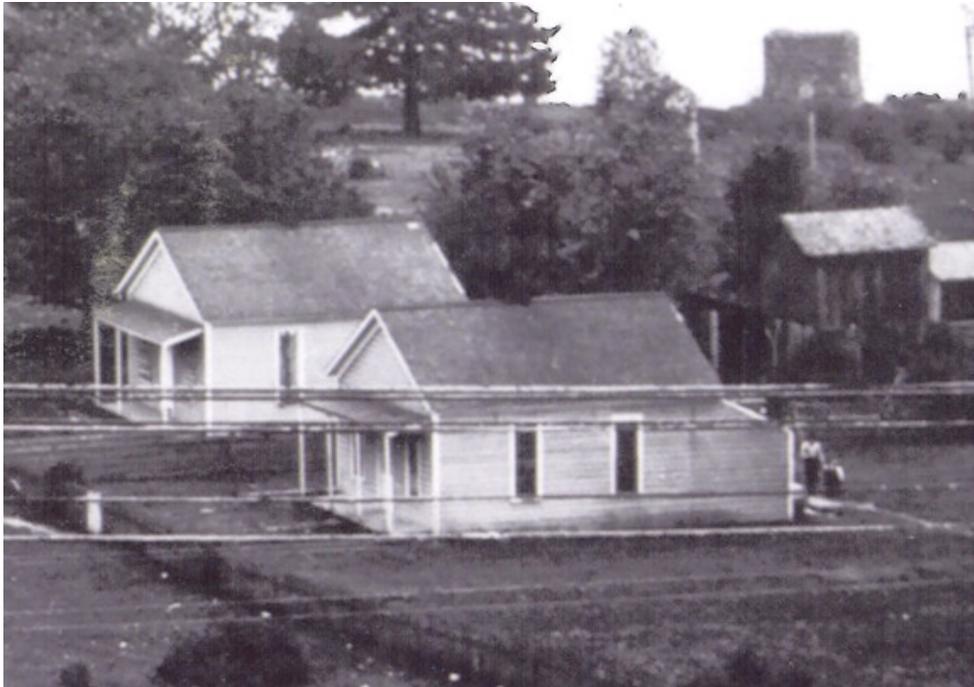


HISTORIC IRON COMPANY WORKERS COTTAGE
PRESERVATION PLAN



1908c Photo of the Cottage

CITY OF LAKE OSWEGO

THE OFFICE OF ROBERT DORTIGNACQ ARCHITECT
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INTRODUCTION

Purpose

This study was conducted from October, 2007 to March, 2008 to develop a Preservation and Rehabilitation Plan appropriate for the historic Iron Company Workers Cottage and its site at 40 Wilbur Street. The Iron Company Workers Cottage was purchased by the City of Lake Oswego in 2002 to preserve one of the few remaining examples of factory worker company housing from the 1880's in Oregon. Although a simply designed and constructed building, its history encapsulates the pioneer era of Oswego and nearby communities. The building was designated as a City Historic Landmark in 1989 and is subject to historic review per LOC Chapter 58 Historic Preservation. Along with the Oswego Iron Furnace located nearby in George Rogers Park, the Iron Company Workers Cottage is a structure of statewide historic significance associated with the area's industrial heritage, and has been determined to be eligible for listing on the National Register of Historic Places. This project is meant to assist the City in determining the necessary rehabilitation work to stabilize and preserve the building.

Historic Significance

The Iron Company Workers Cottage is a significant historic building. The cottage and its associated site reflect the founding and the early industrial historic period of Oswego. As a modest worker's dwelling, it is only one of a few that are extant, the others nearby having been replaced by more intensive building and site uses. The cottage has always been used as residence and has not been moved. As noted above, it has been determined to be eligible for listing on the National Register of Historic Places most likely under Criteria A for its contribution to history. As such, the period of historic significance would run at least through the early days of the community and encompass early alterations to the building. The cottage may become one of multiple properties recognized and associated with the iron industry in Oswego.

The cottage was originally built as one of several small wooden residences to house workers of the Oswego Iron Company. In early photographs taken of the neighborhood the cottage appears to have been used by a family. This would seem likely due to other rooming house buildings available for single men, and since the cottage is small and designed more as a house than for communal living. However, no data has been found to verify the types of residents following its construction. The residential use of the cottage has continued since the closure of the iron works.



SCOPE OF WORK

Project Priorities

During preliminary discussions, City staff requested that recommendations and related cost estimates focus on more urgent, short-term issues. These included stabilizing the deteriorating structure, and restoring original exterior features important to the historic character of the building. Recommendations related to habitation associated with continuing recent use of the building as a residential rental unit were also to be addressed by means of optional improvements. Recommendations for restoring original interior features important to the historic character of the building and to support long-term preservation goals are also included. They are prioritized as less urgent and subject to a public discussion to confirm the intended long-term use of the building.

In the near-term, continued use as a residential property would allow most of the more recently installed interior and mechanical and electrical work to remain in place.¹ The current emphasis can then be placed on priority recommendations addressing the exterior, the structure, and site. That would then allow visitors and heritage tours to view the building and site as a rehabilitated resource. In the future, interior rehabilitation work can address preservation goals that would support a particular program housed on the interior. These may include a guest residence for visiting artists or interns, or a non-residential public use such as housing a heritage or educational program.

Background: Investigation and Analysis

Project tasks included an investigation of the exterior and interior of the building to determine the condition of materials, the existing historic elements, and finishes, and review of existing site development. Recent photos of the Iron Company Workers Cottage are provided on pages 3 to 5. Measurements were taken to develop drawings of the cottage in its current configuration. These drawings are provided at the end of this narrative. The integrity and condition of construction systems and existing structural support systems were reviewed with inspections in the attic and crawl spaces, but engineers were not involved at this point. Mechanical and electrical systems were also reviewed, but not at an engineer's level.

