Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision
Golden Road Disposal Site
Chili (T), Monroe County
Site Number 8-28–021

October 2002

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN CROTTY, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Golden Road Inactive Hazardous Waste Site
Chili (T), Monroe County, New York
Site No. 8-28-021

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Golden Road Disposal class 2 inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law. The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Golden Road inactive hazardous waste site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Golden Road Disposal site and the criteria identified for evaluation of alternatives, the NYSDEC has selected hot spot remediation on the south parcel and off-site disposal. The components of the remedy are as follows:

- Excavation and off-site disposal of contaminated soils and waste from two locations south of the railroad tracks, and backfill of excavated areas with clean material. Removal of contaminated media in these areas will eliminate the threat to human health associated with the potential exposure to these soils and waste;
- Regrading flat areas to provide positive overland drainage throughout the southern fill area to mitigate the environmental threat due to migration of fill contaminants to the wetlands;
- Removal and off-site disposal of asbestos-containing material and the partially filled drum found on the south parcel;
- Establishment of a long-term groundwater monitoring program on the south parcel to monitor the effectiveness of the remedy; and
- Require the property owner to place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality treatment. An annual certification by the property owner will be included as part of the restriction.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

OCT 10 2002

Date

Dale A. Desnoyers, Acting Division Director
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RECORD OF DECISION

Golden Road Disposal Site
Town of Chili, Monroe County
Site No. 8-28-021
October 2002

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health has selected this remedy to address the significant threat to human health and the environment created by the presence of hazardous waste at the Golden Road Disposal Site, a class 2 inactive hazardous waste disposal site. As more fully described in Sections 3 and 4 of this document, landfilling operations at the site have resulted in the disposal of a number of hazardous wastes on the south parcel, including toluene and methylene chloride. These disposal activities have resulted in the following significant threats to the public health and/or the environment:

- a significant threat to human health associated with dermal contact, ingestion and/or inhalation of surface and subsurface soils contaminated with hazardous waste on the south parcel;

- a significant threat to the environment associated with migration of fill contaminants to the adjacent wetland on the south.

In order to eliminate or mitigate the significant threats to the public health and/or the environment that the hazardous wastes disposed at the Golden Road Disposal site have caused, the following remedy was selected:

- Excavation and off-site disposal of contaminated soils and waste from two locations south of the railroad tracks, and backfill of excavated areas with clean material. Removal of contaminated media in these areas will eliminate the threat to human health associated with the potential exposure to these soils and waste;
- Regrading flat areas to provide positive overland drainage throughout the southern fill area to mitigate the environmental threat due to migration of fill contaminants to the wetlands;
- Removal and off-site disposal of asbestos-containing material and the partially filled drum found on the south parcel;
- Establishment of a long-term groundwater monitoring program on the south parcel to monitor the effectiveness of the remedy; and
- Require the property owner to place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality

treatment. An annual certification by the property owner will be included as part of the restriction.

The selected remedy, discussed in detail in Section 8 of this document, is intended to attain the remediation goals selected for this site in Section 6 of this Record of Decision (ROD), in conformity with applicable standards, criteria, and guidance (SCGs).

SECTION 2: SITE LOCATION AND DESCRIPTION

The Golden Road Disposal Site, site number 8–28-021, is located in a rural residential area on the west side of Golden Road, north of Interstate Route 490, in the Town of Chili, Monroe County (Figure 1). The 19-acre site is divided into two parcels, separated by railroad tracks running generally east to west across the site.

The north parcel (twelve acres) is generally flat with some localized mounds (fill piles), an abandoned residence, and junkyard debris, buildings and fuel storage tanks associated with the former Chili Fuels operations. It is bounded by residences to the north and east, railroad tracks to the south, and a wooded area to the west.

The south parcel (seven acres) is an uneven fill area overgrown with brush and trees. It falls off steeply on the south, east and west to a seasonal deciduous forested wetland area. Interstate 490 is located south of the south parcel.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The Golden Road Disposal Site was privately run by Howard Fitzsimons from 1955 through 1976. The site received a wide variety of wastes, including drummed chemical wastes, metal slag, fly ash, foundry sand, artillery shell casings and junked vehicles. In addition, drummed waste was disposed on the south parcel. No records have been found to indicate the amount of waste that was disposed at the site. In addition to landfilling activity at the site, the former Chili Fuels was operated from the north parcel of the property.

3.2: Remedial History

During the initial site inspection in 1983 by NYSDEC, over 200 drums in various stages of decay were discovered south of the tracks. Foundry sand was observed on both sides of the tracks as well.

In 1984, the Golden Road Disposal Site was listed as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York (Registry). A “Class 2" site is a site where hazardous waste represents a significant threat to human health or the environment and action is required.

An emergency drum removal and surficial soil and debris removal was carried out on the south parcel in 1985 under the direction of the NYSDEC. A total of 562 drums and containers, and 75 cubic yards of contaminated soil and debris were removed from the site south of the railroad tracks. Analysis of drum contents detected the presence of chlorinated and nonchlorinated solvents, organic solids with low flash points, polychlorinated biphenyls and waste oils.

At the request of the site owner, a seven acre parcel in the northwest portion of the north parcel was removed from the Registry site description in 1995. This action was based on additional sampling conducted by a prospective developer that showed no hazardous waste was present in that area.

SECTION 4: SITE CONTAMINATION

To evaluate the contamination present at the site and to evaluate alternatives to address the significant threat to human health and/or the environment posed by the presence of hazardous waste, the NYSDEC has recently conducted a Remedial Investigation/Feasibility Study (RI/FS).

4.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two phases. The first phase was conducted between July and September 1999, and the second phase in April 2000. Reports entitled Remedial Investigation Report, February 2000, and Phase II Remedial Investigation Summary Report, June 2000, have been prepared which describe the field activities and findings of the RI in detail. Figure 2 shows all RI sampling locations on both the north and south parcels.

The RI included the following activities over the entire site:

- inventory and sampling of remaining drums found on site;
- electromagnetic survey to look for buried drums;
- radiological survey to screen for radioactive materials;
- test pits in areas of unusual electromagnetic results;
- installation of groundwater monitoring wells to determine groundwater quality and direction of groundwater flow;
- sampling fill material, surface and subsurface soils;
- sampling water and sediments from the wetland area;
- sampling storage tank contents (north parcel) and potential asbestos-containing materials associated with tanks (south parcel);
- basement survey of adjacent residences; and
- sampling private wells in vicinity of site.

The Phase II RI included the following tasks:

- additional fill material sampling (north parcel);
- additional groundwater well installations (south parcel); and

- additional surface water sampling (south parcel).

To determine which media (soil, groundwater, etc.) are contaminated at levels of concern, the RI analytical data were compared to environmental standards, criteria, and guidance values (SCGs). Groundwater, drinking water and surface water SCGs identified for the Golden Road Disposal site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 of New York State Sanitary Code. For soils, NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 provides soil cleanup guidelines based on the protection of groundwater, background conditions, and health-based exposure scenarios. In addition, for soils, site specific background concentration levels can be considered for certain classes of contaminants. Guidance values for evaluating contamination in sediments are provided by the 1999 NYSDEC "Technical Guidance for Screening Contaminated Sediments."

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the RI and Phase II RI Summary Reports.

Chemical concentrations are reported in parts per billion (ppb) for groundwater and surface water samples, and parts per million (ppm) for soil and waste samples. For comparison purposes, where applicable, SCGs are provided for each medium.

4.1.1: Site Geology and Hydrogeology

The site is located in a lowland area with poor drainage. Natural surface drainage has been significantly impacted by the construction of Interstate 490 to the south, and the railroad tracks that run through the center of the site. A seasonally dry wetland and wooded area lies west and south of the site adjacent to Interstate 490. In the north parcel, surface water drains to the northeast along the railroad drainage swales. Surface water in the south parcel drains south and west into the deciduous forested wetland area. The railroad berm forms a barrier to surface water flow between the north and south parcels.

Fill material composed primarily of dark foundry sand, ashes and cinders associated with past disposal activities lies over much of the site. Where it has been spread on the north parcel it varies in thickness from 1 foot to 4 feet. Some piles of fill material remain on the north parcel. On the south parcel, scrap metal, slag, wood and plastic are mixed with the foundry sand. Here the fill thickness averages 6 to 8 feet deep, but in two locations it was measured at 12 to 14 feet.

Three native units of unconsolidated material were encountered during subsurface investigation activities. The uppermost unit is fine sand with occasional gravel, ranging from 3 to 7 feet thick. Beneath the upper sand is a silty clay unit from 3 to 10 feet thick. The lowermost unit is silty sand which contains bedrock fragments and ranges from 2 to 4 feet thick. Bedrock, immediately below the lower sand unit, dips to the west and southwest, its top surface from 11 feet (east) to 25 feet (west) below ground surface.

During the initial RI activities on the south parcel in late summer 1999, the upper sand unit was dry, while groundwater was present in the lower sand unit under confined conditions. When additional monitoring wells were installed as part of the spring 2000 Phase II investigation,

perched groundwater was present in the upper sand unit. When wet, the upper sand drains laterally to the wetland on the south (figure 3). Groundwater in the lower sand unit flows to the east (figure 4). The silty clay unit between the upper and lower sand units acts as an aquitard, greatly retarding groundwater flow from the upper sand down into the lower sand.

4.1.2: Nature of Contamination

As described in the reports, many soil, groundwater, surface water and sediment samples were collected at the site to characterize the nature and extent of contamination. The main categories of contaminants which exceed their SCGs are volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and metals.

The VOCs of concern are benzene, toluene, ethylbenzene and xylene. Chlorinated solvents previously identified on the south parcel were addressed by the 1985 drum removal. The SVOCs of concern are polycyclic aromatic hydrocarbons (PAHs), including benzo(a)anthracene, benzo(a)pyrene and chrysene. PAHs are SVOCs normally associated with fossil fuel products. PCBs, also previously identified on the south parcel, were addressed by the 1985 drum removal as well. The metals of concern are chromium, nickel and zinc.

