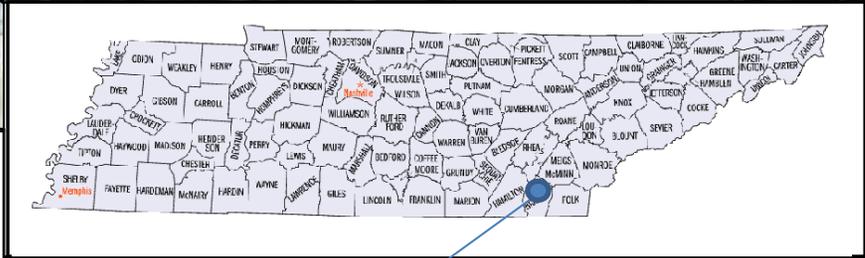
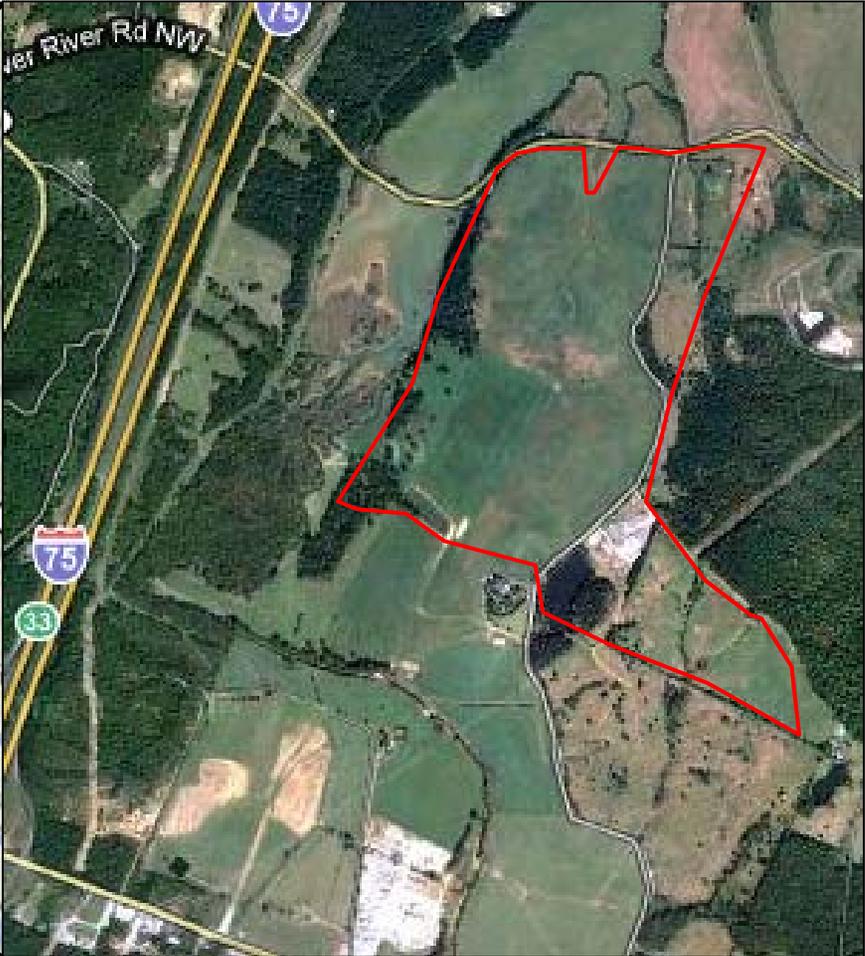
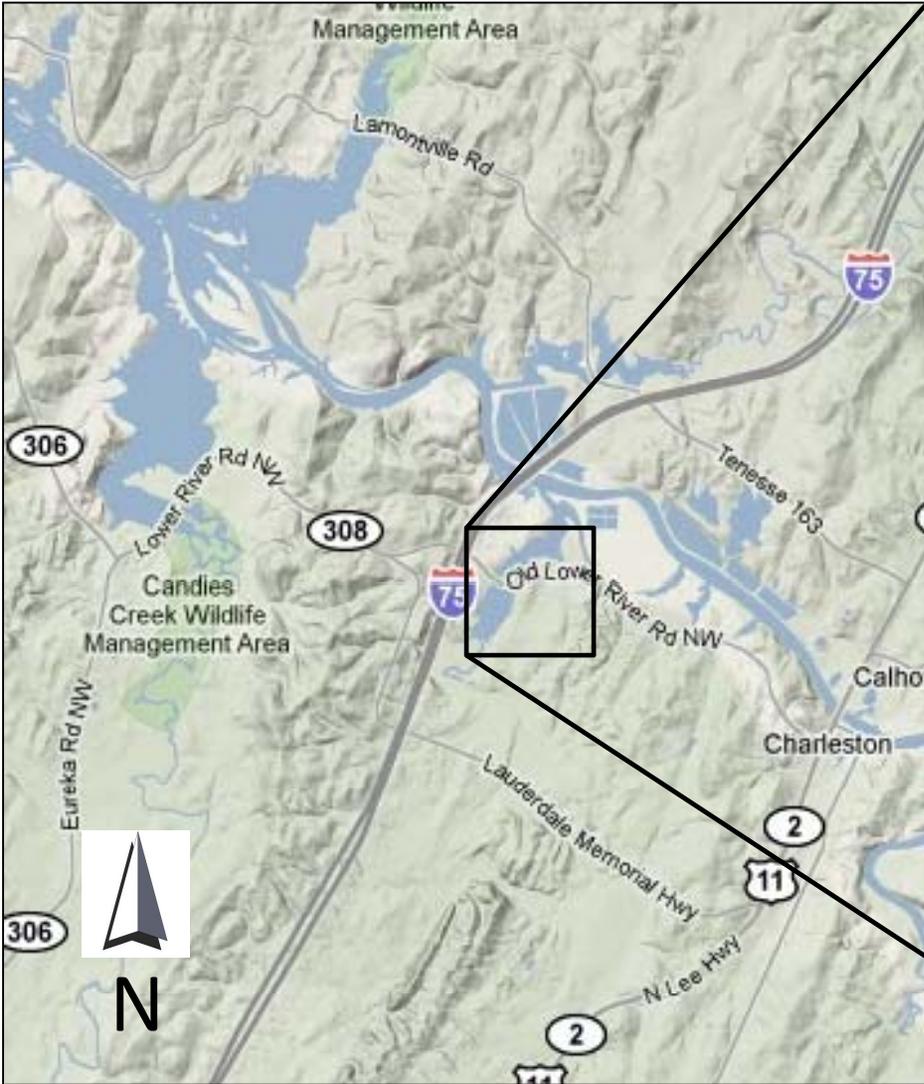


Attachments

- A. Project Vicinity Map
- B. Wetland and Stream Mitigation Areas and Storm Water Outfalls
- C. Drawing of TVA Landrights by Elevation
- D. Details of Planned Mitigation Activities From the Draft Mitigation Plan Report
- E. Planned Elements of Erosion Prevention and Sediment Control Plans From the Applicant's Storm Water Pollution Prevention Plan
- F. Conceptual Plans of the Proposed Manufacturing Facility
- G. Public Notices
- H. Agency Correspondence
- I. Proposed TVA Land Use and Section 26a Actions and Impact Area Map
- J. United States Environmental Protection Agency List of Toxic Pollutants and Hazardous Substances From National Pollutant Discharge Elimination System Permit Application
- K. The Secretary of the Interior's Standards of Rehabilitation
- L. Estimated Wacker Property Boundaries

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Attachment A - Project Vicinity Map



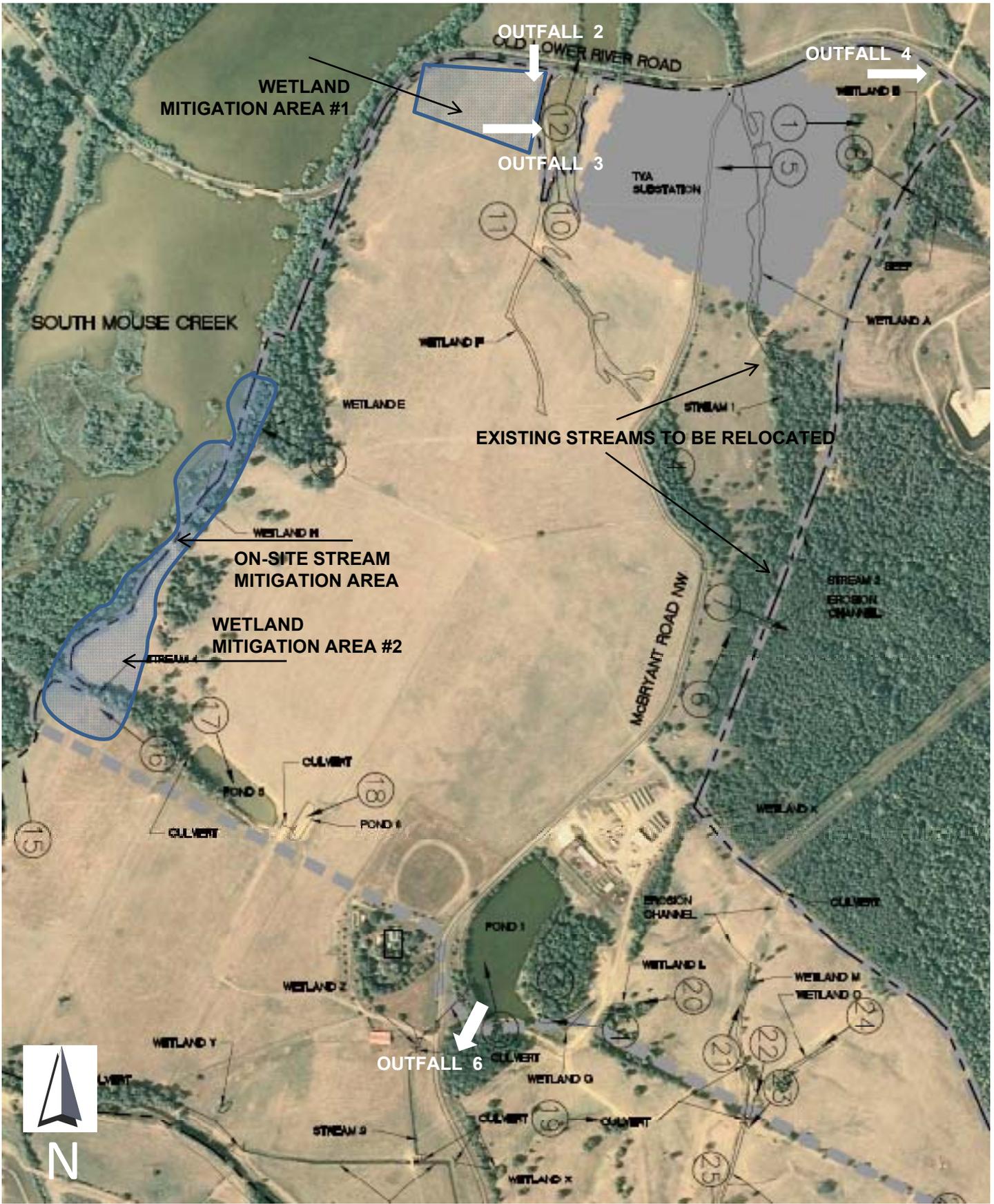
Wacker Chemie Poly 11
Proposed Facility Site



