review conditions:

- AR-1 Prior to obtaining a building permit, the applicant shall submit two revised plan sets – plan size and ledger (11 x 17) – for review and approval to the Planning Division with the following changes:
 - a. To meet the requirement of 73.240(3), the minimum area requirement for landscaping shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process:
 - The applicant shall revise the site plans to tabulate that the landscaped area is at least fifteen (15) percent of the subject property.
 - b. To meet the requirement of 73.240(11) Any required landscaped area shall be designed, constructed, installed, and maintained so that within three years the ground shall be covered by living grass or other plant materials. (The foliage crown of trees shall not be

used to meet this requirement.) A maximum of 10% of the landscaped area may be covered with unvegetated areas of bark chips, rock or stone

- The applicant shall revise the site plans to illustrate or note the percentage of unvegetated landscaped area, if any.
- c. To meet the requirement of 73.260(1)(c) Shrubs, evergreen and deciduous shrubs shall be at least one (1) to five (5) gallon size. Shrubs shall be characteristically branched. Side of shrub with best foliage shall be oriented to public view.
- The applicant shall revise the site plans to provide information about whether shrubs are proposed and if so their gallon size or gallon size range.
- d. To meet the requirement of 73.260(1)(d), groundcovers shall be fully rooted and shall be well branched or leafed. English ivy (*Hedera helix*) is considered a high maintenance material, which is detrimental to other landscape materials and buildings and is therefore prohibited.
- The applicant shall revise the site plans to provide information about the groundcover(s) proposed and confirm exclusion of English ivy.
- e. To meet the requirement of 73.280, landscaped areas shall be irrigated with an automatic underground or drip irrigation system.
- The applicant shall revise the site plans to illustrate or note provision of automatic irrigation.
- f. 73.310(1) A minimum 5-foot-wide landscaped area must be located along all building perimeters, which are viewable by the general public from parking lots or the public right-of-way, excluding loading areas, bicycle parking areas and pedestrian egress/ingress locations. Pedestrian amenities such as landscaped plazas and arcades may be substituted for this requirement. This requirement shall not apply where the distance along a wall between two vehicle or pedestrian access openings (such as entry doors, garage doors, carports and pedestrian corridors) is less than 8 feet.
- The applicant shall revise the site plans to illustrate and note provision of 5-ft wide landscaped strips along the west side of the shed, excepting the loading door, and along the north side of the shed.
- g. To meet the requirement of 73.050(4), as part of Architectural Review, the property owner may apply for approval to cut trees in addition to those allowed in TDC 34.200. The granting or denial of a tree-cutting permit shall be based on the criteria in TDC 34.230.
- The applicant shall revise the site plans to clarify if there is tree removal and if so provide text and graphic information about it.
- h. To meet the requirement of 73.250,
- (1) Trees and other plant materials to be retained shall be identified on the landscape plan and grading plan.
 - (2) During the construction process:
 - (a) The owner or the owner's agents shall provide above and below ground protection for existing trees and plant materials identified to remain.
 - (b) Trees and plant materials identified for preservation shall be protected by chain link or other sturdy fencing placed around the tree at the drip line.

(c) If it is necessary to fence within the drip line, such fencing shall be specified by a qualified arborist as defined in 31.060.

(d) Neither top soil storage nor construction material storage shall be located within the drip line of trees designated to be preserved.

(e) Where site conditions make necessary a grading, building, paving, trenching, boring, digging, or other similar encroachment upon a preserved tree's drip line area, such grading, paving, trenching, boring, digging, or similar encroachment shall only be permitted under the direction of a qualified arborist. Such direction must assure that the health needs of trees within the preserved area can be met.

(f) Tree root ends shall not remain exposed.

(3) Landscaping under preserved trees shall be compatible with the retention and health of said tree.

(4) When it is necessary for a preserved tree to be removed in accordance with TDC 34.210 the landscaped area surrounding the tree or trees shall be maintained and replanted with trees that relate to the present landscape plan, or if there is no landscape plan, then trees that are complementary with existing, nearby landscape materials.

- The applicant shall revise the site plans to clarify if there is tree preservation and if so provide text and graphic information about it.

i. To meet the requirement of 73.270(1), after completion of site grading, topsoil is to be restored to exposed cut and fill areas to provide a suitable base for seeding and planting.

j. To meet the requirement of 73.370(2)(a) Industrial (i) and (ii), required bicycle parking is 2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater, of which the first 5 spaces or 30%, whichever is greater, shall be covered.

- The applicant shall revise the site plans to illustrate and note the placement, amount, and coverage of the required supply of bicycle parking.

k. To meet the requirements of 73.370(1),

(n) Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary racks, which accommodate a bicyclist's lock securing the frame and both wheels.

(o) Each bicycle parking space shall be at least 6 feet long and 2 feet wide, and overhead clearance in covered areas shall be at least 7 feet, unless a lower height is approved through the Architectural Review process.

(r) Required bicycle parking shall be located in convenient, secure, and well lighted locations approved through the Architectural Review process.

(s) Bicycle parking facilities may be provided inside a building in suitable secure and accessible locations.

(u) Bicycle parking areas and facilities shall be identified with appropriate signing as specified in the Manual on Uniform Traffic Control Devices (MUTCD) (latest edition). At a minimum, bicycle parking signs shall be located at the main entrance and at the location of the bicycle parking facilities.

- The applicant shall revise the site plans to illustrate and note about the bicycle parking its security, dimensions, and signage.

l. To meet the requirement of 73.380(6), artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any

adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.

- The applicant shall revise the elevations sheet and provide a light fixture cut sheet or sheets to demonstrate that the proposed wall-mounted lights on the east and west elevations of the shed are full cut-off fixtures. The *Guidelines for Good Exterior Lighting Plans* (Attachment 104) is available as an implementation aid.

AR-2 To meet the requirement of 73.100(2), all building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval, as a condition of approval.

AR-3 To meet the requirement of 73.100(1), all landscaping approved through architectural review (AR) shall be continually maintained, including necessary watering, weeding, pruning and replacement, in a manner substantially similar to that originally approved by the AR decision, unless subsequently altered through AR.

AR-4 The applicant shall make the site development comply with the noise limits of 63.051(1).

AR-5 The applicant shall separately from this AR submit [sign permit](#) applications for any proposed signage.

AR-6 The applicant shall comply with the incorporated Public Facilities Recommendation (PFR) of the Engineering Division.

Notes:

- The plan size (24 x 36 inches) and ledger (11 x 17 inches) plan sets must be folded, not rolled.
- The plan sets for the Planning Division must contain sheets relevant to AR conditions of approval while also not being a full building permit set. For example, because the Planning Division needs no erosion control or roof framing plan sheets, exclude them.
- Following Planning Division approval of revised plans and when the constructed site is ready, the applicant must contact the Planning Division for a site inspection in order to obtain a certificate of occupancy (CO). This inspection is separate from inspection(s) done by the Building Division. Staff recommends scheduling a Planning inspection at least five business days in advance of the desired inspection date.

III. FINDINGS

Reviewing this application in terms of the Tualatin Development Code ([TDC](#)) and other ordinances, the following findings are relevant. All references are to sections in the TDC unless otherwise noted.

A. Previous Land Use Actions:

- AR-72-03 approved original site development known as Harris Thermal.

- AR-74-16 approved modifications.
- AR-93-34 for Ecklund Industries approved a building addition at the east end.
- AR-98-07 for Ecklund Industries approved a building addition along the south central side, additional off-street surface parking, and an additional driveway at SW Teton Avenue which became the southernmost of the two driveways.
- AR-00-01 approved a wireless communication facility (WCF).

B. Other Permit Actions:

Clean Water Services (CWS) Service Provider Letter (SPL) No. 14-002188, August 14, 2014.

C. Planning Districts and Adjacent Land Uses:

The subject property is located in the [General Manufacturing \(MG\) Planning District](#) where manufacturing, warehousing/distribution, wholesaling and other uses are permitted pursuant to TDC [61.020](#).

Adjacent planning districts and land uses clockwise are:

N: MG Berg Wholesale
E: MG Portland & Western Railroad, wetlands and undeveloped uplands, A-1 Coupling & Hose
S: ML Portland & Western Railroad, United Advantage NW FCU, UA Local 290
W: MG Airgas Fill Plant, Elemar Oregon

D. Lot Sizes:

61.050(1) The minimum lot area shall be 20,000 square feet. 61.050(2) The minimum lot width shall be 100 feet. 61.050(3) The minimum average lot width at the building line shall be 100 feet. 61.050(4) The minimum lot width at the street shall be 100 feet. 61.050(5) For flag lots, the minimum lot width at the street shall be sufficient to comply with at least the minimum access requirements contained in Section 73.400(9) to (12). 61.050(6) The minimum lot width at the street shall be 50 feet on a cul-de-sac street.

31.060 “Definitions:”

“Lot Line, Rear.” A lot line which is opposite and most distant from the front lot line and, in the case of an irregular, triangular, or other-shaped lot, a line ten feet in length within the lot, parallel to and at a maximum distance from the front lot line. On a corner lot, the shortest lot line abutting adjacent property that is not a street shall be considered a rear lot line.

“Lot Width.” The horizontal distance between the side lot lines, ordinarily measured parallel to the front lot line, at the center of the lot, or, in the case of a corner lot, the horizontal distance between the front lot line and a side lot line.

“Lot Width, Average.” The sum of the length of the front lot line and the rear lot line divided by 2.

The subject property is 148,504 square feet (sq ft) or approximately 3.40 acres, exceeding the minimum requirement of (1). The minimum average width is 270 ft and the lot width along SW

Teton Avenue is 456 ft, exceeding the minimum requirements. The subject property is neither a flag lot or along a cul-de-sac street.

E. Setback Requirements:

61.060(1) Front yard. The minimum setback is 30 feet. When the front yard is across the street from a residential or Manufacturing Park (MP) District, a front yard setback of 50' is required.

61.060(2) Side yard. The minimum setback is 0 to 50 feet, as determined through the Architectural Review process.

61.060(3) Rear yard. The minimum setback is 0 to 50 feet as determined through the Architectural Review process. When the rear yard is adjacent to a property line or across the street from a residential or Manufacturing Park (MP) district, a rear yard setback of 50 feet is required.

61.060(4) Corner lot yards. The minimum setback is the maximum setback prescribed for each yard for a sufficient distance from the street intersections and driveways to provide adequate sight distance for vehicular and pedestrian traffic at intersections and driveways, as determined through the Architectural Review process.

Neither lot adjoins or is across the street from a residential or Manufacturing Park (MP) district. Based on the above definitions and as shown on the site plan, the setbacks in feet (ft) for each building (bldg) are:

<i>Attribute</i>	<i>Yard</i>	<i>Front</i>	<i>Rear</i>	<i>Side 1 (Left)</i>	<i>Side 2</i>
<i>Lot 1300 / Bldg</i>	<i>Direction</i>	West	East	North	South
	<i>Minimum Required</i>	30	0 to 50	0 to 50	0 to 50
	<i>Existing Building</i>	18.0	118.0	45.0	22.0
	<i>Proposed Addition</i>	387.0	15.0	3.0	15.0

The addition setbacks exceed the minimum requirements.

61.060(5) The minimum parking and circulation area setback is 5 feet, except when a yard is adjacent to public streets or Residential or Manufacturing Park District, the minimum setback is 10 feet.

Lot 1300 does not adjoin a residential or MP Planning District. Because the site redevelopment area includes no reconfigured or additional parking or parking circulation areas, the requirement is not applicable.

61.060(8) No fence shall be constructed within 10 feet of a public right-of-way.

Because no existing fence is within 10 ft of a public right-of-way (ROW), and the site plans propose no fencing along SW Teton Avenue, the requirement is not applicable.

F. Structure Height:

61.080(1) Except as provided in subsection (2), (3) or (4) of this Section, no structure within an MG District shall exceed a height of 60 feet and flagpoles which display the flag of the United States of America either alone or with the State of Oregon flag shall not exceed 100 feet above grade provided that the setbacks are not less than a distance equal to one and one-half times the flagpole height.

The highest volume of the building is 36 ft, and the proposed addition continues this height, meeting the requirement.

G. Site Planning:

73.050(1)(a) The proposed site development, including the site plan, architecture, landscaping and graphic design, conforms to the standards of this and other applicable City ordinances, insofar as the location, height, appearance, etc. of the proposed development are involved.

This project has been reviewed based on TDC standards and other applicable general ordinances of the City of Tualatin. The proposed location, height, appearance, etc. of the development complies with the TDC and other applicable general ordinances as identified in this report, and with applicable conditions of approval will be in compliance.

73.160 The following standards are minimum requirements for commercial, industrial, public and semi-public development and it is expected that development proposals shall meet or exceed these minimum requirements.

73.160(1) Pedestrian and Bicycle Circulation.

(b) For Industrial Uses:

- (i) a concrete or asphalt paved pedestrian walkway shall be provided from the main building entrance to sidewalks in the public right-of-way and other on-site buildings and accessways. The walkway shall be a minimum of 5 feet in width.**
- (ii) walkways through parking areas, drive aisles and loading areas shall have a different appearance than the adjacent paved vehicular areas.**
- (iii) accessways shall be provided as a connection between the development's walkway and bikeway circulation system and an adjacent bike lane.**
- (v) Outdoor Recreation Access Routes shall be provided between the development's walkway and bikeway circulation system and parks, bikeways and greenways where a bike or pedestrian path is designated.**
- (d) Accessways shall be a minimum of 8 feet wide and constructed in accordance with the Public Works Construction Code if they are public accessways, and if they are private accessways they shall be constructed of asphalt, concrete or a pervious surface such as pervious asphalt or concrete, pavers or grasscrete, but not gravel or woody material, and be ADA compliant, if applicable.**
- (e) Accessways to undeveloped parcels or undeveloped transit facilities need not be constructed at the time the subject property is developed. In such cases the applicant for development of a parcel adjacent to an undeveloped parcel shall enter into a written agreement with the City guaranteeing future performance by the applicant and any successors in interest of the property being developed to construct an accessway when the adjacent undeveloped parcel is developed. The agreement shall be subject to the City's review and approval.**

- (f) Where a bridge or culvert would be necessary to span a designated greenway or wetland to provide a connection to a bike or pedestrian path, the City may limit the number and location of accessways to reduce the impact on the greenway or wetland.**
- (g) Accessways shall be constructed, owned and maintained by the property owner.**

31.060

Accessway. A non-vehicular, paved pathway designed for pedestrian and bicycle use and providing convenient linkages between a development and adjacent residential and commercial properties and areas intended for public use such as schools, parks, and adjacent collector and arterial streets where transit stops or bike lanes are provided or designated. An accessway is not a sidewalk.

Outdoor Recreational Access Route. A pedestrian path that provides access to a recreation trail. These trails are on City-owned property, exclusive rights-of-way or easements, but are not necessarily located in a designated greenway. They are typically 1/4 mile or less in length.

Walkway. A pedestrian facility which provides a paved surface for pedestrian circulation within a development. A walkway may be shared with bicycles and may cross vehicle areas.

Because the site redevelopment area is within Lot 1300 away from SW Teton Avenue and includes no reconfigured or additional walkways or accessways, the requirements are not applicable.

73.160(1)(c) Curb ramps shall be provided wherever a walkway or accessway crosses a curb.

Because the requirements of 73.160(1)(b) do not apply, the requirement is not applicable.

73.160(3)

(a) Locate windows and provide lighting in a manner which enables tenants, employees and police to watch over pedestrian, parking and loading areas.

(b) In commercial, public and semi-public development and where possible in industrial development, locate windows and provide lighting in a manner which enables surveillance of interior activity from the public right-of-way.

(c) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way.

(d) Provide an identification system which clearly locates buildings and their entries for patrons and emergency services.

(e) Shrubs in parking areas must not exceed 30 inches in height. Tree canopies must not extend below 8 feet measured from grade.

The elevations sheet illustrates provision on the shed of wall-mounted lighting at doors and loading doors in a manner which enables tenants, employees and police to watch over the vicinity of the shed, meeting the requirements of (a)-(c).

Regarding (d), because site plans propose no changes to the existing address numerals, the requirement is not applicable.

With proper maintenance and pruning, the proposed landscaping will meet the requirement of (e).

73.160(4)(a) On and above grade electrical and mechanical equipment such as transformers, heat pumps and air conditioners shall be screened with sight obscuring fences, walls or landscaping.

Because the site plans propose no at-grade or rooftop electrical and mechanical equipment within the site redevelopment area including atop the shed, the requirement is not applicable.

Note: Any rooftop equipment that the applicant, an owner, or a tenant might propose in the indefinite future would require compliance with the screening requirement, review such as Architectural Review (AR), and approval by the Planning Division.

73.160(4)(b) Outdoor storage, excluding mixed solid waste and source separated recyclables storage areas listed under TDC 73.227, shall be screened with a sight obscuring fence, wall, berm or dense evergreen landscaping.

Because the applicant proposes no outdoor storage, excluding mixed solid waste and source separated recyclables storage, the requirement is not applicable.

Note: Any such outdoor storage that the applicant, an owner, or a tenant might propose in the indefinite future would require compliance with the requirement, review such as Architectural Review, and approval by the Planning Division.

61.075(1) Sound barrier construction shall be used to intercept all straight-line lateral paths of 450 feet or less between a residential property within a residential planning district and any side edge of an overhead door or other doorway larger than 64 square feet, at a minimum height of eight feet above the floor elevation of the doorway.

Because within the site redevelopment area there exists no straight-line lateral path of 450 or fewer ft between a residential property within a residential planning district and any side edge of an overhead door or other doorway larger than 64 sq ft – and the applicant proposes no such situation – the requirement is not applicable.

H. Structure Design:

73.050(1)

(b) The proposed design of the development is compatible with the design of other developments in the same general vicinity.

(c) The location, design, size, color and materials of the exterior of all structures are compatible with the proposed development and appropriate to the design character of other developments in the same vicinity.

The vicinity is defined by an area approximately one tax lot deep around the subject property. All industrial developments, the architectural character is tilt-up concrete construction and concrete wainscot with ribbed metal walls. The proposal, an industrial metal shed adjacent to a industrial manufacturing metal building, meets the requirement.