4.1.3: Extent of Contamination

Due to the different physical characteristics of the north and south parcels, each will be addressed separately. Tables 1 through 3 summarize the extent of contamination for the north parcel contaminants of concern in fill material, soil and groundwater and compare the data with SCGs for the site. Tables 4 through 8 summarize the extent of contamination in the south parcel soil, sediment, surface water and groundwater and compare the data with SCGs for the site. Data obtained from analysis of waste found in the south parcel are also provided.

North Parcel Waste

Fuel oils were identified in above ground and underground storage tanks, and are likely associated with former Chili Fuel operations. All miscellaneous drums scattered around the north parcel were sampled and analyzed for hazardous waste characteristics. Only one sample came back positive for hazardous waste: a composite sample from two drums was characterized as hazardous due to ignitability (flash point of 28^{o} C). All remaining drums contained only residual amounts of various fuel oils. No buried drums were detected.

North Parcel Fill Material

Fill material and fill piles were sampled from depths of 0-2 feet. Because of the soil-like nature of the material, results were compared to soil SCGs (Table 1). There were three detections of two PAHs [benzo(a)anthracene and benzo(a)pyrene] above SCGs in two samples. Several metals also exceeded SCGs, particularly chromium (1,250 ppm) and nickel (783 ppm) in one sample. Toxicity Characteristic Leaching Procedure (TCLP), a test used to determine if waste is hazardous, was performed on selected fill samples, including the sample that had the highest chromium concentration. The TCLP analysis showed the levels of contaminants were below hazardous waste criteria. Six additional fill samples were collected during the Phase II RI to estimate the lateral extent of these elevated locations of chromium and nickel, and all six Phase

II results were lower than the initial samples results. Additionally, separate analyses for hexavalent chromium (the most toxic form of chromium) in these six samples showed non-detectable results, indicating that the chromium present in the fill material is the less toxic trivalent form.

North Parcel Soil

Surface soil was sampled in the vicinity of the above-ground fuel storage tanks (Table 1). Results were similar to fill material, with three PAHs and several metals, including arsenic, nickel and zinc, present above SCGs.

Subsurface soil borings near the underground fuel storage tanks adjacent to the former Chili Fuels building showed the presence of petroleum product. One sample of the contaminated soil was analyzed and showed elevated levels of fuel-associated compounds. Two subsurface soil samples outside the visibly contaminated area associated with the underground tanks showed exceedances of only a few metals (Table 2).

North Parcel Sediments

One sediment sample was collected in the drainage ditch adjacent to the railroad tracks. Due to dry conditions in the ditch throughout field investigations, results were compared to soil cleanup criteria rather than sediment criteria. Three PAHs and several metals were present above SCGs (Table 2). These compounds are frequently associated with routine railroad operations.

North Parcel Groundwater

Five groundwater samples were collected from four wells, as well as from one soil boring located in the area of petroleum-contaminated soil near the former Chili Fuels building. Only the groundwater sample near the building in the area of petroleum contamination had elevated levels of contaminants, and those were the type associated with fuel products (Table 3). The well supplying the residence was sampled as well, and showed only iron, magnesium and sodium above SCGs.

South Parcel Waste

One surficial drum containing liquid waste was identified on the south parcel of the site. Analysis of the material in this drum indicated that it was not a hazardous waste. No buried drums were identified. During excavation of test pit TP-3N on the eastern bank of the south parcel, hundreds of aerosol cans were encountered. Analysis of the contents from one can (sample TP-3N-CAN, Table 4) detected high levels of several VOCs, including toluene at 220,000 ppm (22%) and methylene chloride at 170,000 ppm (17%). Waste from these cans has leaked and contaminated subsurface soil in its immediate vicinity. This area of discarded cans and contaminated soil on the east bank is considered a hot spot source area.

Three samples of material suspected of containing asbestos were collected from the south parcel. Two of these showed asbestos present above the regulatory standard of 1% (Table 4).

South Parcel Soil

Ten samples of surface soil were collected from the south parcel, including one from an off-site location for use as a background sample. Primary contaminants above SCGs in surface soil were PAHs and metals, which were seen across the site (Table 5). One surface soil location in the southwest corner of the parcel was found to have an elevated concentration of pentachlorophenol (360 ppm), and was identified as a hot spot of contamination. Surface soil collected from the intermittent pond area in the central eastern area of the parcel also showed elevated PAHs, including benzo(a)anthracene at 0.92 ppm and chrysene at 1.3 ppm.

Ten samples of subsurface soil were collected from monitoring well borings and test pits. Elevated levels of PAHs and metals were detected in subsurface samples across the site, and generally at higher levels than in surface soil samples (Table 6). Additionally, VOCs, particularly xylene, ethylbenzene and toluene, were elevated in TP 3N (east bank). This area on the east bank has been identified as a contamination hot spot.

South Parcel Sediment

Eight sediment samples were collected from wetland areas, although only one was wet at the time of sampling. Due to the dry conditions in the wetland during the period of field investigations, the sediment results were compared to soil SCGs (Table 7). Elevated PAHs were detected in several samples, including the railroad ditch [benzo(a)anthracene at 11 ppm, chrysene at 14 ppm] and the intermittent pond [benzo(a)anthracene at 2.6 ppm, chrysene at 4.2 ppm]. Elevated metals also were detected in most of the sediment samples.

South Parcel Surface Water

Due to dry conditions, only one surface water sample from the wetlands south of the fill area was collected during the RI. However, conditions were wetter during Phase II and six surface water samples were collected. No VOCs or SVOCs (including PAHs) were present above SCGs. Some metals exceeded SCGs, particularly aluminum (up to 1,970 ppb) and iron (up to 72,700 ppb) (Table 8).

South Parcel Groundwater

No VOC or SVOC contaminants were detected in the five groundwater wells monitoring the lower sand unit aquifer, however, iron was detected above SCGs in all of these wells. During Phase II of the RI, four additional monitoring wells were installed in the shallow upper sand unit where there is seasonal perched groundwater. One of these Phase II wells was installed in the area of TP-3N (east bank) where the aerosol waste cans were found during test pit excavations. Elevated levels of VOC and SVOCs consistent with the waste analytical results were detected in this well, including methylene chloride at 600,000 ppb and toluene at 170,000 ppb. It appears that the waste located on the east bank has contaminated shallow perched groundwater, but the impacts do not extend beyond the immediate source area.

Off-Site Sampling

Groundwater: Residential well surveys mailed to residents near the Golden Road Disposal site indicated the existence of only two private groundwater wells, including an abandoned residence on the north parcel, and a home on Golden Road located approximately 1000 feet north of the site. Both were sampled and only iron, magnesium and sodium were detected at levels above SCGs. These are common metals and their presence in these wells does not suggest any impacts from the site.

Surface Water: At the request of a nearby resident on Golden Road, a private pond east of the site was sampled (location SW-15 on figure 3). One VOC, methylene chloride, was detected at 9.4 ppb, above the surface water standard of 5 ppb for potable water. No SVOCs were detected. Aluminum and iron were the only metals whose concentrations exceeded surface water standards. These are common metals and their presence in this pond does not suggest any impacts from the site.

4.1.4: Petroleum-Contaminated Soils Removal

As data generated by the RI and Phase II were evaluated, it became apparent that environmental quality in the north parcel was primarily impacted by waste from the former Chili Fuels operations. Related materials and contaminated media include above ground storage tanks, underground storage tanks, petroleum-contaminated soils and groundwater. It was determined that these contaminated media and abandoned storage tanks and drums should be addressed by a removal action through the NYSDEC Spills program, who has the authority to remediate petroleum-contaminated media.

In Fall 2000, NYSDEC contracted with a private consultant to undertake this work. Over the next three months the following activities were completed:

- Residual petroleum product was removed from all above and underground storage tanks. Underground storage tanks were removed, and all tanks were cleaned and staged on site.

- Over 700 cubic yards of petroleum contaminated soil was excavated from the vicinity of the underground tanks. The excavation was backfilled with clean gravel.

- Approximately 250,000 gallons of contaminated groundwater were pumped from the excavation, containerized, treated, and discharged to the sanitary sewer under authority of the Monroe County Department of Public Works.

- Several drums and containers containing residual petroleum products scattered around the north parcel were emptied and cleaned. The waste was consolidated and disposed off site.

- Two drums identified during the RI as containing characteristic hazardous waste were overpacked and shipped off site to a licensed disposal facility.

A report of these activities can be found in the March 8, 2001 “Interim Report of Remedial Operations” (available at the document repositories).

4.2: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 6 of the RI Report.

An exposure pathway is the manner by which an individual may come in contact with a contaminant. The five elements of an exposure pathway are: 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

The potential exposure pathways of concern for the north parcel identified in the RI were primarily associated with carcinogenic PAHs found with petroleum-contaminated soils near the underground fuel storage tanks. However, since these soils have been removed, these potential exposure pathways no longer exist.

Elevated heavy metal concentrations, particularly chromium, nickel and zinc, were ubiquitous across both parcels of the site. The presence of these metals is most likely associated with the foundry sand that was deposited throughout both parcels, as well as the extensive junkyard debris disposed of on the north parcel. Exposures to elevated levels of metals in surface soil is possible for current and future uses of this site, even after remediation has been completed.

Potential risks at the south parcel are primarily associated with elevated VOCs located in the east bank (test pit 3N) area. Potential current exposure pathways which exist at the south parcel include:

Direct contact with contaminated surface soils,
Ingestion of contaminated surface and subsurface soils, and
Inhalation of dust from contaminated soils.

Potential future exposure pathways which may exist at the south parcel include:

Direct contact with contaminated surface and subsurface soils,
Ingestion of contaminated surface and subsurface soils, and
Inhalation of dust from contaminated surface and subsurface soils.

Exposure to contaminated dust, soils, and subsurface soils would require persons entering the site, then contacting, ingesting and/or inhaling these materials. Those most likely exposed under current conditions at the site would include site trespassers. Those most likely exposed to future conditions at the site would be site trespassers and construction workers during site regrading.