Wacker Chemie Poly 11 Project Vicinity Map

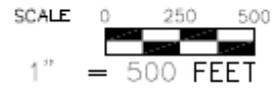
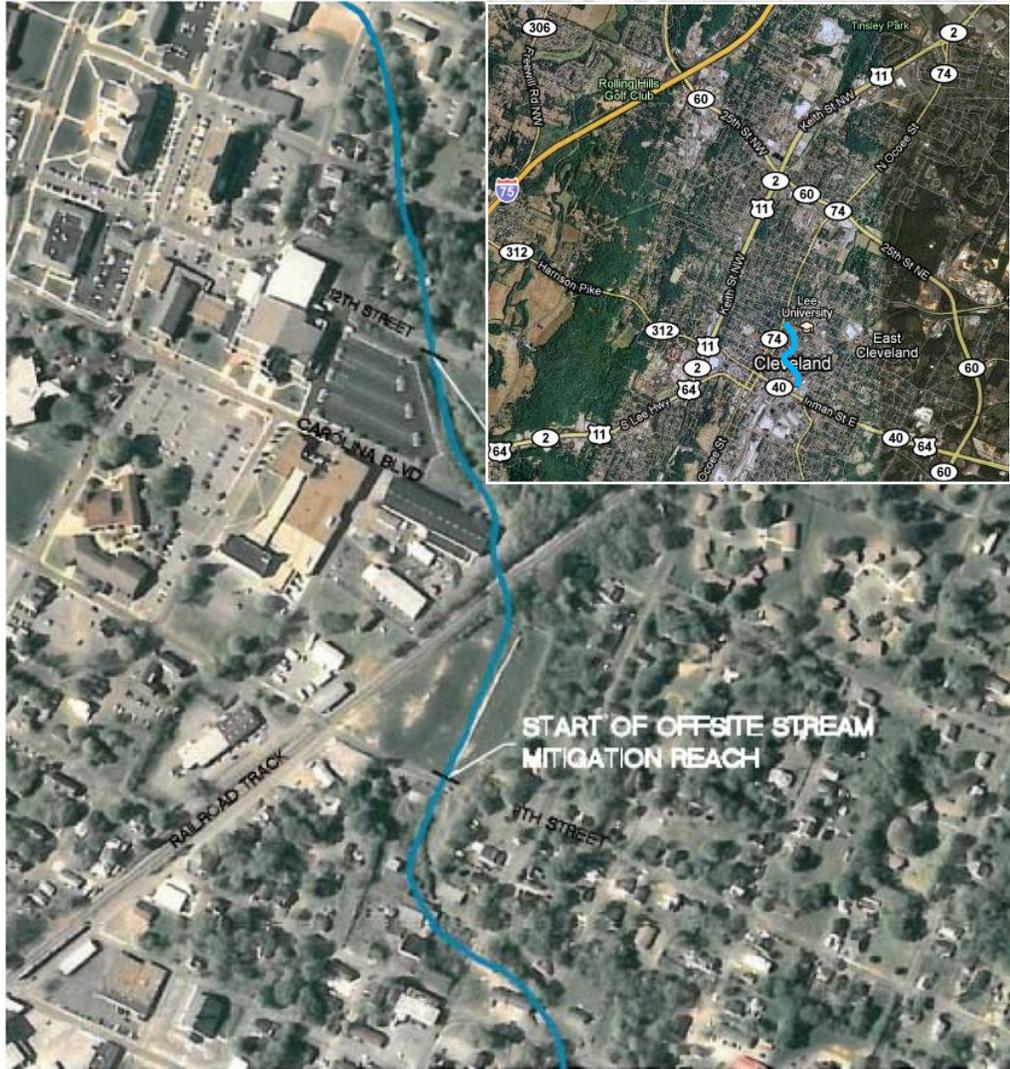
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Attachment B – Wetland and Stream Mitigation Areas and Storm Water Outfalls



Wetland Mitigation Areas #1 and #2, On-site Stream Mitigation Area and Outfalls

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LEGEND:
 APPROXIMATE CURRENT STREAM LOCATION

PROJECT: 08003466
 DATE: JUNE 14, 2010
 DRAWN: BWT
 CHECKED: SP
 Dwg FILE: 08003466C-01

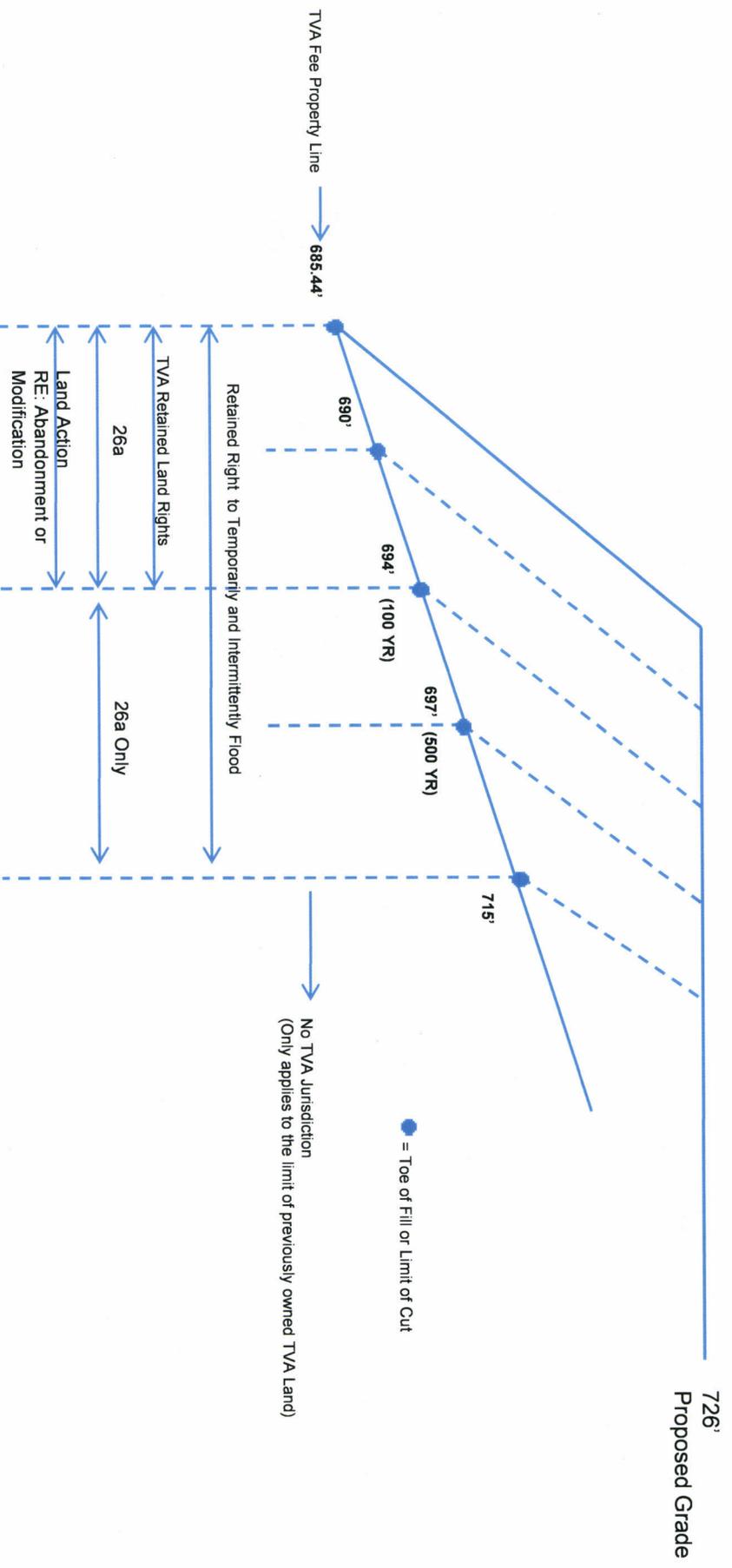


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Attachment C –Drawing of TVA Landrights by Elevation

Hiwassee River Industrial Park TVA Deeded and Operational Elevations



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Attachment D – Details of Planned Mitigation Activities From the Draft Mitigation Plan Report

DRAFT

MITIGATION PLAN REPORT

ACOE: LRN-2010-00404

TDEC: NRS 10.110

for

**WACKER POLYSILICON NORTH AMERICA LLC
564-ACRE PROPERTY (PHASE I DEVELOPMENT)
Old Lower River Road and McBryant Road
Bradley County, Tennessee**

Prepared for:

**Dr. Martin Richtberg
Wacker Polysilicon North America LLC
Johannes-Hess-Strasse 24
84489 Burghausen
Germany**

*Atwell, LLC
Project No. 08003466.02*

**June 17, 2010
Revised June 24, 2010 (REV 1.0)**



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www.atwell-group.com
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- B On-Site Wetlands and Stream Mitigation Plans
- C Off-Site Stream Mitigation Plans

2.0 OVERALL MITIGATION GOALS AND OBJECTIVES

2.1 Summary of Mitigation Objectives

The purpose of the mitigation project is to replace and/or restore lost functions and values of the applicable surface waters within the project site that will be impacted by the Wacker Project industrial development. The overall goal is to restore the physical and biological integrity of the respective streams and wetlands beyond their current conditions. This document sets out to achieve important objectives, including providing a naturally stable stream channel; improving the physical aquatic habitat features; expanding and creating contiguous floodplain wetlands; minimizing development impacts to the maximum extent practical; and providing long term protection of reclaimed/restored stream corridors and wetland areas.

On-site stream mitigation will occur at a ratio of three to one (3:1) and will consist of stabilizing and enhancing 1,600 linear feet of stream bank and buffer zones along South Mouse Creek. The City of Cleveland has agreed to provide an additional 1,400-feet of stream channel within the City of Cleveland's limits along a tributary to South Mouse Creek. This component of the stream mitigation will actually restore 1,527 linear feet at a ratio of one to one (1:1). The additional 127 linear feet will come from removing a straight reach of stream from a culvert and adding sinuosity. The remaining 1,317 linear feet of required mitigation will be compensated for by the purchase of credits from the State of Tennessee In-Lieu-Fee Program at a ratio of one-to-one (1:1); or alternatively, an additional candidate site in the appropriate watershed can be identified and meets TDEC approval for off-site mitigation.

Mitigation for the loss of 4.1-acres of emergent and scrub-shrub wetlands is proposed to occur at a ratio of four to one (4:1) for wetland creation to compensate for 3.0 acres of impacts. An additional 1.0 acre of wetland restoration will occur at a ratio of two to one (2:1). Floodplain wetlands will be enhanced and/or created.

Tables 1 and 2 below summarize the proposed wetland and stream impacts, respectively.

TABLE 1					
Wetland Mitigation Summary					
TYPE	LOCATION	IMPACT AREA (ACRE)	MITIGATION RATIO	TOTAL MITIGATION (ACRE)	TECHNIQUES
Creation	On-site/Mitigation Area #1-northwest corner of Phase I along South Mouse Creek	0.9	4:1	3.6	Grade existing floodplain to South Mouse Creek Reservoir ordinary pool level/wetland plantings
Creation	On-site/Mitigation Area #2 – southwest of Phase I along South Mouse Creek	2.1	4:1	8.3	Grade existing floodplain to South Mouse Creek Reservoir ordinary pool level/wetland plantings
Restoration	On-site/Mitigation Area #3 – southern portion of larger parcel within South Mouse Creek Floodplain	1.1	2:1	2.3	Remove drain tile and excavate to lower elevation/wetland plantings
TOTAL	-	4.1	-	14.2	-

TABLE 2					
Stream Mitigation Summary					
TYPE	LOCATION	LENGTH OF RESTORATION	MITIGATION RATIO	TOTAL MITIGATION CREDIT	TECHNIQUES
Alteration III /Enhancement II	On-site/southwest of Phase I along bank of South Mouse Creek	1,600	3:1	533	Buffer enhancement, bank stabilization, and in-stream habitat
Replacement/Restoration	Off-site/City of Cleveland – Fillauer Branch	1,527	1:1	1,527	Priority 2 restoration (Rosgen)
In-Lieu-Fee Payment or additional opportunities	Payment to the Tennessee Stream Mitigation Bank Program	1,317	1:1	1,317	\$200/L.F
TOTAL	-	-	-	3,377	-

2.2 Summary of Functions Lost and Gained

2.2.1 Functions Lost – Impact Site

For Phase I, the Wacker project is anticipated to impact approximately 3,377 linear feet of intermittent and perennial stream channel, approximately 4.1 acres of wetlands, and approximately seven acres of ponds. These impacts will occur primarily as a result of extensive site grading and the placement of fill material; however, impacts to one of the streams will result from encapsulating the stream channel. Impacted wetland features are primarily emergent linear wetlands with a few forested and scrub/shrub wetlands. Impacted streams range from *not impaired* to *severely impaired* according to habitat assessments conducted using the *Stream Mitigation Guidelines for the State of Tennessee*. Given the low quality of wetland features on-site and the impacts of livestock grazing and drainage manipulation to streams, the project is not expected to result in the loss of quality aquatic or terrestrial resources. The project is not expected to adversely affect water quality within the Hiwassee River watershed (HUC 08020002).

