Environmental Impact Statement

In Support of

PUD and Site Plan Review Applications

For

Legacy Park Apartments at Harmony Grove Road
60 - 64 Grove Street & 3 Harmony Grove Road

Introduction

This Environmental Impact Statement discusses the proposed project in response to the topics presented in Appendix A of the Salem Subdivision Regulations. For the reviewer's convenience, the topics are discussed in the order presented in the regulations. In the text below, italics represent the topic as provided in the regulations and the response follows the word "Response:"

1.0 Natural Environment

1.1 Air.

1.1.a Describe possible sources and duration of significant amounts of odors, smoke and dust.

Response: There are no known sources of odors or smoke anticipated with the proposed project. Dust could be generated during the construction process, but will be minimized as outlined in 1.1.b.

1.1.b Describe precaution to be taken to eliminate or minimize the adverse environmental effects of the smoke, dust or odors generated.

Response: Dust generated during construction will be minimized by the application of water and calcium chloride to travelled portions of the site. Dust control will depend on weather conditions and the construction activities ongoing at the time. Calcium chloride use will be minimized along the North River canal, to avoid potential water quality impacts.

1.1.c Describe the relationship of the location of the subdivision and prevailing wind patterns to nearby residences, businesses, recreation area, and other public areas.

Response: Long term meteorological records suggest that prevailing winds are generally from the northwest during winter months and from the west-southwest during the summer months. Downwind properties in the winter months support primarily commercial and residential land uses; in the summer months commercial uses and the Harmony Grove Cemetery are downwind. The proposed residential and office uses at this site are unlikely to create odorous or noxious conditions that could migrate downwind.

1.1.d *If incineration of refuse is proposed for the subdivision, describe the effects resultant emissions will have on air quality in the area. Include proof that the incinerator complies with the latest local and state standards.*

Response: Standard commercial refuse and recyclables collection will be employed at the site. The refuse and recyclables hauler will be required to bring these materials to solid waste handling facilities complying with the applicable environmental requirements of the state the facility is located within.

1.2 Land

1.2.a *Describe the existing general physical conditions of the site, including existing use, general topography, unusual geologic formations and soils, and how the project will effect these features.*

Response: The site is approximately 6.8 acres in size and is generally flat, with an embankment sloping up to Beaver Street on its southwestern side. The elevation change between Beaver Street and the site is approximately 30 feet. The sloped embankment contains some mature vegetation and is heavily littered with trash and debris apparently deposited from abutting properties.

Most of the site is located above the 100-year flood elevation (elevation 10.8 NGVD datum). The portion of the site between the railroad tracks and at the main entrance off Harmony Grove Road varies in elevation from approximately 8.5 to 11 feet NGVD; the existing parking areas along Grove Street are constructed at approximately elevation 9.5 to 11 feet NGVD.

The site is currently vacant. It was owned and operated by the Salem Oil & Grease Company for approximately 90 years until 2002. The site is developed with multiple industrial buildings with associated access driveways, parking lots, and material storage areas. The site is generally "run-down" with many degraded surfaces and debris scattered about the landscape.

The site is bisected by the tidal North River Canal. Portions of the site along the North River Canal were at one time part of the tidal Mill Pond, an impoundment created by a dam located approximately at Grove Street. The dam was used to power industrial activity at and adjacent to the site. A variety of industrial activities have occurred at the site from the 1700's to today.

Site soils are mapped by the United States Department of Agriculture – Soil

Conservation Service maps as being Urban Land. This mapping unit indicates that the soils have been significantly altered or obscured by urban works and structures. The portions of the site within the historical Mill Pond are filled lands. A limited amount of soil boring data is available from previous construction projects at the site. These generally indicate that in the central portion of the site, medium and fine sands and inorganic silts exist to approximately elevation -25 feet and overlay approximately 20 to 25 feet or more of medium stiff silty clay. Soils appear to be primarily sand and gravel closer to Beaver Street.