4.3: Summary of Environmental Exposure Pathways

This section summarizes the types of environmental exposures and ecological risks which may be presented by the site. The Fish and Wildlife Impact Assessment included in the RI (Section 6.2) presents a more detailed discussion of the potential impacts from the site to wildlife resources. The following pathway for environmental exposure and/or ecological risks has been identified: Migration of south parcel fill contaminants to the adjacent deciduous forested wetland.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Potential Responsible Parties (PRP) for the site, documented to date, include:

- The Estate of Howard P. Fitzsimons, Jr. (former owner and operator)
- Chevron Corporation (generator)
- U.S. Department of Defense (through the US Army Reserves, 98th Battalion, transporter)
- Pneumo-Abex (generator)

The PRPs declined to implement the RI/FS at the site when requested by the NYSDEC. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State has incurred associated with the site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all standards, criteria and guidance (SCGs) and be protective of human health and the environment. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Eliminate, to the extent practicable, exposure to hazardous waste and asbestos-containing material;
- Eliminate, to the extent practicable, exposures to hazardous waste-contaminated soil and sediment;
- Prevent, to the extent practicable, the migration of contaminated waste into the adjacent deciduous forested wetland;
- Prevent, to the extent practicable, the erosion and migration of fill material into the adjacent deciduous forested wetland;
- Prevent, to the extent practicable, off-site migration of contaminated shallow groundwater that exceeds NYSDEC Class C Ambient Water Quality Criteria to the adjacent deciduous forested wetland.
- Prevent, to the extent practicable, the use of groundwater from the south parcel without necessary water quality treatment.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Golden Road Disposal site were identified, screened and evaluated in the report entitled Feasibility Study Report, December 2001. (Please note that the numbering of alternatives differs between the FS Report and the PRAP.)

A summary of the detailed analysis follows. As presented below, the time to implement reflects only the time required to implement the remedy, and does not include the time required to negotiate with responsible parties for implementation of the remedy, design of the remedy, or to procure contracts for design and construction.

7.1: Description of Remedial Alternatives

North Parcel: Excavation of petroleum-contaminated soils and associated groundwater, and removal of the two drums containing hazardous waste from the north parcel has adequately addressed human health and environmental concerns due to hazardous waste disposal north of the railroad tracks, but not potential exposures to chromium. Constituents present in fill material (foundry sand/ash) remaining in the north parcel do not exceed hazardous waste criteria. The parcel remains essentially an abandoned junkyard, and consequential amounts of hazardous waste have not been identified. Therefore, no further action is proposed for all alternatives on the north parcel.

South Parcel: The potential remedies are intended to address the two hot spots of contaminated soil. These areas include the east bank area where waste leaking from aerosol cans has contaminated an area of subsurface soil and the location of surface soil sample SS-2 on the far west side of the site where pentachlorophenol was identified above soil cleanup guidelines. The remedies would also address perched groundwater at the site.

Alternative 1: No Action

The No Action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued groundwater monitoring of the south parcel only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment. The capital cost is to provide for replacement of monitoring wells after fifteen years.

Present Worth:	$ 71,400
Capital Cost:	$ 2,400
Total O&M Present Worth	$ 69,000
Annual O&M:	$ 4,500
Time to Implement:	Three months

Alternative 2: Surface Cleanup with Institutional Controls

Alternative 2 would include a limited surficial cleanup of the south parcel to remove the asbestos-containing material and the partially filled drum found during the RI. A long-term groundwater monitoring program would be established to monitor site conditions on the south parcel. The property owner would be required to place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality treatment. An annual certification by the property owner would be included as part of the restriction. No action would take place on the north parcel.

Present Worth:	$ 91,100
Capital Cost:	$ 22,100
Total O&M Present Worth	$ 69,000
Annual O&M:	$ 4,500
Time to Implement:	Three months

Alternative 3: Hot Spot Remediation with Off-Site Disposal and Site Regrading

Alternative 3 would consist of the surficial cleanup on the south parcel described in Alternative 2. In addition, contaminated soils and waste would be excavated from two locations south of the railroad tracks. Areas to be excavated include the east bank hot spot (test pit 3N area) and the western hot spot (SS-2 area). All excavations would be backfilled with clean fill and regraded. Excavated material would be taken off site for disposal at an approved facility. Removal of contaminated soils and waste would eliminate threats to human health. Flat area across the fill would be regraded to provide positive overland drainage throughout the southern fill area, and existing mounds would be flattened to fill in low spots. The intermittent pond area would be filled. All regrading efforts would mitigate the environmental threat by limiting migration of fill contaminants to the wetlands. A long-term groundwater monitoring program on the south parcel would be established to monitor effectiveness of the remedy. The property owner would be required to place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality treatment. An annual certification by the property owner would be included as part of the restriction. No action would take place on the north parcel.

Present Worth:	$ 456,200
Capital Cost:	$ 387,200
Total O&M Present Worth	$ 69,000
Annual O&M:	$ 4,500
Time to Implement:	One Year

Alternative 4: Hot Spot Remediation, Off-Site Disposal, Site Regrading and Groundwater Treatment

Alternative 4 consists of the elements of Alternative 3, plus treatment of shallow, perched groundwater in the vicinity of the east bank hot spot (test pit 3N). This groundwater would be collected by pumping from approximately three shallow extraction wells, and treated at a facility to be built on site. Treated water would be piped and discharged into the existing sanitary sewer

system along Golden Road. A long-term groundwater monitoring on the south parcel program would be established to monitor effectiveness of the remedy. The property owner would be required to place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality treatment. An annual certification by the property owner would be included as part of the restriction. No action would take place on the north parcel.

Present Worth:	$ 1,292,200
Capital Cost:	$ 542,200
Total O&M Present Worth	$ 750,000
Annual O&M:	$ 48,800
Time to Implement:	One Year

7.2 Evaluation of Remedial Alternatives for the South Parcel

The criteria used to compare the potential remedial alternatives for the south parcel are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6 NYCRR Part 375). For each of the criteria, a brief description is provided, followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is included in the Feasibility Study.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for recommendation.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). *Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.*

By leaving hazardous waste in place, neither Alternative 1 or 2 would comply with SCGs for soil or groundwater. Alternatives 3 and 4 would remove the majority of soil SCG exceedances through hot spot remediation. Alternative 4 would extract and treat contaminated groundwater, however, with the removal of the sources through hot spot remediation, contaminants in groundwater would likely attenuate to standards within a short period of time under Alternative 3.

2. Protection of Human Health and the Environment. *This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.*

Alternatives 1 and 2 would not be protective of human health or the environment because hazardous waste and contaminated soil present on the south parcel would not be remediated. Alternatives 3 and 4 would be protective of human health and the environment because this material would be removed and disposed of at a licensed off-site facility.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. *The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives also is estimated and compared against the other alternatives.*

Alternative 1, No Action, would have no short-term adverse impacts, because there would be no construction activities. Alternative 2 would have insignificant short-term impacts from the surface cleanup. Alternatives 3 and 4 would have greater short-term impacts, due to activities associated with the hot spot removal. Alternative 4 would have the greatest short-term impacts with the construction and operation of a groundwater treatment facility. A site-specific Health and Safety Plan would be implemented for all ground-intrusive activities to protect workers and the community. Measures to protect the wetland during all remedial activities would be implemented as well.

Neither Alternative 1 nor 2 would reach remedial objectives. While both Alternatives 3 and 4 would reach remedial objectives, Alternative 4 would take less time than Alternative 3 to reach groundwater SCGs because any contaminated shallow groundwater left after hot spot remediation would be extracted for treatment rather than left to naturally attenuate.

4. Long-term Effectiveness and Permanence. *This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls*.

Alternative 1 has no long-term effectiveness; all waste would remain on site and risks would not change. Alternative 2 has little long-term effectiveness; only the asbestos and surficial drum would be removed from the site, and remaining risks would be subject to effectiveness of institutional controls. Alternatives 3 and 4 have significant long-term effectiveness due to the hot spot removal of waste and contaminated media.

5. Reduction of Toxicity, Mobility or Volume. *Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site*.

Alternative 1 would not reduce the toxicity, mobility or volume of waste at the site. Alternative 2 would only very slightly reduce the volume of waste. Both Alternatives 3 and 4 would significantly reduce the volume of waste at the site through the hot spot removals. Alternative 4 would reduce the volume slightly further by removing and treating contaminated groundwater from the east bank area.

6. Implementability. *The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc*.

Alternative 1 would be easily implemented, requiring only a long-term groundwater monitoring plan. The surficial removal included in Alternatives 2, 3 and 4 would be easily implemented.

The hot spot remediation of Alternatives 3 and 4, and the groundwater collection and treatment of Alternative 4 are technically implementable with many experienced contractors available. Both Alternatives 3 and 4 would be administratively feasible.

7. Cost. *Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.*

The costs for each alternative are presented in Table 9. Alternative 1 is the least expensive with a Total Present Worth of $ 71,400, and Alternative 4 is the most expensive at $ 1,292,200.

The final criterion, Community Acceptance, is considered a modifying criterion and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - *Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" included as Appendix A presents the public comments received and the Department's response to the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.*

A public meeting was held on June 19, 2002, and in general, the public comments received were supportive of the selected remedy. One comment was received by telephone during the public comment period and it was in support of the remedy.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is selecting Alternative 3 as the remedy for this site: Hot Spot Remediation with Off-Site Disposal and Site Regrading. This will include excavation, off-site disposal of hazardous waste and contaminated soil from two hot spots on the south parcel and backfill with clean material. The southern fill surface will be regraded to improve drainage. A long-term groundwater monitoring program will be established to monitor effectiveness of the remedy. See Figure 5 for a conceptual layout of the selected remedy.

This selection is based on the evaluation of the four alternatives developed for this site. Only Alternatives 3 and 4 would comply with the threshold criteria by removing waste and contaminated soil from the hot spot areas. Alternative 4 would go one step further by collecting and treating contaminated shallow groundwater, with a significant cost increase over Alternative 3. However, once the waste and contaminated soil in the eastern hot spot are removed, the source of contamination to shallow groundwater will be eliminated, and it is expected that within a short period of time any residual contaminated shallow groundwater will naturally attenuate to standards. Therefore, the increased cost of Alternative 4 over Alternative 3 is not justified, and Alternative 3 is the selected remedy.

The estimated present worth cost to implement the remedy is $ 456,200. The cost to construct the remedy is estimated to be $ 387,200 and the estimated average annual operation and maintenance cost is $ 4,500.

The elements of the selected remedy are as follows:

- A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS will be resolved.