All appropriate and practicable steps will be taken to minimize the potential adverse impacts of the proposed fill discharge, and it is anticipated that following construction and compensatory mitigation, no long-term permanent degradation to the aquatic environment will occur.

The site design is not expected to provide any losses to threatened and/or endangered plant or animal species, as the current surface water features are considered to be of low-to-moderate quality and have previously been impacted by farming, ditch manipulation, and livestock grazing. No species are known to exist on the site, nor are their respective habitats in the immediate vicinity. The site and surrounding area is resource poor, consisting mostly of active farm land, commercial development, and scattered residential lots.

2.2.2 Functions Gained – Mitigation Sites

The proposed on-site stream mitigation project detailed in this report will meet the mitigation outlined in the *Stream Mitigation Guidelines for the State of Tennessee* (July, 2004). Mitigation will include the enhancement of 1,600 linear feet of South Mouse Creek removing invasive woody species, (autumn olive, privot) and supplementing tree and shrub plantings. Where needed, the bank along the Wacker Project parcel will be stabilized using bioengineering methods. In addition, in-stream habitat will be introduced in select areas at or below the ordinary high water mark of the Creek.

The Applicant will also conduct stream replacement and restoration on 1,400 linear feet of perennial stream within the City of Cleveland. The stream, Fillauer Branch, has been heavily impacted by urban development and high stormwater flows. Approximately 400 linear feet of the historical channel has been encapsulated within

a concrete box culvert. The remaining 1,000 feet has been severely altered by channel and bank erosion, sedimentation, and inadequate culvert sizing. This segment of the channel has been identified by Citizens and City engineering officials as subject to frequent flooding and very high flows during heavy rain events. **The Applicant is requesting that 1,527 linear feet of mitigation credit be given because the encapsulated portion of the channel will be increased by an additional 127 feet, increasing the total project reach from 1,400 linear feet to 1,527 linear feet.** The mitigation channel will be more sinuous than the existing channel, create a fully function floodplain, establish in-stream habitat features (such as pool-riffle complexes) that are currently lacking in the existing channel, and will provide for important depth and velocity heterogeneity needed for aquatic species typically found in headwater streams. These improvements to the headwaters of Fillauer Branch will greatly improve the overall streams morphological stability and ultimately decrease residential flooding and loss of property.

The proposed 14.2 acre wetland mitigation site is currently an active agricultural field with large swaths of hydric soils within the floodplain to South Mouse Creek. The existing grade will be lowered to the South Mouse Creek Reservoir normal pool elevation. This will allow an almost continuous source of hydrology during the growing season. Overland flow from the development site will also be directed to the wetlands. The restored wetland will be developed by removing field tiles and culverts and lowering the grade to intercept groundwater flows. In addition, historical streams that have been re-routed, straightened, and encapsulated will have their flow redirected to the wetland. The mitigation wetlands will provide an environmental benefit by restoring wetland habitat, which will support wetland plant and animal species and improve flood control and retention along South Mouse Creek.

2.3 Summary of Aquatic Resource Type and Function

At the request of the Applicant, Atwell conducted a wetland delineation of the entire subject property in September and November of 2008 and March of 2010. The delineation identified thirty (30) wetland areas totaling approximately 8.39 acres, nine (9) streams totaling approximately 8,130 linear feet and six (6) ponds totaling approximately 7.31 acres within the entire 564 acre property. Phase I contains three (3) streams totaling approximately 3,377-linear feet, nine (9) wetlands totaling approximately 4.1-acres, and four (4) ponds totaling approximately seven acres. Details of the delineation are included within the *Application for Section 404 and Section 401 of the Clean Water Act Authorization* report submitted on April 27, 2010.

In addition, Atwell conducted a stream assessment, in conjunction with TDEC's Department of Water Pollution Control Board (TDEC-DWPC) guidelines and protocols established by the United States Environmental Protection Agency (USEPA) for eight of the 10 stream channels located throughout the entire subject site in early April 2010. For the purpose of the permit authorization and for this document, only the three streams identified as Streams 1, 2 and 4 located within Phase I of the project area are presented in this document.

6.0 MITIGATION WORK PLANS

6.1 On-Site Wetland and Stream mitigation work plan

6.1.1 Wetland Creation Sites – Wetland Mitigation Areas #1, #2, and #3

The Wacker project is anticipated to impact approximately 3,377-linear feet of intermittent and perennial stream channel, approximately 4.1-acres of wetlands, and approximately seven-acres of ponds. Mitigation for the loss of 4.1-acres of emergent and scrub-shrub wetlands is proposed to occur at a ratio of four to one (4:1) for wetland creation to compensate for 3.0 acres of impacts. An additional 1.0 acre of wetland restoration will occur at a ratio of two to one (2:1). The wetland creation will occur in the northwestern corner of the site and near the southwest corner of the site, both within the floodplain of South Mouse Creek. Floodplain wetlands will be created. Wetland restoration will occur in the southern portion of the larger 564-acre parcel. The wetland mitigation areas are shown on the On-Site Wetland & Stream Mitigation Plan included in Appendix B

Mitigation Areas #1 and #2

Approximately 11.9 acres of floodplain wetland will be created along South Mouse Creek. This will be accomplished by lowering the existing grade to a contour elevation that closely approximates to the permanent pool elevation or normal water surface elevation of the South Mouse Creek. This elevation would be the bottom of the new wetland. A small berm will be constructed between the wetland and the ordinary high water mark of the Creek. This berm will be a maximum of 12 inches. The berm will assist in maintaining an inundated hydrologic regime during rainfall events. Runoff from the Wacker Development will flow down a relatively steep grade to a terraced riparian buffer before reaching the wetland. The final contour elevation of the wetlands will also be set at an elevation that receives infiltration from the Creek when it is at base flow. This elevation should ensure that even during dryer times of the growing season the wetlands will remain saturated. It is expected that the wetlands will be at their maximum hydrologic storage capacity during heavy and sustained rainfall events. Wetland development is expected to occur up to the 684 contour elevation on the extent of saturated and inundated areas. Hydrologic goals are to provide sufficient water to support saturated conditions with slight seasonal inundation. Significant inundation is not desirable for the planned scrub-shrub community

Existing soils in this area consist of Staser silt loam (Sh), which is non-hydric. This soil has a typical slope of 0-3 percent. Staser is typically found on flood plains within river valleys. This well drained soil consists of loamy alluvium derived from interbedded sedimentary rock. Water movement in the most restrictive layer is moderately high. Shrink swell potential is low. A seasonal zone of water saturation is at 42 inches during December, January, February, and March. Organic matter content in the surface horizon is low. Permeability is moderate or moderately rapid,

and runoff is slow. Although not hydric, this soil type has characteristics that aid in creating a saturated and seasonally saturated hydrologic regime. The incorporation of organic matter after wetland construction would aid in soil development. In addition, stockpiled hydric soil stored in upland areas of the Wacker site during grading activities will be spread at a depth of approximately six inches. This will aid in quicker plant root establishment.

Mitigation Area #3

Wetland restoration in this area will involve manipulation of existing topography and reestablishing hydrology to the existing hydric soils. An herbaceous wetland approximate 2.3 acres in size will be established. In order to reestablish an herbaceous community, reestablishment of hydrology and rehydration of the loamy soils is necessary.

Hamblen silt loam, 0 to 2 percent slopes (Ha), is the mapped soil for the wetland area. This moderately well drained soil consists of loamy alluvium derived from limestone, sandstone, and shale. Water movement in the most restrictive layer is moderately high. Shrink swell potential is low. This soil is occasionally flooded; however, it is not ponded. A seasonal zone of water saturation is at 30 inches during December, January, February, and March. Runoff is slow and permeability is moderate. In its current fallow farmed and drained state, this soil is dehydrated and porous. Restoring the hydrology and lowering the contour elevation should return this wetland to its historical state. This is proposed to be accomplished as follows.

The proposed wetland restoration area is adjacent to the convergence of two linear wetland drainage ditches. These ditches, labeled as Wetland DD and FF within the Wetland Delineation and Section 404/401 permit application, were historically mapped as intermittent channels. These two wetlands drain into another emergent wetland, Wetland EE, via six inch tiles. The water level in Wetlands DD and FF is at an approximately elevation of 689.5, which is effectively the ordinary high water level during normal conditions. The restored wetland will join with Wetland EE and add an additional 2.3 acres of herbaceous wetland.

Existing soils in the wetland mitigation area are hydric, but are in a porous condition due to the fact that they have remained drained for many years. In order to improve the hydrologic conditions within the area and create a saturated and seasonally inundated hydrologic regime, water needs to be captured and retained. Hydrologic goals are to provide sufficient water to support saturated conditions with slight seasonal inundation.

Two Agri-drains will be installed to maximize the hydrology within the wetland. One drain will be placed in the north portion of the wetland to control the inflow from Wetlands DD and FF. A second drain will be placed at the west end of the mitigation area to control outflow. Any water flowing out of the wetland will enter Wetland EE

and ultimately discharge to South Mouse Creek via an underground tile flowing west. See detail on Sheet One of the On-Site Mitigation Plans in Appendix B.

6.1.2 Bank Stabilization, Buffer Enhancement, and In-stream Habitat Improvement

The Applicant is proposing to conduct natural and bioengineered bank stabilization, supplement protected buffer zones with native woody plantings, and enhance in-stream habitat through the use of physical structures and removal depositional point bars. This work will be conducted along a 1,600 linear foot corridor between the ordinary high water mark of South Mouse Creek and Wetland Mitigation Area #2. A minimum buffer of 50-foot will be maintained between the Creek and the wetland.

There are many long term benefits derived from the efforts to restore streams, such as:

- Stabilization of banks against erosion
- Development of instream habitat features
- Vegetation of corridors with native, wildlife friendly plants
- Restoration of sediment and nutrient storage

The restoration techniques proposed for streams would provide a stable and functional stream channel and all the desirable channel habitat “features” currently found within the streams.

6.1.3 Vegetation Plan

Significant planting of native trees and shrubs along the South Mouse Creek riparian corridor is planned. Trees and shrubs will be slightly staggered to increase shade coverage. The shrubs will be interspersed throughout the trees. These densities are spaced to allow for sufficient room for plant growth over time, but dense enough to encourage habitat recreation.

Species that have been selected for planting are native to the region and its temperate climate. Value to wildlife was also considered when preparing the plant species list. Disturbed areas, such as side slopes, will be seeded with a rapidly germinating annual cover mixture to provide erosion control and prevent the establishment of undesirable species. Planting will take place in the first growing season following construction to allow for the most optimal conditions for establishment. All plant materials will be inspected prior to planting and those showing signs of stress will be replaced. Plantings will be periodically inspected to ensure success.