73.100(2) All building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as

to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval. To meet the requirement of 73.100(2), all building exterior improvements approved through the Architectural Review Process shall be continually maintained including necessary painting and repair so as to remain substantially similar to original approval through the Architectural Review Process, unless subsequently altered with Community Development Director approval, as a condition of approval.

73.220(1)

(a) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way or other public areas.

(b) Provide an identification system, which clearly identifies and locates buildings and their entries.

(c) Shrubs in parking areas shall not exceed 30 inches in height, and tree canopies must not extend below 8 feet measured from grade, except for parking structures and underground parking where this provision shall not apply.

Staff examined these requirements as part of 73.160(3).

I. Mixed Solid Waste and Source Separated Recyclables Storage Areas:

73.227(2)(a)(i) The storage area requirement is based on the area encompassed by predominant use(s) of the building (e.g., residential, office, retail, wholesale/warehouse/manufacturing, educational/institutional or other) as well as the area encompassed by other distinct uses. If a building has more than one use and that use occupies 20 percent or less of the gross leasable area (GLA) of the building, the GLA occupied by that use shall be counted toward the floor area of the predominant use(s). If a building has more than one use and that use occupies more than 20 percent of the GLA of the building, then the storage area requirement for the whole building shall be the sum of the area of each use.

Because the applicant proposes the shed to house production equipment that will not increase the number of on-site employees and is not to be gross leasable area (GLA) and the undated waste hauler letter among the application materials agrees to the proposal, the requirement is not applicable. The undated letter should have a date. The applicant should obtain a new letter with a date.

73.227(2)(a)(ii) Storage areas for multiple uses on a single site may be combined and shared.

The proposal does not involve this option.

73.227(2)(a)(v) Commercial, industrial, public and semi-public developments shall provide a minimum storage area of 10 square feet plus:

office - 4 square feet/1000 square feet gross leasable area (GLA);

Retail - 10 square feet/1000 square feet GLA;

Wholesale/Warehouse/Manufacturing - 6 square feet/1000 square feet GLA; Educational and institutional - 4 square feet/1000 square feet GLA; and

other - 4 square feet/1000 square feet GLA.

Because the applicant proposes the shed to house production equipment that will not increase the number of on-site employees and is not to be gross leasable area (GLA) and the undated waste hauler letter among the application materials agrees to the proposal, the requirement is not applicable.

73.227(6)(a)

(iv) Exterior storage areas shall not be located within a required front yard setback or in a yard adjacent to a public or private street.

(v) Exterior storage areas shall be located in central and visible locations on the site to enhance security for users.

(vi) Exterior storage areas can be located in a parking area, if the proposed use provides parking spaces required through the Architectural Review process.

(vii) Storage areas shall be accessible for collection vehicles and located so that the storage area will not obstruct pedestrian or vehicle traffic movement on site or on public streets adjacent to the site. Storage areas shall be accessible for collection vehicles and located so that the storage area will not obstruct pedestrian or vehicle traffic movement on site or on public streets adjacent to the site.

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

73.227(6)(b)

(iii) Exterior storage areas shall be enclosed by a sight obscuring fence or wall at least 6 feet in height. In multi-family, commercial, public and semi-public developments evergreen plants shall be placed around the enclosure walls, excluding the gate or entrance openings. Gate openings for haulers shall be a minimum of 10 feet wide and shall be capable of being secured in a closed and open position. A separate pedestrian access shall also be provided in multi-family, commercial, public and semi-public developments.

(iv) Exterior storage areas shall have either a concrete or asphalt floor surface.

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

73.227(6)(c)

(i) Access to storage areas can be limited for security reasons. However, the storage areas shall be accessible to users at convenient times of the day, and to hauler personnel on the day and approximate time they are scheduled to provide hauler service.

(ii) Storage areas shall be designed to be easily accessible to hauler trucks and equipment, considering paving, grade, gate clearance and vehicle access. A minimum of 10 feet horizontal clearance and 8 feet vertical clearance is required if the storage area is covered.

(iii) Storage areas shall be accessible to collection vehicles without requiring backing out of a driveway onto a public street. If only a single access point is available to the storage area, adequate turning radius shall be provided to allow vehicles to safely exit the site in a forward motion.

Because the requirement of 73.227(2)(a)(v) is not applicable, the requirements are not applicable.

J. Landscaping:

73.100(1) All landscaping approved through the Architectural Review Process shall be continually maintained, including necessary watering, weeding, pruning and replacement, in a manner substantially similar to that originally approved through the Architectural Review Process, unless subsequently altered with Community Development Director approval.

The development will have landscaping to maintain. To meet the requirement of 73.100(1), all landscaping approved through the Architectural Review Process shall be continually maintained, including necessary watering, weeding, pruning and replacement, in a manner substantially similar to that originally approved through the Architectural Review Process, unless subsequently altered through the AR process.

73.240(3) The minimum area requirement for landscaping for uses in CO, CR, CC, CG, ML and MG Planning Districts shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process.

Because the site redevelopment area isn't within the Core Area Parking District, and the applicant proposes no dedication for a greenway or natural area, the minimum area requirement for landscaping is 15%.

Because the site plans lack tabulation of the landscaping area as a percentage of the subject property, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.240(3), the minimum area requirement for landscaping shall be fifteen (15) percent of the total area to be developed, except within the Core Area Parking District, where the minimum area requirement for landscaping shall be 10 percent. When a dedication is granted on the subject property for a greenway or natural area, the minimum area requirement for landscaping may be reduced by 2.5 percent from the minimum area requirement as determined through the AR process:

- The applicant shall revise the site plans to tabulate that the landscaped area is at least fifteen (15) percent of the subject property.

73.240(8) Developments not in a Low Density Residential (RL) or Manufacturing Park (MP) Planning district but which abut an RL or MP Planning District shall provide and perpetually maintain dense, evergreen landscaped buffers between allowed uses in the district and the adjacent Low Density Residential (RL) or Manufacturing Park (MP) Planning District as approved through the Architectural Review process.

Because none of the site redevelopment area abuts an RL or MP Planning District, the requirement is not applicable.

73.240(9) Yards adjacent to public streets, except as described in 73.240(7), shall be planted to lawn or live groundcover and trees and shrubs and shall be perpetually

maintained in a manner providing a park-like character to the property as approved through the Architectural Review process.

Because none of the site redevelopment area abuts or includes yards adjacent to public streets, the requirement is not applicable.

73.240(10) Yards not adjacent to public streets or Low Density Residential (RL) or Manufacturing Park (MP) Planning Districts shall be planted with trees, shrubs, grass or other live groundcover, and maintained consistent with a landscape plan indicating areas of future expansion, as approved through the Architectural Review process.

The landscape plan illustrates along the rear east and north side property lines adjacent to the shed reconfigured landscaping, meeting the requirement.

73.240(11) Any required landscaped area shall be designed, constructed, installed, and maintained so that within three years the ground shall be covered by living grass or other plant materials. (The foliage crown of trees shall not be used to meet this requirement.) A maximum of 10% of the landscaped area may be covered with unvegetated areas of bark chips, rock or stone.

Because the site plans lack information sufficient to determine the percentage of unvegetated landscaped area, if any, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.240(11) Any required landscaped area shall be designed, constructed, installed, and maintained so that within three years the ground shall be covered by living grass or other plant materials. (The foliage crown of trees shall not be used to meet this requirement.) A maximum of 10% of the landscaped area may be covered with unvegetated areas of bark chips, rock or stone.

- The applicant shall revise the site plans to illustrate or note the percentage of unvegetated landscaped area, if any.

73.260(1)(a) Deciduous shade and ornamental trees shall be a minimum one and one-half inch (1½") caliper measured six inches (6") above ground, balled and burlapped. Bare root trees will be accepted to plant during their dormant season. Trees shall be characteristically shaped specimens.

Because the applicant proposes no such trees and none are required, the requirement is not applicable.

73.260(1)(b) Coniferous trees shall be a minimum five feet (5') in height above ground, balled and burlapped. Bare root trees will be acceptable to plant during their dormant season. Trees shall be well branched and characteristically shaped specimens.

Because the applicant proposes no such trees and none are required, the requirement is not applicable.

73.260(1)(c) Shrubs. Evergreen and deciduous shrubs shall be at least one (1) to five (5) gallon size. Shrubs shall be characteristically branched. Side of shrub with best foliage shall be oriented to public view.

Because the site plans lack information about shrubbery within the proposed reconfigured landscaping, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.260(1)(c) Shrubs, evergreen and deciduous shrubs shall be at least one (1) to five (5) gallon size. Shrubs shall be characteristically branched. Side of shrub with best foliage shall be oriented to public view.

- The applicant shall revise the site plans to provide information about whether shrubs are proposed and if so their gallon size or gallon size range.

73.260(1)(d) Groundcovers shall be fully rooted and shall be well branched or leafed. English ivy (Hedera helix) is considered a high maintenance material, which is detrimental to other landscape materials and buildings and is therefore prohibited.

Because the site plans lack information about groundcover within the proposed reconfigured landscaping, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.260(1)(d), groundcovers shall be fully rooted and shall be well branched or leafed. English ivy (Hedera helix) is considered a high maintenance material, which is detrimental to other landscape materials and buildings and is therefore prohibited.

- The applicant shall revise the site plans to provide information about the groundcover(s) proposed and confirm exclusion of English ivy.

73.280 Landscaped areas shall be irrigated with an automatic underground or drip irrigation system.

Because the site plans lack illustration or notation of an existing or extended automatic irrigation system, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.280, landscaped areas shall be irrigated with an automatic underground or drip irrigation system.

- The applicant shall revise the site plans to illustrate or note provision of automatic irrigation.

73.290(1) Where natural vegetation has been removed or damaged through grading in areas not affected by the landscaping requirements and that are not to be occupied by structures or other improvements, such areas shall be replanted.

Because the site redevelopment area includes no natural vegetation pre-dating site development, the requirement is not applicable.

73.310(1) A minimum 5-foot-wide landscaped area must be located along all building perimeters, which are viewable by the general public from parking lots or the public right-of-way, excluding loading areas, bicycle parking areas and pedestrian egress/ingress locations. Pedestrian amenities such as landscaped plazas and arcades may be substituted for this requirement. This requirement shall not apply where the distance along a wall between two vehicle or pedestrian access openings (such as entry doors, garage doors, carports and pedestrian corridors) is less than 8 feet.

Because the site plans illustrate no 5-ft landscaped strip along the west side of the shed, excepting the loading door, that is visible from the parking area to the west, and indicates a 3-ft landscaped strip along the north side of the shed that is visible from parking area to north, the proposal fails to meet the requirement and so staff is applying a condition.

Condition

73.310(1) A minimum 5-foot-wide landscaped area must be located along all building perimeters, which are viewable by the general public from parking lots or the public right-of-way, excluding loading areas, bicycle parking areas and pedestrian egress/ingress locations. Pedestrian amenities such as landscaped plazas and arcades may be substituted for this requirement. This requirement shall not apply where the distance along a wall between two vehicle or pedestrian access openings (such as entry doors, garage doors, carports and pedestrian corridors) is less than 8 feet.

- The applicant shall revise the site plans to illustrate and note provision of 5-ft wide landscaped strips along the west side of the shed, excepting the loading door, and along the north side of the shed.

73.310(2) Areas exclusively for pedestrian use that are developed with pavers, bricks, etc., and contain pedestrian amenities, such as benches, tables with umbrellas, children’s play areas, shade trees, canopies, etc., may be included as part of the site landscape area requirement.

The applicant has chosen not to exercise this option.

73.310(3) All areas not occupied by buildings, parking spaces, driveways, drive aisles, pedestrian areas or undisturbed natural areas shall be landscaped.

The site plans illustrate landscaping where not otherwise occupied by improvements or natural areas, meeting the requirement.

73.340(1) A clear zone shall be provided for the driver at ends of on-site drive aisles and at driveway entrances, vertically between a maximum of 30 inches and a minimum of 8 feet as measured from the ground level, except for parking structures and underground parking, where this provision shall not apply.

Because the site redevelopment area includes no reconfigured or additional drive aisles or driveways, the requirement is not applicable.

73.340(2) Perimeter site landscaping of at least 5 feet in width shall be provided in all off-street parking and vehicular circulation areas (including loading areas).

(a) The landscape area shall contain:

- (i) Deciduous trees an average of not more than 30 feet on center. The trees shall meet the requirements of 73.360(7).**
- (ii) Plantings which reach a mature height of 30 inches in 3 years which provide screening of vehicular headlights year round.**
- (iii) Shrubs or ground cover, planted so as to achieve 90 percent coverage within three years.**

Because the site redevelopment area includes no reconfigured or additional parking, drive aisles, or loading area among parking, the requirements are not applicable.

73.360

(1) A minimum of 25 square feet per parking stall shall be improved with landscape island areas which are protected from vehicles by curbs. These landscape areas shall be dispersed throughout the parking area [see 73.380(3)].

(2) All landscaped island areas with trees shall be a minimum of 5 feet in width (60 inches from inside of curb to curb) and protected with curbing from surface runoff and damage by vehicles. Landscaped areas shall contain groundcover or shrubs and deciduous shade trees.

(3) Provide a minimum of one deciduous shade tree for every four (4) parking spaces to lessen the adverse impacts of glare from paved surfaces and to emphasize circulation patterns. Required shade trees shall be uniformly distributed throughout the parking lot. The trees shall meet the requirements of 73.360(7).

(4) Landscape islands shall be utilized at aisle ends to protect parked vehicles from moving vehicles and emphasize vehicular circulation patterns. Landscape island location requirements shall not apply to parking structures and underground parking.

Because the site redevelopment area includes no reconfigured or additional parking, the requirements are not applicable.

73.360(6)(a) Except as in (b) [Central Design District] below, site access from the public street shall be defined with a landscape area not less than 5 feet in width on each side and extend 25 feet back from the property line for commercial, public, and semi-public development with 12 or more parking spaces and extend 30 feet back from the property line for industrial development.

Because the site redevelopment area neither borders nor includes either Lot 1300 driveway from SW Teton Avenue, the requirement is not applicable.

73.360(7) Deciduous shade trees shall meet the following criteria:

- (a) Reach a mature height of 30 feet or more**
- (b) Cast moderate to dense shade in summer**
- (c) Long lived, i.e., over 60 years**
- (d) Do well in an urban environment**
 - (i) Pollution tolerant**
 - (ii) Tolerant of direct and reflected heat**
- (e) Require little maintenance**
 - (i) Mechanically strong**
 - (ii) Insect and disease resistant**
 - (iii) Require little pruning**
- (f) Be resistant to drought conditions**
- (g) Be barren of fruit production.**

Because the applicant proposes no such trees and none are required, the requirement is not applicable.

74.765 All trees, plants or shrubs planted in the right-of-way of the City shall conform in species and location and in accordance with the street tree plan in Schedule A.

Because the site redevelopment area neither borders nor includes the Lot 1300 frontage along SW Teton Avenue or ROW, the requirement is not applicable.

K. Tree Preservation:

73.050(4) As part of Architectural Review, the property owner may apply for approval to cut trees in addition to those allowed in TDC 34.200. The granting or denial of a tree-cutting permit shall be based on the criteria in TDC 34.230.

34.230 The Community Development Director shall consider the following criteria when approving, approving with conditions, or denying a request to cut trees.

The Community Development Director may approve a request to cut a tree when the applicant can satisfactorily demonstrate that any of the following criteria are met:

- (a) The tree is diseased, and**
 - (i) The disease threatens the structural integrity of the tree; or**
 - (ii) The disease permanently and severely diminishes the aesthetic value of the tree; or**
 - (iii) The continued retention of the tree could result in other trees being infected with a disease that threatens either their structural integrity or aesthetic value.**
- (b) The tree represents a hazard, which may include but not be limited to:**
 - (i) The tree is in danger of falling;**
 - (ii) Substantial portions of the tree are in danger of falling.**
- (c) It is necessary to remove the tree to construct proposed improvements based on Architectural Review approval, building permit, or approval of a Subdivision or Partition Review.**

Because the site plans imply removal of four existing landscaped area trees near the north side of the proposed shed to accommodate the proposed requirement of the shed, it appears criterion (c) would apply and be met. However, because of the lack of clear information, staff is unable to confirm compliance with the requirement and so is applying a condition.

Condition

To meet the requirement of 73.050(4), as part of Architectural Review, the property owner may apply for approval to cut trees in addition to those allowed in TDC 34.200. The granting or denial of a tree-cutting permit shall be based on the criteria in TDC 34.230.

- The applicant shall revise the site plans to clarify if there is tree removal and if so provide text and graphic information about it.

73.250

(1) Trees and other plant materials to be retained shall be identified on the landscape plan and grading plan.

(2) During the construction process:

- (a) The owner or the owner's agents shall provide above and below ground protection for existing trees and plant materials identified to remain.**
- (b) Trees and plant materials identified for preservation shall be protected by chain link or other sturdy fencing placed around the tree at the drip line.**
- (c) If it is necessary to fence within the drip line, such fencing shall be specified by a qualified arborist as defined in 31.060.**
- (d) Neither top soil storage nor construction material storage shall be located within the drip line of trees designated to be preserved.**

(e) Where site conditions make necessary a grading, building, paving, trenching, boring, digging, or other similar encroachment upon a preserved tree's drip line area, such grading, paving, trenching, boring, digging, or similar encroachment shall only be permitted under the direction of a qualified arborist. Such direction must assure that the health needs of trees within the preserved area can be met.

(f) Tree root ends shall not remain exposed.

(3) Landscaping under preserved trees shall be compatible with the retention and health of said tree.

(4) When it is necessary for a preserved tree to be removed in accordance with TDC 34.210 the landscaped area surrounding the tree or trees shall be maintained and replanted with trees that relate to the present landscape plan, or if there is no landscape plan, then trees that are complementary with existing, nearby landscape materials.

Because the site plans imply removal of four existing landscaped area trees near the north side of the proposed shed to accommodate the proposed requirement of the shed, it appears the tree preservation requirements would not apply. However, because of the lack of clear information, staff is unable to confirm if the applicant intends to preserve the trees and that the tree preservation requirements would apply and so is applying a condition.

Condition

To meet the requirement of 73.250,

(1) Trees and other plant materials to be retained shall be identified on the landscape plan and grading plan.