The available soil boring data generally suggests that conventional construction techniques will be suitable for the construction project. As with any urban site with a limited geotechnical data set, soil conditions may vary causing the need to adapt construction techniques to the conditions occurring at the time of construction. The general condition of the existing buildings at and in the vicinity of the site suggest that conventional construction techniques can be effectively employed at the site.

1.2.b *Describe any limitations on proposed project caused by subsurface soil and water conditions, and methods to be used to overcome them.*

Response: As stated above, conventional construction techniques are expected to be applicable to most of the site. The presence of fill along the North River Canal may require that portions of the buildings be supported by piles or other deep foundation methods extending through the fill into more competent soils below.

Water conditions are unlikely to present a significant impediment to the proposed construction. The buildings will be constructed above grade with no basements. Utility installations may encounter water during construction and will be handled in appropriate manners

Due to the past industrial activities at the site, a comprehensive site assessment is being undertaken by a Licensed Site Professional (LSP). Appropriate environmental remediation work and worker-safety precautions will be undertaken during construction based on the LSP's findings.

1.2.c *Describe procedures and findings of percolation tests conducted on the site.*

Response: Percolation tests are not applicable to this project, which will be connected to an existing municipal sewer in Grove Street. Based on the soil conditions noted above, percolation rates would be expected to be moderate to rapid.

1.2.d *Describe the types and amounts of land which will be permanently affected by construction of the subdivision.*

Response: All three parcels will be affected by the proposed construction. The 3 Harmony Grove Road parcel will be traversed with a new site access bridge and

roadway, and landscape work will occur along this corridor. The disturbance of 3 Harmony Grove Road will be approximately 25% of the 35,561 sf parcel.

At the 60 Grove Street parcel, essentially all of the 26,946 sf parcel will be affected by the proposed improvements. The existing office building on this parcel will remain intact, but will be thoroughly renovated throughout. The barrel storage building will be removed, the parking area reconstructed, and the site landscaped.

At the approximately 5.4 acre 64 Grove Street parcel, approximately one acre of land will remain undisturbed. This is primarily the strip of land along the southwest boundary of the parcel (the Beaver Street side) in which existing mature vegetation will be maintained.

1.2.e Describe proposed rough grading plans.

Response: On the 3 Harmony Grove Road parcel, a small amount of regrading will occur to accommodate the new bridge over the North River Canal. At the 60 Grove Street parcel, rough grades will not change. At the 64 Grove Street parcel, a combination of fill placement along the southwest face of the proposed buildings and cutting into the existing embankment will occur to provide a flat parking area at approximately the first floor level. Concrete block retaining walls are proposed on the uphill side of the parking lot to minimize disturbance of the existing embankment and its mature vegetation. Within the building footprints, the parking level will be approximately 10 feet below the first floor elevation. The parking level will be at approximately the same grade as the proposed landscaping and bike path along the North River canal.

In the northwestern corner of the site existing soils will be regraded to provide an approximately flat parking area near the railroad tracks.

1.2.f Describe location and extent of existing marshes, wetlands, or seasonal wet areas and any proposed alteration.

Response: The North River Canal transects the project site. Between the 60 & 64 Grove Street parcels, the canal is confined by granite block retaining walls. The canal transects the 3 Harmony Grove Road parcel and is confined by sloping embankments in this parcel.

No alteration of wetland areas will be necessary for the project with the exception of minor or temporary disturbances necessary to install a new bridge, utilities and roadway across the 3 Harmony Grove Road parcel.

1.3 Water and Wetlands

1.3.a Evaluate how and to what extent the project will affect the quality and quantity of any existing or potential public or private water supply, including watersheds, reservoirs and groundwater.

Response: Due to the industrial history of this portion of Salem and the close proximity of the site to saline water bodies, this site has no potential use as a public or private water supply. Site redevelopment will therefore not directly benefit potential water supplies.

Redevelopment may significantly improve groundwater quality at the site, by facilitating environmental cleanup work under the direction of the Licensed Site Professional. Groundwater quality improvements will also improve quality in the North River Canal, since groundwater at the site discharges to the canal.