Following the investigation period, an overview of building code issues was developed, and an analysis of the problem areas was performed in order to develop recommendations for repair work. Analysis of non historic items was also performed to formulate recommendations for rehabilitation.

The Building Condition Assessment and other information from the investigation and analysis tasks is provided in the Appendix.

¹ It should be noted that optional residential improvements included in the recommendations are not essential to continued residential use of the building. As noted in the Condition Assessment on page A-9, the improvements involve non-historic alterations that are not related to preserving the historic character of the building interior. Costs and benefits associated with providing these optional improvements in the near-term should be weighed against their potential conflict with long-term heritage goals.



Above: Photo #1: North and Partial East Sides



Above: Photo #2: North and Partial West Sides



Above: Photo #3: East Side, Looking South



Above: Photo #4: West Side, Looking North
Iron Company Workers Cottage Preservation Plan
The Office of Robert Dortignacq, Architect



Above: Photo #5: South Side

RECOMMENDATIONS

Recommendations are discussed in detail in this section and are organized to follow the format of the condition assessment included in the Appendix. This organization is based on construction assembly and systems which allows a convenient means for understanding issues as well as for developing rehabilitation projects. A prioritized summary of recommendations is provided on page 13. Cost estimates for highest priority and short-term recommendations are provided on page 14. Detailed construction descriptions and additional photos can be found in the Appendix.

The following discussion of recommendations is organized as follows:

- Exterior and Structure
- Walls
- Substructure (with seismic upgrade discussion)
- Thermal Performance
- Roofing
- Front and Rear Porches
- Windows
- Doors
- Site
- Interior
- Mechanical and Electrical

Exterior and Structure

While the building's exterior gives an impression of a reasonably maintained structure, it does not go far to convey the historic importance of the building. Although it is generally in fair to good condition for its age, certain areas are in poor condition and need immediate consideration. By current building practice, the cottage construction is quite unique and interesting with its solid wood walls, brick piers, window and door details and other historic materials. Its understated, vernacular style displays a size and sense of proportion much different than seen in our new buildings. Preservation work should retain the building's simple character with appropriate site context.

Walls

One of the most challenging repair aspects is addressing the deterioration on the lower portion of the sheathing support boards. It appears that these were the initial supporting members for the roof structure during construction. The interior board paneling and exterior channel siding were then applied to create a composite wall of three layers. While the exterior siding and the interior paneling are in good condition, the middle supporting layer is deteriorated where it secured to the floor structure. Correcting this defect is difficult, and complete repair may not be feasible since that would entail removing all of the exterior siding to replace a vertical member that is also attached to the interior wood boards. It may not even be desired from the preservation viewpoint since that type of repair may cause significant trauma.

Before discussing alternative repair options, it is necessary to review the overall building condition. This deterioration is not new, there have been prior attempts for repair, and the structure is relatively plumb, straight and intact. The cottage is a small, lightweight structure with a simple rectangular plan. Any repair option should also address the source of the deterioration - namely moisture at the lower wall. This entails creating a positive grade slope away from the structure and including provisions for reducing splash and carrying drainage away as discussed in the Site section below. Because the shape of the structure is not distressed and because of the difficulty in replacing damaged vertical sheathing boards, a limited rehabilitation strategy is recommended.

Complete removal of the exterior siding with subsequent attempt to replace sheathing boards could cause significant stress and potential collapse. Of course, this would be a very expensive option. Instead, a partial removal of only a few lower siding board courses is advised. This would allow access to the lower sheathing boards so that new material such as plywood or other suitable material could be installed and facilitate a connection between the remaining boards above and the perimeter beam below. The siding would then be reinstalled down to its original level. This work should be done incrementally and coordinated with adjacent substructure work so that only portions of the building are vulnerable at any given moment. It is expected that in some areas, particularly the corners, there will be more work involved. Only carpenters familiar with historic buildings should be pre-qualified and accepted for the work. The resulting repairs do not completely return the structure to an initial construction quality, but conserve the resource, and better its condition.



There are additional wall and trim repairs that are necessary to weather enclose the cottage. These consist of replacement of damaged material, filling small to medium sized holes, cracks and voids, and replacement missing trim. All wood should match the size, thickness and profile of the original material.

The skirt boards are beginning to deteriorate due to their location and direct contact with soil. While it is important to enclose the crawl space for pest and energy considerations, an alternative design is required to reduce long term damage to the structure. The revised skirt and water table should be lowered to the floor level as it is normally. The skirt could be made of wood boards provided they end 6" above the soil line with non wood members below completing the enclosure. Another alternative would be to craft the skirt of non wood, possibly cementitious board, fabricated to look similar to wood boards. Dedicated access and ventilation needs to be provided through the skirting.

Substructure

In addition to the sheathing board deterioration, some portions of the perimeter beam and floor joist ends are deteriorated. Inspections at different locations revealed much solid wood, but also some deterioration. Our experience with these results leads us to predict that there would be more rather than less deterioration once more of the structure is able to be observed. Fortunately, the beam and joist repair and replacement is fairly straight forward. The repairs can generally be made without disturbing additional building fabric. Any existing wood supports in contact with the soil need to be replaced with a footing and post upgraded with mechanical connections.

Seismic Upgrade Considerations: The cottage is not a high hazard building. Its light wooden structure with a small rectangular plan is not susceptible to extensive damage. Since any upgrade work is voluntary, improvements would not be mandated unless there are alterations that require meeting current code. A possible improvement would be a stronger connection to the ground using supplemental concrete supports with mechanical anchors to the beams.

Thermal Performance

The cottage has no insulation at present. The solid wood walls provide a minimal thermal protection of R 3.5 and are not feasible to insulate without damaging their historic integrity. Although the walls are tall, their surface area is about the same as the floor area. For that reason, it is recommended to heavily insulate the ceiling space, and to provide floor insulation as a supplement. Storm windows as noted below will also help since more than four times as much heat escapes through a given area of the existing window as the solid wall. The crawl space dirt should have a vapor barrier installed. Access to this space needs to be developed by a designated door or panel in the skirting near either the kitchen or bath plumbing. Crawl space vents are recommended for use as weather conditions allow.