On the basis of the above criteria, a list of proposed species to be planted along the stream corridor was developed and is included in Table 7 below. Table 8 lists the proposed species to be planted within the wetland creation areas Mitigation Area #1 and #2. Table 9 lists the species proposed for planting in the restored wetland Mitigation Area #3. Final planting quantities and species types will be dependent on market availability at the time of planting.

TABLE 7
Proposed Species for Stream Enhancement Planting (South Mouse Creek)

BOTANICAL NAME	COMMON NAME	PLANT MATERIAL TYPE	DENSITY
<i>Cornus amomum</i>	Silky Dogwood	Live Branches	1 rows with 4' spacing
<i>Salix nigra</i>	Black willow	Live Branches	1 rows with 4' spacing
<i>Hamamelis virginiana</i>	American Witch hazel	3-gallon	8x8' centers
<i>Betula nigra</i>	River Birch	3-gallon balled & burlap	8x8' centers 2 per pool
<i>Platanus occidentalis</i>	Sycamore	3-gallon balled & burlap	8x8' centers 2 per pool
<i>Cercis canadensis</i>	Eastern redbud	3-gallon	8x8' centers
<i>Prunus serotina</i>	Black cherry	3-gallon	8x8' centers
<i>Juglans nigra</i>	Black walnut	3-gallon	10x10' centers
<i>Liriodendron tulipifera</i>	Tulip tree	3-gallon	10x10' centers

TABLE 8
Proposed Species for Mitigation Wetland Planting (Mitigation Area #1 and #2)

BOTANICAL NAME	COMMON NAME	INDICATOR STATUS
Shrubs		
<i>Aronia arbutifolia</i>	Chokeberry	FACW
<i>Cephalanthus occidentalis</i>	Buttonbush	OBL
<i>Ilex verticillata</i>	Winterberry	FACW
<i>Itea virginica</i>	Virginia sweetspire	FACW
<i>Spiraea latifolia</i>	Meadowsweet	FACW
<i>Spiraea tomentosa</i>	Hardhack	FACW
<i>Rhododendron viscosum</i>	Swamp azalea	FACW
<i>Rosa palustris</i>	Swamp rose	FACW
<i>Viburnum nudum</i>	Possumhaw	FACW
Herbs		
<i>Asclepias incarnata</i>	Swamp milkweed	OBL
<i>Hibiscus moscheutos</i>	Rose Mallow	OBL
<i>Impatiens capensis</i>	Jewelweed	FACW
<i>Iris virginica</i>	Blue flag iris	OBL
<i>Lobelia cardinalis</i>	Cardinal flower	FACW
<i>Rudbeckia laciniata</i>	Cutleaf coneflower	FACW

TABLE 9 Proposed Species for Mitigation Wetland Planting (Mitigation Area #3)		
BOTANICAL NAME	COMMON NAME	INDICATOR STATUS
Grasses		
<i>Chasmanthium latifolium</i>	River oats	FAC
<i>Panicum virgatum</i>	Panic Grass	FAC
Sedges and Rushes		
<i>Carex lurida</i>	Lurid sedge	FAC
<i>Carex crinita</i>	Fringed sedge	FACW
<i>Juncus effusus</i>	Soft rush	FACW
<i>Scirpus cyperinus</i>	Woolgrass	OBL

6.1.4 Site Preparation

6.1.4.1 Construction Techniques and Equipment

The implementation of the stream enhancement and wetland mitigation will utilize large earthmoving equipment to excavate the wetlands, assist in bank stabilization, and place any in-stream habitat structures needed.

6.1.4.2 Storm Water Pollution Prevention Plan and Best Management Practices

Erosion and sediment control will be provided as part of the construction of the various mitigation activities in accordance with the State of Tennessee's Authorization for Stormwater Discharges, prepared under the National Pollutant Discharge Elimination System (NPDES). Both temporary and permanent seeding would be implemented as required under NPDES guidelines until buffer and wetland mitigation vegetation was planted and established.

All sediment controls that are utilized will be kept in place during construction activities and until the site has been stabilized. All areas disturbed during construction will be seeded to encourage the establishment of a vegetative cover and decrease erosion potential.

6.1.4.3 Required Construction Permits

All permits required from Bradley County and a Notice of Intent (NOI) from the TDEC will be obtained as required prior to construction. The NOI, along with a completed Stormwater Pollution Prevention Plan, is required under the NPDES program.

6.2 OFF-SITE STREAM MITIGATION WORK PLAN

6.2.1 Proposed Stream Design

A portion of a perennial headwater stream, Fillauer Branch, will be restored. The existing impacted stream is a small headwater channel that appears to have been previously hydromodified through channelization. The upstream reach has been encapsulated within a concrete box culvert for approximately 400 feet. Inadequate culvert sizing and a “flashy” urban watershed contributing excessive amount of stormwater discharge contribute to the channel modifications. Since the site is remote from the project site, a separate Notice of Intent (NOI) NPDES permit application will be prepared and submitted, pursuant to TDEC requirements, for the proposed mitigation work.

The proposed mitigation includes approximately 1,527 linear feet of relocated stream channel that has been designed according to the principles of natural stream channel design, as detailed by Dave Rosgen of Wildland Hydrology. The method by which this linear footage will be achieved is described below.

The stream has also been designed using the criteria outlined in the *Stream Mitigation Guidelines for the State of Tennessee* (July, 2004). According to this guidance, this mitigation activity would be classified as a combination of replacement and restoration. The requirements for each are listed below.

Replacement

- Removal of existing culverts and/or concrete lined channels
- Restoration of channel to a natural, stable channel based on reference conditions
- Construction of appropriate channel pattern, profile, and dimensions
- Riparian zone re-establishment

Restoration

- Returning significantly degraded, disturbed, or altered streams, riparian zone, and flood-prone area to natural stable condition
- Restoration of channel to a natural, stable channel based on reference conditions
- Construction of appropriate channel pattern, profile, and dimensions
- Riparian zone re-establishment

6.2.2 Relocated Stream Specifications and Characteristics

The plan for stream mitigation consists of relocating a severely altered perennial headwater stream. Due to the existing topography of the site, excavation is required to create the relocated stream valley and channel. In addition, the channel flows through two culverts along the restoration reach. One culvert flow beneath railroad tracks and the second beneath a residential street. Replacement and resizing of the second culvert will be required during construction activities.

The alignment of the relocated stream corridor and the designed sinuosity of the channel will allow for an increase of the total length of the stream, replacing 1,400 linear feet of impacted and impaired stream channel with approximately 1,527 linear feet of replaced/restored and geomorphically stable channel. The restored channel will include features associated with the principles of natural channel design and fluvial geomorphology, including pool/riffle sequences and a connection to the adjacent floodplain. The restoration will also include a planted riparian corridor.

A properly sized channel with a stable meander pattern is capable of reducing the flow energy that can cause excessive bank erosion while also providing for entrainment of sediments that would otherwise cause aggradation of the stream channel. The materials used to create the riffles and other placed material intended as substrate must be sized based on the anticipated stream power within the channel, creating an equilibrium that will sustain the channel shape, size and gradient.

6.2.2.1 Stream Restoration Categorization

There are several different approaches described for the restoration or stabilization of incised and degraded channels, categorized as Priority 1 thru 4. Only Priority 1 or 2 would constitute restoration for the purpose of providing mitigation. In general terms, Priority 1 constitutes raising the stream channel for better connection to the adjoining perched floodplain. Priority 2 constitutes lowering of the floodplain for better connection to the incised channel. In either case, the stream channel, itself, should be restored to a stable geomorphic condition.

Since the proposed mitigation is located in an urban setting with construction constraints and the horizontal alignment of the stream is principally dictated by the impact activity, it is difficult to identify this project in the terms of these categories, although it most closely resembles a Priority 2 restoration approach. The vertical alignment of the stream channel is dictated by the tie-in to the existing channel at the upstream and downstream ends of the project. The existing channel at the downstream end of the mitigation corridor has been previously modified and is incised. To minimize the depth of excavation required for the relocated channel, the gradient of the channel was kept as minimal as possible (average slope of 0.3 %) beginning at the upstream end.

6.2.2.2 Stream Restoration Classification

Rosgen's stream classification system is widely accepted as a means of communicating the essential physical components of stream channel, valley and bedload material. The classification system is used to distinguish between different stream types, with characterizations including width-to-depth and entrenchment ratio that signify the stability of the stream channel. Dominant in eastern Tennessee with gently sloped terrain and low-gradient channels, are both 'C' and 'E' classification channels.

6.2.3 Vegetation Plan

Significant planting of native trees and shrubs along the restored channel riparian corridor is planned. Trees and shrubs will be slightly staggered to increase shade coverage. The shrubs will be interspersed throughout the trees. These densities are spaced to allow for sufficient room for plant growth over time, but dense enough to encourage habitat recreation.

Species that have been selected for planting are native to the region and suitable for the temperate climate. Value to wildlife was also considered when preparing the plant species list. Disturbed areas, such as side slopes, will be seeded with a rapidly germinating annual cover mixture to provide erosion control and prevent the establishment of undesirable species. Planting will take place in the first growing season following construction to allow for the most optimal conditions for establishment. All plant materials will be inspected prior to planting and those showing signs of stress will be replaced. Plantings will be periodically inspected to ensure success.

On the basis of the above criteria, a list of proposed species to be planted along the stream corridor was developed and is included in Table 10 below. Final planting quantities and species types will be dependent on market availability at the time of planting.

<p align="center">TABLE 10 Proposed Species for Stream Replacement/Restoration Planting (City of Cleveland)</p>		
BOTANICAL NAME	COMMON NAME	PLANT MATERIAL TYPE
Large Trees*		
<i>Salix nigra</i>	Black willow	Live Branches
<i>Hamamelis virginiana</i>	American Witch hazel	3-gallon
<i>Betula nigra</i>	River Birch	3-gallon balled & burlap
<i>Platanus occidentalis</i>	Sycamore	3-gallon balled & burlap
<i>Cercis canadensis</i>	Eastern redbud	3-gallon
<i>Prunus serotina</i>	Black cherry	3-gallon
<i>Juglans nigra</i>	Black walnut	3-gallon
<i>Liriodendron tulipifera</i>	Tulip tree	3-gallon
Small Trees*		
<i>Carpinus caroliniana</i>	Ironwood	Live Branches
<i>Cornus amomum</i>	Silky Dogwood	Live Branches
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	Live Branches
<i>Alnus serrulata</i>	Tag Alder	Live Branches

*Planting densities will be determined once additional coordination with the City of Cleveland Urban Forester has been conducted.

6.2.4 Hydrology

6.2.4.1 Anticipated Hydrologic Changes

The hydrologic source and hydroperiod pertaining to the stream mitigation is based on the existing watersheds in the area. Within the watershed that is tributary to the stream mitigation, land use is urbanized. As part of the mitigation project, the City of Cleveland intends to design regional detention basins off-line, but in the newly constructed floodplain of the channel. One of the primary purposes for selecting this segment of channel for mitigation is the flooding that occurs along the project reach and further downstream. The City believes this is primarily a result of the hydromodified channel within the mitigation reach and further upstream. With the proposed stream restoration stabilizing the channel and restoring the active floodplain to adequate size, the City believes flooding can be reduced. However, given the urban nature of the watershed, the detention basins will add an additional level of protection to private and public property that could still result in flooding during heavy and sustained rainfall events. The basins are being designed to actively be a part of the new floodplain.

6.2.4.2 Existing Hydrologic Monitoring Data

No known long-term monitoring data exist related to either surface water runoff or groundwater conditions within the immediate project area.