(2) During the construction process:

(a) The owner or the owner's agents shall provide above and below ground protection for existing trees and plant materials identified to remain.

(b) Trees and plant materials identified for preservation shall be protected by chain link or other sturdy fencing placed around the tree at the drip line.

(c) If it is necessary to fence within the drip line, such fencing shall be specified by a qualified arborist as defined in 31.060.

(d) Neither top soil storage nor construction material storage shall be located within the drip line of trees designated to be preserved.

(e) Where site conditions make necessary a grading, building, paving, trenching, boring, digging, or other similar encroachment upon a preserved tree's drip line area, such grading, paving, trenching, boring, digging, or similar encroachment shall only be permitted under the direction of a qualified arborist. Such direction must assure that the health needs of trees within the preserved area can be met.

(f) Tree root ends shall not remain exposed.

(3) Landscaping under preserved trees shall be compatible with the retention and health of said tree.

(4) When it is necessary for a preserved tree to be removed in accordance with TDC 34.210 the landscaped area surrounding the tree or trees shall be maintained and replanted with trees that relate to the present landscape plan, or if there is no landscape plan, then trees that are complementary with existing, nearby landscape materials.

- The applicant shall revise the site plans to clarify if there is tree preservation and if so provide text and graphic information about it.

L. Grading:

73.270(1) After completion of site grading, topsoil is to be restored to exposed cut and fill areas to provide a suitable base for seeding and planting.

The site plans indicate a new concrete foundation for the shed, which means grading is necessary and that such grading affects existing landscaping along the north side of where the site plans site the shed. For this reason, staff is applying a condition.

Condition

To meet the requirement of 73.270(1), after completion of site grading, topsoil is to be restored to exposed cut and fill areas to provide a suitable base for seeding and planting.

73270(4) Impervious surface drainage shall be directed away from pedestrian walkways, dwelling units, buildings, outdoor private and shared areas and landscape areas except where the landscape area is a water quality facility.

The site plans indicate conveyance of stormwater into a required water quality facility (WQF) in the rear east yard paralleling the east side of the shed such that the proposal meets the requirement.

M. Bicycle Parking, Off-Street Parking and Loading:

Bicycle Parking:

73.370(2)(a):

Use	Bicycle Parking Requirement	Percentage of Bicycle Parking to Be Covered
<u>Industrial (i)</u> Manufacturing	2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater	First 5 spaces or 30%, whichever is greater
<u>Industrial (ii)</u> Warehousing	2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater	First 5 spaces or 30%, whichever is greater

AR-98-07, the last AR to approve site changes – excepting one in 2000 limited to a wireless communication facility (WCF) – described ten existing bike stalls along the easterly north side of the building. The present AR-15-07 site plans indicating an unspecified supply of covered bike parking for Lot 1300 site development at a southeast corner of the building, east of the south central building volume. Because of conflicting and unclear information, staff is unable to determine compliance and so is applying a condition.

Condition

To meet the requirement of 73.370(2)(a) Industrial (i) and (ii), required bicycle parking is 2, or 0.10 spaces per 1,000 gross sq. ft., whichever is greater, of which the first 5 spaces or 30%, whichever is greater, shall be covered.

- The applicant shall revise the site plans to illustrate and note the placement, amount, and coverage of the required supply of bicycle parking.

73.370(1)

(n) Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary racks, which accommodate a bicyclist's lock securing the frame and both wheels.

(o) Each bicycle parking space shall be at least 6 feet long and 2 feet wide, and overhead clearance in covered areas shall be at least 7 feet, unless a lower height is approved through the Architectural Review process.

(r) Required bicycle parking shall be located in convenient, secure, and well lighted locations approved through the Architectural Review process.

(s) Bicycle parking facilities may be provided inside a building in suitable secure and accessible locations.

(u) Bicycle parking areas and facilities shall be identified with appropriate signing as specified in the *Manual on Uniform Traffic Control Devices (MUTCD)* (latest edition). At a minimum, bicycle parking signs shall be located at the main entrance and at the location of the bicycle parking facilities.

Because staff applied a condition to meet the bike parking supply requirement above, staff is applying a condition.

Condition

To meet the requirements of 73.370(1),

(n) Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary racks, which accommodate a bicyclist's lock securing the frame and both wheels.

(o) Each bicycle parking space shall be at least 6 feet long and 2 feet wide, and overhead clearance in covered areas shall be at least 7 feet, unless a lower height is approved through the Architectural Review process.

(r) Required bicycle parking shall be located in convenient, secure, and well lighted locations approved through the Architectural Review process.

(s) Bicycle parking facilities may be provided inside a building in suitable secure and accessible locations.

(u) Bicycle parking areas and facilities shall be identified with appropriate signing as specified in the *Manual on Uniform Traffic Control Devices (MUTCD)* (latest edition). At a minimum, bicycle parking signs shall be located at the main entrance and at the location of the bicycle parking facilities.

- The applicant shall revise the site plans to illustrate and note about the bicycle parking its security, dimensions, and signage.

Off-Street Vehicle Parking:

73.370

(1)(a) At the time of establishment of a new structure or use, or change in use, or change in use of an existing structure, within any planning district of the City, off-street parking spaces, off-street vanpool and carpool parking spaces for commercial, institutional and industrial uses, off-street bicycle parking, and off-street loading berths

shall be as provided in this and following sections, unless greater requirements are otherwise established by the conditional use permit or the Architectural Review process, based upon clear findings that a greater number of spaces are necessary at that location for protection of public health, safety and welfare or that a lesser number of vehicle parking spaces will be sufficient to carry out the objectives of this section. In the Central Design District, the Design Guidelines of TDC 73.610 shall be considered. In case of conflicts between guidelines or objectives in TDC Chapter 73, the proposal shall provide a balance.

(2)(a):

Use	Minimum Motor Vehicle Parking Requirement	Maximum
Industrial (i) Manufacturing	1.60 spaces per 1,000 sq. ft. of gross floor area	None
Industrial (ii) Warehousing	0.30 spaces per 1,000 sq. ft. of gross floor area	Zone A: 0.4 spaces per 1,000 sq. ft. gross floor area Zone B: 0.5 spaces per 1,000 sq. ft. gross floor area

The site redevelopment area is within Zone B per [Figure 73-3](#) Parking Maximum Map.

The manufacturing and warehousing site development of Lot 1300 has 48 total parking spaces. Though within the site redevelopment area the proposed shed is 9,855 sq ft, the application materials include a one-page “Parking Explanation” narrative letter explaining that the shed needs no parking and that the existing parking supply is sufficient for the site development and the proposal because:

- Warehoused equipment and its surrounding work area used to treat large pieces of metal consumes large portions of building square footage; and
- Out of 52.5 total full-time equivalent (FTE) employees, 36.5 FTEs maximum are ever on-site at once with 28.5 FTEs being typical, and assuming 37 employees each arriving in single-occupant vehicles, 11 spaces would remain for customers and visitors.

The proposed shed is for such large equipment and would not increase employee trip generation. For these reasons, the requirement is met.

73.370(3) The minimum number of off-street Vanpool and Carpool parking for commercial, institutional, and industrial uses is as follows:

<u>Number of Required Parking Spaces</u>	<u>Number of Vanpool or Carpool Spaces</u>
0 to 10	1
10 to 25	2
26 and greater	1 for each 25 spaces

Because the site redevelopment area includes no reconfiguration or addition of parking or carpool/vanpool (C/V) spaces, the requirement is not applicable.

73.370(1)(x) Required vanpool and carpool parking shall meet the 9-foot parking stall standards in Figure 73-1 and be identified with appropriate signage.

Because the requirement of 73.370(3) is not applicable, the requirement is not applicable.

73.380

(1) Off-street parking lot design shall comply with the dimensional standards set forth in Figure 73-1 of this section.

(2) Parking stalls for sub-compact vehicles shall not exceed 35 percent of the total parking stalls required by Section 73.370(2). Stalls in excess of the number required by TDC 73.370(2) can be sub-compact stalls.

(3) Off-street parking stalls shall not exceed eight continuous spaces in a row without a landscape separation.

(4) Areas used for standing or maneuvering of vehicles shall have paved asphalt or concrete surfaces maintained adequately for all-weather use and so drained as to avoid the flow of water across sidewalks.

(8) Service drives to off-street parking areas shall be designed and constructed to facilitate the flow of traffic, provide maximum safety of traffic access and egress, and maximum safety of pedestrians and vehicular traffic on the site.

(9) Parking bumpers or wheel stops or curbing shall be provided to prevent cars from encroaching on the street right-of-way, adjacent landscaped areas, or adjacent pedestrian walkways.

(11) On-site drive aisles without parking spaces, which provide access to parking areas with regular spaces or with a mix of regular and sub-compact spaces, shall have a minimum width of 22 feet for two-way traffic and 12 feet for one-way traffic. On-site drive aisles without parking spaces, which provide access to parking areas with only sub-compact spaces, shall have a minimum width of 20 feet for two-way traffic and 12 feet for one-way traffic.

Because the site redevelopment area includes no reconfiguration or addition of parking, the requirements of all but (4) are not applicable.

Regarding (4), the site plans illustrate within the site redevelopment area retention of existing asphalt for standing or maneuvering of vehicles at the west and south side of the shed where there are doors and loading doors, meeting the requirement.

N. Lighting:

73.160(3)(c) Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way without shining into public rights-of-way or fish and wildlife habitat areas.

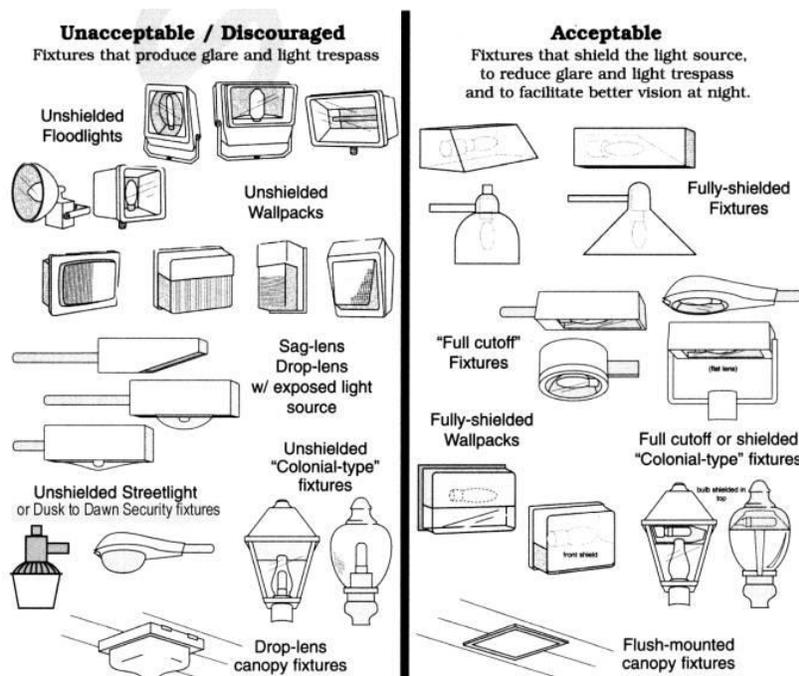
73.380(6) Artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.

The elevations illustrate four wall-mounted exterior light fixtures on the shed, of which two are on the west façade facing SW Teton Avenue, one is on the south façade, and one is on the east façade facing towards adjacent undeveloped Lot 1700 consisting of wetlands and some undeveloped uplands.

The application materials include lighting cut sheets for two fixture models illustrated below:



Because the model is not full cut-off, the west lights face public right-of-way, and the east lights face wildlife habitat, they shine or create glare and so staff is applying a condition. Staff looks to the *Guidelines for Good Exterior Lighting Plans* (Attachment 104) to administer the exterior lighting standards, from which comes the diagram reproduced below. The applicant needs to instead provide fixtures that are full cut-off.



Condition

To meet the requirement of 73.380(6), artificial lighting, which may be provided, shall be so deflected as not to shine or create glare in any residential planning district or on any adjacent dwelling, or any street right-of-way in such a manner as to impair the use of such way.

- The applicant shall revise the elevations sheet and provide a light fixture cut sheet or sheets to demonstrate that the proposed wall-mounted lights on the east and west elevations of the shed are full cut-off fixtures. The *Guidelines for Good Exterior Lighting Plans* (Attachment 104) is available as an implementation aid.

O. Loading Berths:

73.390

(1) The minimum number of off-street loading berths for commercial, industrial, public and semi-public uses is as follows:

<u>Square Feet of Floor Area</u>	<u>Number of Berths</u>
Less than 5,000	0
5,000 - 25,000	1
25,000-60,000	2
60,000 and over	3

(2) Loading berths shall conform to the following minimum size specifications:

- (b) Industrial uses - 12' x 60'**
- (c) Berths shall have an unobstructed height of 14'**
- (d) Loading berths shall not use the public right-of-way as part of the required off-street loading area.**

(3) Required loading areas shall be screened from public view from public streets and adjacent properties by means of sight-obscuring landscaping, walls or other means, as approved through the Architectural Review process.

The proposed shed is 9,855 sq ft for which one loading berth is required and the elevations indicate provision of three at-grade berths of at least the minimum dimensions and located at least 387 ft away from view from SW Teton Avenue, meeting the requirements.

P. Access:

73.400(9) Ingress and egress for industrial uses shall not be less than 36 feet for the first 50 feet from the right-of-way, and 24 feet thereafter (Applies to industrial uses with less than 250 required parking spaces).

Because the site redevelopment area neither includes the two driveways for Lot 1300, which are from SW Teton Ave, nor proposes to change them, the requirement is not applicable.

Vision clearance requirements at the driveways and street intersection shall comply with the requirements of 73.400(13).

Because the site redevelopment area neither includes the two driveways for Lot 1300, which are from SW Teton Ave, nor proposes to change them, the requirement is not applicable.

Q. Environmental:

63.051(1) Except as otherwise provided in this section, all industrial development shall comply with the Oregon State Department of Environmental Quality standards relating to noise. From 9:00 p.m. to 7:00 a.m., a dBA reading from an industrial development, whether new or existing, shall not exceed an L-max of 60 dBA when measured from a noise sensitive property.

Because staff cannot determine compliance until after approval of this AR, staff is applying a condition.

Condition

The applicant shall make the site development comply with the noise limits of 63.051(1).

R. Signs:

TDC 73 does not address signs, and TDC 38 regulates signs. TDC 38.060 requires signage to have sign permits.

Condition

The applicant shall separately from this AR submit [sign permit](#) applications for any proposed signage.

S. Time Limit on Approval:

73.056 Architectural Review approvals shall expire after two years unless:

- (1) A building, or grading permit submitted in conjunction with a building permit application, has been issued and substantial construction pursuant thereto has taken place and an inspection performed by a member of the Building Division; or**
- (2) The Architectural Review (AR) applicant requests in writing an extension and the City approves it. If the Community Development Director and City Engineer or their designees approved the AR, then the Community Development Director and City Engineer shall decide upon the extension request. If the Architectural Review Board (ARB) approved the AR, then the ARB shall decide upon the extension request. The applicant shall provide notice of extension request to past recipients of the AR notice of application and post a sign pursuant to TDC 31.064. Before approving an extension, the deciding party shall find the request meets these criteria:**
 - (a) The applicant submitted a written extension request prior to the original expiration date.**
 - (b) There have been no significant changes in any conditions, ordinances, regulations or other standards of the City or applicable agencies that affect the previously approved project so as to warrant its resubmittal for AR.**
 - (c) If the previously approved application included a special study, the applicant provided with the extension a status report that shows no significant changes on the site or within the vicinity of the site. A letter from a recognized professional also would satisfy this criterion if it states that conditions have not changed after the original approval and that no new study is warranted.**
 - (d) If the AR applicant neglected site maintenance and allowed the site to become blighted, the deciding party shall factor this into its decision.**
 - (e) The deciding party shall grant no more than a single one-year extension for an AR approval.**
 - (f) If the Community Development Director and City Engineer or their designees are the deciding party, then they shall decide within thirty (30)**

days of receipt of the request. If the ARB is the deciding party, then the ARB shall decide within sixty (60) days of receipt of the request. If the deciding party fails to decide within the applicable time period, the decision shall default to approval.

IV. APPEAL

The Architectural Review portion of this decision will be final after 14 calendar days on **July 3, 2015**, unless a written appeal is received by the **Community Development Department – Planning Division at 18880 Martinazzi Avenue, Tualatin, Oregon 97062 before 5:00 p.m., July 3, 2015.** **The appeal must be submitted on the City appeal form with all the information requested provided thereon and signed by the appellant.** The plans and appeal forms are available at the Tualatin Library and at the Community Development Department – Planning Division offices. Appeals of a staff Architectural Features decision are reviewed by the Architectural Review Board (ARB).

Submitted by:



Colin Cortes, AICP, CNU-A
Assistant Planner

Attachments:

101. Tax Map
102. Site Plans and Additional Application Materials
103. Agency Comments: CWS & TVF&R
104. *Guidelines for Good Exterior Lighting Plans*

file: AR-15-07

The Public Facilities Recommendation (PFR) complement to the AR starts on the next page.



City of Tualatin

CITY ENGINEER'S PUBLIC FACILITIES FINDINGS & RECOMMENDED DECISION

**** APPROVAL WITH CONDITIONS ****

June 19, 2015

The following are the Public Facilities findings for AR 15-07, Thermal Modification Technologies. All references are to sections in the Tualatin Development Code (TDC) or Tualatin Municipal Code (TMC) unless otherwise noted.

TDC 74.120 ...No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.

TDC 74.140 (1) All the public improvements required under this chapter shall be completed and accepted by the City prior to issuance of a Certificate of Occupancy.

TDC 74.330 Utility Easements

- (1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.**
- (4) ...For both on-site and off-site easement areas, a utility easement shall be granted to the City; Building Permits shall not be issued for the development prior to acceptance of the easement by the City.**
- (5) The width of the public utility easement shall meet the requirements of the Public Works Construction Code.**

TMC 4-1.010 This development is subject to all applicable building code requirements and all applicable building and development fees.

FINDINGS

These comments are a result of site investigation, developer comments, and review of the submitted plan sheets dated March 27, 2015.