Roofing

The composition roof shingles are relatively new and in fair condition (need moss removal). Their tan color, however, does not coordinate strongly with the restoration of the original grey and white exterior paint colors. New shingles will be necessary when revising the front porch, so it would be appropriate to replace the roofing at the same time or at least to purchase sufficient extra material needed for the porch if its revision is deferred. Composition shingles were not the original roofing, but they provide good moisture protection, fire safety, and low maintenance. Restoration of the wood shingle roof is an alternative, especially if fire retardant treated. Such a roof would require a commitment for its maintenance to ensure there is continued weather protection for the house. A new wood shingle roof is only recommended if substantial removal of overhead planting is achieved, due to the high maintenance associated with a wood roof in a dense site, and the lower quality of shingles now available. Either roofing choice requires removal of the existing roofing to avoid overstressing the

framing. The restored front porch roof would have too low of a slope for wood shingles and would then be covered with metal.

The existing attic ventilation at the main roof is sufficient, but should be incorporated into a slightly larger access door. Discreet ventilation needs to be provided for the shed roof portion. The brick chimney needs cleaning and has deteriorated joints that need repointing. New step flashing should be installed at the same time.

The roof could remain gutterless as it always has been. This would then remove the necessity for gutter maintenance, but improved drainage and splash control around the building should then be designed. Gutters should be provided for the rear shed roof with a simple painted metal half round gutter and round downspout that directs the runoff away from the building. This would be in consideration for entry and due to the lack of rear roof overhang, unless the roof is extended and a diverter utilized at the door. The front porch roof could also have a simple diverter over the entry path to deter drips.



Front and Rear Porches

The current front porch replaced a prior hipped design that was historically inappropriate with one that is more in keeping with the original design. It is desirable to again rebuild the porch and its roof as seen in the 1908 photograph that displays a full width design. The roof would be slightly higher than present. It may be as flat as the one in the photo, or it may have more slope similar to the neighboring cottage. Although relatively simple, the historic roof would likely have had an enclosed underside and flat trim. The decking below would have been painted and made of 1x material. The rear deck is historically inappropriate. It is, however, on the back of the house and not very visible. Traditionally, this entry would have had no more than a minimal set of steps to grade, and probably no (current code required) landing at the door. Although we are accustomed to an outside deck at floor level, a more fitting design would have steps to grade and a garden area or patio. If a raised deck is desired as a rental amenity, its presence could be designed to be more sympathetic; the guardrails are not required for a deck of this height and they could be omitted; the materials and finishes should be chosen to better harmonize with the cottage. The porch revisions should be coordinated with other structure and wall repairs, or they could be deferred to a later date.



Windows

Most of the wood windows from the historic period are intact with exception of one on the east side, and those on the shed portion. They need some repairs to the sash and sills where deteriorated. Beyond that, an overall strategy needs to be followed in their treatment. The historic sashes are vulnerable if operable, yet one in each bedroom needs to be available for emergency egress.



Where operable, the sash needs to have a latch or other mechanism to hold it in place. Windows in the living room are not required to be operable, but are useful for ventilation unless a mechanical means is available. Since the windows are drafty, and do not provide much thermal protection, storm windows are recommended. Exterior storm windows would protect the originals from weather and vandal damage, but slightly diminish their exterior appearance. Interior storm windows would allow exterior screens, but may interfere with window coverings and operation. A possible strategy may be to use interior wood storm panel on the front, having those windows inoperable since the side windows could be operable and the porch roof would protect the exterior of the historic window from weather. The side windows would be operable with screen below and an exterior (or interior) storm window above. All of the storm panel units would be fabricated from wood and glass. A new replacement window should be custom fabricated to match the original design for the missing unit on the east wall. It would use the same storm window strategy as the other windows.

The non wood windows at the kitchen and bath should be replaced. It is appropriate that these are smaller and less vertical windows. A design that minimizes the side windows and utilizes more of a garden window approach at the south kitchen wall is an alternative, especially if the kitchen layout is redesigned. The windows might use insulated glass if small since the sash would not have divided lights. A sympathetic design can be found for each alternative, but these will be custom fabrications due to the solid wall construction.

Doors

New or good salvaged historic doors should be installed at the front and rear entries. The doors should have a configuration with hardware that is appropriate, an appropriate design could consist of a four panel door at the front and a two panel with half light door at the rear. There can be additional security locks and weatherstripping.

Site

With the completion of adjacent developments, the cottage now has its new context defined. While much of the historic context is lost, the structure does remain on its original site in relation to the town center, the smelter, and the waterways. The building's location in the center of its lot provides a buffer from

new buildings and the opportunity to create an appropriate historic setting. There has not been a master plan of the site, but new street side improvements to reinforce the curb appeal. In the early years after the cottage's construction, the site was more open with minimal yard planting, and no foundation planting. Current shrubs and random trees in the area directly around the house should be removed. Larger trees such as the Douglas Fir, Big Leaf Maples, Claredendron, and neighboring trees that overhang the property need limbing and thinning to allow more direct daylight, to reduce maintenance, to provide better visual security, and to reinforce the historic context. Some limited perennial or annual plantings are appropriate if not excessive for this vernacular, worker's residence. Caution is necessary regarding expansion of the yard irrigation to avoid additional building moisture issues.

The site has become lower relative to its neighbors on the east, west and north. The ground level has also raised at the building line due to accumulation of organic matter. This is the time to reslope the slope so that runoff is kept away from the structure, and so that the soil line is at least 8" below the perimeter structure. Subsurface drain lines need to be installed near the rood drip line (if no gutters), and in a manner to capture water from adjacent higher areas. The water can be routed to an onsite dispersion point or dry well. Suitable material should then be placed out to the eave line to minimize splash problems.