6.2.5 Sustainability of Design

6.2.5.1 Stream Components

The design for the relocated stream channel specifically is meant to create natural and sustainable channel flow that is typical of urbanized headwater streams and restore the stream to a natural state with stream habitat features including tree plantings for shade and added bank stability. The proposed channel restoration will require no maintenance in that the design accounts for both the lateral and vertical stability of the channel. The proposed channel will have a large floodprone area that will ensure more than adequate conveyance of stormwater runoff from the watershed area while also not creating erosive forces within the channel.

6.2.5.2 Sustainability of Water Source (Water Budget)

The existing flow conditions for the unnamed tributary will be maintained as part of the stream relocation project. The stream restoration proposal does not change the drainage area of the existing channel.

6.2.6 Buffers

The stream mitigation will be contained within a planted, vegetated corridor that varies from 25 to 75 feet in width, depending on the constraints within the corridor.

6.2.7 Site Preparation

6.2.7.1 Construction Techniques and Equipment

The implementation of the stream relocation will utilize small earthmoving equipment to construct the channel and the in-channel features. Larger earthmoving equipment will be used to excavate the valley of the stream relocation corridor prior to the construction of the channel. The valley excavation and channel construction will occur off-line from the existing watercourse and will be isolated from the flows in that existing channel by maintaining an earthen plug at the upstream end. An earthen plug will also be maintained at the downstream end of the relocated channel during construction to prevent sediment from the project corridor from getting into the existing downstream channel. The newly constructed channel will be fully stabilized prior to introduction of flows. This construction sequence will minimize risk of sedimentation to the downstream existing channel. Once work is completed, the old channel will be backfilled.

6.2.7.2 Storm Water Pollution Prevention Plan and Best Management Practices

Erosion and sediment control will be provided as part of the construction of the various mitigation activities in accordance with the State of Tennessee's Authorization for Stormwater Discharges, prepared under the National Pollutant Discharge Elimination System (NPDES). Both temporary and permanent seeding would be implemented as required under NPDES guidelines until buffer and wetland mitigation vegetation was planted and established.

1. As mentioned previously, the stream relocation will be constructed offline from the existing channel and isolated from flow in that channel by maintaining earthen plugs at the upstream and downstream ends. Only once the relocated stream channel has been stabilized will it become "active".
2. As part of the construction of the stream valley, aggregate check dams will be placed intermittently to disrupt any flow attributed to rainfall runoff that accumulates within the corridor, preventing the concentration of flows that would exacerbate erosion.
3. Should dewatering of the excavated stream valley become necessary during construction, then the discharge water would be filtered through a dewatering sediment trap before allowing it to leave the project area.
4. Both temporary and permanent seeding would be implemented as required under NPDES guidelines.

All sediment controls that are utilized will be kept in place during construction activities and until the site has been stabilized. All areas disturbed during

**Attachment E – Planned Elements for Erosion Prevention and Sediment Control
From the Applicant’s Storm Water Pollution Prevention Plan**

NOTE: This SWPPP is for the Mass Grading portion of the Project. This SWPPP will be updated as the details for the Building Phase of the project are completed. Also disturbed areas will be in increments of no more than 50 acres at one time.

1.7 Receiving Waters

The site drains to South Mouse Creek. South Mouse Creek is listed on the 303d list as being impaired due to siltation, habitat alterations, and E. Coli. South Mouse Creek discharges into the Hiwassee River at mile marker 15.48.

1.8 Potential Sources of Pollution

Potential sources of sediment to stormwater runoff:

- Clearing and Grubbing Operations
- Grading and Site Excavation Operations
- Vehicle Tracking
- Topsoil Stripping and Stockpiling
- Landscaping Operations

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Combined Staging Area
- Materials Storage Area
- Construction Activity-Paving (Asphalt or Concrete)
- Concrete Washout Area

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

2.1 Planned Elements for Erosion Prevention and Sediment Control (EPSC)

All construction activity shall comply with the requirements for erosion prevention and sediment control as established in the contract documents. The intent of the EPSC measures is to minimize the amount of sediment and pollutants that exit the site due to construction activity and, thereby, minimize the amount of such material that reaches waterways, wetlands, public improvements and the property of others. These measures are intended to require that temporary and permanent measures be taken for all construction activity that require or result in the disturbance of the surface of soil and/or vegetation.

In order to meet the water quality requirements for this project, erosion prevention is emphasized over sediment control. These techniques are especially important on larger construction sites immediately before and during the rainy portion of the year. Erosion prevention measures are designed to prevent soil particles from being dislodged by the force of water and wind. These measures include such things as the timing of construction work,

limiting the disturbance of ground cover, and protective matting. Sediment control measures are designed to capture soil particles after they have been dislodged and are used to retain the soil particles on site. These measures include such things as silt fences and settling basins. Both erosion prevention and sediment control have appropriate uses and both will be used to achieve the goal of protecting and improving stream water quality.

The implementation of these EPSC plans and construction, maintenance, replacement and upgrading of these EPSC measures is the responsibility of the Contractor until all construction is completed and approved by the Owner, local jurisdictions, and regulatory agencies.

A. Minimize Clearing and Grading

Construction site operators shall avoid clearing/grading operations within stream buffers, any wetlands or any other environmental features indicated, unless otherwise noted and approved. The contractor is to mark the areas for clearing and the Owner is to verify the same prior to the start of any clearing work. The clearing operations could be phased to coincide with the overall phasing for the site grading. The Contractor is to submit a phasing plan at the pre-construction conference for approval by the Owner. This phasing plan will be reviewed and updated weekly with an Engineer to account for differing conditions encountered during construction to assure compliance.

B. Protect Waterways

Clearing/grading activities should be as minimal as possible and silt fencing and/or earthen dikes should be installed near or adjacent to the creek. A 60-foot average width buffer along each side of South Mouse Creek shall be clearly marked/established and maintained throughout construction activities. This no disturbance buffer shall be a minimum of 50-foot setback from the top of bank and an average width of 60-feet over the entire length along the creek. Local jurisdictional requirements for buffer widths shall govern if they are more stringent.

Stream Mitigation will be put into effect for the restoration, enhancement, and preservation of streams and their associated floodplains for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. This is designed to restore, enhance, and maintain stream uses that are adversely impacted by authorized activities.

C. Phased Construction

1. Demolish items as called for on plans and remove trash existing on site.
2. Installation of EPSC Measures
 - a) Establish Construction Entrances/Exits
 - b) Establish Contractor Staging, Concrete Washout areas, and Haul Routes
 - c) Establish Creek Buffers
 - d) Construct Perimeter Controls – Silt Fences, Sediment Traps, Filter Rings
 - e) Construct Sediment Basins and Install Outlet Structures

- f) Construct Diversion Berms to Direct Stormwater Away From Construction Project.
 - g) Continue Constructing Interior Controls as Construction Progresses
 - h) Contractor to Continue Maintenance on Perimeter and Interior Controls (including all sediment removal in ponds as necessary during construction)
 - i) Establish Permanent Vegetation and Stabilize (as soon as allowable).
3. Grading/Establishment of Wetlands/Floodplain Compensation
 - a) Construction of Wetlands 1
 - b) Construction of Wetlands 2
 - c) Construction of Wetlands 3
 - d) Construction of Wetlands 4
 4. Fill Placement Section 1 (cut area TBD based on soil/weather conditions)
 5. Fill Placement Section 2 (cut area TBD based on soil/weather conditions)
 6. Fill Placement Section 3 (cut area TBD based on soil/weather conditions)
 7. Relocate Stream per Approved ARAP
 8. Fill Placement Section 4 (cut area TBD based on soil/weather conditions)
 9. Fill Placement Section 5 (cut area TBD based on soil/weather conditions)

D. Immediately Stabilize Exposed Soils

Exposed soils shall be stabilized within two weeks of the cessation of work within that area. The long-term goal is to establish permanent vegetation after each phase of construction; however, mulch, hydroseeding, or other means of soil coverage may be used to protect exposed soil while facilitating vegetation growth. It will likely be necessary for the Contractor to temporarily stabilize borrow and fill areas at various stages of cut/fill placement if work is discontinued or delayed.

E. Protect Steep Slopes and Cuts

Cutting and grading of steep slopes will be required in some areas. In areas that might pose a problem, the water flowing onto these slopes shall be redirected with diversions or slope drains. Silt fence, if used, at the top and toe of these slopes shall be anchored. Where steep slopes may exist, jute netting and erosion control blankets may be used in conjunction with seeding or mulching.

F. Install Perimeter Controls to Filter Sediments

Silt fence shall be properly installed around the perimeter of the construction site. A fiber roll on the inside of the silt fence shall be used to provide additional filtration and provide protection/reinforcement to the disturbed area along the backfilled toe of the silt fence from the fence installation. Silt fence will be doubled along areas adjacent to South Mouse Creek. In areas of heavy flows or breach concern, a properly sized earthen dike

with a stabilized outlet shall be created. In addition, all drain pipes receiving stormwater flows from the construction site shall be protected with adequate inlet controls. Sediment Basin/Trap discharges shall be directed through a pipe or a well-grassed or lined channel. Velocity dissipation devices shall be located at the discharge locations and along the length of any outfall channel.

G. Employ Advanced Sediment Settling Controls

Sediment basins shall be created where needed and the intent is that the discharge from the basins should be non-turbid. The use of floc logs, skimmers or multiple cell construction of basins shall be utilized where applicable to assist in maximizing sediment drop-out prior to discharge.

H. BMPs

An array of BMPs is intended to be available to the Contractor to allow them all opportunity to be successful in their objectives. The following are intended to be made available to the Contractor and details are also included in the construction plan set:

1. Check Dams
2. Storm Drain Inlet Protection/Outlet Protection
3. Buffer Zones
4. Construction Exit
5. Temporary Sediment Basins
6. Diversion Channels
7. Sediment Traps
8. Silt Fence
9. Temporary Slope Drains
10. Erosion Control Matting
11. Stabilization with Permanent Vegetation
12. Polymer Enhanced BMPs

I. Trained Stormwater Site Plan Implementation

The Contractor shall employ an adequately trained staff to monitor the use of and the effectiveness of sediment and erosion control devices throughout the duration of construction for the project. Weekly meetings and site inspections by Atwell will be scheduled to provide opportunities for discussions concerning the effectiveness of utilized BMPs. The Contractor will inspect 100% of installed measures twice a week, at least 72 hours apart, and within 24 hours of any .5 inch or greater rainfall event.

J. Control Waste at the Construction Site

The Contractor shall provide a report that describes the construction site waste at the site and how that waste will be controlled/removed from the site and properly disposed of to minimize adverse impacts to water quality. The Contractor's plan shall also include

procedures described to pick up exposed litter, debris, and chemicals before anticipated storm events.

K. Inspect and Maintain BMPs

The Contractor shall provide a report that describes the construction site operator's BMPs, inspection and maintenance practices, and who will inspect the site and how often to meet permit requirements. Inspection forms shall be kept up to date and on the project site. Inspections and weekly certifications are to be completed in accordance with requirements outlined in Section 4 of this SWPPP. The Contractor will inspect 100% of installed measures twice a week, at least 72 hours apart, and within 24 hours of any .5 inch or greater rainfall event.

Upon inspection of EPSC devices (i.e. sediment traps, silt fences, sediment basins, etc.), the contractor shall note the accumulation of sediments captured and remove as necessary to maintain proper function. Sediments must be removed when design capacity has been reduced by 50%. Removed sediments shall be spread and distributed up gradient from appropriate EPSC measures and temporarily stabilized if necessary. Removed sediments from EPSC measures shall not be allowed to leave the construction site.

L. Removal of Off-Site Accumulations of Sediments

In the event sediment escapes the construction site, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize offsite impacts (e.g. fugitive sediment that has escaped the construction site and has collected in a street must be removed so that it is not subsequently washed into storm sewers and streams by the next rain and/or so that it does not pose a safety hazard to users of public streets). Permittees shall not initiate remediation/restoration of a stream without consulting the division first. This permit does not authorize access to private property. Arrangements concerning removal of sediment on adjoining property must be settled by the permittee with the adjoining landowner, TVA.