The proposed project includes a new drainage system that is designed to be in complete compliance with the applicable standards of the Massachusetts Stormwater Management Guidelines. Stormwater runoff from the proposed parking lots will be treated prior to being discharged. Roof runoff from the proposed buildings will also be captured and infiltrated to provide groundwater recharge in accordance with the standards. These stormwater management improvements will also benefit water quality in the North River Canal.

1.3.b *Describe the methods to be used during construction to control erosion and sedimentation and siltation including use of sediment basins and type of mulching, matting, or temporary vegetation; approximate size and location of land to be cleared at any given time and length of time to exposure; covering of soil stockpiles; and other control methods used. Evaluate effectiveness of proposed methods on the site and on the surrounding areas.*

Response: A comprehensive erosion control program will be undertaken during construction. Haybales and silt fence will be installed along the downgradient edge of the proposed work area as approved by the local Conservation Commission. A construction entrance will also be installed at the Grove Street entrance and will be maintained until the pavement binder course is installed. Silt sacks will be installed and maintained in the vicinity of the proposed construction entrance.

Only the portion of land that is affected by the redevelopment of the site will be cleared. To help prevent off-site erosion, disturbed areas shall be seeded and mulched as soon as practicable. Proposed slopes steeper than 3h:1v shall be stabilized with erosion control matting and seeded.

Temporary stockpiles of existing on-site soil materials will be created during construction. Stockpiles will be encircled with erosion control barriers and covered. Additional earth materials received for construction are expected to be ordered as needed and installed upon arrival.

1.3.c *Describe the permanent methods to be used to control erosion and sedimentation. Include description of:*

1.3.c.1 - any areas subject to flooding or ponding;

Response: All areas located within the 100-year flood zone will be stabilized with either bituminous pavement or landscaping. No erosion is anticipated.

1.3.c.2 - proposed surface drainage system;

Response: A conventional piped drainage system is proposed. Stormwater runoff from all paved surfaces will be directed to and treated by catchbasins or other treatment devices prior to being discharged to the North River Canal. Each catchbasin will be equipped with a 4-foot deep sump and hood to prevent sediments, oils and floatable trash from discharging directly into the river. Most of the paved parking area will also be treated by Stormcepter pretreatment units. Stormwater from the roofs of the proposed buildings will be captured and conveyed to infiltration beds for groundwater recharge. During extreme storm events, surplus roof runoff will flow into the on-site drainage system.

1.3.c.3 - proposed land grading and permanent vegetation cover;

Response: The proposed land regrading is shown on the project Grading and Drainage Plan. Regraded areas will be stabilized as soon as practicable with a well vegetated grass surface or landscaped planting bed.

1.3.c.4 - methods to be used to protect existing vegetation;

Response: The clearing limit will be restricted to the area necessary to construct the proposed project. Erosion control barriers or other methods of demarcation (i.e. snow fence, flagging, etc.) will to be set along the clearing limit at the beginning of construction. Erosion control barriers will not be removed until work has been completed and stabilized.

1.3.c.5 - the relationship of the development to the topography;

Response: The proposed development requires retaining walls and regrading along the southerly portion of the project site. The remaining topography will remain approximately the same as current conditions. All areas disturbed during construction will be stabilized with vegetation or finish surfaces as soon as practicable.

1.3.c.6 - any existing or proposed alterations of shorelines, marshes or seasonal wet areas;

Response: None

1.3.c.7 - any existing or proposed flood control or wetland easements;

Response: None

1.3.c.8 - estimated increase of peak runoff caused by altered surface conditions, and methods to be used to return water to the soils.

Response: Drainage calculations have been performed and are separately provided. Future peak stormwater runoff rates are similar to existing conditions. Groundwater recharge is proposed through a large infiltration bed located beneath parking areas.

1.3.d Discuss the probability that the project will increase pollution or turbidity levels within receiving waterway and the precautions to be taken to minimize the effects.

Response: The project is likely to reduce pollution and turbidity levels within the North River Canal. The proposed project includes conducting environmental clean-up work to address contamination remaining from past industrial uses. The proposed project will provide stable surfaces and clean impervious surfaces routed through a modern drainage system. Under current conditions, there are little if any stormwater management controls at the site. The placement of deep sump catch basins, stormwater pretreatment devices, and infiltration beds at the site will reduce the amount of pollutants that are conveyed from the project site during storm events.