The various fencing at the rear should be removed, and replaced with a low picket style fence near the alley with provisions for access, trash containers, and parking. The rear yard could be left in an open manner, or more developed with a patio area for tenant use. There is adequate space along the alley for future historic interpretive works or structures that could lessen the impact on the building.

Interior

The historic interior wood finish on walls and floor, and wallpaper on the ceiling is mostly intact but has been covered by gypsum board and carpet. For continued residential use there is no need to remove these finishes. The removal would create additional rehabilitation work, and by leaving the material in place it preserves the wood surfaces from further damage, and provides slightly better thermal value. The floor, ceiling and wall surfaces in the kitchen are an exception. If this space is revised, the heavily textured surfaces should be removed. Some attic space access for the shed roof is advised. The floor is buckled and needs to be replaced. The kitchen layout could be improved by rearranging the sink, stove, washer and refrigerator. This work would be coordinated with exterior window alterations. Appliances can be replaced independently as wear dictates. The cupboards need new doors, and appropriate countertops and wall shelving/new cabinets.



The base cabinet should remain. The bathroom would have some alterations with a revised window. That work may allow installation of a mirror. The tub and sink need surface repair. Since there are no closets or storage areas, independent cabinets may be fabricated or purchased as a renter amenity and to minimize potential damage by alterations.

At some future point it would be appropriate to restore the interior wooden and papered surfaces and their reveals to the wall trim. The doors and hardware should be restored so that latches operate correctly, have appropriate hinges and locks and other minor repairs are made to ensure their continued preservation. The windows need some repairs and modifications as noted above. Since the cottage would be viewed on the exterior by interested parties, wood blinds should be installed at the windows to manage the exterior appearance.

Mechanical and Electrical

Both systems are operating satisfactorily and should serve residential use well. The furnace is an older model, but with its central location and the small spaces to heat, it has not had heavy use. Its replacement would be dictated by maintenance. If future cottage use changes, there may be a need for air conditioning if windows remain shut. For residential use, ceiling fans, operable windows and tall ceilings give adequate cooling. The electrical service, wiring and outlets have been replaced recently and fit residential needs. Those needs would change if the use changes. The exposed panel and conduit are an eyesore that could be improved by adding a suitable cover that would double as weather protection and security.



The cable wiring that circles the cottage should be rerouted to the crawl space with designated junction boxes installed at the interior, possibly in conjunction with telephone. The battery smoke detectors should be replaced with ones that are line voltage inerted types.

PRIORITIZED SUMMARY OF RECOMMENDATIONS

- I. STABILIZATION (*Highest Priority*)
 1. Repair and stabilize deteriorated wood at floor structure and lower exterior walls; Employ an incremental approach
 2. Repair damaged areas on walls and trim; Replace skirt and at lower wall portions; Restore original water table height
 3. Rehabilitate existing historic windows
 4. Insulate ceiling, floor, crawl space (floor and perimeter), vapor barrier; New attic and crawl space access and ventilation
 5. Regrade site near building lines; provide site and building drainage

 - II. PRESERVATION OF HISTORIC CHARACTER – EXTERIOR (*Highest Priority*)
 1. Repaint exterior to original colors (believed to be grey with white trim)
 2. New composition roof shingles; Alternate: wood shingles
 3. Repoint, reflash chimney
 4. Replace and revise design for non historic windows and doors
 5. Restore front porch and roof
 6. Revise back porch and steps
 7. Open up site planting; limb up tall trees, thin out shrubs, hedges and random plants.

 - III. HABITATION (*Short-Term Priority*)
 1. Electric panel cover screen; smoke detectors; Relocate telephone and cable wiring to crawl space
 2. Storm windows and screens
 3. Replace buckled kitchen flooring
- Optional Alterations (non-historic) for Enhanced Residential Use (*To be determined*)
4. Repaint interior, floor finishes, repair doors and hardware
 5. Revise kitchen layout, replace countertop and splash; repair cabinets, revise finishes
 6. Replace bath flooring; refinish fixtures and fittings, misc repairs
 7. Wardrobe storage units at bedrooms
 8. Rear entry and site treatment, associated plantings
-
- IV. PRESERVATION OF HISTORIC CHARACTER – INTERIOR & SITE (*Long-term Priority*)
 1. Restore original interior finishes and surfaces, moldings
 2. Historically appropriate wood window blinds
 3. Restore interior cross wall and opening
 4. Depending on proposed use, revise kitchen and bathroom areas, associated electrical and plumbing
 5. Depending on proposed use, revise living space and lighting
 6. Revise back yard, terrace, planting, picket fence, parking area
 7. Depending on proposed use, construct new historically appropriate accessory building at rear yard
 8. Develop additional historic interpretive material, signage, graphics, walking tours: Obtain wallpaper samples from furnace closet for preservation
 9. Develop a building preservation and maintenance manual

COST ESTIMATE

Costs are estimates (or in some cases, appropriate allowances) for direct construction with overhead and a contingency of between 15%-20%, but do not include applicable architectural and engineering design fees. The costs anticipate grouped construction that would occur include all similar subcontractor work. Long-term recommendations (interior and site work to preserve or restore historic character) and associated costs could vary dramatically depending on use, project refinement, and alterations. Therefore, cost figures for long-term recommendations are not provided.