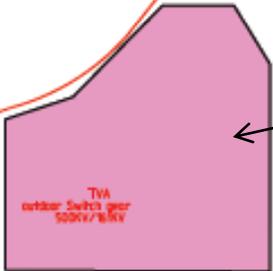
M. General Erosion and Sediment Control Notes:

1. The contractor shall provide a gravel construction entrance(s) at a location(s) approved by Atwell. Stabilized gravel construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures may be required to ensure that all paved areas are kept clean for the duration of the project.
2. The contractor shall properly maintain erosion prevention and sediment control devices and techniques until all disturbed soil areas are permanently stabilized by the establishment of landscaping, grass, mulching, or otherwise covered and protected from erosion. EPSC measures shall be kept in place until permanent ground cover is established.

3. The Contractor shall minimize dust to the extent practicable, using appropriate measures approved by Atwell.
4. The Contractor shall route all sediment laden water from construction operations through settling basins, filtration facilities, or other treatment facilities in an approved manner to reduce the sediment load prior to being discharged.
5. No person shall cause any substantial increase in turbidity in any drainage course or waterway except as approved under issued permits. Turbidity monitoring shall be in effect throughout the duration of the project. Samples will be taken weekly and within 24 hours of a significant rain event at locations indicated on the Drainage Basin Plan. Turbidity will be measured upstream and downstream of discharge locations to verify no significant changes due to site discharges.
6. In the event ground disturbing activities reveal soils contaminated with suspected hazardous materials or chemicals, the contractor shall immediately stop work, ensure no contaminated material is hauled or tracked from the site, remove the work force from the immediate vicinity of the contaminated area, leaving all machinery and equipment, and secure the area until such time as the contractor has been lawfully relieved of that responsibility. The contractor shall notify the Owner of the situation upon its discovery.
7. Prior to any ground disturbing activity on the site, Erosion Prevention and Sediment Control (EPSC) measures must be in place and approved by Atwell and the Bradley County Engineering Department.
8. EPSC measures must be constructed in conjunction with, and prior to, all clearing and grading activities and in a manner as to ensure that sediment and sediment-laden water does not enter the drainage system, roadways, or violate applicable water quality standards.
9. EPSC measures shown on the plans are minimum requirements for anticipated site conditions. During the construction period, the EPSC measures shall be upgraded as required by the Contractor to ensure that sediment and sediment-laden water does not leave the site.
10. EPSC measures shall be inspected twice a week (or reference Section 4 for more information) by the permit holder; however, Contractors will be required to maintain as often as necessary to ensure their function.

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Attachment F – Conceptual Plans of the Proposed Manufacturing Facility



24-Acre TVA Substation Site

Switchgear #1 161-kV

Separation Distillation

Substation #1 13,8-kV

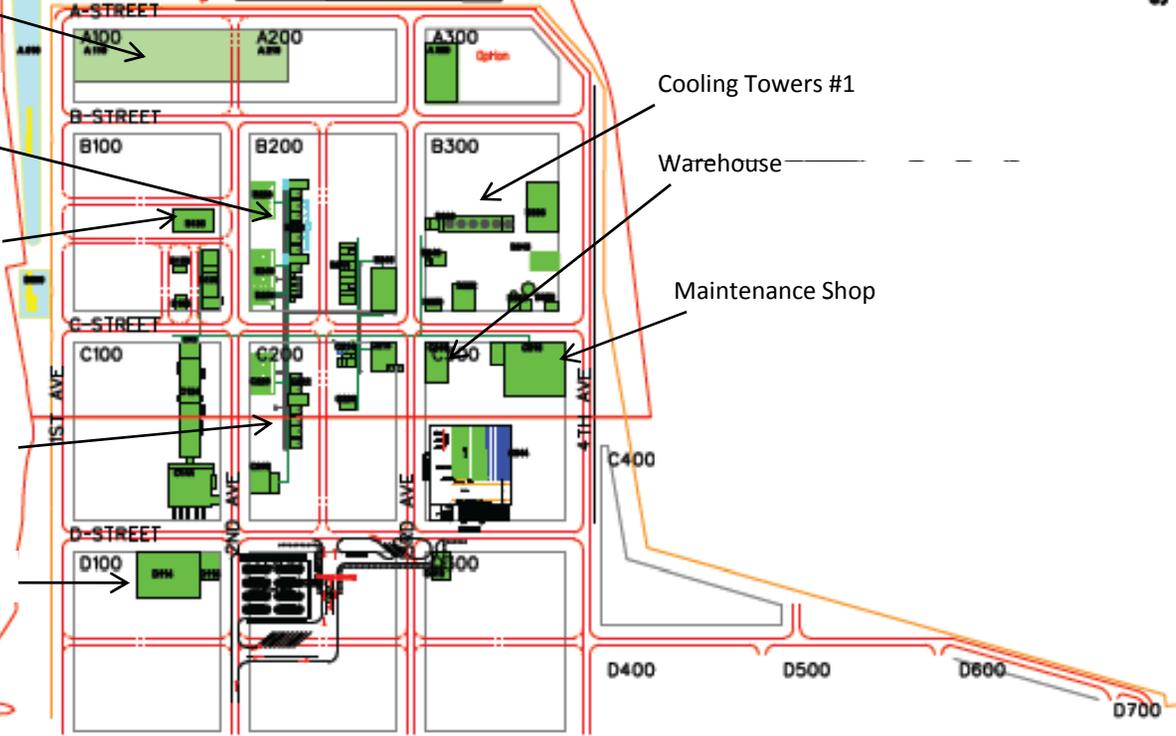
Purification Distillation

Administrative Building

Cooling Towers #1

Warehouse

Maintenance Shop



Stand 2010.06.19

NO. 1	DATE	BY	REVISION
1	2010.06.19	W. J. ...	Initial Design
2	2010.06.19	W. J. ...	Final Design
3	2010.06.19	W. J. ...	As-Built
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Attachment G – Public Notices



US Army Corps
of Engineers®

Public Notice

Public Notice No. 10-14

Date: July 14, 2010

Nashville District

Application No. 2010-00404

Expires: August 14, 2010

Please address all comments to: Nashville District Corps of Engineers,
Regulatory Branch (Attn: Lisa Morris), 3701 Bell Road, Nashville, TN 37214

JOINT PUBLIC NOTICE
US ARMY CORPS OF ENGINEERS
TENNESSEE VALLEY AUTHORITY

SUBJECT: Proposed Deposit of Fill Material into Streams and Wetlands Associated with a 273-acre Industrial Development Site Adjacent to South Mouse Creek Mile 1.5, Right Bank, Hiwassee River Mile 15.5, Left Bank, Bradley County, TN

TO ALL CONCERNED: The project described below has been submitted for a Department of the Army (DA) permit pursuant to Section (§) 404 of the Clean Water Act (CWA) and Tennessee Valley Authority (TVA) easements, storm water discharges, and land use approval(s) pursuant to §26a of the TVA Act.

The applicant's proposed actions, subject to §26a approval and TVA land use approval, include fill placement below the 500-year floodplain, encapsulation of a perennial stream, creation of four storm water discharges, on-site and off-site stream and wetland mitigation activities, and vegetation management on TVA property.

Before a DA permit can be issued, certification must be provided by the state of Tennessee, Department of Environment and Conservation (TDEC), Division of Water Pollution Control, pursuant to §401(a)(1) of the CWA, that applicable water quality standards would not be violated. TDEC is currently advertising the proposed action on their website at <http://state.tn.us/environment/wpc/ppo/arap/NRS10.110>.

APPLICANT: Wacker Polysilicon North America, LLC
3301 Sutton Road
Adrian, MI 49221-0397

LOCATION: South Mouse Creek Mile 1.5, Right Bank, Hiwassee River Mile 15.5, Left Bank, Chickamauga Reservoir, Bradley County, TN. TVA Tract# GIR-7647F; RLR 190449. Quad – Charleston, TN 119-SE; lat 35.2968, long -84.7987. HUC 08020002. The project area is located northeast of the City of Cleveland. It is bordered to the north by Old Lower River Road, to the south by South Mouse Creek Road and to the west by South Mouse Creek. McBryant Road extends north/south through the central portion of the applicant's property.

File No. 2010-00404**Public Notice 10-14**

DESCRIPTION: The applicant's site preparation would involve grading activities that would displace approximately 4 million cubic yards of fill and would result in unavoidable impacts to 4.1 acres of wetlands, 3,377 linear feet of streams, and 7 acres of agricultural ponds on their 273-acre property. The grading and fill activities would serve to level the project site in order to construct a manufacturing facility that would produce hyperpure polycrystalline (polysilicon) for the solar cell industry. Specifically, construction would include a main plant building, several buildings for support processes and warehousing, an administrative office building, access roads, and above and below ground supply lines associated with operations. The proposed project would be incentivized through the American Recovery and Reinvestment Act, which is administered by the U.S. Department of Energy.

The current land use of the property is pasture, sparse scattered woodlots that were previously used for farming, and livestock grazing. The wetland communities on the property are herbaceous dominated by boxelder, green ash, black willow and American elm. The chart below describes the anticipated impacts, see also Exhibit C:

Site Number	Latitude	Longitude	Cowardin Class	Areas Impacted
Wet A	35.30414	-84.7928	PEM	1.57 acres of 1.57 acres
Wet B	35.30477	-84.7907	PSS	0.07 acre of 0.18 acre
Wet E	35.3019	-84.80079	PFO	0.14 acre of 0.14 acre
Wet F	35.30414	-84.79643	PEM	1.65 acres of 3.33 acres
Wet G	35.29405	-84.79664	PEM	0.13 acre of 0.13 acre
Wet H	35.3006	-84.80161	PEM	0.10 acre of 0.30 acre
Wet M	35.29446	-84.79321	PEM	0.29 acre of 0.29 acre
Wet O	35.29375	-84.79783	PEM	0.10 acre of 0.10 acre
Total Wetland Impacts				4.05 acres of 6.04 acres
Stream 1	35.3030	-84.79312	Perennial	2,659 LF ¹ of 3,319 LF
Stream 2	35.30045	-84.79169	Intermittent	70 LF of 684 LF
Stream 4	35.298	-84.80274	Intermittent	648 LF of 853 LF
Total Stream Impacts				3,377 LF of 4,856
Pond 1	35.29542	-84.79669	POW	5.00 acres of 5.00 acres
Pond 5	35.29697	-84.80105	POW	1.53 acres of 1.53 acres
Pond 6	35.29654	-84.80026	POW	0.25 acre of 0.25 acre
Total Pond Impacts				6.78 acres of 6.78 acres

¹LF = linear feet

File No. 2010-00404

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Related Construction Activities: In order to provide power to the planned facility, TVA is proposing to construct and operate a new substation located in the northern portion of the property along Old Lower River Road, along with 2.5 miles of parallel 500-kV transmission line on a 300-foot wide right-of-way, and two short 161-kV transmission line segments that would connect the new 500-kV substation to the applicant's planned 161-kV substation.

The Olin Chlor Alkali Products Corporation (OLIN), a chemical manufacturing facility adjacent to the site, would supply a local source of chlorine and other chemicals necessary for production. In order to operate the facility, the applicant would require a non-consumptive water intake supplying approximately 2000 gallons of water per minute. The applicant has proposed upgrading a nearby water intake owned by OLIN at Hiwassee River Mile 16.8, Left Bank, for intake of the applicant's water and constructing a new outfall to the Hiwassee River nearby for discharge of the treated process and cooling waters (along with trace amounts of chlorine), but the applicant's final plans for the water intake and outfall are still under development.

