DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: McKesson Envirosystems (Inland Site)
Facility Address: 400 Bear Street West, Syracuse, NY 13204
Facility EPA ID #: NYD075806836

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination? **(Note: This determination addresses contaminated media regulated under New York State's Inactive Hazardous Waste Disposal Site Remedial Program.)**

   X If yes - check here and continue with #2 below.

   ____ If no - re-evaluate existing data, or

   ____ if data are not available skip to #6 and check the "IN" status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved) to track changes in the quality of the environment. The two EI developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	x			(see below)
Air (indoors)[2]		x		
Surface Soil (e.g., <2 ft)		x		
Surface Water		x		
Sediment		x		
Subsurf. Soil (e.g., >2 ft)	x			(see below)
Air (outdoors)		x		

____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

This facility was used since the 1930s as a bulk petroleum distribution terminal for products such as gasoline, diesel fuel, and heating oil. In 1973, the facility was converted to a chemical distribution terminal. The storage tanks were used for temporary staging of spent solvents, recycled solvents, and for storing mixtures and by-products. Evidence of contaminated soil from spilled liquids was noted during site inspections. Soil samples taken in 1984 revealed the presence of hazardous waste contaminants. Additional soil sampling done by the PRP also revealed contamination. Groundwater contamination has also been documented, and contaminant levels are in excess of NYSDEC Class GA ambient water quality standards contained in 6 NYCRR Part 703.

In response to the presence of hazardous waste at the site, the McKesson Corporation conducted an RI in 1988 and 1989 to define the nature and extent of contamination. The RI results are presented in a

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2]Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

report entitled *Final Remedial Investigation Report* (April 1990). The RI identified significant contamination in both soil and groundwater. A supplemental investigation of saturated soil and groundwater was initiated in 1995 and documented in a report entitled *Supplemental Saturated Soil and Groundwater Investigation Report* (September 1996). The following tables summarize the chemicals of concern (COCs) identified in groundwater (Table 1) and soil (Table 2) at the site and their relation to applicable standards or established cleanup goals.

Table 1. Chemicals of Concern in Groundwater

Groundwater Contaminant	Maximum Concentration (ppb)	Frequency Exceeding SCGs	SCGs Part 703 Standard (ppb)
Benzene	2,000	19 of 175	0.7
Toluene	430 (J)	12 of 175	5
Ethyl benzene	610	14 of 175	5
Xylenes	2,800	14 of 175	5
Trichloroethene	60,000 (J)	4 of 175	5
Methylene chloride	7,700,000	22 of 175	5
Methanol	430,000	--	--
Acetone	470,000	4 of 175	50
Aniline	39,000	31 of 175	5
N,N-dimethylaniline	380,000	21 of 175	5

Table 2. Chemicals of Concern in Unsaturated Soil

Soil Contaminant	Maximum Concentration (ppm)	Soil Cleanup Goals (ppm)
Benzene	11.5	10
Toluene	17	10
Ethyl benzene	49	10
Xylenes	218	10
Trichloroethene	140	10
Methylene chloride	827	10
Methanol	13,072	10
Acetone	833	10
Aniline	282	10
N,N-dimethylaniline	1830	10

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated"	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	no	no	no	no			no
~~Air (indoors)~~	____	____	____				
~~Soil (surface, <2 ft)~~	____	____	____	____	____	____	____
~~Surface Water~~	____	____			____	____	____
~~Sediment~~	____	____			____	____	____
Soil (subsurface, >2 ft)				no			no
~~Air (outdoors)~~	____	____	____	____	____		

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

X If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

____ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

A Consent Order (CO) was negotiated with the PRP by the DEC for the remediation of soil and groundwater. The old storage tanks and distribution lines on the property were cleaned and removed in 1988. A Feasibility Study (FS) was completed by the PRP and documented in a report entitled ***Feasibility Study Report*** (November 1993). The 1993 FS addressed unsaturated surface soils only, the area referred to as Operable Unit-1 (OU-1). A Record of Decision (ROD) was issued in March 1994 which called for in-situ aerobic bioremediation of the unsaturated soils comprising OU-1. The remedial action objectives (RAO) for OU-1 were to:

- reduce the concentrations of the COCs in unsaturated soils to

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish)

levels which will mitigate the potential leaching of these chemicals to groundwater
- monitor groundwater to verify that COCs are not migrating off-site
- establish institutional controls to prevent future use of site groundwater

The bioremediation successfully treated an estimated 20,000 cubic yards of contaminated soil to the technology-based cleanup levels. The treated area was subsequently covered with a minimum of 12 inches of clean soil and reseeded to prevent human exposure to remaining surficial soil contamination. Deed restrictions were also placed on the use of site groundwater.