Cost Summary for Priority Recommendations

I. STABILIZATION (*Highest Priority*)

1.	Repair Lower Walls and Structure	\$32,000	
2.	Repair Exterior Siding, Trim and Skirt	\$11,500	
3.	Window Repair	\$2,000	
4.	Insulation and Ventilation	\$6,500	
5.	Site Regrading and Drainage	-----	by LO or \$9,500
	Subtotal Construction	\$45,500	
	Architect/Engineer Fees	\$8,000	

II. PRESERVATION OF HISTORIC CHARACTER – EXTERIOR (*HIGHEST PRIORITY*)

1.	Exterior Painting	\$4,500	
2.	New Roofing: Composition Shingles	\$4,000	or \$7,000 for wood
3.	Chimney and Masonry	\$5,500	
4.	Window and Door Replacement	\$8,500	
5.	Front Porch and Deck Revisions	\$22,500	
6.	Rear Porch and Stair Revisions	\$2,500	
7.	Site Plantings, Trim, Remove	-----	by LO or \$2,500
	Subtotal Construction	\$47,500	
	Architect/Engineer Fees	\$3,500	

III. Habitation (*Short-Term Priority*)

1.	Miscellaneous Electrical	\$3,300	
2.	Storm Window, Screens	\$4,200	
3.	Kitchen Floor Replacement	\$700	
	Subtotal Construction	\$8,200	
	Architect/Engineer Fees	\$1,000	

Optional Alterations (non-historic) for Enhanced Residential Use (*To be determined*)

4.	Interior Repainting, Carpet	\$8,300	Maintenance-Defer
5.	Kitchen and Renovation	\$5,300	
6.	Bathroom Remodel	\$2,700	
7.	Closet Storage Units	\$1,000	
8.	Rear Patio or Deck, Plantings	\$0	Optional or by LO
	Subtotal Construction	\$17,300	
	Architect/Engineer Fees	\$1,500	

APPENDIX

BUILDING BACKGROUND AND DESCRIPTION

The Iron Company Workers Cottage is believed to have been constructed in about 1880 reflecting the need to house workers for the iron industry. Early photographs show the house west of a similar one [recently demolished], and surrounded by open yards along with other larger wooden buildings.

There have not been substantial alterations to the form of the building since it was first constructed. The front and rear porches and their roofs have been replaced. A 1927 Sanborn map indicates a rear porch but the front porch illustrated in historic photographs is missing. A few historic features, such as doors and windows, have been altered as explained below in more detail. The interior room configuration is similar to that of the original. The front door opens onto a long partially divided room on the east side with two bedrooms stacked on the west side. The kitchen is located in the rear (south) shed roofed portion. The bathroom occupies the east section of this area. These two rooms have undergone remodeling changes over time. The original kitchen would likely have been a simple work space with wood cook stove that progressed over time to include more cabinetry and appliances. The bathroom is thought to have been a pantry with cooler that was revised once indoor plumbing was installed.

The Iron Company Workers Cottage is a rectangular structure measuring 34'-7" from front to back, and 20'-5" in width including the rear shed that is flush to the side walls. The rear shed portion occupies the last eight feet of length. The exterior wood walls rise approximately twelve feet above grade to the enclosed eaves. The primary roof is side gabled with composition shingle covering. It has an 8:12 pitch with one foot square cut eaves. There is a single, centered brick chimney on the ridge. The rear shed roof is pitched at 5:12 and peaks to the main roof eave. This roof has tight rake and eave conditions.

The house is located slightly askew on a 50 by 100 foot site. The front is nineteen feet from the property line with Wilbur Street another twelve feet to the north. To the south there is a chain link fence twenty six feet beyond the house with the sixteen foot wide paved alley another twenty feet further. A former garage once occupied the southwest corner of the lot. The narrowness of the cottage allows generous side yards (though not as spacious as they were originally), slightly less to the west. On either side are new multi-storied condominium developments that enclosed the visual space. The site has become somewhat overgrown with random plantings that have matured. The elevation of the lot has dropped some relative to the current elevation of these adjacent developments and height of Wilbur Street and its sidewalks.

Relevant Building Code Items

The building which is used as a single residence rental is governed by the State of Oregon Residential Specialty Code, currently the 2005 edition [governs 1 and 2 family dwelling units]. It is constructed of wood exterior walls and non rated roof framing, construction type V-B. The current occupancy is Residential [type R-3]. If there would be a change of occupancy to a heritage museum or other public use the cottage would be governed by International Building Code 2006 edition [IBC] with State of Oregon 2007 Structural Specialty Code Amendments. There could then be some code upgrades necessary, such as ADA, or structural. The specific items would depend on the use, size of the program, and current code in effect. Furthermore, those code provisions may be adjusted by appeal and use of alternative-equivalent protections, while some may require alteration to the building.

As a continued residential use, there would be no building codes issues of significant concern for the continued operation or repairs of existing materials. New construction would need to meet current code except where exempted for historic preservation considerations. Some aspects of the building that have code implications are recommended to be improved as noted below. Anticipated improvements would include insulation, and applicable structural work. Seismic upgrading is not required, but is a voluntary improvement.

CONDITION ASSESSMENT

EXTERIOR AND STRUCTURE

The Iron Company Workers Cottage exterior remains largely intact from its original construction and is a primary historic feature. Altered exterior elements can be replaced with ones that match the original fabric. A thorough exterior rehabilitation coupled with site improvements noted below will establish a positive presence along Wilbur Street and preserve the remains of Lake Oswego's heritage.

Walls

The walls of the cottage are a unique construction feature of the building no longer used in modern building methods. The walls are constructed of solid boards laminated together without use of stud framing. All four exterior walls are load bearing continuous along their lengths. The exact construction of each wall was not determined, however, through inspections measurements and borings, a close formulation was determined. The side walls consist of 1" thick (rough) vertical sheathing boards of varying width (from 8"-12") that extend from the outside of the perimeter beam to the top wall plate. Outside of these are the painted 1x8 horizontal channel siding boards visible from the exterior. Inside of the sheathing boards are 1x panel boards that gave the interior finish of the rooms. These appear to be vertical tongue and 'V' grooved boards, but may vary and may be horizontal in some locations. Recently installed on the interior side is a layer of 1/2" gypsum board. The solid wood portion of the wall measures 3"-3 1/2" in thickness [the front wall measures on the thick side].