1.3.e Discuss the project's effect on the waterway's aquatic biota and use as habitats.

Response: For reasons specified above, the project is likely to improve water quality in the North River Canal. This will in turn improve aquatic habitat and its ability to support a variety of biota.

1.3.f Discuss the project's effects on groundwater quality and supply and efforts to recharge groundwater supplies.

Response: As discussed above, the proposed project is likely to improve groundwater quality at the site. The construction of groundwater recharge structures below parking areas are intended to recharge groundwater supplies so that on an annual basis, groundwater recharge is approximately equal to pre-development conditions.

1.3.g Discuss what effect the project will have on increasing the incidence of flooding, including areas outside the subdivision.

Response: Drainage calculations have been performed for the proposed project. Due to the extensive stormwater management improvements proposed for the site, the estimated peak stormwater runoff rates following construction will be similar to existing conditions. Therefore, no increase in flooding incidences is anticipated due to the project.

1.3.h Discuss the effect of the proposed sewerage disposal methods on surface and groundwater supplies and quality.

Response: No impacts to groundwater supplies from the proposed sewerage system are expected. Sewage will be conveyed through sealed pipes and structures to the municipal sewer system in Grove Street.

1.4 Energy

1.4.a Describe the types and increased quantity of energy required to serve the needs of the project residents.

Response: The estimated power annual power consumption is approximately:

	Residential Buildings	Commercial Building
Heating Load:	6,500 MMBtu	500 MMBtu
Electrical Load:	4,000 MMBtu	450 MMBtu

1.4.b Indicate what the sources of this energy will be.

Response: Natural gas will be used for heating. Electricity will be used for lights, appliances, and cooling. Adequate utilities are available adjacent to the site.

1.5 Noise

1.5.a Describe the time, duration and types of noises generated by the project, both during and after construction.

Response: During the construction phase, construction activities are expected to begin at approximately 7:00 AM and be completed by 6:00 PM. Moderate noise levels associated with the construction equipment is anticipated. During the building demolition phase, a wrecking ball will be likely employed. During the foundation construction phase, noise associated with the installation of pile foundation supports may occur (eg. pile driving). Generally, soil conditions appear to not require blasting, so use of that construction technique during this project should be minimal.

During the operational phase, noise levels are not expected to be significant. Multifamily residential developments generally generate little noise.

1.5.b Discuss what effect these noises will have on both humans and wildlife.

Response: During the construction phase, OSHA noise level requirements will be satisfied in the work zones. Beyond the work zones, noise levels are expected to drop to moderate levels prior to reaching neighboring housing units. By maintaining mature vegetation along Beaver Street, noise impacts are minimized. The presence of existing buildings and structures on the east side of the side will block noises emanating in this direction.

The construction activities will create noise levels noticeable to humans and wildlife. However, as noted above, the noise levels are expected to be typical of residential construction projects, and of a temporary nature. The post-construction noise associated with the multi-family dwellings is not expected to be significant.

1.5.c Describe the controls which will be used to eliminate or minimize the effects of these noises.

Response: Construction noise effects will be minimized by 1) the use of mufflers on all construction equipment, 2) providing temporary power to the worksite so gas powered generators are not required, and 3) limiting the work hours as noted above. Maintaining existing mature vegetation to the maximum extent practicable between the work area and the off-site residences, as proposed by the Applicant, will minimize off-site noise levels.

1.6 Local Flora and Fauna

1.6.a Discuss the project's effects on land-based ecosystems, such as the indigenous wildlife, stream bank cover, and vegetal or wooded growth.

Response: The project will redevelop land that has been substantially altered by previous activities at the site. The existing land surfaces are degraded; wildlife activity at the site is minimal. Disturbance of stream bank cover and the wooded growth along the perimeter of the property has been minimized.

1.6.b Describe proposed types and amounts of vegetative cover.