Remediation of groundwater and saturated soils at the site (designated as OU-2) was the subject of a PRP funded FS completed in 1996 which was documented in a report entitled *Feasibility Study for Operable Unit No. 2 - Saturated Soils and Groundwater* (January 1997). A ROD for OU-2 was signed in March 1997 and called for anaerobic bioremediation of groundwater and saturated soils. The RAOs established for OU-2 were to:

- reduce, control, or eliminate the concentrations of COCs in saturated soils at the site
- attain NYSDEC Class GA water quality standards, to the extent feasible, for the COCs present in on-site groundwater
- monitor groundwater to document groundwater quality and identify any migration of COCs beyond the property boundary

Design and construction of the anaerobic bioremediation system was completed in early 1998. This system will be in operation for several years and is expected to aid in site remediation. Because the site is located in an industrial area which is served by public water and use of on-site groundwater is restricted, exposure to groundwater contamination associated with the site is not expected.

4. Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

   ____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

   ____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

   ____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

   Rationale and Reference(s): _____

5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

   ____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

   ____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

   ____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

   Rationale and Reference(s): _____

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

X YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the McKesson Envirosystems (Inland Site) facility located at 400 Bear Street West, Syracuse, NY 13204 under current and reasonably expected conditions. This determination will be re-evaluated when the State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

____ IN - More information is needed to make a determination.

Completed by _____ Date _____
Eric Hausamann
Environmental Engineer 2

Supervisor _____ Date _____
James Harrington
Environmental Engineer 3
New York State Department of
Environmental Conservation

Locations where References may be found:

New York State Department of Environmental Conservation
Region 4 Office
1150 N. Westcott Road
Schenectady, NY 12306-2014

Contact telephone and e-mail numbers

Eric Hamilton
(518) 357-2045
ejhamilt@gw.dec.state.ny.us

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: McKesson Envirosystems (Inland Site)
Facility Address: 400 Bear Street West, Syracuse, NY 13204
Facility EPA ID #: NYD075806836

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination? **(Note: This determination addresses contaminated media regulated under New York State's Inactive Hazardous Waste Disposal Site Remedial Program.)**

   X If yes - check here and continue with #2 below.

   ____ If no - re-evaluate existing data, or

   ____ if data are not available, skip to #8 and check the"IN" status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

X If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

This facility was used since the 1930s as a bulk petroleum distribution terminal for products such as gasoline, diesel fuel, and heating oil. In 1973, the facility was converted to a chemical distribution terminal. The storage tanks were used for temporary staging of spent solvents, recycled solvents, and for storing mixtures and by-products. Evidence of contaminated soil from spilled liquids was noted during site inspections. Soil samples taken in 1984 revealed the presence of hazardous waste contaminants. Additional soil sampling done by the PRP also revealed contamination. Groundwater contamination has also been documented, and contaminant levels are in excess of NYSDEC Class GA ambient water quality standards contained in 6 NYCRR Part 703.

In response to the presence of hazardous waste at the site, the McKesson Corporation conducted an RI in 1988 and 1989 to define the nature and extent of contamination. The RI results are presented in a report entitled *Final Remedial Investigation Report* (April 1990). The RI identified significant contamination in both soil and groundwater. A supplemental investigation of saturated soil and groundwater was initiated in 1995 and documented in a report entitled *Supplemental Saturated Soil and Groundwater Investigation Report* (September 1996). The following tables summarize the chemicals of concern (COCs) identified in groundwater (Table 1) at the site and their relation to applicable standards.

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

Table 1. Chemicals of Concern in Groundwater

Groundwater Contaminant	Maximum Concentration (ppb)	Frequency Exceeding SCGs	SCGs Part 703 Standard (ppb)
Benzene	2,000	19 of 175	0.7
Toluene	430 (J)	12 of 175	5
Ethyl benzene	610	14 of 175	5
Xylenes	2,800	14 of 175	5
Trichloroethene	60,000 (J)	4 of 175	5
Methylene chloride	7,700,000	22 of 175	5
Methanol	430,000		
Acetone	470,000	4 of 175	50
Aniline	39,000	31 of 175	5
N,N-dimethylaniline	380,000	21 of 175	5

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

__X__ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the horizontal or vertical dimensions of the "existing area of groundwater contamination").