- Surficial cleanup and off-site disposal of the asbestos-containing material (approximately 15 cubic yards) and the partially filled drum found on the south parcel during the RI.

- Excavation and off-site disposal of waste and contaminated soil (approximately 1,720 cubic yards) from the two hot spots on the south parcel:

  1) east bank (test pit 3N area): All waste material (cans, liquid waste and visibly contaminated soil) and soil exhibiting VOC contamination above NYSDEC TAGM 4046 soil cleanup guidelines will be removed. Due to very high concentrations of solvents associated with the aerosol can waste, some of the excavated material from the east bank excavation may require pretreatment at the disposal facility prior to disposal.

  2) SS-2 area: Soil contaminated with pentachlorophenol above the NYSDEC TAGM 4046 soil cleanup guideline will be removed.

  All excavated areas will be backfilled with certified clean backfill.

- Regrade flat areas across fill area in south parcel to provide positive overland drainage throughout the south parcel, flatten existing mounds to fill in low spots, and fill the intermittent pond area. All regrading efforts will mitigate the environmental threat due to migration of fill contaminants to the wetlands.

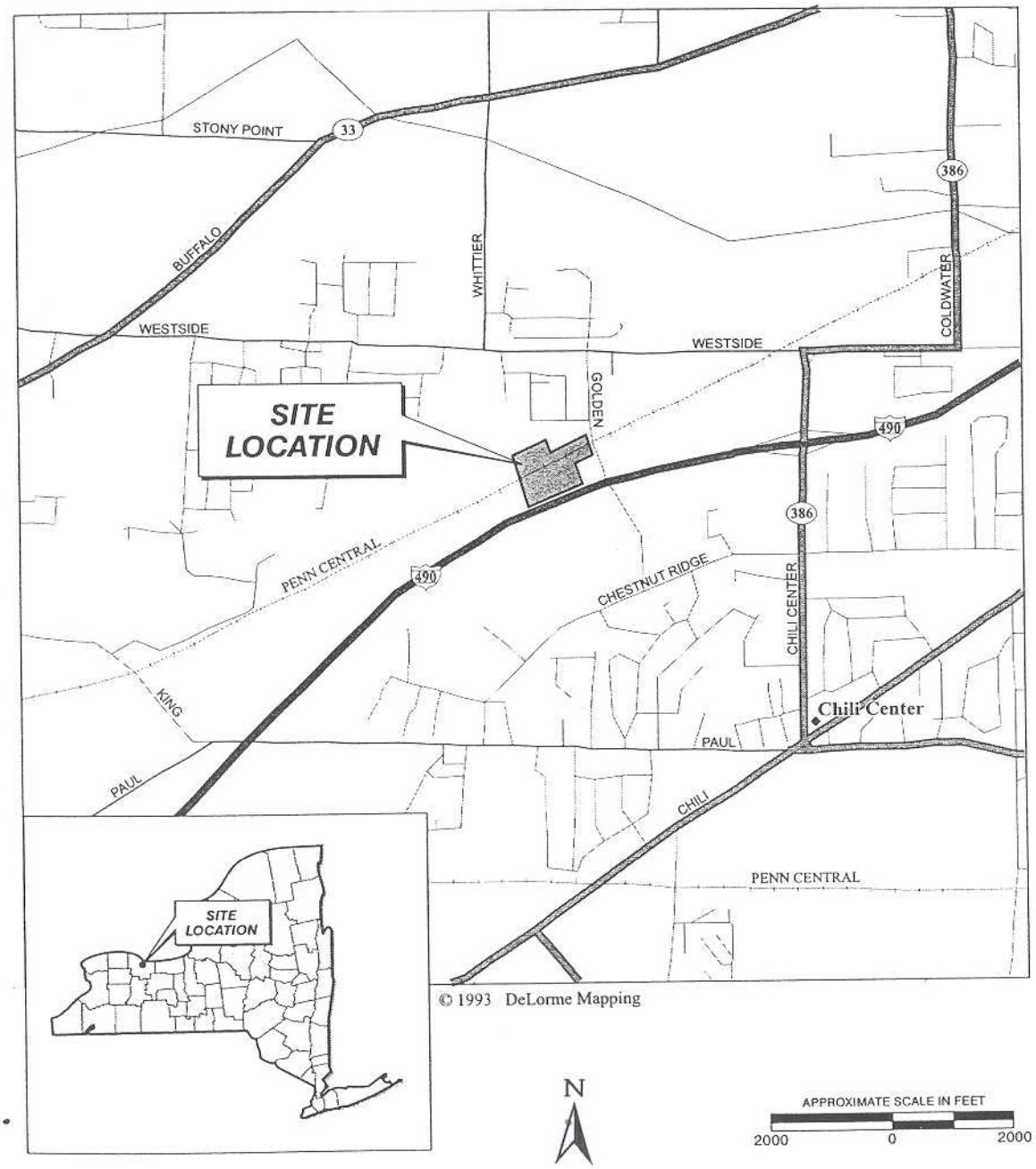
- Require that the property owner place a deed restriction limiting the use of groundwater as a potable or process water from the south parcel without necessary water quality treatment. An annual certification by the property owner will be included as part of the restriction to verify that this restriction has been maintained.

- A long-term groundwater monitoring program on the south parcel to monitor effectiveness of the remedy. This program will allow the effectiveness of the hot spot removal and site regrading to be monitored and will be a component of the operation and maintenance for the site.

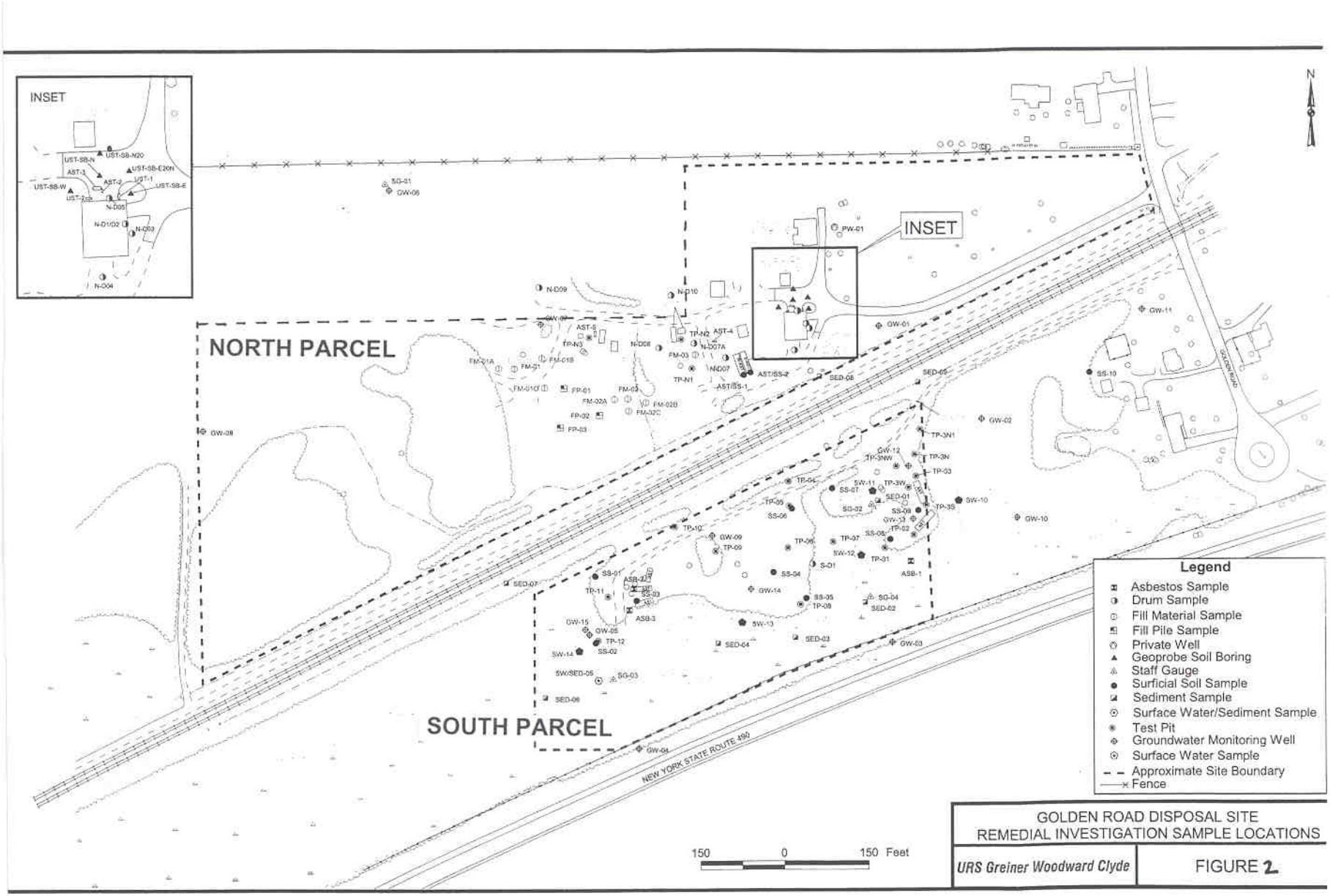
SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