1. Fire and Life Safety:

TMC 4-2.010 (1) Every application for a building permit and accompanying plans shall be submitted to the Building Division for review of water used for fire protection, the approximate location and size of hydrants to be connected, and the provisions for access and egress for firefighting equipment. If upon such review it is determined that the fire protection facilities are not required or that they are adequately provided for in the plans, the Fire and Life Safety Reviewer shall recommend approval to the City Building Official.

Two public fire hydrants exist near this development near the northwest and southwest property line corners on SW Teton Avenue. The submitted plans show one existing private fire hydrant onsite near the middle of the lot along the north property line. During the review of Building Permits the Building Official may determine that additional fire protection devices may be necessary upon recommendation of Tualatin Valley Fire & Rescue (TVF&R). The applicant will need to submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).

Note: any new fire hydrants will be onsite and private.

Prior to issuance of a Building Permit:

- *The applicant shall submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).*
- *The applicant shall obtain a Water Quality Permit for onsite facilities.*

2. Transportation:

TDC 11.610 Transportation Goals and Objectives (2) (e) For development applications, including, but not limited to subdivisions and architectural reviews, a LOS of at least D and E are encouraged for signalized and unsignalized intersections, respectively.

TDC 73.400 (5)...a sidewalk shall be constructed along all street frontage, prior to use or occupancy of the building or structure proposed for said property. The sidewalks required by this section shall be constructed to City standards,...

TDC 74.420 (6) All required street improvements shall include curbs, sidewalks, storm drainage, streetlights, street signs, street trees, and, where designated, bikeways and transit facilities.

TDC 74.660 Underground.

(1) All utility lines including, but not limited to, those required for gas, electric, communication, lighting and cable television services and related facilities shall be placed underground. Surface-mounted transformers, surface-mounted connection boxes and meter cabinets may be placed above ground. Temporary utility service facilities, high capacity electric and communication feeder lines, and utility transmission lines operating at 50,000 volts or above may be placed above ground. The applicant shall make all necessary arrangements with all utility companies to provide the underground services. The City reserves the right to approve the location of all surface-mounted transformers.

TDC 75.060 Existing Driveways and Street Intersections (2) The City Engineer may restrict existing driveways and street intersections to right-in and right-out by construction of raised median barriers or other means.

TDC 74.120 ...No work shall be undertaken on any public improvement until after the construction plans have been approved by the City Engineer and a Public Works Permit issued and the required fees paid.

TDC 74.140 (1) All the public improvements required under this chapter shall be completed and accepted by the City prior to issuance of a Certificate of Occupancy.

SW Teton Avenue consists of 66 feet of right-of-way and is constructed with 40 feet of pavement and 6-foot wide curb-tight sidewalks. No changes are proposed and none are required. This requirement is met.

3. Access:

73.400 Access

- (2) **Owners of two or more uses, structures or parcels of land may agree to utilize jointly the same ingress and egress when the combined ingress and egress of both uses, structures, or parcels of land satisfies their combined requirements as designated in this code; provided that satisfactory legal evidence is presented to the City Attorney in the form of deeds, easements, leases or contracts to establish joint use.**
- (10) **Minimum access requirements for residential uses: (b) Ingress and egress for multi-family residential uses shall not be less than the following:...for 50-499 parking spaces a minimum of one 32-foot wide access or two 24-foot wide accesses are required.**
- (11) **Minimum Access Requirements for Commercial, Public and Semi-Public Uses. If 1-99 parking spaces are required, only one access is required. If 100-249 parking spaces are required, two accesses are required. Ingress and egress shall not be less than 32 feet wide for the first 50 feet from the right-of-way and 24 feet thereafter.**
- (12) **Minimum Access Requirements for Industrial Uses. If 1-250 parking spaces are required, only one access is required. Ingress and egress shall not be less than 36 feet wide for the first 50 feet from the right-of-way and 24 feet thereafter.**
- (14) **(a) Unless otherwise herein provided, maximum driveway widths shall not exceed 40 feet.**
- (15) **Distance between Driveways and Intersections. Distances listed shall be measured from the stop bar at the intersection. (a) At the intersection of collector or arterial streets, driveways shall be located a minimum of 150 feet from the intersection.**

The plans show three existing access to SW Teton Avenue that are approximately 24, 40, and 30 feet wide. No changes are proposed and none are required. This requirement is met.

4. Water:

TDC 74.610 (1) Water lines shall be installed to serve each property in accordance with the Public Works Construction Code. Water line construction plans shall be submitted to the City Engineer for review and approval prior to construction.

TMC 3-3.040 (2) For nonresidential uses, separate meters shall be provided for each structure.

TMC 3-3.120 (2) The owner of property to which City water is furnished for human consumption shall install in accordance with City standards an appropriate backflow prevention device on the premises where any of the following circumstances exist: (b) Where there is a fire protection service, and irrigation service or a nonresidential service connection which is two inches or larger in size;

TMC 3-3.120 (4) requires all irrigation systems to be installed with a double check valve assembly.

TDC74.610 (3) As set forth in TDC Chapter 12, Water Service, the City has three water service levels. All development applicants shall be required to connect the proposed development site to the service level in which the development site is located.

No changes are proposed to the public water system and none are required. This requirement is met.

5. Sanitary Sewer:

TDC 74.620 (1) Sanitary sewer lines shall be installed to serve each property in accordance with the Public Works Construction Code. Sanitary sewer construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.

TDC 74.330 Utility Easements (1) Utility easements for water, sanitary sewer and storm drainage facilities, telephone, television cable, gas, electric lines and other public utilities shall be granted to the City.

No changes are proposed to the public sanitary sewer and none are required. This requirement is met.

6. Storm Drainage & Water Quality:

TDC 74.630 Storm Drainage System

- (1) Storm drainage lines shall be installed to serve each property in accordance with City standards. Storm drainage construction plans and calculations shall be submitted to the City Engineer for review and approval prior to construction.**
- (2) The storm drainage calculations shall confirm that adequate capacity exists to serve the site. The discharge from the development shall be analyzed in accordance with the City's Storm and Surface Water Regulations (TMC 3-5).**

TDC 74.650 Water Quality, Storm Water Detention and Erosion Control

- (2) On all other development applications, prior to issuance of any building permit, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be met and obtain a Stormwater Connection Permit from Clean Water Services.**

- (3) For on-site private and regional non-residential public facilities, the applicant shall submit a stormwater facility agreement, which will include an operation and maintenance plan provided by the City, for the water quality facility for the City's review and approval. The applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City.**

TMC 3-5-220 Criteria for Requiring On-Site Detention to be Constructed.

- (1) There is an identified downstream deficiency, as defined in TMC 3-5.210, and detention rather than conveyance system enlargement is determined to be the more effective solution.**
- (2) There is an identified regional detention site within the boundary of the development.**

TMC 3-5-330 Permit Required. Except as provided in TMC 3-5.310, no person shall cause any change to improved or unimproved real property that will, or is likely to, increase the rate or quantity of run-off or pollution from the site without first obtaining a permit from the City and following the conditions of the permit.

TMC 3-5-380 Criteria for Granting Exemptions to Construction of On-Site Water Quality Facilities. A regional public facility may be constructed to serve private non-residential development provided:

- (1) The facility serves more than one lot; and**
- (2) All owners sign a stormwater facility agreement; and**
- (3) Treatment accommodates reasonable worst case impervious area for full build-out, stormwater equivalent to existing or proposed roof area is privately treated in LIDA facilities, and any detention occurs on each lot.**

The plans show the proposed structure's stormwater collected and directed to a series of two private retention infiltration planters to treat the redeveloped area. This is acceptable. The applicant will need to submit final stormwater treatment and retention plans for review and approval.

The applicant has submitted stormwater calculations that show treatment and retention of stormwater for the redeveloped area. This is acceptable. This requirement is met.

Prior to the issuance of a Water Quality Permit:

- *The applicant shall submit final stormwater treatment and retention plans for review and approval.*

7. Grading:

TDC 74.640 (1) Development sites shall be graded to minimize the impact of storm water runoff onto adjacent properties and to allow adjacent properties to drain as they did before the new development. (2) A development applicant shall submit a grading plan showing that all lots in all portions of the development will be served by gravity drainage from the building crawl spaces; and that this development will not affect the drainage on adjacent properties. The City Engineer may require the applicant to remove all excess materials from the development site.

The submitted plans appear to minimize the impact of stormwater runoff to adjacent properties and allow adjacent properties to drain as they did before the development. This requirement is met.

8. Erosion Control:

TDC 74.650 (3) ..the applicant shall submit an erosion control plan prior to issuance of a Public Works Permit. No construction or disturbing of the site shall occur until the erosion control plan is approved by the City and the required measures are in place and approved by the City. In order to reduce the amount of sediment discharged into the public storm system, erosion control measures are required during construction. If the site is over 1 acre in size a NPDES Erosion Control Permit is required.

If the development's disturbed area during construction is between 1 and 5 acres in size, a 1200-CN NPDES Erosion Control Permit is required. If it is over 5 acres, a 1200-C NPDES Erosion Control Permit is required. The proposed disturbed area of the development site is a total of approximately 0.23 acres. A NPDES Erosion Control Permit is not required.

A City of Tualatin erosion control permit is required if there is construction or disturbing of the site. The applicant has not obtained a City of Tualatin erosion control permit. The applicant will need to obtain a City of Tualatin erosion control permit.

Prior to the issuance of a Building Permit:

- *The applicant shall obtain a City of Tualatin erosion control permit.*

9. Stormwater Connection Permit:

TDC 74.650 Water Quality, Storm Water Detention and Erosion Control (2) On all other development applications, prior to issuance of any building permit, the applicant shall arrange to construct a permanent on-site water quality facility and storm water detention facility and submit a design and calculations indicating that the requirements of the Surface Water Management Ordinance will be met and obtain a Stormwater Connection Permit from the Unified Sewerage Agency.

The applicant has submitted a CWS Service Provider Letter (SPL) indicating that Sensitive Areas do not exist on-site. In the SPL the applicant has received an initial response indicating that their proposed development meets CWS requirements. CWS has submitted a Memorandum dated April 30, 2015, with review comments. CWS will indicate final approval of activities relating to wetlands & buffers after final permit plans are submitted prior to issuance of associated permits. Any vegetated corridor mitigation required in the SPL will need to be included in the Water Quality Permit. The applicant will need to submit final plans that comply with the Service Provider Letter and CWS Memorandum comments, for review and approval.

Prior to the issuance of a Water Quality Permit:

- *The applicant shall submit final plans that comply with the Service Provider Letter conditions and Clean Water Services Memorandum comments, for review and approval.*

PUBLIC FACILITIES REQUIREMENTS

The following are the Public Facilities requirements for AR 15-07, Thermal Modification Technologies:

PRIOR TO ISSUANCE OF A WATER QUALITY PERMIT:

- PFR-1 The applicant shall submit final stormwater treatment and retention plans for review and approval.
- PFR-2 The applicant shall submit final plans that comply with the Service Provider Letter conditions and Clean Water Services Memorandum comments, for review and approval.

PRIOR TO ISSUANCE OF A BUILDING PERMIT:

- PFR-3 The applicant shall submit plans that comply with fire protection requirements as determined through the Building Division and Tualatin Valley Fire & Rescue (TVF&R).
- PFR-4 The applicant shall obtain a Water Quality Permit for onsite facilities.
- PFR-5 The applicant shall obtain a City of Tualatin erosion control permit.

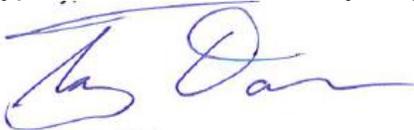
PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY:

- PFR-6 The applicant shall complete all the public improvements and have them accepted by the City.

APPEAL

The Public Facilities Review portion of this decision is final after the expiration of 14 calendar days from the date of this decision, unless a written appeal is received on or before 5:00 p.m., on July 3, 2015 by the Engineering Division at 18880 SW Martinazzi Avenue, Tualatin, Oregon 97062. The appeal must be signed by the appellant, contain the information required by TDC 31.078 on the City appeal form, and contain the \$135 appeal filing fee. The plans and appeal forms are available at the Tualatin Library and at the City offices. Public Facilities appeals are reviewed by City Council.

Typed on behalf of the City Engineer,



Tony Doran, EIT
Engineering Associate

SW 1/4 SW 1/4 SECTION 23 T2S R1W W.M.

WASHINGTON COUNTY OREGON

SCALE 1"=100'

2S | 23CC

S.W. POTANO STREET

SEE MAP 2S | 23CB

SEE MAP 2S | 23CB

CANCELLED TAX LOTS 100-A1, 1300-A1, 901, 1001, 100, 101, 1401-A1, 1201, 1300-A3, 1300-A2,

SEE MAP 2S | 23CA

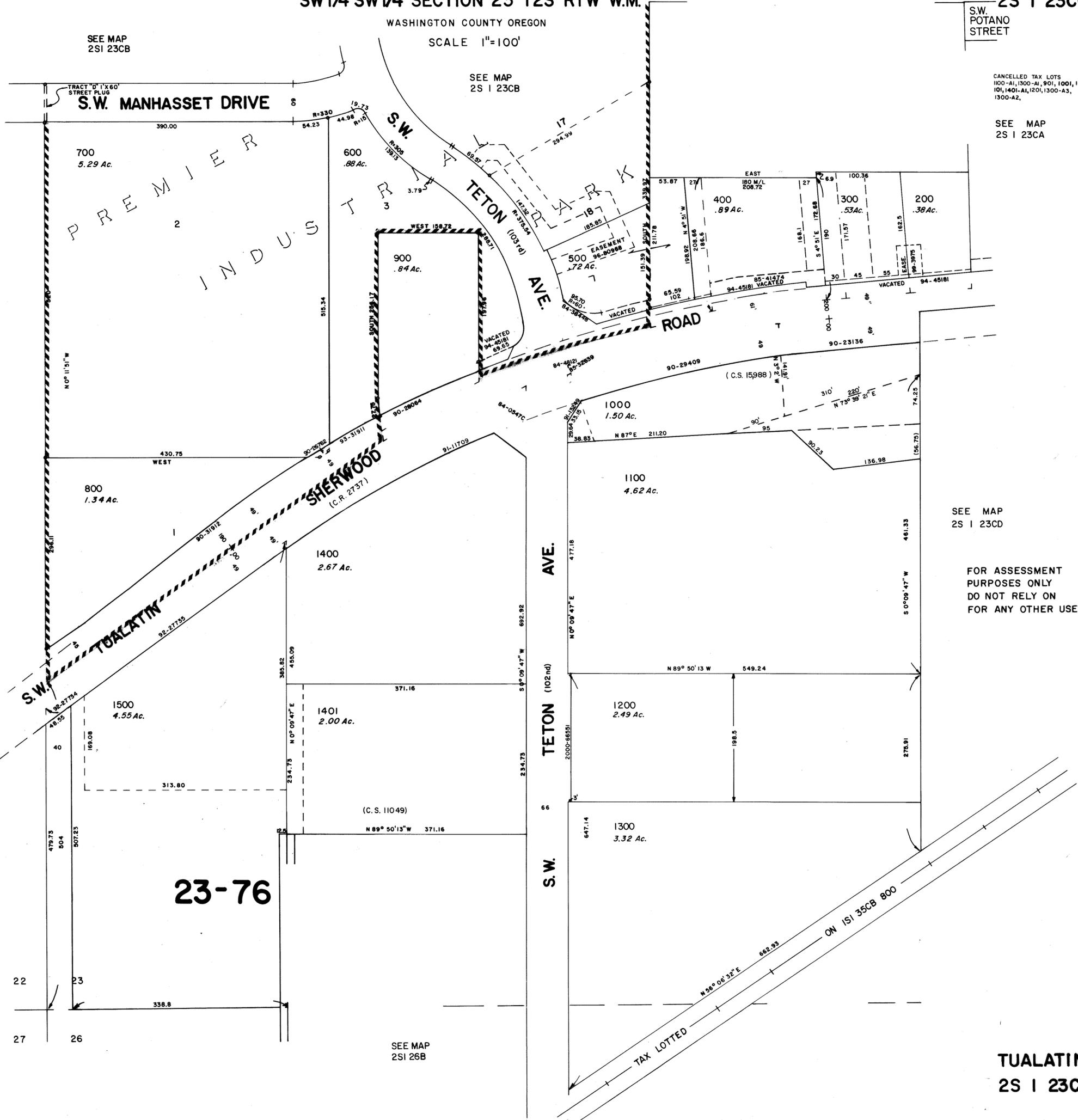
SEE MAP 2S | 22D

SEE MAP 2S | 23CD

FOR ASSESSMENT PURPOSES ONLY DO NOT RELY ON FOR ANY OTHER USE

SEE MAP 2S | 26B

TUALATIN 2S | 23CC



PREMIER
INDUSTRIAL

SHERWOOD
(C.R. 2737)

23-76

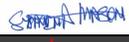
sd 1-7-80



City of Tualatin

www.tualatinoregon.gov

APPLICATION FOR ARCHITECTURAL REVIEW

Direct Communication to:			
Name: Steve Mason		Title: Special Projects Manager	
Company Name: Integrated Facility Services, LLC			
Current address: PO Box 216			
City: Oceanside		State: OR	ZIP Code: 97134
Phone: 503.345.0334	Fax: 503.246.9066	Email: stevem@intfac.com	
Applicant			
Name: Steve Mason		Company Name: Integrated Facility Services LLC	
Address: PO Box 216			
City: Oceanside		State: OR	ZIP Code: 97134
Phone: 503.345.0334	Fax: 503.246.9066	Email: stevem@intfac.com	
Applicant's Signature: 		Date: 03/16/15	
Property Owner			
Name: Teton Place LLC			
Address: 19830 SW Teton AVE			
City: Tualatin		State: OR	ZIP Code: 97062
Phone: 503.654.6511	Fax: 503.653.1217	Email: cori@thermalmodtech.com	
Property Owner's Signature:		Date	
(Note: Letter of authorization is required if not signed by owner)			
Architect			
Name: DMS Architects, Inc. - Dave Spitzer			
Address: 2325 NE 19th AVE			
City: Portland		State: OR	ZIP Code: 97212
Phone: 503.335.9040	Fax:	Email: dave@dmsarchitects.com	
Landscape Architect			
Name:			
Address:			
City:		State:	ZIP Code:
Phone:	Fax:	Email:	
Engineer			
Name: Sisul Engineering - Joe Egner			
Address: 375 Portland AVE			
City: Gladstone		State: OR	ZIP Code: 97027
Phone: 503.657.0188	Fax: 503.657.5779	Email: joeegner@sisulengineering.com	
Project			
Project Title: TMT Expansion Project			
Address: 19830 SW Teton AVE			
City: Tualatin		State: OR	ZIP Code: 97062
Brief Project Description: Construction of new free-standing prefabricated metal building			
Proposed Use: House a furnace for the heat treating of metal			

Value of Improvements: \$670,000

AS THE PERSON RESPONSIBLE FOR THIS APPLICATION, I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION ABOVE, ON THE FACT SHEET, AND THE SURROUNDING PARTY OWNER MAILING LIST IS CORRECT. I AGREE TO COMPLY WITH ALL APPLICABLE CITY AND COUNTY ORDINANCES AND STATE LAWS REGARDING BUILDING CONSTRUCTION AND LAND USE.