____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination") - skip to #8 and enter "NO" status code, after providing an explanation.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

A Consent Order (CO) was negotiated with the PRP by the DEC for the remediation of soil and groundwater at the site. Remediation of groundwater at the site (designated as OU-2) was the subject of a PRP funded FS completed in 1996 which was documented in a report entitled *Feasibility Study for Operable Unit No. 2 - Saturated Soils and Groundwater* (January 1997). The ROD for OU-2 was signed in March 1997 and called for anaerobic bioremediation of groundwater and saturated soils. The RAOs established for OU-2 were to:

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

- reduce, control, or eliminate the concentrations of COCs in saturated soils at the site
- attain NYSDEC Class GA water quality standards, to the extent feasible, for the COCs present in on-site groundwater
- monitor groundwater to document groundwater quality and identify any migration of COCs beyond the property boundary

Design and construction of the anaerobic bioremediation system was completed in early 1998. The *in situ* system includes hydraulic containment to mitigate off-site plume migration. Monitoring to date indicates that no off-site migration of groundwater COCs is occurring.

4. Does "contaminated" groundwater discharge into surface water bodies?

____ If yes - continue after identifying potentially affected surface water bodies.

__X__ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Based on the RI/FS for the site, no surface water discharges are known to exist.

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of <u>key</u> contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of <u>each</u> contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): _____

6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/ habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

____ If no - (the discharge of "contaminated" groundwater can not be shown to be "currently acceptable") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

7. Will groundwater monitoring / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

__X__ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

____ If no - enter "NO" status code in #8.

____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

In accordance with the Operation, Maintenance & Monitoring (OM&M) Plan for the site, sampling of groundwater from monitoring wells on-site and on adjacent properties for VOCs by EPA Method 8260 is performed quarterly. Additional wells are sampled on an annual basis. Groundwater quality at the four impacted homeowner wells is sampled on a monthly basis by EPA Method 501 plus Freon-113.

Results to date show a decreasing trend in VOC concentrations in the sampled wells, indicating that the plume is being contained and is not migrating.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

X YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the McKesson Envirosystems (Inland Site) facility located at 400 Bear Street West, Syracuse, NY 13204. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the State becomes aware of significant changes at the facility.