The front gable sheathing boards and siding extend full height to support the roof structure. At the rear gable there is a similar construction with the solid wall extending to the floor structure between the kitchen and living room. The construction is also utilized around rear shed portion of the cottage. Although often rear porches and sheds were added and revised greatly, this shed area appears to have been constructed as part of the house as evidenced by its construction and historic photographs.



Exterior wall trim consists of 1x5 corner boards, a 1x10 barge board that wraps around the side wall to become 9" in height, and 1x6 fascia and eave boards. The windows have 1x5 trim [somewhat smaller than the corner boards] with projecting 5/4 sills. The front door uses a 1 1/4" x 2 3/4" on edge trim to form the stop. All the above trim boards are flat and are full sized. There is a small watertable board raised approximately 7" above the finish floor, below which are 1x6 vertical tongue and 'V' groove siding boards extending into the dirt to enclose the crawl space. The wall siding and skirt are painted yellow. The trim is painted a red-brown color. The original historic colors were a light grey on the siding with white on the trim.

The channel siding and building trim is generally in good condition. There are areas needing attention, for example, near the revised window on the east wall where a former deck had been installed, there are holes through the wall exposing the backside of the interior gypsum board. There are other gaps and damage areas that need attention. The wall boards on the interior side are not able to be viewed, but are most likely in good condition. The primary vertical sheathing boards are the area of the most deterioration. It appears that many of their bottom sections have deteriorated, with some of that damage visible where the skirting is removed at the southwest and northwest corners. It appears that at one time these boards were cut off (note the random bottom edge remaining as seen in the photo opposite), filler material added, and a raised water table and taller skirting installed. It should be expected that the lower portion of these boards are damaged or have been cut off on the entire perimeter. The skirt boards are also deteriorated, but not as extensively as one would expect given their direct contact into the soil. This is probably due to their being a relatively new replacement.



Floor and Substructure

The floor is structured with 2x6 joists at 18"-21" o.c. running crosswise. The flooring in the cottage is a single layer of 1x4 boards. The joists are supported at the ends by 6x6 perimeter beams, and at the center by a similar beam. There is a cross beam formed by multiple joists that supports the rear gable wall. The floor framing is supported on 8"x12" solid brick piers creating an 16" crawl space. There are piers at the four corners, three along each long side [none align with the rear gable wall] and at the ends and along the length of the center beam. The masonry piers appear to be in good condition. The crawl space is enclosed by the skirt boarding that helps to keep it warmer, but there is no vapor barrier or insulation.



The floor structure displays some unevenness as noted on the interior that could be attributed to settling or member deterioration. There have been previous repairs of deteriorated members as well as alterations, especially in the area of the bathroom and kitchen and their plumbing. There, wafer board has replaced the wood flooring and new joists have been framed at the bathroom .



The rear shed portion may have had settling or deterioration problems since there are new quarter span beams and shims between the beams and their supports to level the floor. The problems could have arisen from roof leakage or from being at the low side of the lot. There are a few additional wood posts supporting the beams, some in direct contact with soil. A number of joists observed on the west side have deteriorated ends that have been repaired with new joists sistered to the originals for a length of about five feet. An additional 4x6 beam has been added for additional support of the west perimeter beam. There is deterioration at the south end of the west wall and at the northwest corner. Other damage areas should be expected.

Windows and Doors

Most windows of the original wood double hung windows are intact. They measure 2'-3½" wide by 6'-5" high with a 22" high sill and 4/4 x 4½" flat casings. The sash is divided 4/4 and has thin muntins with the panes puttied in. There is no suspension system since the window relies on a frame trim piece for the solid wall termination and to hold the sash in place. The lower sashes are operable and held open by friction. The upper sashes are painted shut, but not have been operated. There is no hardware including; latches, lifts, suspension, or weatherstripping. Much of the glass appears to be historic. The southeast window has been changed to a white vinyl single hung that is wider. This opening had previously been enlarged to a terrace door that led to a deck on the east side yard. Some of the windows have wood frame screens, and the west ones have exterior metal storm windows.



The windows on the shed walls have all been altered. An historic photograph shows that the west kitchen wall did not have a window. A photo of a similar cottage's east wall shows a small window or cooler vent. No historic photos are available of the rear wall that has undergone changes. Currently, the kitchen has a fixed metal window on the west, and a vinyl slider with between the glass divider bars window on the south. The bath has a vinyl slider similar to the one in the kitchen.



The front door, and possibly the rear door are in their original locations with frames intact. The doors have been replaced with newer ones of a six panel configuration with cylindrical locks and deadbolts. The front door measures 2'-8"



x 6'-8" and has a wood screen door. The rear door is 2'-6" x 6'-4" (cut down) with a metal storm door.

The wood windows are in good condition, but need some repairs and care. There is no way to hold the window open at a particular position, only at the point that the friction of the sash stops support the sash. This means that in the lowered position the sash is loose, allowing substantial air infiltration. It also means that there is a danger that the sash can come crashing shut at any moment. The vinyl windows detract from the historic quality of the cottage in design, material, size and configuration.

Roof

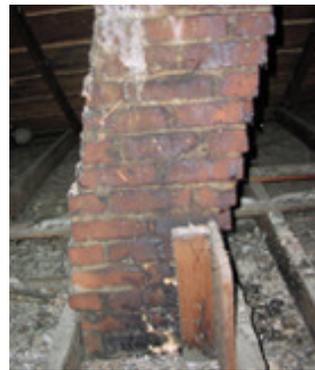
The primary roof structure is front gabled with a pitch of 8:12 and has a one foot overhang on all sides. The overhangs square cut and are enclosed with soffit boards. Roof joists are 2"x6" spaced at 24" o.c. and rafters are 2"x 3½" also spaced at 24" o.c. The joists are slightly notched over the wall plate (wall plate not visible from the interior). The rafters lap the joists, have a slight notch allowing an extension for the overhang, butt against each other directly at the ridge line without a ridgeboard. The rafters support spaced 1x sheathing of varying widths. Remains of the wood shingles can be seen in the attic. The current roofing is 3 tab plain composition shingles installed over plywood. There are painted metal eave and rake flashings. There is no rain drainage on the main roof. The attic can be accessed only by removing a small vent in the rear gable wall.