Applicant's Signature:  Date: 03/16/15

Office Use		
Case No:	Date Received:	Received by:
Fee: Complete Review (\$115-\$5040):	Receipt No:	
Application Complete as of:	ARB hearing date (if applicable):	
Posting Verification:	6 copies of drawings (folded)	
1 reproducible 8 1/2" X 11" vicinity map	1 reproducible 8 1/2" X 11" site, grading, LS, Public Facilities plan	
Neighborhood/Developer meeting materials		

GENERAL INFORMATION	
Site Address:	19830 SW Teton AVE, Tualatin
Assessor's Map and Tax Lot #:	2S123CC01300
Planning District:	MG
Parcel Size:	3.32 acres
Property Owner:	Teton Place LLC
Applicant:	Integrated Facility Services / Steve Mason
Proposed Use:	To house a furnace for the heat treating of metal

ARCHITECTURAL REVIEW DETAILS	
<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Industrial	
Number of parking spaces:	48
Square footage of building(s):	9,855
Square footage of landscaping:	1,407
Square footage of paving:	
Proposed density (for residential):	

<p>For City Personnel to complete:</p> <p>Staff contact person:</p>
--

CITY OF TUALATIN FACT SHEET

General

Proposed use: To house a furnace for the heat treating of metal			
Site area:	3.32 acres	Building footprint:	9,855 sq. ft.
Development area:	.23 acres	Paved area:	9,855 sq. ft.
	9,855 Sq. ft.	Development area coverage:	100 %

Parking

Spaces required (see TDC 73.400) (example: warehouse @ 0.3/1000 GFA) $\frac{5,940}{1000} @ \frac{2.7}{1000} \text{ GFA} = \frac{16}{1000}$ Office $\frac{47,310}{1000} @ \frac{1.6}{1000} \text{ GFA} = \frac{76}{1000}$ Manufacturing $\frac{9,855}{1000} @ \frac{1.6}{1000} \text{ GFA} = \frac{16}{1000}$ New Manufact. Total parking required: 108 spaces Handicapped accessible = 5 Van pool = 4 Compact = (max. 35% allowed) = 38 Loading berths = 3	Spaces provided: Total parking provided: 48 spaces Standard = 44 Handicapped accessible = 2 Van pool = Compact = 2 Loading berths = 3
---	---

See parking explanation

Bicycles

Covered spaces required: 8	Covered spaces provided: 8
----------------------------	----------------------------

Landscaping

Landscaping required: $\frac{15}{100}$ % of dvpt. area 1,478 Square feet	Landscaping provided: $\frac{14.3}{100}$ % of dvpt. area 1,410 Square feet
Landscaped parking island area required: %	Landscaped parking island area provided: %

Trash and recycling facility

Minimum standard method: square feet
Other method: square feet

For commercial/industrial projects only

Total building area:	63,105 sq. ft.	2 nd floor:	sq. ft.
Main building:	53,250 sq. ft.	3 rd floor:	sq. ft.
New building:	9,855 sq. ft.	4 th floor:	sq. ft.

For residential projects only

Number of buildings:	Total sq. ft. of buildings: sq. ft.
Building stories:	

August 14, 2014
SPL expires on August 13, 2016

INTEGRATED FACILITY SERVICES LLC
PO BOX 216
OCEANSIDE OR 97134

RE: Commercial Addition
CWS file 14-002188 (Tax map 2S123CC Tax lot 01300)

Clean Water Services has received your Sensitive Area Certification for the above referenced site. District staff has reviewed the submitted materials including site conditions and the description of your project. Staff concurs that the above referenced project will not significantly impact the existing Sensitive Areas found near the site. In light of this result, this document will serve as your Service Provider letter as required by Resolution and Order 07-20, Section 3.02.1. All required permits and approvals must be obtained and completed under applicable local, state, and federal law.

This letter does NOT eliminate the need to protect Sensitive Areas if they are subsequently identified on your site.

If you have any questions, please feel free to call me at (503) 681-3639.

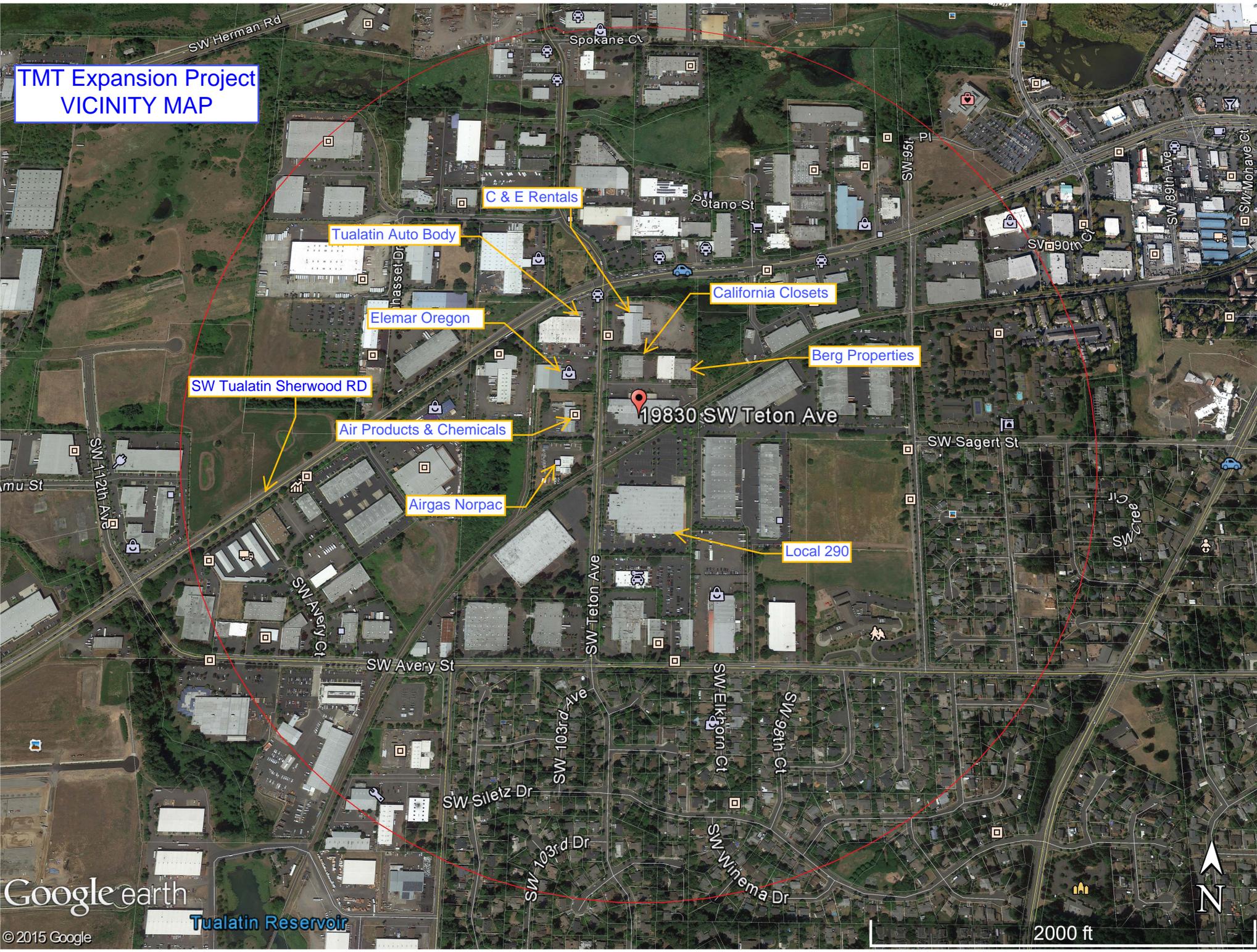
Sincerely,



Laurie Harris
Environmental Plan Review

Attachment (1)

TMT Expansion Project VICINITY MAP



C & E Rentals

Tualatin Auto Body

Elemar Oregon

SW Tualatin Sherwood RD

Air Products & Chemicals

Airgas Norpac

California Closets

Berg Properties

19830 SW Teton Ave

Local 290



BUILDING INFORMATION

PROJECT OWNER:
 TETON PLACE LLC
 19630 SW TETON AVE
 TUALATIN, OR 97062
 CONTACT- CORI BAUSTIAN
 503.335.8511

PROJECT ADDRESS:
 19630 SW TETON AVE
 TUALATIN, OR 97062
 STATE I.D. - 25123CC01300

ARCHITECT:
 DMS ARCHITECTS
 2325 NE 19TH AVENUE
 PORTLAND, OR 97212
 CONTACT- DAVE SPITZER
 503.335.9040

COUNTY:
 WASHINGTON

ZONING DESIGNATION:
 MG

PROJECT COORDINATOR:
 INTEGRATED FACILITY SERVICES, LLC
 PO BOX 216
 OCEANSIDE, OR 97134
 CONTACT- JEFF MASON/STEVE MASON
 503.228.4600

PROJECT SUMMARY

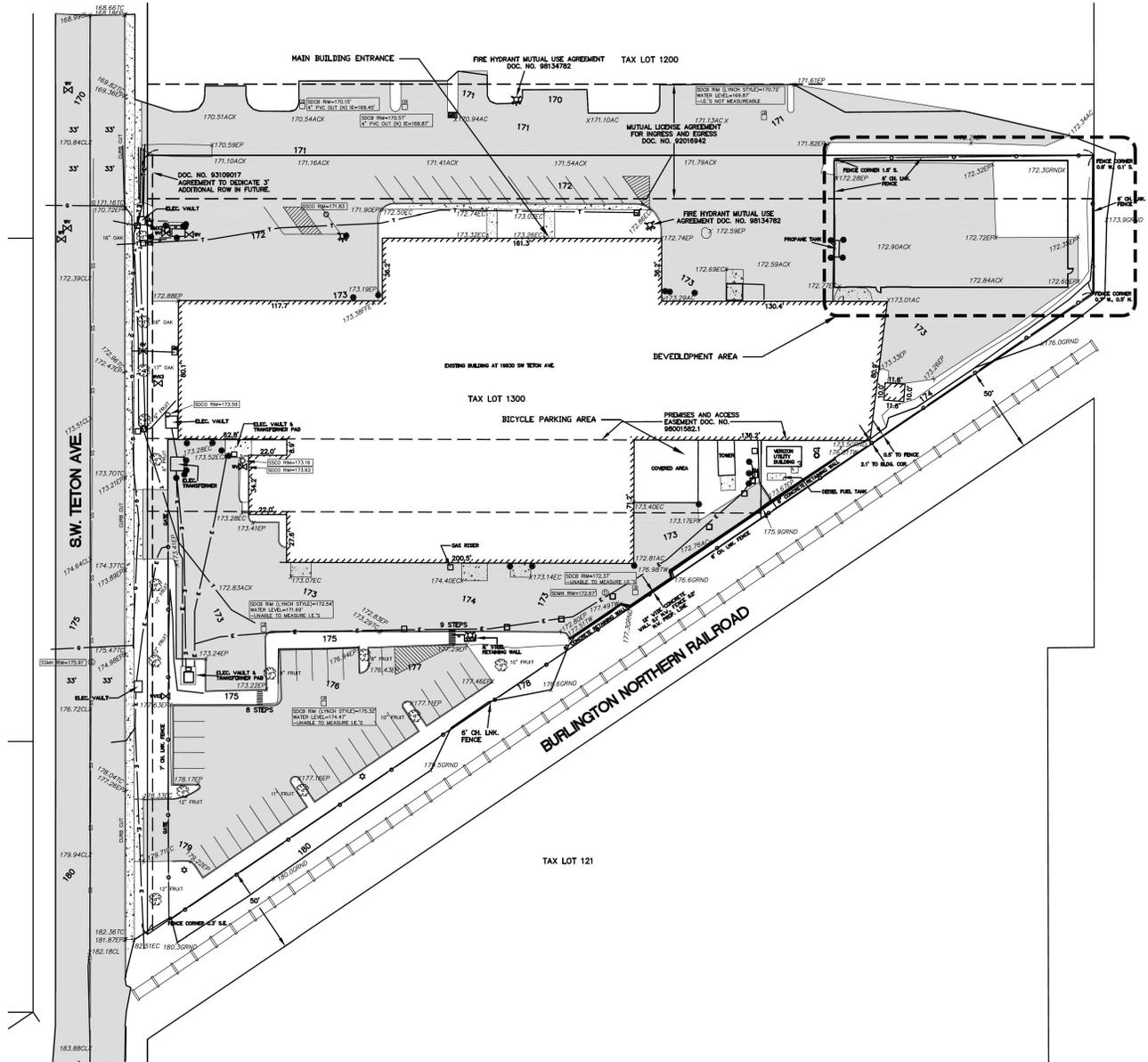
CONSTRUCT NEW 73' x 135' (9,855 SF) METAL STORAGE BUILDING OVER NEW CONCRETE FOUNDATION FOR THE HEAT TREATING OF METAL. SPACE WILL NOT BE HEATED OR COOLED.

SITE DATA

SITE AREA: 3.32 ACRES
DEVELOPMENT AREA: 144,619 SF
 9,855 SF

PARKING

STANDARD: 44
COMPACT: 5
DISABILITY: 2



1 SITE PLAN & PUBLIC FACILITIES PLAN

1" = 30'

DMS ARCHITECTS
 2325 NE 19TH AVENUE
 PORTLAND, OR 97212

Integrated Facility Services, LLC
 PO Box 216
 Oceanside, Oregon 97134
 PH/503.228.4800
 FAX/503.246.9566

INTEGRATED SERVICES

Thermal Modification Technologies

SHEET CONTENT
 SITE PLAN
 PUBLIC FACILITIES PLAN

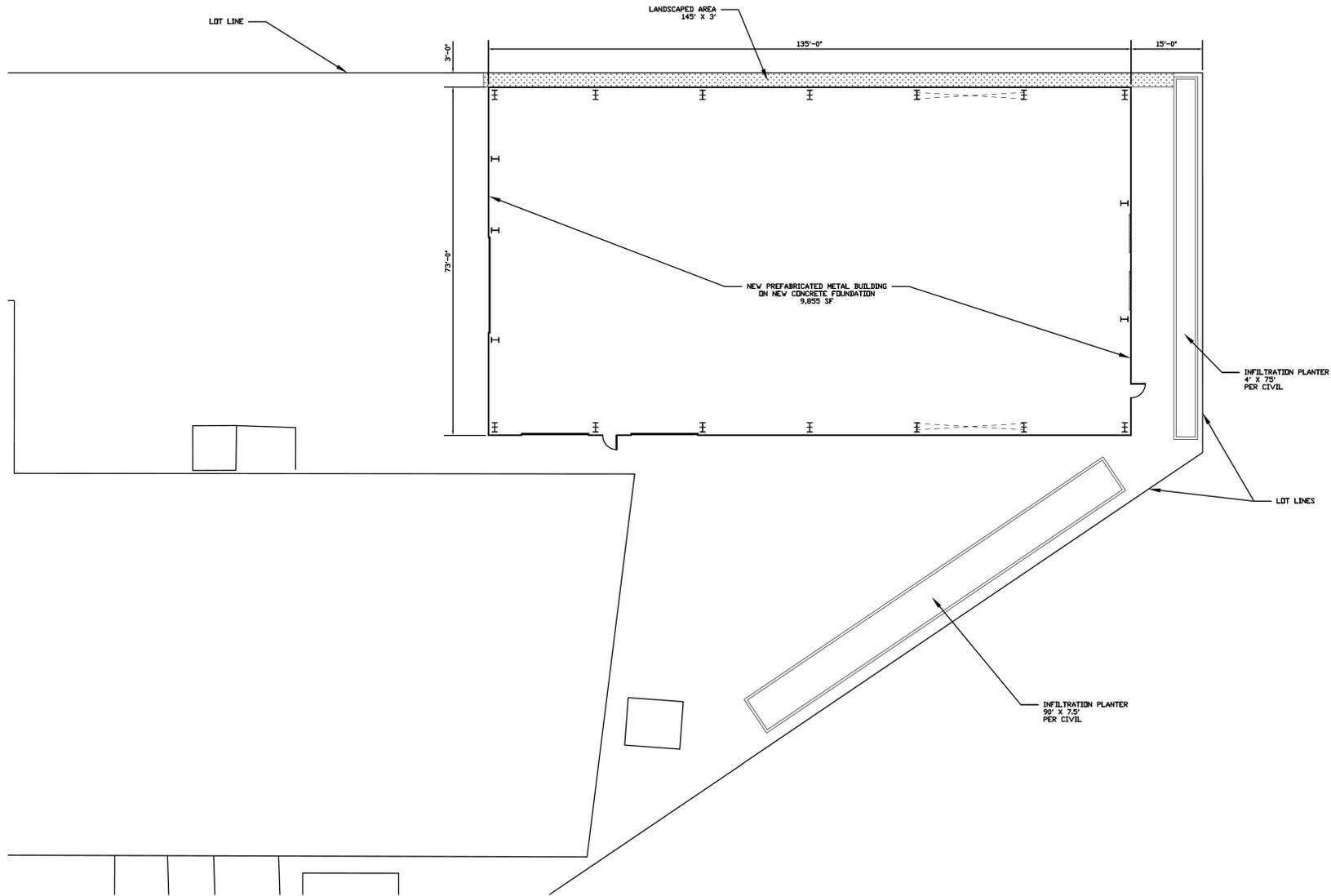
JOB No.
 000016

DRAWN SAM **CHECKED** DMS

DATE
 3.24.15

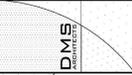
REVISIONS

SHEET
 AR1 of 3



DEVELOPMENT AREA & LANDSCAPE PLAN

1" = 10'