____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

____ IN - More information is needed to make a determination.

Completed by _____ Date _____
Eric Hausamann
Environmental Engineer 2

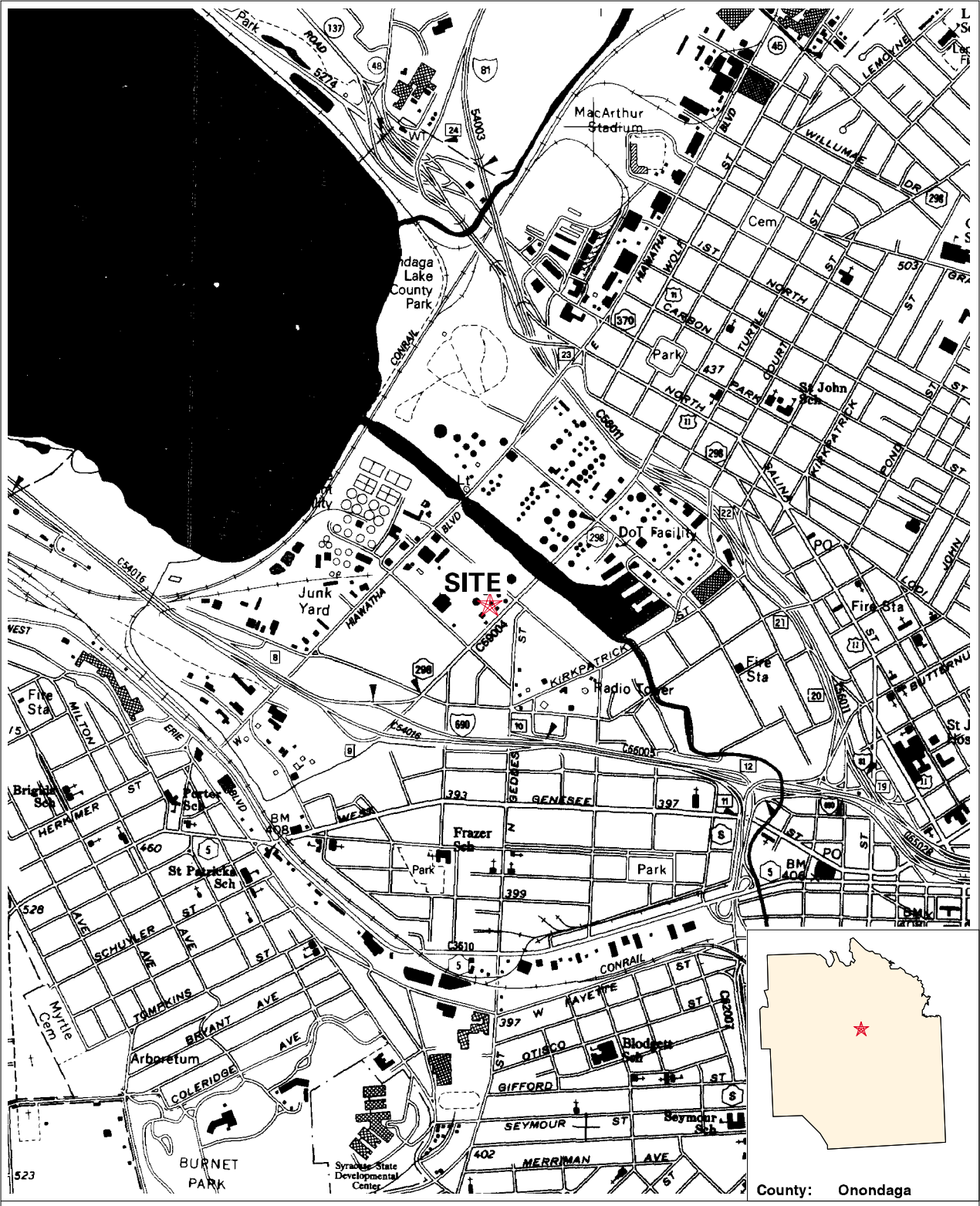
Supervisor _____ Date _____
James Harrington
Environmental Engineer 3
New York State Department of
Environmental Conservation

Locations where References may be found:

New York State Department of Environmental Conservation
Region 4 Office
1150 N. Westcott Road
Schenectady, NY 12306-2014