The shed roof meets the rear gable wall just below the eave and pitches south at 5:12 to a low, 6'-5" height at the rear wall. There is no access to this attic space, but it appears from the exterior that the framing is of 2x4 members. The ceiling line is level for 44" before assuming the slope of the roof. It could not be verified if the ceiling is original, it may all have been sloped originally. A white vinyl gutter collects rain from the shed roof where it is directed to a downspout at the southwest corner and from there to grade. A relatively recent photograph shows the east portion of the roof with a short overhang and no gutter.

Generally, the roof lines appear straight without significant sagging despite the small sized members. It covers, after all, a small area with short spans with an adequate pitch. The original wood shingles were a lighter covering than the current composition roofing installed on plywood. The framing is sound and dry. Signs of moisture were found around the chimney, but they appear to be from previous leaks. The chimney masonry and joints are in good condition as are the shingles. There is some debris, prior wood shingles, wasp nests, and no ceiling insulation in the attic space.

There is a single brick masonry chimney located on the ridge at the center of the house. It extends several feet and has a corbelled top. It has poorly fabricated, painted metal flashing to the roof. Within the attic the 16" square chimney is offset southward to clear existing ceiling joists at the mid cross wall. The masonry is terminated onto wood framing at the main level, at design that was often used for stove venting. The design thus indicates that this was always a heating stove vent and was never for a fireplace. The rear shed roof may have had a cookstove with a metal flue.



Porches

The current front porch and roof extend six feet from the house and are nine feet in width. The roof has composition shingles similar to the main roof and is framed with 2x6's with plywood sheathing and no underside enclosure. The porch itself is also framed with 2x6's and has unpainted 2x6 cedar decking. Originally, the roof extended the width of the cottage (inside of the corner boards) and appeared to be a bit shallower in projection. There were four simple support posts for the lower sloped roof that was slightly higher.

The rear porch, actually an uncovered deck, is four by eight feet in size. It is constructed of 2x6 decking with 42" high 2x4 railings and is relatively new. It is raised to be close to the kitchen floor level in height or about 24" above grade. There are three steps down to the yard. The rear porch likely changed over time, and originally may have been no more than simply steps to grade without an upper landing similar to that in a 2000 photo that showed the roof with a slight projection. This would compensate for the low head height at the exterior wall. The 1927 Sanborn map shows a shallow rear deck extending about two thirds of the width of the house and no front porch. Porches, steps and decks receive a great amount of weather, especially when uncovered, so their periodic revisions are anticipated.

Site

The cottage is somewhat centered on its site, and is slightly rotated relative to the lot lines. The Wilbur Street there is a lawn strip and entry walk that slopes down to a new white enclosing fence and gate at the property line. Thence, there are concrete stepping pads leading down to the house. The site was once very open and is now quite shady due to the growth of plantings, most of which are random. Plant material includes lawn on each side, a very large Douglas Fir on the northeast, some maples, hollies and laurels toward the rear, a Claredendron (verify) on the west and some small ornamental shrubs. The adjoining developments have added additional planting that overhangs the side fences. New plantings have been added in the area by the front fence and street. An irrigation system was simultaneously installed to serve these planting. The water line is located on the west side of the house, with valve boxes near Wilbur and the controller and connection boxes near the alley.

The east yard is enclosed by the neighbors' stone wall at the north end that changes to a wrought iron fence that again, changes to a wood fence starting about at the front corner of the house. The west yard has a four foot high concrete retaining wall with a four foot high chain link fence both of which are ivy covered. This wall changes to a lower 18" high concrete wall with a three foot high chain link fence that extends south to the back fence that is wood on the west and chain link on the east. There is a generous yard area outside of the back fence.

The 50 by 100 foot lot site has a gentle slope from the north to the south with the steepest slope in the area just south of Wilbur Street. The site grades on the east and west have been raised with the new multistoried developments. The grade of Wilbur Street is also higher now than originally. These changes give the house a feeling of being sunken. At the house corners the slope is highest at the northeast and lowest at the southwest. The grade at the front of the cottage is too high, with the soil line above the wood perimeter beam. Site drainage is through natural percolation or surface runoff. The combination of adjacent developments now higher than the Iron Workers Cottage, new onsite irrigation and a lack of a building rain drain system could create an adverse result for the long term preservation of the structure.

Utilities and Equipment

Water There is a city water meter and service line located near the west end of the south property line provides service to the back of the cottage. The yard irrigation service branches off this line with a backflow prevention device. There are frostfree hose bibbs at the south end of both the east and west walls.

Storm Sewer There are no raindrainage or underground storm drainage systems. Runoff and subsurface drainage is by natural percolation. Since the street curb on Wilbur is the high point, runoff descends from there past the building.

Sanitary Sewer The building is served by the City's sanitary sewer system being connected to an 8" PVC line running along the south side of the property in

the alley. There is a cast iron hub, perhaps a clean out, in the east yard near the plumbing.

Natural Gas There is natural gas service to the cottage with the line and meter is located on the south side of the building between the deck and the southwest corner. The building has a gas fired furnace that connects to the masonry chimney.

Power The building is served overhead from line tap to wires on the north side of the alley running to the power pole located at the southwest property corner. A surface mounted weatherhead and conduit bring the service down to a meter east of the rear door. There is a surface mounted outdoor model panel adjacent to the meter.

Telephone and Cable The building's telephone is fed underground to a connection box at the north end of the east wall from which wire is routed to the interior. Cable service is fed overhead from the power pole to the southeast building corner where lines are split and routed to their termination.