2322 NE 129th AVE
Portland, OR 97212
OFFICE 503.335.8940
FAX 503.335.8800
dms@downstateinc.com

Integrated Facility Services, LLC
PO Box 216
Oceanside, Oregon 97134
PH/503.228.4800
FAX/503.246.9666

Thermal Modification Technologies

19830 SW TETON AVE
TUALATIN, OR 97062

SHEET CONTENT
DEVELOPMENT AREA
LANDSCAPING PLAN

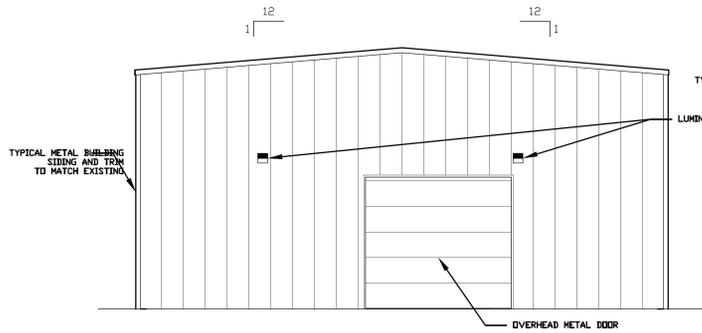
JOB No.
000016

DRAWN CHECKED
SAM DMS

DATE
3.24.15

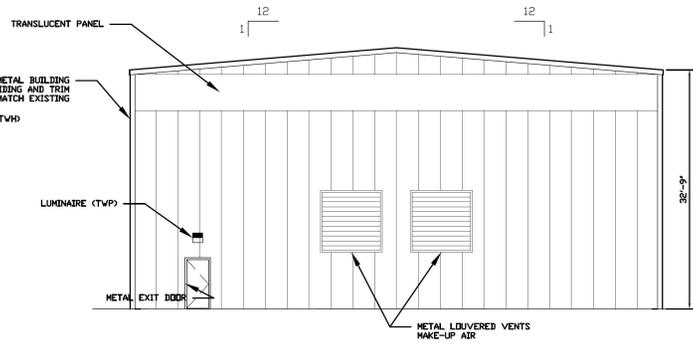
REVISIONS

SHEET
AR2 of 3



1 WEST ELEVATION
AR3

1/8" = 1'-0"



2 EAST ELEVATION
AR3

1/8" = 1'-0"



3 SOUTH ELEVATION (NORTH SIM. W/ NO DOORS OR TRANSLUCENT PANELS)
AR3

1/8" = 1'-0"

DMS

2325 NE 12TH AVE
PORTLAND, OR 97212
OFFICE 503 339 8940
FAX 503 339 8880
dms@dmstechnologies.com

Integrated Facility Services, LLC
PO Box 216
Oceanside, Oregon 97134
PH/503.228.4800
FAX/503.246.9666



Thermal Modification Technologies
19830 SW TETON AVE
TUALATIN, OR 97062

SHEET CONTENT
ELEVATIONS

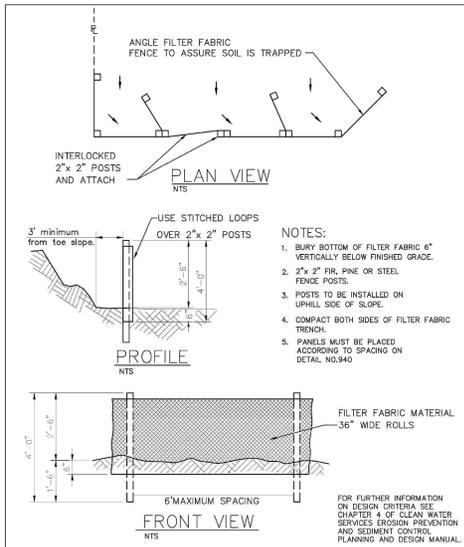
JOB No.
000016

DRAWN CHECKED
SAM DMS

DATE
3.24.15

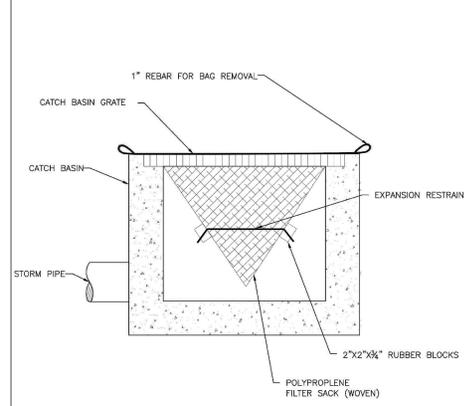
REVISIONS

SHEET
AR3 OF 3



SEDIMENT FENCE
DRAWING NO. 875 REVISED 12-06

CleanWater Services
Our commitment is clear.



INLET PROTECTION TYPE 5
DRAWING NO. 920 REVISED 12-06

CleanWater Services
Our commitment is clear.

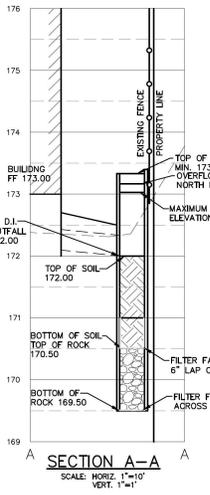
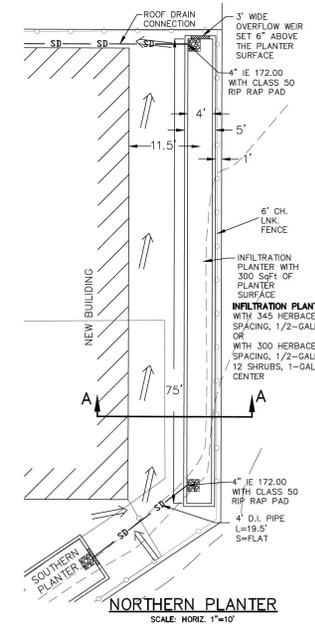
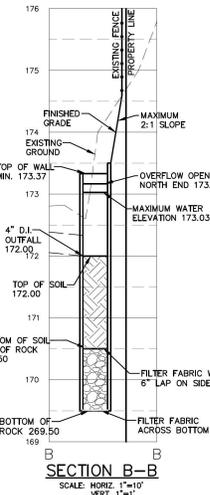
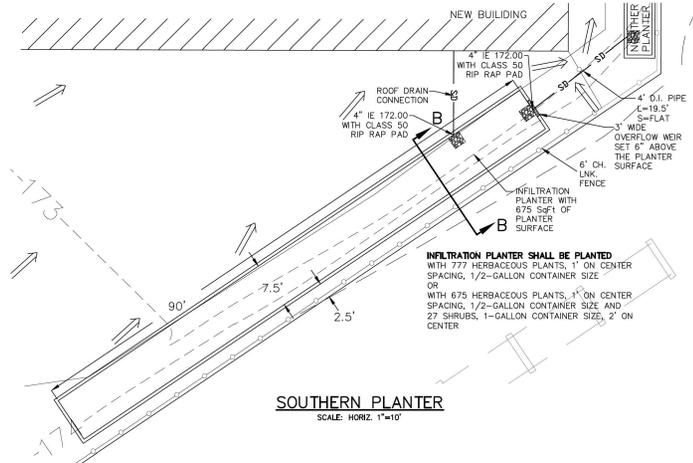
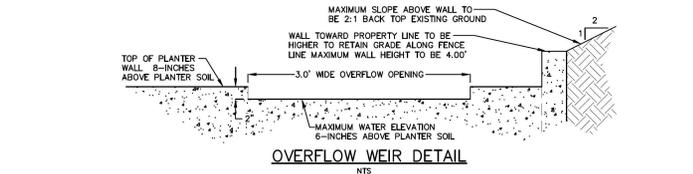


EXHIBIT A

Description:

A tract of land situated in the Southwest one-quarter of Section 23, and the Northwest one-quarter of Section 26, Township 2 South, Range 1 West of the Willamette Meridian, in the City of Tualatin, County of Washington and State of Oregon, more particularly described as follows:

Commencing at a 2-inch iron pipe marking the Southwest corner of said Section 23; thence North 0°04'41" West tracing the West line of said Section 23, a distance of 479.73 feet to a point in the Southeasterly right of way line of S.W. Tualatin-Sherwood Road No. 492; thence North 55°25'50" East along said right of way line, 772.64 feet to an angle point in said right of way; thence North 62°52'00" East along said right of way line, 188.91 feet to an angle point in said right of way; thence North 77°37'00" East 6.02 feet to a point; thence South 0°09'47" West along the Easterly right of way line of a 60-foot road, 477.18 feet to the point of beginning of the tract herein to be described; thence continuing South 0°09'47" West 647.14 feet to the Northerly line of the Spokane, Portland & Seattle Railroad right of way; thence North 56°06'32" East 662.93 feet along the Northerly line of the railroad right of way; thence North 0°09'47" East 275.91 feet to the Southwest corner of that 5-acre tract conveyed to Hugh D. Allison, et al, by deed recorded October 27, 1969 in Book 760, Page 956, Washington County Deed Records; thence North 89°50'13" West along the Southerly line of the Allison tract, 549.24 feet to the point of beginning.

EXCEPTING THEREFROM that portion thereof dedicated to the public as a public way, street and road, by Street Dedication recorded July 20, 1970 in Book 786, Page 775, Washington County Records.

ALSO EXCEPTING THEREFROM the North 198.5 feet thereof, the South line of said 198.5 foot parcel being parallel with and 198.5 feet distant from, when measured at right angles to, the North line thereof.

1-EXHIBIT A - MUTUAL LICENSE AGREEMENT

3



10295 SW Ridder Road, Wilsonville, OR 97070
O: 503.570.0626 F: 503.982.9307 republicservices.com

Steve Mason
Integrated Facility Services, LLC

Re: Thermal Modifications Technologies

Dear Steve;

Thank you, for sending me your site plans for the building addition in Tualatin for TMT.

My Company: Republic Services of Clackamas & Washington Counties has the franchise agreement to service this area with the City of Tualatin. We provide complete commercial waste removal and recycling services as needed on a weekly basis for this location.

It looks like the new building will not affect our ability to safely service the containers that are presently located at this site.

Thank you Steve; for your help and concerns for our services prior to this project being developed.

Sincerely,

A handwritten signature in blue ink that reads "Frank J. Lonergan".

Frank J. Lonergan
Operations Manager
Republic Services Inc.

Parking Explanation

Of the 3 categories for industrial uses in TDC 37.370(2), TMT's non-office operations would likely be classified as manufacturing. However, their manufacturing processes are atypical in that they require very large pieces of equipment and often treat very large parts. Generally, the equipment footprints and working envelopes approach 50% of the building space. Further, the cycle times between loading and unloading of the equipment are long, typically hours and even days instead of minutes. Consequently, TMT's operations require relatively few employees per square foot of area.

For instance, the proposed building at 9,855 SF would require 16 parking spaces when we calculate under manufacturing. In reality, the building will house two major pieces of equipment capable of handling parts up to 45 feet long - the number of employees in the building to operate this equipment will be three (3). If each requires a parking space, this calculates to 0.304/1000 SF, close to the rate for warehousing.

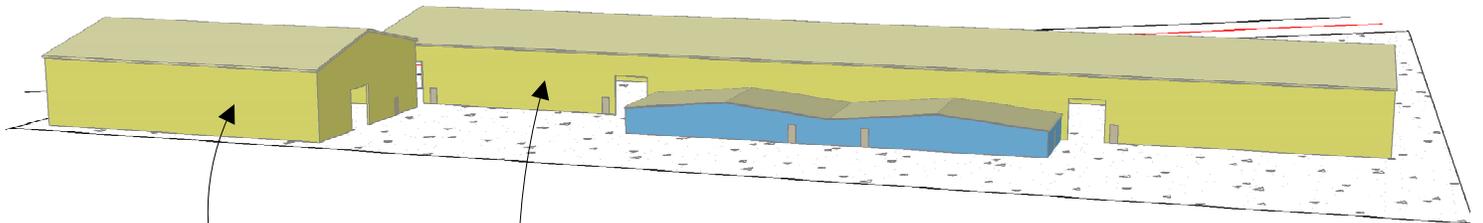
TMT currently has 52.5 employees and this number is not anticipated to change with the new building as some off-site employees will be moving from Portland to Tualatin (NW Front Ave). They are never all there at the same time, as the breakdown below shows:

TMT Employee Count			
	All	Business Hours	Max
Office, day shift only	9	9	9
Shop, day shift	18	18	18
Shop, swing	8		8
Shop, graveyard	4		
Shop, weekend day	6		
Shop, weekend night	6		
NW Front Ave	1.5	1.5	1.5
Total	52.5	28.5	36.5

The "Business Hours" column shows that during normal business hours, fewer than 30 employees are on site. And the "Max" column allows for the possible overlap at the change between the two largest shifts. Even if 37 employees require a parking space - some ride bikes and/or take mass transit - that leaves over 10 spaces for visitors, customers, etc.

Finally, if TMT were allowed to calculate their parking at warehousing rates, the number required would be 33. All told, we believe the existing 48 parking spaces to be adequate and reasonable for the site and proposed use.

Materials



New building to match existing

Typical metal building panels and trim





TWH LED

LED Wall Luminaire

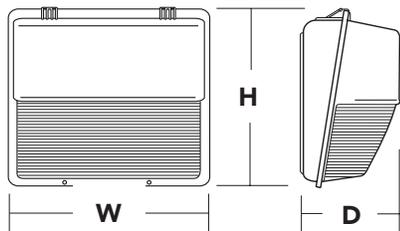


Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Width:	16-1/4" (41.3 cm)
Height:	15-3/4" (40.0 cm)
Depth:	8" (20.3 cm)
Weight:	28 lbs (12.7 kg)



Introduction

The popular TWH luminaire is now available with LED technology. Cast in a traditional dayform, the TWH LED offers a classic appearance and is powered by advanced LEDs.

The new TWH LED luminaire is powerful yet energy efficient, capable of replacing up to a 400W metal halide luminaire while saving up to 77% in energy costs. Offering an expected service life of more than 20 years, the TWH LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

Ordering Information

EXAMPLE: TWH LED 30C 1000 50K T3M MVOLT DDBXD

TWH LED	Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Control Options	Other Options	Finish (required)
TWH LED	10C	10 LEDs (one engine)	1000 1000 mA (1 A)	50K 5000K (standard)	T3M Type III Medium	MVOLT ¹	Shipped installed	Shipped installed	DDBXD Dark bronze
	20C	20 LEDs (two engines)		40K 4000K (optional)		120 ¹	DMG 0-10V dimming driver (no controls)	SF Single fuse (120, 277, 347V) ⁴	DBLXD Black
	30C	30 LEDs (one engine)				208 ¹	PER NEMA twist-lock receptacle only (no controls)	DF Double fuse (208, 240, 480V) ⁴	DNAXD Natural aluminum
						240 ¹	PE Photoelectric cell, button type ³	TP Tamper proof screws	DWHXD White
						277 ¹		NOM NOM Certified	DDBTXD Textured dark bronze
						347 ²		SPD Separate surge protection ⁵	DBLBXD Textured black
						480 ²		ELSW Emergency battery backup (standard 0°C) ⁶	DNATXD Textured natural aluminum
								ELCW Emergency battery backup (cold weather -20°C) ⁶	DWHGXD Textured white
								Shipped separately	
								VG Vandal guard ⁷	
								WG Wire guard ⁷	

Stock configurations are offered for shorter lead times:

Standard Part Number	Stock Part Number
TWH LED 10C 1000 50K T3M MVOLT DDBXD	TWH LED 10C 50K
TWH LED 20C 1000 50K T3M MVOLT DDBXD	TWH LED 20C 50K
TWH LED 30C 1000 50K T3M MVOLT DDBXD	TWH LED 30C 50K

Accessories

Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ⁸
DLL347 1.5 CUL JU	Photocell - SSL twist-lock (347V) ⁸
DLL480 1.5 CUL JU	Photocell - SSL twist-lock (480V) ⁸
SC U	Shorting cap ⁸
TWHVG U	Vandal guard accessory ⁹
TWHWG U	Wire guard accessory ⁹

For more control options, visit [DTL](#) and [ROAM](#) online.

NOTES

- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options) or photocontrol (PE).
- Not available with 10C option.
- Must specify voltage; not available with MVOLT.
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- See the electrical section on page 2 for more details.
- Not available with 30C, 347, 480, PER, or SPD. Emergency mode IES files located on product page at www.lithonia.com. ELSW and ELCW warranty is 3-year period.
- Also available as a separate accessory; see Accessories information at left.
- Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item.
- Requires field modification (only when ordered as a separate accessory).



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	Performance Package	System Watts	Dist. Type	40K (4000K, 70 CRI)					50K (5000K, 65 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	1000	10C 1000 --K	39W	T3M	2445	0	3	2	63	2559	0	3	2	66
20C (20 LEDs)	1000	20C 1000 --K	72W	T3M	4683	1	3	3	65	5562	1	3	3	77
30C (30 LEDs)	1000	30C 1000 --K	104W	T3M	6391	1	3	3	61	6728	1	3	3	65

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **TWH LED 30C 1000** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.95	0.92	0.87

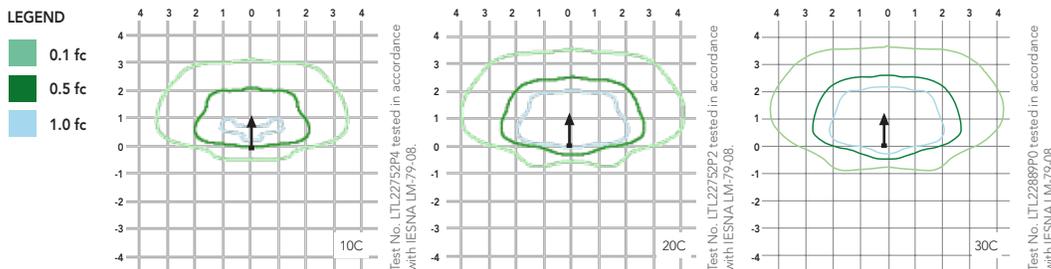
Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
10C	1000	39 W	0.36	0.21	0.18	0.16	-	-
20C	1000	72 W	0.67	0.38	0.33	0.29	0.23	0.17
30C	1000	104 W	0.96	0.56	0.48	0.42	0.33	0.24

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's TWH LED homepage.