The Tennessee Department of Transportation would close McBryant Road and construct a new, wider road to service the proposed facility and other industrial traffic, with the added benefit of alleviating local truck traffic through nearby Charleston. Preliminary engineering has begun on the planned road from Lauderdale Memorial Highway to Old Lower River Road. The road would provide direct access with US Interstate 75, allowing larger tankers to bypass the town of Charleston. The road would be constructed on about 6 acres of the applicant's property.

General plans of the proposed work are attached. Copies of more detailed plans may be viewed or obtained by contacting this office.

Proposed Mitigation: Impacts to streams and wetlands would be mitigated by the applicant through on-site mitigation activities for wetland and stream impacts, along with off-site stream mitigation in the City of Cleveland.

Mitigation for the loss of 4.1-acres of emergent and scrub-shrub wetlands is proposed to occur at a ratio of four to one (4:1) for wetland creation to compensate for 3.0 acres of impacts. An additional 1.0 acre of wetland restoration would occur at a ratio of two to one (2:1). The wetland creation would occur in the northwestern corner of the project area and near the southwest corner of the site, both within the floodplain of South Mouse Creek. Floodplain wetlands would be enhanced and/or created. Wetland restoration would occur in the southern portion of the project area.

On-site stream mitigation would occur at a ratio of three to one (3:1) and would consist of stabilizing and enhancing 1,600 linear feet of stream bank and buffer zones along South Mouse Creek. Off-site stream mitigation would include replacement and restoration of 1,400 linear feet in two sections of Fillauer Branch, a tributary to South Mouse Creek located in downtown Cleveland. This component of the stream mitigation would actually restore 1,527 linear feet at a ratio of one to one (1:1). An additional 400 linear feet would result from removing a straight reach of the stream from a culvert and adding sinuosity.

File No. 2010-00404
Public Notice 10-14

The remaining 1,210 linear feet of required mitigation would be compensated for by the purchase of credits from the State of Tennessee In-Lieu-Fee Program at a one-to-one (1:1) ratio, or alternatively, an additional candidate site in the appropriate watershed can be identified and meets TDEC approval for off-site mitigation.

Mitigation would be required to meet success criteria, and monitored with annual reports submitted to both this office and TDEC semi-annually by the applicant for a period of five years. In the event that the wetland areas do not initially sustain the anticipated hydrologic and vegetative qualities, failed plants would be replaced (to ensure a 75% vegetation survival rate) and if needed, topographic contours, weir designs, and engineered controls would be modified to facilitate moisture retention.

Additional details regarding the stream and wetland mitigation proposal are available upon request. The mitigation summary tables below describe the proposed wetland and stream impacts and mitigation, respectively.

Wetland Mitigation Summary					
Type	Location	Impact Area (acre)	Mitigation Ratio	Total Mitigation (acre)	Techniques
Creation	On-site/Mitigation Area #1 northwest corner of site along South Mouse Creek	0.9	4:1	3.6	Grade existing floodplain to South Mouse Creek Reservoir ordinary pool level/wetland plantings
Creation	On-site/Mitigation Area #2 southwest project area along South Mouse Creek	2.1	4:1	8.3	Grade existing floodplain to South Mouse Creek Reservoir ordinary pool level/wetland plantings
Restoration	On-site/Mitigation Area #3 southern portion of site South Mouse Creek floodplain	1.1	2:1	2.3	Remove drain tile and excavate to lower elevation/wetland plantings
TOTAL	-	4.1	-	14.2	-

Stream Mitigation Summary					
Type	Location	Length of Restoration	Mitigation Ratio	Mitigation Credit	Techniques
Alteration III /Enhancement II	On-site/southwest of site along bank of South Mouse Creek	1,600 LF	3:1	533	Buffer enhancement, bank stabilization, and in-stream habitat
Replacement/Restoration	Off-site/City of Cleveland – Fillauer Branch	1,527 LF	1:1	1,527	Priority 2 restoration (Rosgen)
In-Lieu-Fee Payment or additional opportunities	Payment to the Tennessee Stream Mitigation Bank Program	1,317 LF	1:1	1,317	\$200 per LF
TOTAL	-	-	-	3,377	-

The decision whether to issue a DA permit will be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision would reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the work, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the work, will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of §404(b)(1) of the CWA. A DA permit will be granted unless the District Engineer determines it to be contrary to the public interest.

The Corps and TVA are soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a DA permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historical properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are used to determine the need for a public hearing and determine the overall public interest of the activity. An EA will be prepared prior to a final decision concerning issuance or denial of the requested permits.

File No. 2010-00404

Public Notice 10-14

Endangered Species Act. Based on available information, the proposed work will not destroy or endanger any federally listed threatened or endangered species or their critical habitats, as identified under the Endangered Species Act, and, therefore, initiation of formal consultation procedures with the U.S. Fish and Wildlife Service is not planned at this time.

Cultural Resource Survey. Several archaeological surveys have been conducted over time within the proposed project area. The previous survey reports indicated the presence of one potentially eligible archaeological site and an architectural component to the project area, and the preparers recommended that these areas be further assessed. TVA archaeologists reviewed the archaeological survey reports and have determined further assessment of the archaeological site would not likely be necessary. In the spring of 2010, the architectural component was further assessed and the Corps and TVA are awaiting the results of the architectural survey. Upon receipt of the requested reports, the Corps and TVA will review and submit their determinations to the Tennessee State Historic Preservation Office (SHPO). This review constitutes the full extent of cultural resources investigations to this point. Copies of this notice are being sent to the office of the SHPO.

Other federal, state, and/or local approvals may be required for the proposed work and outfall upgrade, i.e., an Aquatic Resource Alteration Permit (ARAP) and/or NPDES (National Pollutant Discharge Elimination System) permit may be required from the Tennessee Department of Environment and Conservation for the outfall.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for hearings shall state, with particularity, the reasons for holding a hearing. TDEC will conduct a Public Hearing on this application on Thursday, July 29, 2010 at 6:00 P.M. in the Bradley County Courthouse, 1st Floor- Commission Courtroom, 155 N. Ocoee Street, Cleveland, TN 37311, (423) 728-7141. Representatives of the Corps and TVA will attend the hearing.

Written statements received in this office within 30 days from the date of this notice will become a part of the record and considered in the determination. Any response to this notice should be directed to the Regulatory Branch, Attn: Lisa Morris, at the above address, or telephone (615) 369-7504.

It is not necessary to comment separately to TVA because copies of all comments will be sent to them to become part of its record on the proposal. However, if comments are sent to TVA, the point of contact is Andrew Lawson, Program Manager, Chickamauga-Hiwassee Watershed Team, 1101 Market Street PSC-1E, Chattanooga, TN 37402-2801, telephone (423) 876-6742.



DEPARTMENT OF
ENVIRONMENT &
CONSERVATION

PUBLIC NOTICE

File Number: NRS 10.110

Notice Date:
June 25, 2010

Expiration Date:
July 24, 2010

Pursuant to Chapter 1200-4-7 of the Department's rules, the proposed activity described below has been submitted for approval under an §401 Water Quality Certification (this also includes Aquatic Resource Alteration Permits). This notice is intended to inform interested parties of this permit application and to ask for comments and information necessary to determine possible impacts to water quality. No decision has been made whether to issue or deny this application.

APPLICANT: Ingomar Kovar
Wacker Polysilicon North America LLC
3301 Sutton Road
Adrian, MI 49221-9397
(517) 264-8500

LOCATION: Project is located northeast of the City of Cleveland, Bradley County. It is bordered to the north by Old Lower River Road, to the south by South Mouse Creek Road and to the west by South Mouse Creek. McBryant Road extends north/ south through the central portion of the property.

PROJECT DESCRIPTION / PURPOSE: The applicant proposes the construction of a manufacturing facility to produce hyperpure polycrystalline (polysilicon) for the solar cell industry. In order to construct the proposed facility the applicant proposes to impact 4.1 acres of wetland and 3,377 feet of stream. Compensatory wetland mitigation shall occur onsite in three locations with a combination of creation and restoration. Mitigation areas #1 and #2 consist of approximately 11.9 acres of creation. This will involve the grading of the floodplain of South Mouse Creek to reservoir ordinary pool level. Hydration shall be from rainfall events and infiltration from the creek. Vegetational plantings shall consist of both native shrub and herbaceous plants. Stockpiled hydric soil will be spread at a depth of approximately six inches over both areas. Wetland restoration shall consist of the onsite restoration of 2.3 acres.

Stream mitigation shall occur both onsite and offsite. Onsite involves the proposal to conduct natural and bioengineered bank stabilization, supplement protected buffer zones with native trees and enhance instream habitat along 1600 feet of South Mouse Creek. Offsite stream mitigation shall occur on Fillauer Branch with the relocation of a severely altered perennial headwater stream. The alignment of the relocated channel will allow for an increase of the total length of the stream from 1,400 feet to 1,527 feet. The restored channel will include features associated with the principles of natural channel design and

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fluvial geomorphology, including pool/riffle sequences and a connection to the adjacent floodplain. The restoration will include a planted riparian corridor ranging from 30-75 feet in width. In addition, the remaining 1,317 feet of require mitigation will be compensated with the payment of \$200/ foot the Tennessee Stream Mitigation Program (TSMP).

The applicant shall monitor the wetland and stream mitigation and submit annual reports to this office

DEGRADATION: In accordance with the Tennessee Antidegradation Statement (Rule 1200-4-3-.06), the division has determined that the proposed activities will not result in degradation to water quality.

WATERSHED / WATERBODY DESCRIPTION: Current land use is pasture, scattered woodlots, South Mouse Creek embayment and industrial. The wetland communities are herbaceous. They are dominated by boxelder, green ash, black willow and American elm.

Stream Name / ID #: South Mouse Creek
Ecoregion: Ridge and Valley 67 (67f - Southern Limestone/Dolomite Valleys and Low Rolling Hills)
Stream Dimension: average channel width is 15-20 feet and 4-7 feet deep (top of banks)
Substrate: gravel, clay

Designated Use	Use Support
fish and aquatic life	supporting
recreation	supporting
irrigation	supporting
livestock watering & wildlife	supporting

Final Version 2008 303(d) LIST (Hiwassee River Watershed

N06020002009 – 2000
SOUTH MOUSE
CREEK
Bradley 6.5
Biological integrity loss due
to undetermined cause L
Loss of biological integrity
due to siltation NA
Physical Substrate Habitat
Alterations NA
Escherichia coli NA
Discharges from MS4 area
Channelization
Streambank Modification/
Destabilization
Collection System Failure

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PERMIT COORDINATOR: Mike Lee

TOPOGRAPHICAL QUADRANGLE: Charleston 119-SE
Lat 35.2968 Long -84.7987

FACTORS CONSIDERED: In deciding whether to issue or deny a permit, the department will consider all comments of record and the requirements of applicable federal and state laws. In making this decision, a determination will be made regarding the lost value of the resource compared to the value of any proposed mitigation. The department shall consider practicable alternatives to the alteration. The department shall also consider loss of waters or habitat, diminishment in biological diversity, cumulative or secondary impacts to the water resource, and adverse impact to unique, high quality, or impaired waters.

COMMENTING: Persons wishing to comment on the proposal are invited to submit written comments to the department. Written comments must be received within **thirty days of the date that this notice is posted**. Comments will become part of the record and will be considered in the final decision. The applicant's name and permit number should be referenced. Send all written comments to the department's address listed below and to the attention of the permit coordinator.