Response: All cleared and disturbed areas, except buildings and hardscape surfaces, are to be covered with planting beds or loam and seed. A Landscaping Plan has been prepared by a landscape architect indicating placement of approximately 2,700 trees, shrubs and perennials to be planted at the project site.

1.6.c Discuss the existence of rare or endangered plant, wildlife or fish species in the project area.

Response: There are no known rare or endangered plant, wildlife or fish species in the project area. Efforts are underway to improve Rainbow Smelt spawning in the North River. The water quality improvements associated with site redevelopment will directly benefit these efforts.

2.0 Man-Made Environment

2.1 Land use

2.1.a Describe how the proposed project conforms with the growth plans for the area and the city in general.

Response: In 2003 the City prepared the North River Canal Corridor (NRCC) plan, which addressed land southeast of the project site. Although the NRCC plan did not directly address the subject site, the proposed project is consistent with the plan mission in that it is rehabilitating an abandoned and dilapidated Brownfield site and creating a neighborhood use adjacent to the existing residential uses. The commercial component of the project integrates well with its immediately abutting land uses. The NRCC plans provide a framework for new growth and development in the North River area primarily consisting of mixed uses, which is consistent with this proposal.

The proposed project conforms to other growth plans of the city because it provides improvements along an existing entrance corridor (Harmony Grove Road, Grove Street, etc.). Also, the proposed project provides a bike path along the canals edge which is generally consistent with the 1996 City of Salem Master Plan.

2.1.b Describe land uses adjacent to the project.

Response: The Beaver Street and Silver Street residential neighborhoods are located to the south and west of the project site. The Harmony Grove Cemetery is located to the north, along the northerly side of Harmony Grove Road. Commercial and industrial buildings are located to the northeast along both sides of Grove Street. To the east of the site, a mixed-use development (at 28 Goodhue Street) was recently permitted. The 28 Goodhue Street project contained commercial space on the first floor level and 44 units of residential condominiums on the upper three levels.

2.1.c Describe any existing or proposed public or common recreational or open areas within the subdivision.

Response: A bike path with seating areas is proposed along the southerly edge of the canal. Public bike path access during daylight hours is proposed.

2.1.d Discuss the site's proximity to transportation, shopping, educational facilities, recreational facilities, etc.

Response: Public Transportation – MBTA Bus Route 465, stop at the intersection of Nicholas and Boston Street (0.1 mi.), and Salem Train Station (1 mi.).

Shopping – Walgreens Pharmacy (0.2 mi.); Peabody Stop & Shop (0.5 mi.); and North Shore Mall (2.5 mi.).

Educational Facilities – Salem High School (1.0 mi.); Collins Middle School (0.6 mi.); Bates Elementary School (1.1 mi.); and Salem Public Library (0.7 mi.).

Recreational Facilities – Salem Golf Course (1.3 mi.); Mack Park (0.1 mi.); and Gallows Hill Park (0.5 mi.).

2.2 *Density*

2.2.a Provide a tabulation of proposed buildings by type, size (number of bedrooms, floor area), ground coverage, and a summary showing the percentage of the tract to be occupied by buildings, parking and other paved vehicular areas, and usable open space.

Response:

Table 2.2: Summary of Site Development

Description / Location:	64 Gove Street	60 Grove Street	Total Site
Land Use	Multi-Family Residential	Commercial Building	Mixed
Number of Buildings	3	1	4
Number of Units/Building	47	TBD	--
Number of Res. Units	141	--	141
Number of Bedrooms	3 @ 83	--	249
Number of Stories	4	3	--
Building Footprint	3 @ 11,480 SF	6,864 SF	41,304 SF
Gross Floor Area	3 @ 45,256 SF	17,000 +/- SF	152,768 +/- SF
Lot Area	234,152 SF	26,659 SF	296,659 SF[1]
Building Coverage	14.7%	25.7%	13.9%[1]
Pavement Coverage	30.4%	44.9%	29.5%[1]
Open Space	54.9%	29.7%	56.6%[1]

1 – Includes 3 Harmony Grove Road

2.3 *Zoning*

2.3.a Indicate the zoning designations for the site and adjacent areas.