Isofootcandle plots for the TWH LED --- 1000 50K T3M. Distances are in units of mounting height (15').



FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life and easy-to-install design of the TWH LED make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION

Die-cast aluminum housing has an impact-resistant, tempered glass lens that is fully gasketed. Modular design allows for ease of maintenance. The LED driver is mounted to the front casting to thermally isolate it from the light engine for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS

Protective glass lens covers the light engine's precision-molded proprietary acrylic lenses. Light engines are available in 5000K (65 min. CRI) configurations.

ELECTRICAL

Light engine(s) consist of 10 or 30 high-efficiency LEDs mounted to a metal-core circuit board and integral aluminum heat sink to maximize heat dissipation and promote long life (L87/100,000 hrs at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 2.5 KV

surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Back housing is separated from front housing, eliminating ballast weight and promoting easy handling. Top 3/4" threaded wiring access. Back access through removable 3/4" knockout. Feed-thru wiring can be achieved by using a conulet tee. Mount on any vertical surface. Not recommended in applications where a sprayed stream of water can come in direct contact with glass lens.

LISTINGS

UL listed for wet locations. Rated for -40°C minimum ambient. Luminaire is IP55 rated.

WARRANTY

Five year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomResources/Terms_and_conditions.aspx.

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.





TWP LED

LED Wall Luminaire



Catalog
Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

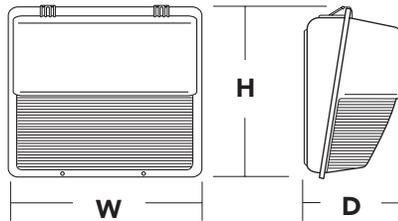
Specifications

Width: 16-1/8"
(41.0 cm)

Height: 15-1/2"
(39.4 cm)

Depth: 7-3/4"
(19.7 cm)

Weight: 15 lbs
(6.8kg)



Introduction

The popular TWP luminaire is now available with LED technology. Cast in a traditional dayform, the TWP LED offers a classic appearance and is powered by advanced LEDs. A one-piece polycarbonate cover delivers enhanced durability and is vandal resistant, making the TWP LED ideal for lower mounting heights or high-traffic areas.

The new TWP LED luminaire is powerful yet energy efficient, capable of replacing up to a 250W metal halide luminaire while saving up to 77% in energy costs. Offering an expected service life of more than 20 years, the TWP LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

Ordering Information

EXAMPLE: TWP LED 30C 700 50K T3M MVOLT DDBXD

TWP LED						
Series	Performance Package	Distribution	Voltage	Control Options	Other Options	Finish <i>(required)</i>
TWP LED	LEDs 10C 10 LEDs (one engine) 20C 20 LEDs (two engines) 30C 30 LEDs (one engine) Drive current 700 700 mA Color temperature 50K 5000K (standard) 40K 4000K (optional)	T3M Type III Medium	MVOLT ¹ 120 ¹ 208 ¹ 240 ¹ 277 ¹ 347 ² 480 ²	Shipped installed DMG 0-10V dimming driver (no controls) PE Photoelectric cell, button type ³	Shipped installed SF Single fuse (120, 277, 347V) ⁴ DF Double fuse (208, 240, 480V) ⁴ TP Tamper proof screws NOM NOM Certified SPD Separate surge protection ⁵ Shipped separately WG Wire guard ⁶	DDBXD Dark bronze DBLXD Black DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DWHGXD Textured white

Stock configurations are offered for shorter lead times:

Standard Part Number	Stock Part Number
TWP LED 10C 700 50K T3M MVOLT DDBXD	TWP LED 10C 50K
TWP LED 20C 700 50K T3M MVOLT DDBXD	TWP LED 20C 50K
TWP LED 30C 700 50K T3M MVOLT DDBXD	TWP LED 30C 50K

Accessories

Ordered and shipped separately.

TWPWG U Wire guard accessory⁷

NOTES

- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options) or photocontrol (PE).
- Not available with 10C option.
- Must specify voltage; not available with MVOLT or 480 voltage options.
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- See the electrical section on page 2 for more details.
- Also available as a separate accessory; see Accessories information at left.
- Requires field modification (only when ordered as a separate accessory).



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	Performance Package	System Watts	Dist. Type	40K (4000K, 70 CRI)					50K (5000K, 65 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
10C (10 LEDs)	700	10C 700 --K	26 W	T3M	1478	0	3	2	57	1614	0	3	2	62
20C (20 LEDs)	700	20C 700 --K	45 W	T3M	2877	0	3	3	64	3149	0	3	3	70
30C (30 LEDs)	700	30C 700 --K	67 W	T3M	4157	0	3	3	62	4377	0	3	3	65

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **TWP LED 30C 700** platform in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.96	0.94

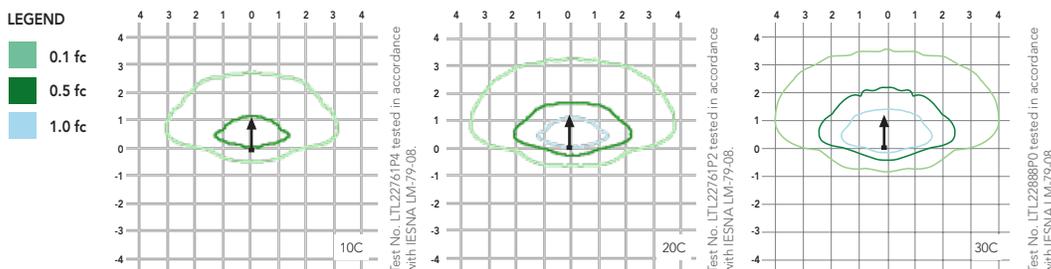
Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
10C	700	26 W	0.24	0.14	0.12	0.10	-	-
20C	700	45 W	0.42	0.24	0.21	0.18	0.14	0.10
30C	700	67 W	0.62	0.36	0.31	0.27	0.21	0.16

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's TWP LED homepage.

Isofootcandle plots for the TWP LED --- 700 50K T3M. Distances are in units of mounting height (15').



FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life and easy-to-install design of the TWP LED make it the smart choice for building-mounted doorway and pathway illumination for nearly any facility.

CONSTRUCTION

Die-cast aluminum rear housing has an impact-resistant, UV-stabilized polycarbonate front housing and refractor that is fully gasketed. Modular design allows for ease of maintenance. The LED driver is mounted to the front casting to thermally isolate it from the light engine for low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in textured and non-textured finishes.

OPTICS

Protective polycarbonate lens covers the light engine's precision-molded proprietary acrylic lenses. Light engines are available in 5000K (65 min. CRI) configurations.

ELECTRICAL

Light engine(s) consist of 10 or 30 high-efficacy LEDs mounted to a metal-core circuit board and integral aluminum heat sink to maximize heat dissipation and promote long life (L94/100,000 hrs at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 2.5 KV

surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Top 3/4" threaded wiring access. Back access through removable 3/4" knockout. Feed-thru wiring can be achieved by using a conduit tee. Mount on any flat, vertical surface.

LISTINGS

CSA certified to U.S. and Canadian standards. Rated for -40°C minimum ambient.

WARRANTY

Five year limited warranty. Full warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Specifications subject to change without notice.



MEMORANDUM

Date: April 30, 2015
To: Colin Cortes, Assistant Planner, City of Tualatin
From: Jackie Sue Humphreys, Clean Water Services (the District)
Subject: Thermal Modification Technologies Additional Building, AR-15-07, 2S123CC01300

Please include the following comments when writing your conditions of approval:

PRIOR TO ANY WORK ON THE SITE

A Clean Water Services (the District) Storm Water Connection Permit Authorization must be obtained. Application for the District's Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 07-20, (or current R&O in effect at time of Engineering plan submittal), and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.2.b-1.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans.
- c. Detailed plans showing each lot within the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 07-20, Section 4.05.5, Table 4-1. Access shall be provided for maintenance of facility per R&O 07-20, Section 4.02.4.
- e. If use of an existing offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.

- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Application may require additional permitting and plan review from the District's Source Control Program. For any questions or additional information, please contact Source Control at (503) 681-5175.
- i. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

CONCLUSION

This Land Use Review does not constitute the District's approval of storm or sanitary sewer compliance to the NPDES permit held by the District. The District, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



April 29, 2015

Colin Cortes - Associate Planner
City of Tualatin
18880 SW Martinazzi Road
Tualatin, Oregon 97062

Re: AR-15-07, Thermal Modifications Building

Dear Colin,

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. Tualatin Valley Fire & Rescue endorses this proposal predicated on the following criteria and conditions of approval:

FIRE APPARATUS ACCESS:

- FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet. (OFC 503.1.1)
- ACCESS ROAD EXCEPTIONS:** The requirements for fire apparatus access may be modified as approved by the fire code official where any of the following apply: (OFC 503.1.1)
 - Exception 1:** Buildings are equipped throughout with an approved automatic fire sprinkler system (the approval of this alternate method of construction shall be accomplished in accordance with the provisions of ORS 455.610(5).
 - Exception 2:** Fire apparatus access roads cannot be installed because of location on property, topography, waterways, non-negotiable grades, or other similar conditions, and an approved alternative means of fire protection is provided.
- PREMISES IDENTIFICATION:** New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)
- ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)
- ADDITIONAL ACCESS ROADS – COMMERCIAL/INDUSTRIAL:** Buildings exceeding 30 feet in height or three stories in height shall have at least two separate means of fire apparatus access. Buildings or facilities having a gross building area of more than 62,000 square feet shall have at least two approved separate means of fire apparatus access. Exception: Projects having a gross building area of up to 124,000 square feet that have a single approved fire apparatus access road when all buildings are equipped throughout with approved automatic sprinkler systems. (OFC D104)
- FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet (26 feet adjacent to fire hydrants (OFC D103.1)) and an unobstructed vertical clearance of not less than 13 feet 6 inches. The fire district will approve access roads of 12 feet for up to three dwelling units and accessory buildings. (OFC 503.2.1 & D103.1)

7. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)
8. **AERIAL FIRE APPARATUS ROADS:** Buildings with a vertical distance between the grade plane and the highest roof surface that exceeds 30 feet in height shall be provided with a fire apparatus access road constructed for use by aerial apparatus with an unobstructed driving surface width of not less than 26 feet. For the purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of the parapet walls, whichever is greater. Any portion of the building may be used for this measurement, provided that it is accessible to firefighters and is capable of supporting ground ladder placement. (OFC D105.1, D105.2)
9. **AERIAL APPARATUS OPERATIONS:** At least one of the required aerial access routes shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial access road is positioned shall be approved by the fire code official. Overhead utility and power lines shall not be located over the aerial access road or between the aerial access road and the building. (D105.3, D105.4)
10. **SURFACE AND LOAD CAPACITIES:** Fire apparatus access roads shall be of an all-weather surface that is easily distinguishable from the surrounding area and is capable of supporting not less than 12,500 pounds point load (wheel load) and 75,000 pounds live load (gross vehicle weight). Documentation from a registered engineer that the final construction is in accordance with approved plans or the requirements of the Fire Code may be requested. (OFC 503.2.3)
25. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Code Official. See Application Guide Appendix A for further information. (OFC 503.4.1). Traffic calming devices on public and private roadways built under municipal road standards are recommended to comply with Appendix A.
26. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 - 1) 20-26 feet road width – no parking on either side of roadway
 - 2) 26-32 feet road width – parking is allowed on one side
 - 3) Greater than 32 feet road width – parking is not restricted
27. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read “NO PARKING - FIRE LANE” and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
28. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked “NO PARKING FIRE LANE” at 25 foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)

BUILDING ACCESS AND FIRE SERVICE FEATURES

29. **KNOX BOX:** A Knox Box for building access is required for this building. Please contact the Fire Marshal's Office for an order form and instructions regarding installation and placement. (OFC 506.1)
30. **UTILITY IDENTIFICATION:** Rooms containing controls to fire suppression and detection equipment shall be identified as “Fire Control Room.” Signage shall have letters with a minimum of 4 inches high with a minimum stroke width of 1/2 inch, and be plainly legible, and contrast with its background. (OFC 509.1)
31. **FIRE ALARM VERIFICATION:** Supervisory Stations shall not retransmit alarm signals to Public Fire Service Dispatch and Communication Centers until an attempt is made to verify the accuracy of the alarm signal at the protected premise. The verification attempt shall be made within 90 seconds of the receipt of the alarm signal. If the protected premise is contacted and can confirm that no fire or emergency condition exists, then the alarm signal shall not be retransmitted. In all other situations, the alarm signal shall be retransmitted immediately. (OFC 907.7.6)
Exception: Water flow and manual pull station alarms shall be immediately retransmitted without verification.
32. **EMERGENCY RESPONDER RADIO COVERAGE:** The Oregon Fire Code (OFC) requires that certain newly constructed buildings have approved levels of emergency radio signal strength per OFC 510.2 (relative to existing levels of public radio coverage available at the exterior). Where the design of the building reduces the level of coverage inside of the building below minimum performance levels, a distributed antenna system, signal booster, or other method approved by TVF&R and Washington County Consolidated Communications Agency shall be provided. See Appendix for Policy. (OFC 510)

FIREFIGHTING WATER SUPPLIES

33. **COMMERCIAL BUILDINGS – REQUIRED FIRE FLOW:** The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be determined in accordance with residual pressure (OFC Table B105.2). The required fire flow for a building shall not exceed the available GPM in the water delivery system at 20 psi.
Note: OFC B106, Limiting Fire-Flow is also enforced, except for the following:
- 1) In areas where the water system is already developed, the maximum needed fire flow shall be either 3,000 GPM or the available flow in the system at 20 psi, whichever is greater.
 - 2) In new developed areas, the maximum needed fire flow shall be 3,000 GPM at 20 psi.
 - 3) Tualatin Valley Fire & Rescue does not adopt Occupancy Hazards Modifiers in section B105.4-B105.4.1
34. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)
35. **WATER SUPPLY DURING CONSTRUCTION:** Approved firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. (OFC 3312.1)

FIRE HYDRANTS

36. **FIRE HYDRANTS – COMMERCIAL BUILDINGS:** Where a portion of the building is more than 400 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the building, on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
- 1) This distance may be increased to 600 feet for buildings equipped throughout with an approved automatic sprinkler system.
 - 2) The number and distribution of fire hydrants required for commercial structure(s) is based on Table C105.1, following any fire-flow reductions allowed by section B105.3.1. Additional fire hydrants may be required due to spacing and/or section 507.5 of the Oregon Fire Code.
37. **FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS & ACCESSORY STRUCTURES:** Where a portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
38. **FIRE HYDRANT NUMBER AND DISTRIBUTION:** The minimum number and distribution of fire hydrants available to a building shall not be less than that listed in Table C 105.1.

**TABLE C105.1
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS**

FIRE-FLOW REQUIREMENT (gpm)	MINIMUM NUMBER OF HYDRANTS	AVERAGE SPACING BETWEEN HYDRANTS ^{a,b,c} (feet)	MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT ^d
1,750 or less	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500-7,000	7	250	150

7,500 or more	8 or more ^e	200	120
---------------	------------------------	-----	-----

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.

- a. Reduce by 100 feet for dead-end streets or roads.
- b. Where streets are provided with median dividers which can be crossed by firefighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
- c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
- d. Reduce by 50 feet for dead-end streets or roads.
- e. One hydrant for each 1,000 gallons per minute or fraction thereof.

39. **FIRE HYDRANT(S) PLACEMENT:** (OFC C104)

- 1) Existing hydrants in the area may be used to meet the required number of hydrants as approved. Hydrants that are up to 600 feet away from the nearest point of a subject building that is protected with fire sprinklers may contribute to the required number of hydrants. (OFC 507.5.1)
- 2) Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants unless approved by the fire code official.

40. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the fire code official. (OFC C102.1)

41. **PRIVATE FIRE HYDRANT IDENTIFICATION:** Private fire hydrants shall be painted red in color. Exception: Private fire hydrants within the City of Tualatin shall be yellow in color. (OFC 507)

42. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)

43. **CLEAR SPACE AROUND FIRE HYDRANTS:** A 3 foot clear space shall be provided around the circumference of fire hydrants. (OFC 507.5.5)

44. **FIRE DEPARTMENT CONNECTIONS (FDCs):** A fire hydrant shall be located within 100 feet of a fire department connection (FDC) or as approved. Fire hydrants and FDC's shall be located on the same side of the fire apparatus access roadway or drive aisle. (OFC 912 & NFPA 13)

45. **FIRE DEPARTMENT CONNECTION LOCATIONS:** FDCs shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of the fire department vehicle access or as otherwise approved. (OFC 912.2.1)

- 1) Fire department connections (FDCs) shall normally be located remotely and outside of the fall-line of the building when required. FDCs may be mounted on the building they serve, when approved.
- 2) FDCs shall be plumbed on the system side of the check valve when sprinklers are served by underground lines also serving private fire hydrants (as diagramed below).

If you have questions or need further clarification, please feel free to contact me at (503) 649-8577.

Sincerely,



Ty Darby
Deputy Fire Marshal II

Cc: file

HELPFUL LINKS:

Oregon Fire Code:

http://ecodes.biz/ecodes_support/free_resources/Oregon/14_Fire/14_ORFire_main.html

Oregon Structural Specialty Code:

http://ecodes.biz/ecodes_support/free_resources/Oregon/14_Structural/14_ORStructural_main.html

GUIDELINES FOR GOOD EXTERIOR LIGHTING PLANS

Prepared by: The Dark Sky Society (<http://www.darksksociety.org/>) 2009

These guidelines have been developed in consultation with lighting professionals (with experience in developing good lighting plans) to aid communities wishing to control light pollution and preserve the night sky.