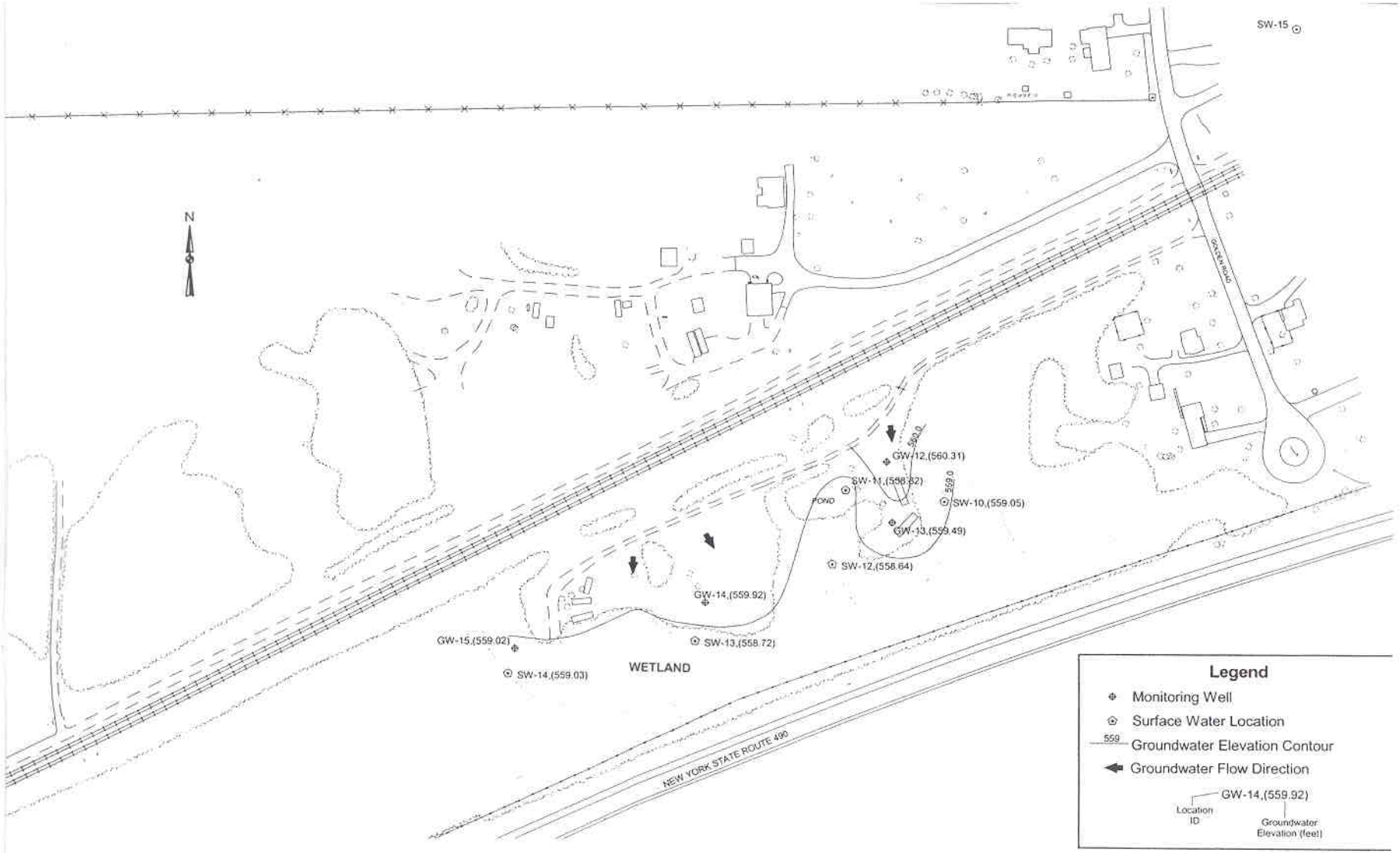
As part of the remedial investigation process, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

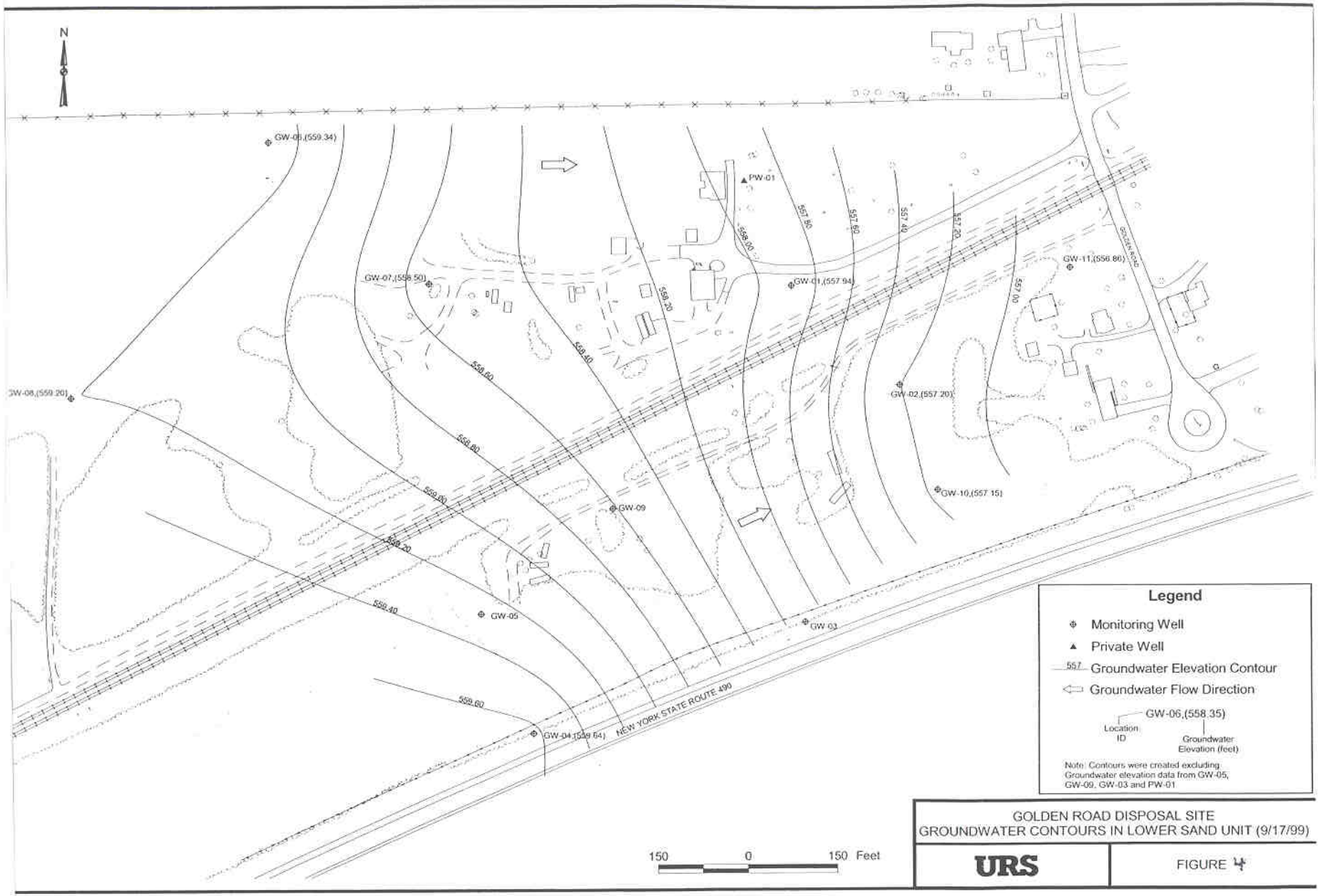
- A repository for documents pertaining to the site was established at the Chili Public Library, 3333 Chili Avenue, Rochester, NY 14624.
- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- A Citizen Participation Plan was prepared in June, 1999 and placed in the document repository.
- A fact sheet was distributed to the mailing list on June 17, 1999 to announce the July 1, 1999 public meeting and the beginning of the remedial investigation.
- A public meeting was held on July 1, 1999 to provide information and answer questions about the remedial investigation.
- A fact sheet was distributed to the mailing list on July 24, 2000 to announce availability of the June, 2000 Remedial Investigation Report and provide an update on status of the project.
- A fact sheet was distributed to the mailing list on May 31, 2002 to announce availability of the May, 2002 Proposed Remedial Action Plan (PRAP) and announce the June 19, 2002 public meeting.
- A public comment period was held from June 7, 2002 through July 9, 2002 to receive public input on the PRAP.
- A public meeting was held on June 19, 2002 to present the PRAP and discuss and answer questions regarding the RI/FS and the proposed remedy.
- In September 2002 a Responsiveness Summary was prepared to address the comments received during the public comment period for the PRAP. The Responsiveness Summary has been incorporated into the ROD as Appendix A and made available to the public.



URS Greiner Woodward Clyde	GOLDEN ROAD DISPOSAL SITE SITE LOCATION MAP	FIGURE 1


INSET
NORTH PARCEL
SOUTH PARCEL
INSET
N
NEW YORK STATE ROUTE 490
GOLDEN ROAD
Legend
Asbestos Sample
Drum Sample
Fill Material Sample
Fill Pile Sample
Private Well
Geoprobe Soil Boring
Staff Gauge
Surficial Soil Sample
Sediment Sample
Surface Water/Sediment Sample
Test Pit
Groundwater Monitoring Well
Surface Water Sample
Approximate Site Boundary
Fence
150 0 150 Feet
GOLDEN ROAD DISPOSAL SITE
REMEDIAL INVESTIGATION SAMPLE LOCATIONS
URS Greiner Woodward Clyde
FIGURE 2.