Response:

Site: Residential Two-Family District (R2)
Business Park Development District (BPD)
Wetland and Flood Hazard Overlay District (WFHOD)
Entrance Corridor Overlay District (ECOD)

Adjacent: Residential One-Family District (R1)
North River Canal Corridor (NRCC)
Industrial (I)

2.4 *Architecture*

2.4.a Describe the architectural and landscaping techniques which will be used to blend the structures with the surrounding area.

Response: The exterior facades of the proposed residential building will have the

appearance of traditional wood siding and shingles, consistent with the adjacent residential areas. The project site will be well landscaped with lawns and planting beds (approximately 2,700 trees, shrubs, and perennials), and will maintain existing mature vegetation along Beaver Street.

2.4.b Discuss the heights of the structures in relation to the surrounding area.

Response: The proposed residential buildings are 4-stories tall along their front (southerly) side and 5-stories tall along their rear (northerly/river) side. Parking is proposed in the lower level of the buildings. The ridge elevation of the proposed buildings will be approximately the same as the ridge elevations of the two-story residential buildings along Beaver Street.

2.4.c Discuss the project's visual impact and possible interference with natural views.

Response: The project will significantly improve natural views at and near the site. The industrial history of the site is clearly apparent in the existing dilapated buildings, abandoned roadways and storage areas, and crumbling facades. The new buildings and landscaping, which maximize use of native species, will provide year-round color and rid this section of Salem of the existing eyesores.

The North River Canal bike path will provide scenic opportunities to enjoy the ongoing North River restoration efforts.

2.4.d Describe type of construction building materials used, location of common areas, location and type of service facilities (laundry, trash, garbage disposal).

Response: The proposed residential buildings will generally be wood and steel framed structures with weather-resistant clapboard and shingle exteriors. Common parking facilities will be provided in the lower level of the apartment buildings and on the project site. The landscaped areas surrounding the buildings and along the North River Canal are designated as common areas for recreational activities. Individual laundry facilities will be provided in each apartment unit; common refuse and recyclable disposal areas will be provided in each building.

2.5 Historic Buildings, Historical Sites and Archeological Sites

2.5.a Indicate location and significance of any historic buildings or sites on or adjacent to the project.

Response: None

3.0 Public Facilities

3.1 Water Supply, Flow, Pressure and Distribution.

3.1.a Describe the groundwater and/or surface water supply to be used.

Response: Municipal water will be used. Salem obtains water from surface water supplies (Wenham Lake & Ipswich River).

3.1.b Discuss the demands of the project for consumption and fire protection.

Response: Assuming full occupancy of the commercial and apartment buildings and two people per bedroom, the demand for domestic water consumption is estimated to be approximately 25,700 gallons/day. The peak demand for fire protection for any on-site building is estimated to be approximately 1,500 gallons per minute. The buildings will be equipped with fire suppression sprinklers and hard-wired fire alarm systems.

3.2 Sanitary Sewerage Connection, Distribution and Facilities.

3.2.a Discuss the quantity and type of sewage which will be generated by the project.

Response: Assuming full occupancy of the commercial and apartment buildings and two people per bedroom, the estimated sewage generation by the proposed project is approximately 28,500 gallons/day.

3.2.b Describe the method of sewage which will be generated by the project.

Response: Domestic sanitary sewage.

3.3 Storm Drainage Facilities

3.3.a Describe where connection to the City system is proposed.

Response: There is no proposed connection to a municipal drainage system. The project will drain to the North River Canal through a modern stormwater management system.

3.4 Disposition of Stormwater

3.4.a Indicate the location of all proposed outfalls.

Response: Stormwater runoff from the proposed impervious surfaces will be captured, treated, and discharged to the North River Canal at four outfall locations as shown on Sheet C-4: One outfall is located near the Grove Street Bridge, one at the westerly end of the renovated commercial building, one near the railroad bridge, and the fourth near the proposed vehicle bridge. Drainage patterns are generally similar to existing conditions.

3.4.b Describe the effect of the outfalls and their discharge on the receiving waters, i.e., increased flows, pollution etc.