Contact telephone and e-mail numbers

Eric Hamilton
(518) 357-2045
ejhamilt@gw.dec.state.ny.us



Site Location Map

734020 McKesson Envirosystems (Inland Site)

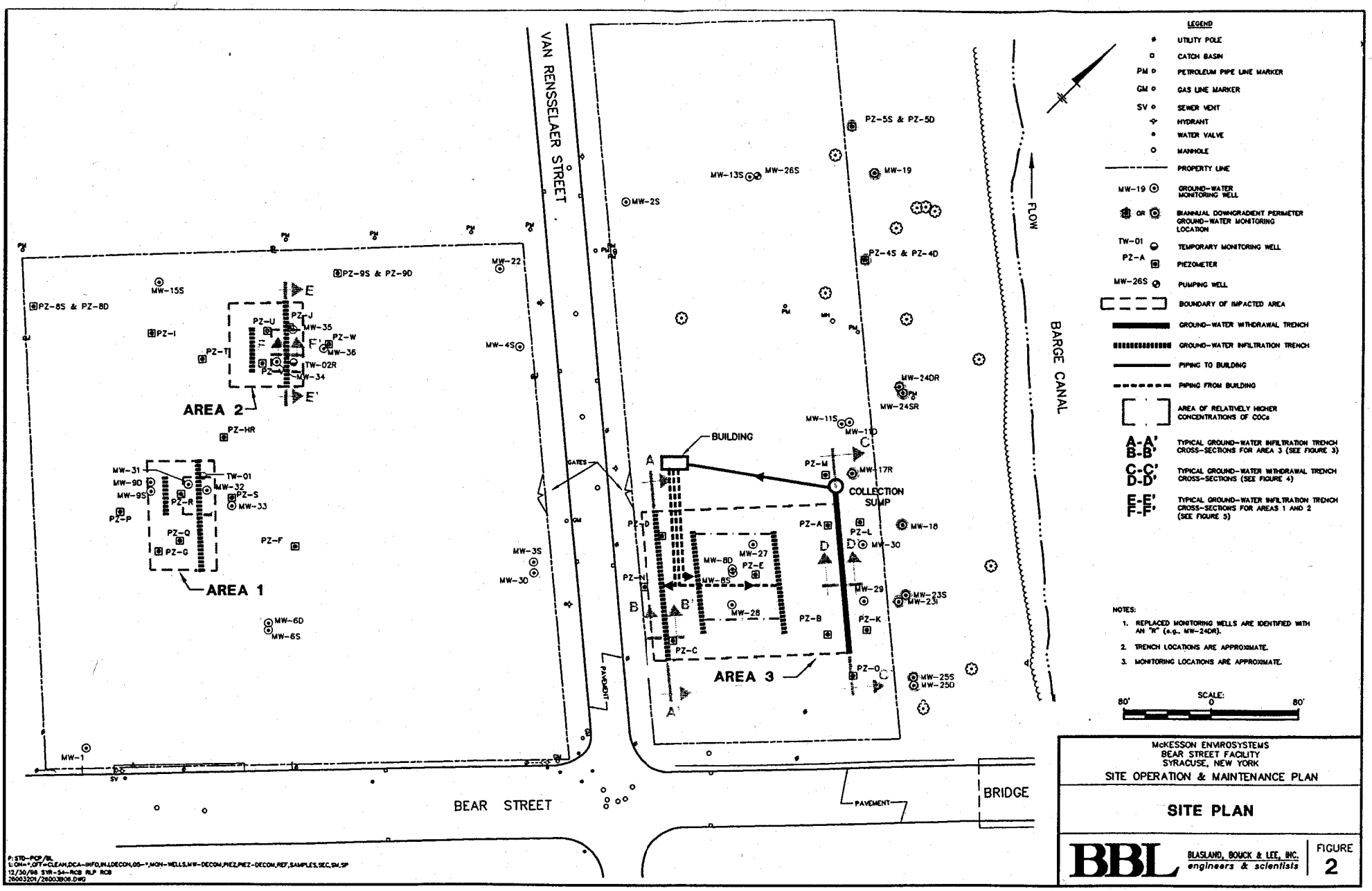
NYSDOT Planimetric Quadrangle(s):

N

0 500 1000 1500 2000

FEET

Scale 1:24,000



LEGEND

- UTILITY POLE
- CATCH BASIN
- PM — PETROLEUM PIPE LINE MARKER
- GM — GAS LINE MARKER
- SV — SEWER VENT
- HYDRANT
- WATER VALVE
- MANHOLE
- PROPERTY LINE
- MW-19 — GROUND-WATER MONITORING WELL
- OR — BIANNUAL DOWNGRADIENT PERIMETER GROUND-WATER MONITORING LOCATION
- TW-01 — TEMPORARY MONITORING WELL
- PZ-A — PIEZOMETER
- MW-26S — PUMPING WELL
- BOUNDARY OF IMPACTED AREA
- GROUND-WATER WITHDRAWAL TRENCH
- GROUND-WATER INFILTRATION TRENCH
- PIPING TO BUILDING
- PIPING FROM BUILDING
- AREA OF RELATIVELY HIGHER CONCENTRATIONS OF COCs
- A-A', B-B' — TYPICAL GROUND-WATER INFILTRATION TRENCH CROSS-SECTIONS FOR AREA 3 (SEE FIGURE 3)
- C-C', D-D' — TYPICAL GROUND-WATER WITHDRAWAL TRENCH CROSS-SECTIONS (SEE FIGURE 4)
- E-E', F-F' — TYPICAL GROUND-WATER INFILTRATION TRENCH CROSS-SECTIONS FOR AREAS 1 AND 2 (SEE FIGURE 5)

NOTES:

1. REPLACED MONITORING WELLS ARE IDENTIFIED WITH AN "R" (e.g., MW-24DR).
2. TRENCH LOCATIONS ARE APPROXIMATE.
3. MONITORING LOCATIONS ARE APPROXIMATE.

SCALE: 80' 0 80'

McKESSON ENVIROSYSTEMS
BEAR STREET FACILITY
SYRACUSE, NEW YORK
SITE OPERATION & MAINTENANCE PLAN

SITE PLAN

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2

P:\STD-PCP/BL
L:\ON=*,OFF=CLEAN,DCA-INFO,IN,LDECON,OS-*,MON-WELLS,MW-DECOM,PIEZ,PIEZ-DECOM,REF,SAMPLES,SEC,SM,SP
12/30/98 SYR-54-RCB RLP RCB
26003201/26003B06.DWG