INTERIOR

Building Functions

The building has been used for residential purposes. Although small in floor area, the cottage feels more spacious due to its generous height with 10'-8" ceilings in the main rooms. The interior has a central living room occupying the east side of structure and running the length of the primary roof space. The room is partially divided in half by a crossing wall. West of the living room are two bedrooms each accessed through the living room. The furnace is located next to the cross wall and has recently been enclosed with stud walls. To the south the kitchen and bath occupy the shed roofed portion with rear deck and yard.

Besides housing, the building could have a variety of new uses ranging from educational to heritage related. To support these uses some interior rehabilitation would be desirable and necessary. Many of the current residential upgrades would not then be necessary, and may interfere with the heritage role. In any case, all improvements should be sensitive to the historic fabric of the building. Since most of the interior rehabilitation is dependent on the tenant and type of occupancy, that projected work should be coordinated with occupancy changes.

Walls & Finishes

The interior cottage walls are solid wood similar to the exterior walls. They consist of two board layers, a vertical and a horizontal layer of tongue and groove boards. The kitchen wall is triple layered due to the sheathing boards supporting the roof gable above, and also has an additional finish layer on the kitchen side. The painted boards were the exposed finish for the cottage. Occasional vertical boards extend into the attic to secure the walls to ceiling joists (See attic chimney photo above). The ceiling was made by 1x4 boards applied to the bottom of the joists with a wall paper finish [remaining material is exposed in the furnace room]. The walls and the ceilings have been recently overlaid with painted 1/2" gypsum board that abuts the wall, door and window trim. There is minimal woodwork that consists of full sized 1x4 painted wood window and door casings and 1x6 baseboards; all of flat profile. The baseboards in the living room have been replaced with shorter, thinner material as are the new window casings. The cross wall in the living room has been modified with an arch top. An older interior photograph (2000) shows a rectangular opening. It has not been verified if this entire wall always existed. As verified in the attic, the portion by the chimney did exist for the chimney's support, and probably the remainder of the wall also since it provides added cross support. The five foot wide opening may have been narrower. These rooms have carpet installed over padding over the wood floor. In the kitchen and bath the flooring is sheet vinyl installed over thin plywood underlayment with rubber base. The finishes are generally in good condition except in the kitchen where the flooring is buckled and the ceiling is a heavily textured brocade - possibly to cover prior water damage.



Doors

The interior doors are the original 4 panel design, stile and rail doors. They are 2'-6" x 6'-5" except the furnace door that is 2'-0" x 5'-10". The hinges have been replaced, but the latches are historic rimsets with porcelain or metal knobs (ornamental metal on the furnace door). The doors are all painted except the interior side of the furnace door; this door may have been salvaged when the enclosure was built (since 2000). The interior doors are in good condition needing minimal refurbishment. The latch hardware needs repair and cleaning of non original paint.

Cabinets & Appliances

Cabinetry is limited to the kitchen and a small surface mount medicine cabinet in the bathroom all of which is painted wood. The cabinets in the kitchen consist of a face framed wall unit on the north wall, and a continuous base cabinet below. An 'L' is formed at the west wall with a newer (since 2000) sink cabinet. The base cabinet has a tiled (non historic) top that steps up at the west end. It also has a drawer stack and two large bins for storing staples, an historic feature not used in current times. The wall cabinet doors are missing. There are additional coated wire wall shelves in both the kitchen and bathroom.



The appliances include a free standing electric range with hood (vents through west wall), an apartment sized single door refrigerator, a stacked electric washer-dryer (vents through south wall). The appliances all appear to operate satisfactorily, and would be easily replaced if worn out. The layout and circulation of the kitchen is awkward and it could be improved.

Plumbing

The kitchen has a newer stainless double bowl sink and faucet. The bathroom has a stained wall hung porcelain sink with separate hot and cold supply fittings, a small cast iron claw foot tub [its recoating is failing] with new replacement shower head riser and faucet, and a non historic water closet, all on the east wall. It appears that the sink and toilet may have previously been on the south wall. The water is heated by an electric heater exposed in the bathroom. The cast iron vent piping for the bath is exposed on the outside of the east exterior wall. Supply and drain piping is visible in the crawl space



and varies in materials used. Drain pipes are both cast iron and ABS. Much of the piping has been replaced. The condition and age of the main supply line is not known. Exposed lines in the crawl space are all insulated.

Heating & Ventilating

The cottage is heated by a gas furnace in the approximate center of the building at where the woodheating stove would have been. This location allows for minimal ducting with short runs to the adjacent bedrooms and living space. The furnace is a Day Night upflow model of approximate 80% efficiency with cold air return low on the wall to the living room [possibly installed in 1989]. The bathroom does not have an exhaust fan to the outside. The high ceiling is a factor in the consideration of heating and cooling improvements. Paddle fans in each bedroom and two in the living room assist in moving the air up or down as desired.

Lighting

There are combination light-paddle fans centered in each of the main rooms, and simple center ceiling fixtures in the kitchen and bathroom. At each exterior entry there is a floodlight.

Power, Data, Security, Life Safety Systems

Power: The service has recently been replaced with new wiring (old wiring was knob and tube) and now runs overhead from a line tap from wires on the north side of the alley. The existing electrical service consists of a Cutler Hammer BR Load Center with exterior grade 200 amp 240 volt single phase main panel with double grounding wires and rods, 12 circuits and 2 spares, surface mounted on the exterior of the south wall. Wiring from the box is by non metallic conduit that is also exposed below the box until it passes into the crawl space. The work is surface mounted due to the solid wall construction. On the interior, wiring is behind the gypsum board in most instances, and occasionally exposed with plug mold painted to match the walls. Outlet boxes are semi-recessed and were added with the new wiring.

Alarm and Data Systems: There is no existing security alarm system in use. There is a battery powered smoke detector. Currently, the phone line runs underground to the north end of the east side of the building where it is routed to the interior. The cable wiring is run overhead from the power pole to the southeast corner of the cottage where it is split into individual runs that essentially encircle the house until their entry points.