Response: As described above, the proposed project is expected to improve

receiving water quality and lessen pollutant discharges from the site. Proposed stormwater discharge rates will be similar to existing conditions. No flooding impacts are anticipated due to site redevelopment.

3.4.c. Discuss the quantity of stormwater to be discharged.

Response: The pre- and post-development volumes of stormwater runoff from the project site are as follows:

	2-year	10-year	25-year	100-year
Pre-Development (cf)	61,288	103,026	130,748	165,158
Post-Development (cf)	61,070	102,198	129,630	163,769

3.5 Refuse Disposal

3.5.a. Estimate the quantity and types of refuse that will be generated by the subdivision.

Response: Assuming full occupancy of the commercial and apartment buildings and two people per bedroom, approximately 2,000 pounds of refuse and recyclables will be generated per day.

3.5.b Describe the proposed methods of refuse disposal.

Response: Each residential building will be equipped with a dedicated trash and recycling area within the basement. Additionally, fenced enclosed areas will be provided adjacent to each building for spare and full containers. For the commercial building a small dumpster and recyclables storage area will be provided near the loading. Refuse and recyclables will be managed by a private disposal company. The transfer station on Swampscott Road is available to residents for disposal of larger items and is located approximately 2 miles from the project site.

3.6 Traffic Facilities

3.6.a Discuss future vehicular circulation patterns including number and types of vehicles.

Response: Two-way traffic is proposed through the residential portion of the project site with entrances at Harmony Grove Road and Grove Street. The Harmony Grove Road entrance will be the primary entrance to the site. The average weekday traffic is estimated to be 978 trips per day (i.e. 489 entering, 489 leaving) for the residential portion of the site and approximately 166 (i.e. 83 entering, 83 leaving) for the commercial portion of the site. The total weekday traffic from the project site is estimated at approximately 1,144 vehicle trips per a day. Most traffic will be passenger vehicles.

3.6.b Describe the proposed pedestrian circulation pattern.

Response: Sidewalks are provided along the main internal site roadway, providing access to all of the buildings and parking areas and connecting with existing sidewalks on Harmony Grove Road and Grove Street. A public bike path is proposed along the North River and will be wide enough to allow for foot travel as well.

3.6.c Discuss the location and number of parking spaces proposed.

Response: On the residential portion of the project site, parking is proposed within the building basements, along the front of the building, and in the westerly parking lot. A total of 215 parking spaces are provided for the residential buildings (1.52 spaces/unit). For the commercial building, 24 parking spaces are provided. Per Salem zoning regulations, this would allow for a business with a total of 24 employees.

3.7 Electric power

3.7.a Discuss the power demand of the subdivision.

Response: Approximately 500 kW (peak).

3.7.b. Discuss the source of the electric power and the method of supplying the area.

Response: National Grid will provide the power. The existing overhead system for the 60 Grove Street commercial building will remain. For the residential buildings, underground electrical services will be provided from an existing utility pole located along the southerly side of the site. The service will be routed through pad mount transformers located adjacent to the proposed parking lots.

3.8 Gas

3.8.a Discuss the demands of the subdivision.

Response: Approximately 2,000 MBTU (peak).

3.8.b Describe what the gas will be used for in the area.

Response: Natural gas will be used for heating.

3.8.c Describe the source of gas supply and the proposed method of supplying the area.

Response: National Grid is the local natural gas supplier. An existing gas main is located within Grove Street.

4.0 Community Services

4.1 Schools

4.1.a Discuss the effect of the subdivision on existing schools, including number and ages of children generated by the subdivision.

Response: Based the 2000/2001 National Center of Educational Statistics and the US Census 2000 for Salem there were 5,007 students in the Salem Public Schools and 17,492 occupied housing units yielding 0.29 students per a household. The number of students generated by the 141 housing units is approximately 40. There is not enough statistical information to derive an approximate age of the children.

4.1.b Describe the location of the nearest existing schools.

Response: The locations of the nearest public schools are Bates Elementary School (1.1 mi.); Collins Middle School (0.6 mi.); and Salem High School (1.0 mi.).