Outdoor lighting should be carefully designed with regard to placement, intensity, timing, duration, and color. Good lighting will:

- **Promote Safety**

“More light” is not necessarily “better”. If not designed and installed correctly, unsafe glare can result, reducing the effect of lighting which can contribute to accidents and hinder visibility. Lighting that is too bright interferes with the eye's ability to adapt to darker areas.

- **Save Money**

Adhering to professionally recommended light levels provides adequate illumination. Shielded fixtures with efficient light bulbs are more cost-effective because they use less energy by directing the light toward the ground. See this website for cost comparisons: <http://www.netacc.net/~poulsen/lightcost.html>

- **Conserve Natural Resources**

Inappropriate or excessive lighting wastes our limited natural resources and pollutes the air and water by unnecessarily burning our limited supply of fossil fuels.

- **Be Better Neighbors**

Excessive or misdirected lighting can intrude on the privacy of others when light or glare trespasses over property lines.

- **Retain Community's Character and Reduce Skyglow**

Our clear view of the dark starry night sky is a resource to be preserved and protected. Stray and excessive lighting contributes to "light pollution", clutter, and unnatural "sky glow".

- **Protect Ecology of Flora and Fauna**

Research studies indicate that artificial night lighting disrupts the migrating, feeding, and breeding habits of many wildlife species, as well as growth patterns of trees. See references in [The Ecological Consequences of Artificial Night Lighting](#).

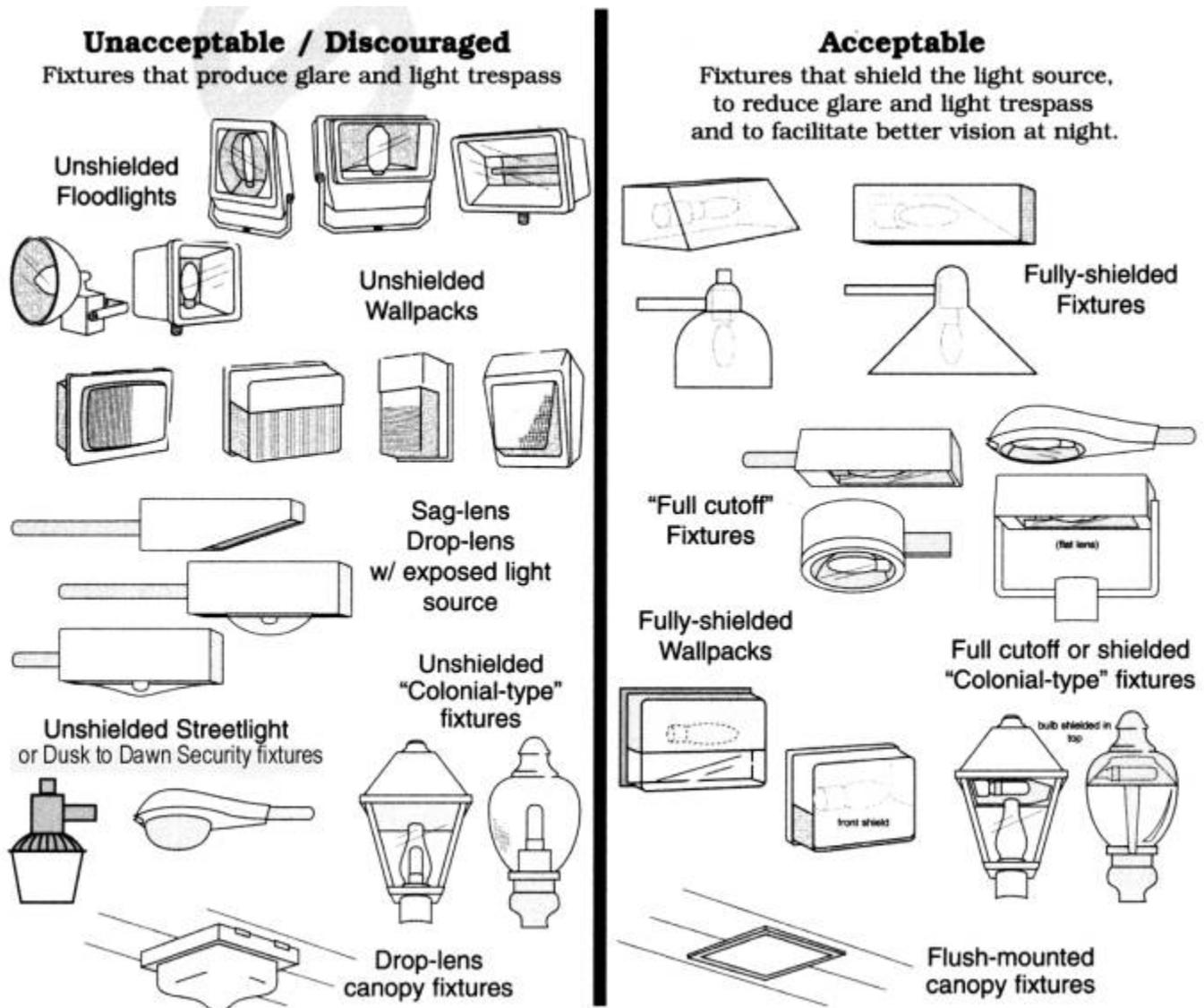
- **Reduce Health Risks**

Light at night not only disrupts your sleep but also interferes with your circadian rhythms. Recent research indicates that intrusive lighting may reduce the production of melatonin, a beneficial hormone, and a resulting raise in the rates of breast and other cancers.

- Included:**
1. **Diagrams of Acceptable/Unacceptable Lighting Fixtures**
 2. **How to Develop an Acceptable Lighting Plan**
 3. **Definitions of Full Cut Off, Shielded, and RLM sign lighting Fixtures**
 4. **Lighting Plan Submissions**
 5. **Recommended Illumination Levels for various tasks**

UNSHIELDED FIXTURES

Full Cutoff and Fully Shielded Fixtures



Diagrams courtesy of Bob Crelin

***** Ask your local electrical suppliers for "full-cut off" or "fully shielded" light fixtures. Once you have selected fixtures which are compatible with your architecture and community, contact the manufacturer's representative to see a sample of the fixture(s) and to ask for a free lighting plan. If you have a CAD file, the plan can be easily provided in a short period of time. *****

Most lighting manufacturers have Application Departments which will execute free lighting plans to meet local lighting codes.

See this website for links to manufacturers:

<http://www.darksky.org/mc/page.do?sitePageId=56422&orgId=idsa>

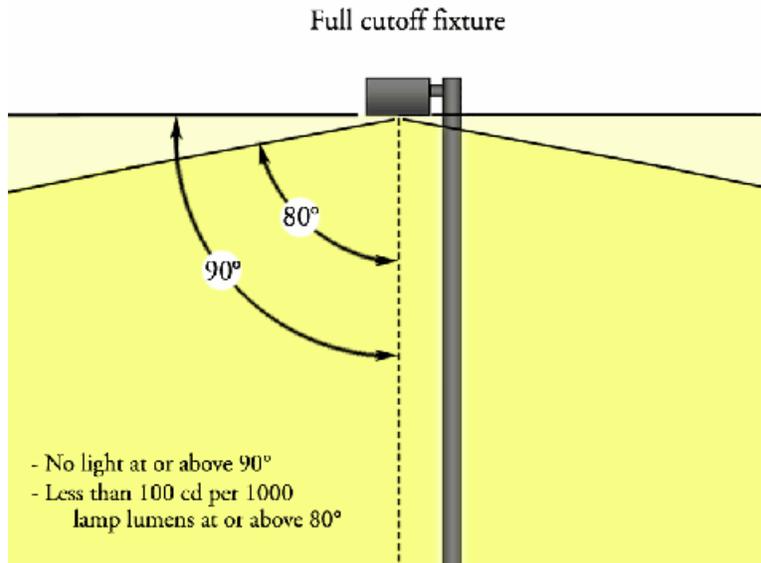
Sample of Web retailers:

www.starrynightlights.com and www.greeneearthlighting.com

How to Develop an Acceptable Lighting Plan

1. Identify where as well as when lighting is needed. Confine and minimize lighting to the extent necessary to meet safety purposes. Plans should define the areas for which illumination is planned. Itemizing each area (e.g. parking lot, doorways, walkways, signage, foliage) with the anticipated hours of use. Commercial outdoor lighting should be used for safe pedestrian passage and property identification, and lit during active business hours and shut off afterward.
2. Direct light downward by choosing the correct type of light fixtures. (See Appendix 3). Specify IES (Illuminating Engineering Society) "Full Cut Off" designated or "fully shielded" fixtures, so that no light is emitted above the lowest light emitting part of the fixture. Top mounted sign lighting is recommended with "RLM" (dish) type shields, and aimed so that the light falls entirely on the sign and is positioned so that the light source (bulb) is not visible from any point off the property or into the roadway to reduce glare. For each one square foot of sign, usually no more than 200 lumens is necessary for good visibility.
3. Select the correct light source (bulb type). Compact fluorescent (2300K) or High Pressure Sodium is recommended unless the light is motion sensor activated, in which case incandescent or the instant start compact fluorescent bulbs can be used. Metal Halide (due to its higher costs, energy use, impact on the environment, and greater contribution to "sky glow") is discouraged, as well as light sources rated over 3000 Kelvin; and outdated Mercury Vapor bulbs are prohibited.
4. Utilize "shut off" controls such as sensors, timers, motion detectors, etc. Automatic controls turn off lights when not needed. All lights should be extinguished no later than one half hour after the close of business. Additional motion sensor activated lighting can be used for emergency access. Avoid "dusk-to-dawn" sensors without a middle of the night shut off control. Lights alone will not serve to "protect" property and are a poor "security" device. Examine other means of protecting property and to discourage criminal activity. Let your local police know that you have a "lights out" policy so that they can investigate if they see lights or activity after hours.
5. Limit the height of fixtures. Locate fixtures no closer to the property line than four times the mounting height of the fixture, and not to exceed the height of adjacent structures. (Exceptions may be made for larger parking areas, commercial zones adjacent to highways, or for fixtures with greater cut off shielding behind the pole mount in commercial zones.)
6. Limit light crossing property lines, i.e. "light trespass". Limit light to spill across the property lines. Light levels at the property line should not exceed 0.1 footcandles (fc) adjacent to business properties, and 0.05 fc at residential property boundaries. Utility leased floodlight fixtures mounted on public utility poles in the public right-of-way should not be used.
7. Use the correct amount of light. Light levels and uniformity ratios should not exceed recommended values, per IESNA RP-33 or 20. (See Appendix 5, Recommended Illumination Levels for various tasks.) "Lumen cap" recommendations for areas to be illuminated are as follows: commercial properties in non-urban commercial zones = 25,000 lumens per acre; for projects in residential and LBO zones = 10,000 lumens per acre. For residential properties: for suburban: 50,000 lumens per acre cap, and in urban areas: 100,000.
8. Ask for Assistance Your Planning Department and local lighting sales representatives can assist you in obtaining the necessary information for good lighting. For large projects over 15,000 lumens: greater energy conservation and control of light pollution, light trespass and glare, may be achieved with the help of a professional lighting designer with "dark sky" lighting plan experience.
9. A post installation inspection should be conducted to check for compliance. Substitutions by electricians and contractors are common and should not be accepted. Final Approved Site Plans will not allow additional exterior fixtures or substitutes without reviews.
10. Design interior lighting so that it does not illuminate the outdoors. Provide interior lighting photometrics for the building's perimeter areas, demonstrating that the interior lighting falls substantially within the building and not through the windows. After closing, interior lighting that extends outdoors needs to be extinguished by the use of shut off timers.

Definition of Acceptable Fixtures: "Full Cut Off", "Fully Shielded", and RLM shield.



- "Full Cut Off" fixtures are independently certified by the manufacturers, and do not allow light to be emitted above the fixture and the fixture reduces glare by limiting the light output to less than 10% at and below 10 degrees below the horizontal.
- If the manufacturer is unable to provide the "cut off" characteristics for a fixture (also called a "luminaire"), the following definition needs to be met, which can usually be determined by a visual inspection:

"Fully Shielded": a fixture constructed and installed in such a manner that all light emitted by it, either directly from the lamp (bulb) or a diffusing element, or indirectly by reflection or refraction from any part of the fixture, is projected below the horizontal. This can be determined by a "field test" or a visual assessment of an operating sample.

- Manufacturers and their representatives can provide photographs of light fixtures as "cut sheets" as well as literature confirming the independently tested "cut off" characteristics of their products. These IES files may be assessed for compliance in a computer program: <http://www.3dop.com/index1.html>
- Photometric layouts for different heights, light sources, and wattages, are also available as "IES" files, upon request or through manufacturers' websites.
- Fixtures must be installed properly, so that the bottom of the fixture is level with the ground. Exceptions are often given for sign lighting which requires vertical lighting:



"RLM" sign lighting shield:

Lighting Plan Submissions

The following information needs to be provided to your municipality's review board which will enable them to evaluate the Site Plan for proper exterior lighting:

The Lighting Plan should be depicted on a site plan, indicating the location of each current and proposed outdoor lighting fixture with projected hours of use. This plan will need to be stamped and certified by a licensed professional, such as an architect or engineer. Many lighting manufacturers can provide free photometric layouts on prepared site plans, to conform to your local requirements.

- (1) The lighting plan should include a KEY to the proposed lighting that provides the following information:
 - Type and number of luminaire equipment (fixtures), including the "cut off characteristics", indicating manufacturer and model number(s).
 - Lamp source type (bulb type, i.e. high pressure sodium), lumen output, and wattage.
 - Mounting height with distance noted to the nearest property line for each luminaire.
 - Types of timing devices used to control the hours set for illumination, as well as the proposed hours when each fixture will be operated.
 - Total Lumens for each fixture, and total square footage of areas to be illuminated. For projects that are in commercial zones, the lumens per net acre to be lit, need not exceed 25,000 lumens. For projects in residential or LBO zones: 10,000 lumens.
 - For all plans of more than three fixtures: A Calculation Summary indicating footcandle levels on the lighting plan, noting the maximum, average and minimum, as well as the uniformity ratio of maximum to minimum, and average to minimum levels*.
- (2) Lighting manufacturer-supplied specifications ("cut sheets") that include photographs of the fixtures, indicating the certified "cut off characteristics" of the fixture.
- (3) Footcandle Distribution, plotting the light levels in footcandles on the ground, at the designated mounting heights for the proposed fixtures. Maximum illuminance levels should be expressed in footcandle measurements on a grid of the site showing footcandle readings in every five or ten-foot square. The grid shall include light contributions from all sources (i.e. pole mounted, wall mounted, sign, and street lights.) Show footcandle renderings five feet beyond the property lines.*
- (4) If requested by the reviewing agency, a statement from a lighting professional that a plan, other than that set forth, is needed to meet the intent of these standards.
- (5) An environmental impact statement may be required as to the impact of the exterior lighting proposed on flora, fauna, and the night sky. Location of species sensitive to light at night or the proximity to nature preserves or astronomical observatories or "Dark Sky Parks", needs to be indicated.
- (6) On the Approved Plan it should be noted that no substitutions, additions, or changes may be made without prior approval by the governing authority.

* This information can be obtained from the manufacturer, your lighting supplier, or the manufacturer's representative.

Recommended Illumination Levels for various tasks*

I. Table of Limits of Illumination, measured in footcandles (fc) at ground level unless noted:

<u>Task Area</u>	<u>Avg.</u>	<u>Not to exceed:</u>
1. Active Building Entrance Approach	2.0 fc 0.2 fc	5 fc
2. Gas Station Approach		2 fc
3. Gas Station Pump Area		avg: 5 fc
4. Gas Station Service Area		avg: 3 fc
5. Sidewalks	0.2 fc	5 fc
6. Surface of signs		2 fc

II. Average/Minimum/Uniformity Ratio Limits for Parking Lots:

I. Public Parking Lots -- not to exceed:

<u>Average</u>	<u>Minimum</u>	<u>Uniformity Ratio (Max to Min/Avg to Min)</u>
0.8	0.2	20:1 / 4:1

II. Private Parking Lots -- not to exceed:

<u>Average</u>	<u>Minimum</u>	<u>Uniformity Ratio (Max to Min / Avg to Min)</u>
0.5	0.13	20:1 / 4:1

OR:

III. If illuminance grid lighting plans cannot be reviewed or if fixtures do not provide photometrics and bulbs are under 2000 lumens, use these guidelines:

1. Pole shall be no greater in height than four times the distance to the property line.
2. Maximum Lumen Levels for different fixture heights:

<u>Mounting Height (Feet)</u>	<u>Recommended Lumen Maximums</u>
6	500 - 1000 lumens
8	600 - 1,600 lumens
10	1,000 - 2,000 lumens
12	1,600 - 2,400 lumens

FOOTCANDLE: ("FC") – Is the basic unit of illuminance (the amount of light falling on a surface). Footcandle measurement is taken with a hand held light meter. One footcandle is equivalent to the illuminance produced on one square foot of surface area by a source of one candle at a distance of one foot. Horizontal footcandles measure the illumination striking a horizontal plane. Footcandle values can be measured directly with certain handheld incident light meters.

LUMEN – A unit used to measure the actual amount of light that is produced by a bulb. The lumen quantifies the amount of light energy produced by a lamp at the lamp, not by the energy input, which is indicated by the "wattage". For example, a 75-watt incandescent lamp can produce 1000 lumens while a 70-watt high-pressure sodium lamp produces 6000 lumens. Lumen output is listed by the manufacturer on the packaging.

* IES, Recommended Practices, (RP-33-99): Lighting for Exterior Environments; and (RP-20): Parking Lots. The Illuminating Engineering Society of North America (IES or IESNA), is an organization that establishes updated standards and illumination guidelines for the lighting industry.
<http://www.iesna.org/shop/item-detail.cfm?ID=RP-33-99&storeid=1>
<http://www.iesna.org/shop/item-detail.cfm?ID=RP-20-98&storeid=1>