SW-15
N
GOLDEN ROAD
GW-12,(560.31)
SW-11,(558.82)
POND
SW-10,(559.05)
GW-13,(559.49)
SW-12,(558.64)
GW-14,(559.92)
GW-15,(559.02)
SW-13,(558.72)
SW-14,(559.03)
WETLAND
NEW YORK STATE ROUTE 490
560
559
Legend
Monitoring Well
Surface Water Location
559 Groundwater Elevation Contour
Groundwater Flow Direction
GW-14,(559.92)
Location ID
Groundwater Elevation (feet)
150 0 150 Feet
GOLDEN ROAD DISPOSAL SITE
GROUNDWATER CONTOURS IN UPPER SAND UNIT (4/20/
URS
FIGURE 3



GOLDEN ROAD DISPOSAL SITE
GROUNDWATER CONTOURS IN LOWER SAND UNIT (9/17/99)

URS | FIGURE 4

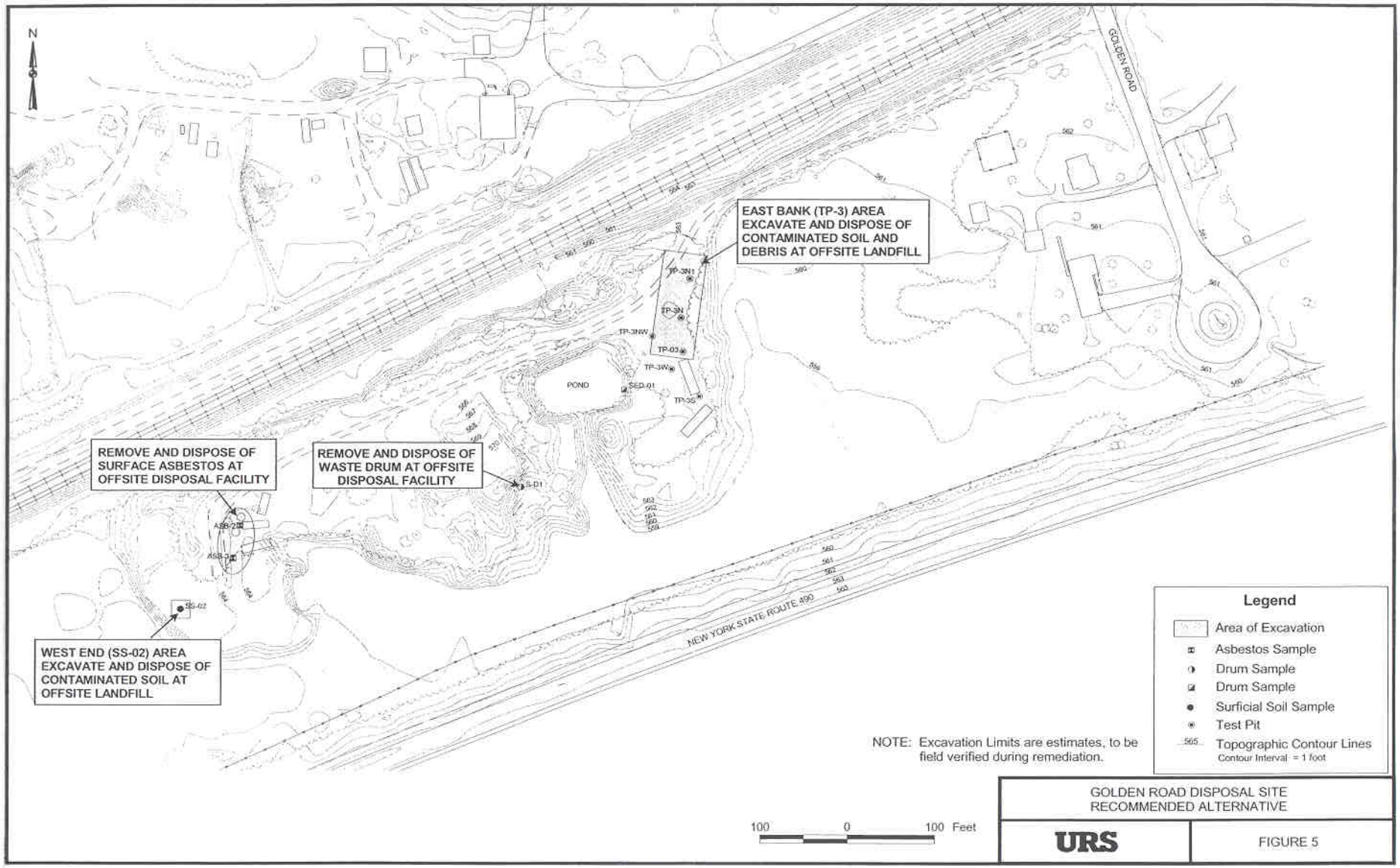

N
GOLDEN ROAD
EAST BANK (TP-3) AREA
EXCAVATE AND DISPOSE OF
CONTAMINATED SOIL AND
DEBRIS AT OFFSITE LANDFILL
TP-3N1
TP-3N
TP-3NW
TP-03
TP-3W
TP-3S
POND
SED-01
REMOVE AND DISPOSE OF
SURFACE ASBESTOS AT
OFFSITE DISPOSAL FACILITY
REMOVE AND DISPOSE OF
WASTE DRUM AT OFFSITE
DISPOSAL FACILITY
S-D1
ASB-2
ASB-3
SS-02
WEST END (SS-02) AREA
EXCAVATE AND DISPOSE OF
CONTAMINATED SOIL AT
OFFSITE LANDFILL
NEW YORK STATE ROUTE 490
NOTE: Excavation Limits are estimates, to be
field verified during remediation.
Legend
Area of Excavation
Asbestos Sample
Drum Sample
Drum Sample
Surficial Soil Sample
Test Pit
565 Topographic Contour Lines
Contour Interval = 1 foot
100 0 100 Feet
GOLDEN ROAD DISPOSAL SITE
RECOMMENDED ALTERNATIVE
URS
FIGURE 5

Table 1
North Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppm)
Fill Material/ Fill Pile	**SemiVolatile Organic Compounds (SVOCs)**	Benzo(a)anthracene	ND - 0.31	1 of 6	0.224
		Benzo(a)pyrene	ND - 0.35	2 of 6	0.061
	Metals	Aluminum	1,060 - 11,700	1 of 6	8,480*
		Arsenic	2 - 10	1 of 6	7.5
		Beryllium	0.14 - 0.63	1 of 6	0.44*
		Chromium (total) Chromium (hexavalent)	6.2 - 1,250 ND	9 of 12 0 of 6	50
		Copper	8.3 - 46.7	2 of 6	25
		Iron	9,800 - 25,500	3 of 6	12,400*
		Manganese	105 - 358	4 of 6	143*
		Nickel	7.0 - 783	11 of 12	13
Surface Soil	**SVOCs**	Benzo(a)anthracene	ND - 0.73	2 of 2	0.224
		Chrysene	ND - 1.8	2 of 2	0.4
		Benzo(a)pyrene	ND - 0.33	1 of 2	0.061
	Metals	Arsenic	25.5 - 31.6	2 of 2	7.5
		Barium	66.8 - 351	1 of 2	300
		Beryllium	0.8 - 1.5	2 of 2	0.44*
		Copper	33.6 - 55.8	2 of 2	25
		Iron	35,800 - 39,900	2 of 2	12,400*
		Nickel	28 - 42.8	2 of 2	13
		Zinc	222 - 248	2 of 2	128*

* Background values based on SS -10
ND = Non-Detect

Table 2
North Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppm)***
Subsurface Soil	**Volatile Organic Compounds (VOCs)**	Benzene	ND - 0.14	1 of 3	0.06
		Toluene	ND - 3.6	1 of 3	1.5
		Ethylbenzene	ND - 26	1 of 2**	5.5
		Xylene	0.008 - 170	1 of 2**	1.2
	SVOCs	Naphthalene	ND - 14	1 of 3	13
	Metals	Beryllium	0.49 - 0.51	3 of 3	0.44*
		Iron	14,700 - 16,900	3 of 3	12,400*
		Nickel	11.7 - 14.4	1 of 3	13
Sediment	**SVOCs**	Benzo(a)anthracene	0.76	1 of 1	0.224
		Chrysene	0.95	1 of 1	0.4
		Benzo(a)pyrene	0.66	1 of 1	0.061
	Metals	Aluminum	14,600	1 of 1	8,480*
		Arsenic	14.7	1 of 1	7.5
		Beryllium	1	1 of 1	0.44*
		Copper	65.2	1 of 1	25
		Iron	48,200	1 of 1	12,400*
		Manganese	449	1 of 1	143*
		Mercury	0.28	1 of 1	0.1
		Nickel	84.9	1 of 1	13
		Zinc	554	1 of 1	128*

* Background values based on SS -10
**Results for one sample rejected for quality control
*** Sediment results were compared to TAGM 4046 Soil criteria
ND = Non-Detect

Table 3
North Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppb)	Frequency of Exceeding SCGs/ Background	SCG/ Bkgd (ppb)
Groundwater	**VOCs**	Acetone	ND - 53	1 of 5	50
		Methylene Chloride	ND - 110	1 of 5	5
		Benzene	ND - 2,700	1 of 5	1
		Toluene	ND - 400	1 of 5	5
		Ethylbenzene	ND - 2,400	1 of 5	5
		Xylene	ND - 12,000	1 of 5	5
	SVOCs	Naphthalene	ND - 360	1 of 5	10
	Metals	Arsenic	ND - 49.8	1 of 5	7.5
		Barium	ND -1,040	1 of 5	1,000
		Beryllium	ND - 6.2	1 of 5	3
		Chromium	ND - 182	1 of 5	50
		Iron	134 - 217,000	3 of 5	300
		Lead	ND - 169	1 of 5	25
		Manganese	54.9 - 5,190	2 of 5	300
		Nickel	ND - 191	1 of 5	100
		Thallium	ND - 2.7	1 of 5	0.5

ND = Non-Detect

Table 4
South Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppm)
Liquid Waste (TP 3N-CAN)	**VOCs**	Methylene chloride	170,000	1 of 1	0.1
		Acetone	58	1 of 1	0.2
		2-Butanone (Methyl ethyl ketone)	380	1 of 1	0.3
		Benzene	120	1 of 1	0.06
		Toluene	220,000	1 of 1	1.5
		Ethylbenzene	32,000	1 of 1	5.5
		Xylene	150,000	1 of 1	1.2
Asbestos		Asbestos	ND - 10.5%	2 of 3	1%

Waste analytical results compared to NYSDEC TAGM 4046 (soil cleanup guidelines)
ND = Non-Detect

Asbestos results compared to 40 CFR Subpart M.