4.2 Recreation

4.2.a Describe existing and proposed recreational facilities, including active and passive types; and age groups participating, and state whether recreational facilities and open space are available to all Salem residents.

Response: Recreational facilities in the general area are Salem Golf Course (1.3 mi.), Mack Park (0.1 mi.), and Gallows Hill Park (0.5 mi.). The listed facilities are available to all Salem residents.

4.2.b Indicate location and width of existing and proposed pedestrian ways, bikeways or bridle paths.

Response: A proposed 10-foot wide public pedestrian and bike path is proposed along the North River Canal from Grove Street to the existing railroad crossing.

4.3 Police

4.3.a Estimate the total population projected for the subdivision.

Response: Based on the 2000 US Census results for Salem the average household population is 2.24 persons. Applying this population to the proposed 141 residential units yields approximately 315 persons.

4.3.b Estimate the total number of automobiles for the area.

Response: The total estimated number of vehicles at the project site is estimated to be approximately 240 vehicles. This is based on 1.5 vehicles per

residential unit and 24 vehicles for the commercial building.

4.4 Fire

4.4.a Discuss the total number of buildings to be constructed and their types and construction.

Response: Three wood and steel framed apartment buildings are proposed on the 64 Grove Street site. One existing wood framed commercial building will remain on the 60 Grove Street site.

4.4.b Describe the source and quantity of water available for fire protection for the area.

Response: Existing public water mains are located in Grove Street (8" & 12" diameter) and Beaver Street (8" diameter). Existing hydrants are also located in front of the 64 Grove Street parcel and adjacent to the existing way off of Beaver Street. An existing private main (6" diameter) extends down the aforementioned way onto the 64 Gove Street parcel. A private main (8" diameter) is proposed to connect to the existing private main and extend to the public main in Gove Street to create a looped water main. Three hydrants and dedicated building sprinkler services are proposed along the proposed main.

4.5 Public Works

4.5.a. Calculate the total linear feet of roadway to be publicly maintained and plowed.

Response: No pubic roadways are proposed.

4.5.b Calculate the linear feet of street drains, culverts, sanitary sewers, and waterlines to be publicly maintained.

Response: No publicly maintained utilities are proposed.

5.0 Human Considerations

5.1 Aesthetics and Visual Impact

5.1.a Discuss the change in the present character of the area due to the projects, i.e., land use, density of development, etc.

Response: The proposed project will be a substantial betterment to the neighborhood. As noted above, the existing industrial site is run-down and falling down. Over the past five years, the Salem Police have visited the property approximately 35 times due to vandalism, theft, fires, and reports of breaking and entering.

The proposed land uses are consistent with multiple projects recently permitted

within the project area. The density of the proposed development is consistent with local zoning regulations. The proposed project will improve the character of the area

5.1.b *Discuss the measures to be taken to minimize the adverse effects of the project, i.e., architecture, buffers etc.*

Response: The project site will be landscaped to minimize potential adverse effects. The developer will minimize the amount of vegetation removed along the southerly boundary to maintain a natural buffer between the proposed project and abutters. The proposed buildings have clean lines, classic colonial styling, and varied surface materials and color to provide visual relief. The buildings will blend well with the neighborhood.

5.2 Parks, Forests and Recreational Areas

5.2.a Discuss how the siting and construction of the project will affect existing and potential park and recreation areas, open spaces, natural areas, and scenic values.

Response: No affects anticipated. The proposed project will clean-up and enhance natural areas. The bike path could help link other open space projects along the North River Canal. The undeveloped portions of the 3 Harmony Grove Road parcel could be made available in the future to the City for open space or natural area uses.

5.2.b. *Discuss how the project will affect recreational opportunities in the area due to removal of parks, forests, or open areas from public use.*

Response: The proposed project will not remove parks, forest, or open space from public use. The propose project will improve public open space areas.

5.3 Public Health

5.3.a *Discuss the project's effect on residents' public health due to changes in water quality, air quality, noise levels, etc.*

Response: The proposed project may improve the health of residents' through the removal of vacant industrial buildings, environmental remediation work, and anticipated improvements in groundwater and surface water quality.