Table 5
South Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/Bkgd (ppm)
Surface Soil	**VOCs**	Acetone	ND - 0.49	1 of 10	0.2
	SVOCs	Pentachlorophenol	ND - 360	1 of 10	1
		Benzo(a)anthracene	ND - 2.7	4 of 10	0.224
		Chrysene	ND - 3.8	2 of 10	0.4
		Benzo(b)fluoranthene	ND - 5	2 of 10	1.1
		Benzo(k)fluoranthene	ND - 3	1 of 10	1.1
		Benzo(a)pyrene	ND - 3.7	5 of 10	0.61
		Indeno(1,2,3-cd)pyrene	ND - 5	1 of 10	3.2
	Metals	Aluminum	213 - 97,700	1 of 10	8,480
		Antimony	ND - 27.9	5 of 10	0.98*
		Arsenic	ND - 26.8	4 of 10	7.5
		Barium	7.7 - 361	1 of 10	300
		Beryllium	ND - 1.9	3 of 10	0.44*
		Chromium	6.6 - 263	5 of 10	50
		Cobalt	0.36 - 295	1 of 10	30
		Copper	5.9 - 5,380	5 of 10	25
		Iron	1,110 - 18,000	4 of 10	12,400*
		Lead	5.1 - 2,680	2 of 10	88.5*
		Manganese	27.8 - 2,820	4 of 10	143*
		Mercury	ND - 0.14	1 of 10	0.1
		Nickel	10 - 425	8 of 10	13
		Selenium	ND - 4.3	1 of 10	2
		Zinc	9 - 2,250	2 of 10	128*

* Background values based on SS -10
ND = Non-Detect

Table 6
South Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppm)
Subsurface Soil	**VOCs**	Methylene chloride	ND - 5.4	1 of 10	0.1
		Benzene	ND - 0.084	1 of 10	0.06
		Toluene	ND - 97	2 of 10	1.5
		Ethylbenzene	ND - 81	3 of 10	5.5
		Xylene	0.003 - 610	4 of 10	1.2
	SVOCs	2-Methylphenol	ND - 0.88	2 of 10	0.1
		Benzo(a)anthracene	ND - 8.2	7 of 10	0.224
		Chrysene	ND - 13	7 of 10	0.4
		Benzo(b)fluoranthene	ND - 12	7 of 10	1.1
		Benzo(k)fluoranthene	ND - 11	7 of 10	1.1
		Benzo(a)pyrene	ND - 8.1	7 of 10	0.061
		Indeno(1,2,3-cd)pyrene	ND - 11	2 of 10	3.2
		Dibenzo(a,h)anthracene	ND - 5.6	7 of 10	0.014
	Metals	Beryllium	0.14 - 0.92	2 of 10	0.44*
		Chromium	5.3 - 386	6 of 10	50
		Copper	7 - 599	6 of 10	25
		Nickel	5.8 - 402	9 of 10	13
		Iron	7,270 - 26,800	1 of 10	12,400*
		Zinc	10.2 - 244	1 of 10	128*

* Background values based on SS -10
ND = Non-Detect

Table 7
South Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppm)***
Sediment	**SVOCs**	Benzo(a)anthracene	ND - 1.1	3 of 8	0.224
		Chrysene	ND - 14	3 of 8	0.4
		Benzo(b)fluoranthene	ND - 11	3 of 8	1.1
		Benzo(k)fluoranthene	ND - 7.9	3 of 8	1.1
		Benzo(a)pyrene	ND - 9.9	6 of 8	0.061
		Indeno(1,2,3-cd)pyrene	ND - 4.3	2 of 8	3.2
	Metals	Antimony	ND - 1.8	1 of 8	0.98*
		Arsenic	1.6 - 10.9	5 of 8	7.5
		Beryllium	0.39 - 0.75	6 of 8	0.44*
		Chromium	8.1 - 390	1 of 8	50
		Copper	32.2 - 112	8 of 8	25
		Iron	10,400 - 27,700	6 of 8	12,400*
		Lead	17.5 - 143	3 of 8	88.5*
		Manganese	83.3 - 591	6 of 8	143*
		Mercury	ND - 0.56	6 of 8	0.1
		Nickel	15.2 - 476	8 of 8	13
		Selenium	ND - 5.1	5 of 8	2
		Zinc	31.8 - 561	7 of 8	128*

* Background values based on SS -10
*** Sediment results were compared to TAGM 4046 Soil criteria
ND = Non-Detect

Table 8
South Parcel
Nature and Extent of Contamination

Medium of Concern	Category	Contaminant of Concern	Concentration Range (ppb)	Frequency of Exceeding SCGs/Background	SCG/ Bkgd (ppb)
Surface Water	**Metals**	Aluminum	113 - 1,970	7 of 7	100
		Cobalt	ND - 12	2 of 7	5
		Copper	2.5 - 40.7	1 of 7	38
		Iron	673 - 72,700	7 of 7	300
		Nickel	1.3 - 2,370	1 of 7	216
		Selenium	ND - 5.6	1 of 7	4.6
		Silver	ND - 2.1	2 of 7	0.1
		Thallium	ND - 11.2	1 of 7	8
Groundwater	**VOCs**	Methylene chloride	ND - 600,000	1 of 9	5
		Acetone	ND - 4,900	1 of 9	50
		1,1-Dichloroethane	ND - 750	1 of 9	5
		2-Butanone	ND - 24,000	1 of 9	50
		Benzene	ND - 780	1 of 9	1
		Toluene	ND - 170,000	1 of 9	5
		Ethylbenzene	ND - 8,800	1 of 9	5
		Xylene	ND - 27,600	1 of 9	5
	SVOCs	2-Methylphenol	ND - 43	1 of 9	1
		2,4-Dimethylphenol	ND - 26	1 of 9	1
		3 & 4-Methylphenol	ND - 83	1 of 9	1
		Naphthalene	ND - 13	1 of 9	10
	Metals	Iron	575 - 57,600	9 of 9	300
		Manganese	ND - 2,310	3 of 9	300
		Mercury	ND - 0.93	1 of 9	0.7
		Thallium	ND - 20.2	3 of 9	0.5

ND = Non-Detect

Table 9
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Present Worth O&M	Total Present Worth
Alternative 1: No Action	$ 2,400	$ 4,500	$ 69,000	$ 71,400
Alternative 2: Surface Cleanup	$ 22,100	$ 4,500	$ 69,000	$ 91,100
Alternative 3: Hot Spot Remediation, Off-site Disposal, Site Regrading	$ 387,200	$ 4,500	$ 69,000	$ 456,200
Alternative 4: Hot Spot Remediation, Off-site Disposal, Site Regrading, Groundwater Treatment	$ 542,200	$ 48,800	$ 750,000	$ 1,292,200

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Golden Road Disposal Site
Proposed Remedial Action Plan
Chili (T), Monroe County
Site No. 8-28-021

The Proposed Remedial Action Plan (PRAP) for the Golden Road Disposal Site was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on May 30, 2002. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil and sediment at the Golden Road Disposal site. The preferred remedy is hot spot remediation and off-site disposal.

The release of the PRAP was announced via a notice to the mailing list on May 31, 2002, informing the public of the PRAP's availability.

A public meeting was held on June 19, 2002 which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. One comment was received by telephone, and no written comments were received. The public comment period for the PRAP ended on July 9, 2002.

This Responsiveness Summary responds to all questions and comments raised at the June 19, 2002 public meeting and to the comment received by telephone.

Questions and comments from the June 19, 2002 public meeting:

Similar questions and comments from the public meeting have been paraphrased and grouped together to avoid repetitive answers.

Question 1: What can be done to restrict access to the property to prevent trespassers from contacting hazardous waste there?

Answer 1: The only potential public health exposure pathway at the site would be to trespassers who may enter the south parcel and dig below ground in the vicinity of the buried aerosol cans and contact contaminated subsurface soil, or by contacting the limited area of surface contamination in the western hot spot (see Section 4). The property is currently owned by the Estate of Howard Fitzsimons, Jr., and controlling access to the property, i.e, installing fences, and posting against trespassing, is the responsibility of the owner.

Question 2: Were ponds near the site sampled to see if they are contaminated?

Answer 2: Surface water samples were collected in the wetland between the south parcel and Route 490. No organic contamination was detected, and no inorganic compounds associated with the site were identified. Because no site-related contamination was identified in surface

water at the hazardous waste source, there was no justification to investigate off-site surface water. At the specific request of a neighbor near the site on Golden Road, a private pond was sampled, and, again, no site-related contamination was detected. If surface water contamination is identified elsewhere in the vicinity of the site, another source would need to be investigated.

Question 3: Are the drainage ditches west of the site contaminated? Will you get the railroad to clean out the ditches? Will your cleanup affect the drainage?

Answer 3: Sediment samples were collected from both railroad drainage ditches north and south of the tracks, downgradient from the waste area. Samples were not collected from the ditches west of the site because those ditches are upgradient of the waste areas. Analyses detected the presence of polycyclic aromatic hydrocarbons, compounds normally associated with routine railroad operations, and are not site-related. Railroad drainage ditch maintenance is not within the jurisdiction of the NYSDEC. Drainage through these ditches will not be affected by the proposed remedy.

Question 4: What are the health risks, including cancer, that would be associated with this type of site? Is there a 'flag' that you would look for to see if the cancer is related to this site? Do you know if anyone has cancer or leukemia? Before excavation takes place will a health study be done of the people who live in the area?

Answer 4: Health studies are normally conducted if there is a documented exposure to hazardous waste at a site. Based on the results from the site investigation, the general public is not being exposed to waste associated with this site. For both parcels the individuals who may be at risk of exposure would most likely be trespassers on the site or future construction workers.

Cancer is a group of more than 100 different diseases that are due to abnormal growth of body cells. Cancer studies cannot determine a cause and effect relationship between exposure to chemicals at a site and a specific cancer. Cancer surveillance investigations can only tell us about the pattern of cancer in a particular study area. They cannot tell us if living in the study area increases or decreases a person's risk of getting cancer.

Question 5: I lived in the house on site and believe I got sick from the coal gas used in the furnace. I was also turning black from the chemicals on site. I've had seizures as a child and I'm sick now.

Answer 5: Health concerns of this type should be referred to one's personal physician. The personal physician may wish to further discuss health related issues with a Department of Health physician by contacting the NYSDOH at 1-800-458-1158.

Question 6: Did the NYSDEC test wildlife in the area? Have the fish in the pond east of Golden Road been tested for contamination? If this area is contaminated, how can grass grow there, how can fish live in the pond and wildlife live in the woods?

Answer 6: No hazardous waste remains on the north parcel and there are only two hot spots of hazardous waste contamination on the south parcel. The Fish and Wildlife Impact Assessment performed during the RI identified the potential for migration of fill material from the south

parcel to the adjacent wetland, but no significant contamination was identified in the wetland. Therefore, there was no justification for conducting tests to evaluate the site's impact on fish and wildlife. The heavy growth of vegetation over the majority of the site is further indication that it is not a stressed environment.

Question 7: Who will pay for this cleanup? What happens if the landowner has no money? Will the State take the property away from the landowner? Will the State put a lien on this property?

Answer 7: As stated in Section 5 of the PRAP, Potentially Responsible Parties (PRPs) identified for the site include the Estate of Howard Fitzsimons, Jr., Chevron Corporation, Pneumo-Abex, and the U.S. Department of Defense. The PRPs were requested to implement a remedial program at the site but agreement between them and the NYSDEC could not be reached, therefore, the remedial investigation and feasibility study were conducted using State Superfund money. When the Record of Decision is completed, all of the PRPs will again be requested to take responsibility for site cleanup. If consent is not reached, the site will again be referred to the State Superfund for remediation. In any event, the PRPs are subject to legal actions by the State for recovery of all remedial and response costs incurred by the State at the site. Liens can be placed on private property after a court order to aid in cost recovery.

Question 8: Who paid for the studies and cleanup in the 1980s? If the landowner didn't pay for it then, why would you want the landowner to pay for it now?

Answer 8: The 1985 emergency drum removal was initially financed by the NYSDEC, and later reimbursed by Mr. Fitzsimons's insurance carrier. The Department is currently seeking the recovery of costs of the petroleum spill and tank removal from the Fitzsimons Estate. The Department has agreed to waive its claim against the Estate for the RI/FS costs in favor of the spill fund recovery. The Department will continue to seek recovery of RI/FS and future costs from the other PRPs.

Question 9: What will be the future use of the site?

Answer 9: Because no hazardous waste remains on the north parcel, the property owner may petition the NYSDEC to remove the north parcel from the inactive hazardous waste disposal site listing. If that were to happen, future use of the north parcel would be determined by the property owner with the approval of appropriate local authorities. The south parcel will remain on the NYS Registry of Inactive Hazardous Waste Disposal Sites until it is demonstrated that the hazardous waste no longer presents potential adverse public health impacts.

Question 10: If a decision is made to sell this property after the cleanup, will the State write a newspaper article or some sort of document stating there is no longer any hazardous waste there and the property values have not decreased?

Answer 10: When the NYSDEC proposes to remove a site from the Registry of Inactive Hazardous Waste Disposal Sites, notice is published in the Environmental Notice Bulletin (http://www.dec.state.ny.us/website/enb/) and in a local newspaper, and letters are sent to

adjacent property owners. The NYSDEC does not issue statements regarding property values at or near inactive hazardous waste disposal sites.

Question 11: The Monroe County Water Authority installed a water line along Golden Road in the early 1990s. Was the excavated dirt from installing the pipe contaminated? Is it safe to have a water pipe going through contamination?

Answer 11: The NYSDEC has contacted the Monroe County Water Authority (MCWA) regarding the 1990 water line extension along Golden Road. Prior to the installation of the water main, five test pits were excavated along Golden Road from the end of the cul de sac to just north of the railroad tracks. No debris from the disposal site was observed. The MCWA records do not show that any hazardous waste or contaminated soils or groundwater were encountered during the installation of the water line. Although it was not necessary in this case, it is possible to protect a water line that is installed through an area of contaminated soil or groundwater. In addition, water supply lines are normally pressurized, preventing local groundwater (contaminated or not) from entering the pipes.

Question 12: Why does it cost so much to have this cleanup done?

Answer 12: The estimated costs for cleanup of the Golden Road site include development of a design for the remedial activities, the excavation of hazardous waste, waste disposal, and site regrading. In addition, health and safety plans for worker and community protection must be written and implemented. A long-term monitoring plan also must be developed to determine the effectiveness of the remedy.

Question 13: When will the cleanup start? Will the cleanup be done in 5 years? After the cleanup is finished, how long will the test wells remain in place?

Answer 13: A definitive answer cannot be given as to when cleanup will start or finish. Once the ROD is completed, the PRPs will be contacted to take responsibility for the remediation. If agreement is reached, the design and construction process can begin. If agreement is not reached, the site will be referred to the State Superfund for remediation. Monitoring wells will be left in place for periodic sampling until it is shown that the remedy is effective and no significant site-related groundwater contamination remains.

Question 14: If you've known about this contamination since 1988, then why is there a big demand now to do a cleanup? Why wasn't it addressed years ago? Why bother to clean up this property? What would happen if you leave it as it is?

Answer 14: The presence of deteriorating drums on the south parcel was originally reported to the NYSDEC in 1983 (see Section 3.2). These drums and all visibly contaminated soil were removed in 1985, eliminating the immediate potential threat to public health and the environment. While legal negotiations were taking place to obtain reimbursement for the cost of the NYSDEC drum removal, a Phase II environmental investigation was conducted (1992) to evaluate site conditions. After completion of that investigation it was determined that a full remedial investigation and feasibility study were needed at the site. Discussions took place with the various PRPs for implementation of a remedial program. In late 1998 when it was

determined that agreement would not be reached between the NYSDEC and the PRPs, the site was referred to the State Superfund program for the remedial investigation and feasibility study. If remediation does not take place, the potential for future exposures to hazardous waste will continue.

Question 15: Mr. Fitzsimons wanted to build homes on his property, and 17 test pits were dug and no contamination was found. Where is the hazardous waste areas you are talking about?

Answer 15: The test pits excavated by Mr. Fitzsimons in 1994-95 were in the far northwest corner of the north parcel. The hazardous waste identified at the site during the remedial investigation is on the eastern edge of the south parcel, and at one sample location on the west side of the south parcel.

Question 16: Should I get the water in my sump pump tested? How about testing the air vapors in my basement?

Answer 16: Because contaminated groundwater is not migrating off site, there is no reason for testing residential basement sump water or basement air.

Question 17: Is the sand and slag hazardous? Does it have to be removed?

Answer 17: The foundry sand and slag were analyzed and determined not to be a hazardous waste. Although the material has elevated levels of heavy metals, it does not meet the criteria for hazardous waste and will not be addressed by the inactive hazardous waste program. While the levels of the metal compounds are elevated, under the current land use these levels do not represent a health concern. In the future, should the use of this property change where there is an increased potential for exposure to these compounds, the County and State Health Departments will take measures to protect the public.

Question 18: Are the aerosol cans ruptured, whole cans, or in good shape? If they sit there longer, will the contamination get worse? Are the cans buried in soil or just sitting there where they were dumped? How deep down did you test the soil in this area? How would you get the aerosol cans out without rupturing them?

Answer 18: The aerosol cans are all buried beneath the surface, to a maximum depth of about 10 feet. All of the test pits were excavated down to native soil, below the depth of the cans. The cans are deteriorating and leaking, and it is possible that the contents will continue to leak into the subsurface soils until removed. The cans can be removed without further damage if proper excavation techniques are used.

Question 19: Will the big tanks be left there? Are they empty? Are they hazardous? If the two underground tanks near Chili Fuels were built to code at the time, how did they become hazardous?

Answer 19: All tanks on the north parcel have been emptied and cleaned, and will remain on site. Whether or not the Chili Fuels buried tanks met regulations in effect at the time of installation, regulations have become more strict in recent years. It is common for buried tanks

of that age to have deteriorated, which is why there are numerous gasoline and fuel tank leaks from buried tanks at many locations across the State. The tanks on the south parcel are empty and will remain on site.

Question 20. What happens if you find more barrels or aerosol cans during or after the cleanup? Are you confident you found all the contamination areas on the property while doing your sampling? If the property is cleaned up and sold, and 5-10 years down the road new contaminants are discovered, would the new owner be responsible for any new contaminants that may be discovered?

Answer 20: Although the site investigation was thorough, it is possible that some contamination source has not been discovered. Any new sources of hazardous waste that may be discovered during remedial activities would be addressed at that time. If new sources of hazardous wastes are identified after remediation is complete, the previously identified PRPs could be held responsible.

Question 21: How much asbestos is on the property?

Answer 21: It is estimated there are 15 cubic yards of asbestos-containing material on the south parcel.

Question 22: Under the PRAP suggested remedies, why didn't you go for the $1.2 million cleanup?

Answer 22: The high cost of Alternative 4 ($1.3 million) includes a groundwater extraction and treatment option. As stated in the PRAP (Section 8), the increased cost over the recommended remedy (Alternative 3 at about $ 500,000) is not justified by the estimated minimal decrease in time for groundwater to reach standards.

Question 23: I know the Army and Dupont did some dumping. Dupont is liable for the aerosol can dumping.

Answer 23: This information will be passed on to the NYSDEC legal department. Anyone with any information on PRPs not previously identified is encouraged to notify the NYSDEC.

Questions and Comments received by telephone:

Question 1: A phone call was received on June 13 from a resident inquiring about the possibility of delisting the north parcel, and what long-term maintenance would be required for the south parcel.

Response 1: Once the ROD has been finalized, the property owner may petition the NYSDEC to redefine the site description to exclude the north parcel. This would, in effect, remove the north parcel from the NYS Registry of Inactive Hazardous Waste Disposal Sites. Long-term maintenance on the south parcel will primarily involve groundwater monitoring. Although the cost estimate was based on a 30-year monitoring period, the length of time will be dependant on sample results over the first few years. It is possible that if conditions warrant, groundwater monitoring could be discontinued sooner than 30 years.

APPENDIX B

Administrative Record

Administrative Record
Golden Road Disposal Site
8-28-021

Record of Decision

Phase I - Preliminary Investigation of the Golden Road Disposal Site, prepared by Recra Research, Inc. for NYSDEC, November 1983

Phase II Investigations, Golden Road Disposal Site, prepared by Ecology and Environment Engineering, P.C. for NYSDEC, March 1992

Remedial Investigation and Feasibility Study Work Plan, prepared by URS Corporation for NYSDEC, June 1999

Citizen Participation Plan, prepared by URS Corporation for NYSDEC, June 1999

Remedial Investigation Report, prepared by URS Corporation for NYSDEC, June 2000

Summary of Phase II RI Field Investigation, prepared by URS Corporation for NYSDEC, June 2000

Interim Report of Remedial Operations, Former Chili Fuels Site, NYSDEC Spill # 0070381, prepared by Nature's Way Environmental Consultants & Contractors, Inc. for NYSDEC, March 2001

Feasibility Study Report, prepared by URS Corporation for NYSDEC, December 2001

Proposed Remedial Action Plan, Golden Road, prepared by NYSDEC, May 2002