PUBLIC HEARING: The Department of Environment and Conservation will conduct a Public Hearing on this water quality application. The Hearing will be held on Thursday, July 29, 2010 at 6:00 P.M. in the Bradley County Courthouse, 1st Floor- Commission Courtroom, 155 N. Ocoee Street, Cleveland, TN 37311, (423) 728-7141. *The Public Notice for this Hearing is being jointly noticed with this application.*

APPEAL: A petition for permit appeal may be filed, pursuant to T.C.A. §§ 69-3-105 by the permit applicant or by any aggrieved person who participated in the public comment period whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Any petition for permit appeal shall be filed with the board within **thirty (30) days** after public notice of the commissioner's decision to issue or deny the permit. Such petition must state in numbered paragraphs the basis of the appeal as required by the Administrative Procedures Act and regulations promulgated thereunder. The petition must be prepared on 8½" x 11" paper, addressed to the Water Quality Control Board and filed in duplicate at the address listed below. Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq.

FILE REVIEW: The permit application, supporting documentation including detailed plans and maps, and related comments are available at the department's address (listed below) for review and/or copying.

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PAGE 4.

Tennessee Department of Environment & Conservation
Division of Water Pollution Control, Natural Resources Section
7th Floor L & C Annex
401 Church Street
Nashville, TN 37243

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Attachment H – Agency Correspondence



United States Department of the Interior

FISH AND WILDLIFE SERVICE
446 Neal Street
Cookeville, TN 38501

August 13, 2010

Lt. Colonel Anthony P. Mitchell
District Engineer
U.S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214

Attention: Ms. Lisa R. Morris, Regulatory Branch

Subject: Public Notice No. 10-14. Wacker Polysilicon North America, LLC. Proposed Stream Relocation and Wetland Fill, Bradley County, Tennessee.

Dear Colonel Mitchell:

Fish and Wildlife Service (Service) personnel have reviewed the subject public notice. The applicant (Wacker Polysilicon North America, LLC.) proposes to impact 4.1 acres of wetlands and 3,377 linear feet of stream in order to construct a manufacturing facility in Bradley County, Tennessee. The applicant proposes on-site mitigation for the proposed stream impacts by restoration/enhancement of 1,600 linear feet of South Mouse Creek and off-site mitigation by the relocation of Fillauer Branch from a 1,400 linear-foot channel into a newly created 1,527 linear-foot channel. The public notice indicates that Fillauer Branch has been severely altered in the past. The applicant proposes to restore the stream to more natural appearing channel patterns, profiles and dimensions. The remaining stream impacts would be mitigated by the payment of \$263,400 to the Tennessee Stream Mitigation Program. The applicant proposes to mitigate the 4.1 acres of wetland loss by the onsite creation/restoration of 14.2 acres of wetlands. The following constitute the comments of the U.S. Department of the Interior, provided in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Endangered species collection records available to the Service do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the

AUG 16 2010

requirements of section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of the action that may affect listed species or critical habitat in a manner not previously considered, (2) the action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the action.

Even though the actual construction of the facility would likely have no impacts on federally listed species, we do have concerns regarding the discharge of industrial wastewater and stormwater into the Hiwassee River or tributaries that flow into the River. Our records indicate that the federally threatened snail darter (*Percina tanasi*) occurs in the Hiwassee River near the proposed facility. Without proper treatment, discharges from this type of proposed facility could adversely impact aquatic species occurring in the Hiwassee River and associated tributaries. Assuming more information is obtained concerning the discharges and treatments, our office will be able to provide comments regarding the discharge system during the NPDES permit phase of the project.

We recommend that the stream designs be reviewed and stamped by a professional engineer who is qualified in fluvial geomorphologic design. Also, we recommend 50-foot riparian buffer widths as outlined in the Stream Mitigation Guidelines (Guidelines) for the State of Tennessee riparian. The stream and wetland mitigation sites should be protected by either a conservation easement or deed restrictions, and appropriate signage placed along the boundaries to prevent possible manipulation.

The resource agencies should be allowed to review and comment on any proposed intakes or outfalls before the Corp's Section 404 permit and TVA's 26a approval are granted. Until adequate information is disclosed to the resource agencies concerning the applicant's NPDES permit, we recommend the Section 404 and 26a permits be held in abeyance. If the applicant does not agree to the above recommendations, we recommend that the subject permit be denied.

Thank you for this opportunity to review the subject notice. Please contact Robbie Sykes of my staff at 931/528-6481 (ext. 209) if you have questions about these comments.

Sincerely,



Mary E. Jennings
Field Supervisor

xc: Robert Todd, TWRA, Nashville, TN
Dan Eagar, TDEC, Nashville, TN
Andrew Lawson, TVA, Chattanooga, TN
Todd Bowers, EPA, Atlanta, GA



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

August 13, 2010

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), 26A PERMIT AND LAND USE REQUEST,
WACKER CHEMIE AG (WACKER), BRADLEY COUNTY, TENNESSEE

TVA is reviewing a 26a permit and land use request submitted by Wacker for construction activities along the South Mouse Creek shoreline, a tributary to the Hiwassee River. There is approximately 1.67 acres of TVA fee-owned land involved in the land use request. The permit is associated with construction of a facility that would manufacture polycrystalline silicon, the prime component used to make solar panels and semiconductors. The facility will be located on Wacker's approximately 564-acre property in Bradley County, Tennessee. The facility construction would involve approximately 273 acres of the 564-acre property and would consist of a main plant building, several buildings for support processes and warehousing, an administrative office building, access roads, and above and below ground supply lines associated with operations. In addition, the project impacts will result in the need for 14.1 acres of on-site wetland mitigation, on-site stream mitigation, and one off-site stream mitigation area that will be located in nearby Cleveland, Tennessee (see enclosed map and drawings). The construction activities also require a 404 permit from the U.S. Army Corps of Engineers and the proposed project would be partially funded through the American Recovery and Reinvestment Act, which is administered by the U.S. Department of Energy. TVA has agreed to be the lead federal agency for this undertaking. TVA considers the archaeological area of potential effects (APE) to be the 273-acre Wacker property, 1.67 acres of TVA fee-owned land and stream mitigation tract where ground disturbance may occur. The architectural/visual APE was identified as a 0.5-mile area surrounding the approximately 275-acre footprint (Wacker and TVA property). Since the proposed off-site stream mitigation would not introduce any above ground visual changes, TVA finds that it would have no effect on any historic viewsheds.

Prior to TVA involvement, Phase I surveys were conducted within portions of the archaeological APE by Weaver and Associates (Weaver). Enclosed are the reports titled *An Intensive Phase I Cultural Resources Survey of the Proposed Bond Industrial Park near Cleveland, Bradley County, Tennessee* (Sharp and Weaver 2006), *An Intensive Phase I Cultural Resources Survey of Approximately 362 Acres Near Cleveland, Bradley County* (Blazier 2008), and *An Intensive Phase I Cultural Resources Survey of Approximately 60 Acres near Cleveland, Bradley County, Tennessee* (Blazier 2008).

Weaver conducted archival research at the Tennessee Division of Archaeology and the Tennessee Historical Commission in Nashville, to identify all documented historic properties within and near the APE. Three previously recorded archaeological sites were recorded within the APE. Site 40BY166 (Lower River Road thought to correspond with the Northern Route for the Trail of Tears) forms the northern and northwestern boundary of the APE.

The archaeological survey conducted on April 4-6, 2006, August 13-15, 2008, and November 17-23, 2008, identified two previously recorded sites (40BY181 and 40BY182) and seven (40BY183, 40BY197, 40BY198, 40BY199, 40BY200, 40BY201, 40BY202) previously unrecorded archaeological sites.

- During the archaeological survey, Weaver and associates also revisited previously recorded sites 40BY181 and 40BY182. TVA finds 40BY181 and 40BY182 ineligible for the National Register of Historic Places (NRHP) due to lack of intact deposits/integrity and low research potential.
- 40BY183 represents an early/mid nineteenth century historic artifact scatter. It is TVA's finding that site 40BY183 is not eligible for the NRHP due to lack of intact deposits and low research potential.
- 40BY197 represents a small prehistoric lithic scatter that TVA recommends ineligible for the NRHP.
- 40BY198, 40BY199, 40BY200 and 40BY201 are located outside the APE.
- 40BY202 represents a historic period barn site. With estimated occupation as mid-19th and 20th centuries, TVA finds 40BY202 ineligible for the NRHP due to lack of integrity, an inability to associate the site with a person(s) or event of historical significance, and lack of research potential.

TVA contracted with TRC to conduct the architectural survey of the visual APE. TRC's findings and recommendations for the survey can be found in the enclosed letter report titled *Phase I Architectural Survey of the TVA Wacker Industrial Site, Bradley County, Tennessee*. TRC's survey resulted in the identification of no previously unrecorded architectural resources within the APE. Two previously recorded architectural resources (BY-27 and BY-488) are located within the visual APE. Structure BY-488 is no longer extant. The NRHP eligibility assessment of BY-27 (Wright House) is addressed in the TRC's letter report and the University of Tennessee Archaeological Research Laboratory's (ARL) enclosed report titled *Architectural Assessment of Site 40BY200 and Archival Research on a 575.5-Acre Industrial Park, Bradley County, Tennessee*. (Please note that the ARL report refers to BY-27 as 40BY200. This will be revised in the final report.) Both consultants recommend BY-27 ineligible for the NRHP due to modern exterior and interior alterations that have compromised the architectural integrity of the house. TVA agrees with TRC's and ARL's recommendation that BY-27 is ineligible for the NRHP.

A portion of 40BY166 (Trail of Tears) also is located within the visual APE. It is TVA's finding that the proposed project would have a visual affect to 40BY166, but the effect would not be adverse. The viewshed of 40BY166 has been compromised by modern industrial development

Mr. E. Patrick McIntyre, Jr.
Page 3
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and highway construction. ARL suggests on page 43 of their report that, "Because the Cherokees owned and occupied the project area prior to the signing of the Treaty of New Echota in 1836 as well as during the brief period of internment in 1838, it is quite possible that the project area contains archaeological deposits related to historic Cherokee use." No archaeological material was recovered during the Phase I survey to suggest a Cherokee occupation.

Pursuant to 36 CFR Part 800, we are seeking your concurrence with TVA's findings and recommendations that no archaeological or architectural properties would be affected and no historic sites would be adversely affected by the proposed undertaking.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding properties within the proposed project's APE that may be of religious and cultural significance to them and eligible for the NRHP.

If you have any questions or comments, please contact Erin Pritchard at (865) 632-2463 or by email at eepritchard@tva.gov.

Sincerely,



A. Eric Howard
Federal Preservation Officer
Cultural Compliance
WT 11D-K

EEP:IKS
Enclosures

cc: Ms. Jennifer Barnett
Tennessee Division of Archaeology
1216 Foster Avenue, Cole Bldg. #3
Nashville, Tennessee 37210

Cynthia M. Anderson, LP 5D-C
Kelly R. Baxter, WT 11D-K
Gregory L. Broyles, WT 11D-K
Susan J. Kelly, LP 5U-C
Khurshid K. Mehta, WT 6A-K
EDMS, WT 11D-K



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

August 13, 2010

Those listed:

TENNESSEE VALLEY AUTHORITY (TVA), 26A PERMIT AND LAND USE REQUEST,
WACKER CHEMIE AG (WACKER), BRADLEY COUNTY, TENNESSEE

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- 40BY197 represents a small prehistoric lithic scatter that TVA recommends ineligible for the NRHP.
- 40BY198, 40BY199, 40BY200 and 40BY201 are located outside the APE.
- 40BY202 represents a historic period barn site. However, with the estimated occupation as mid-19th and 20th centuries, TVA finds 40BY202 ineligible for the NRHP due to lack of integrity, an inability to associate the site with a person(s) or event of historical significance, and lack of research potential.

TVA contracted with TRC to conduct the architectural survey of the visual APE. TRC's findings and recommendations for the survey can be found in the enclosed letter report titled *Phase I Architectural Survey of the TVA Wacker Industrial Site, Bradley County, Tennessee*. TRC's survey resulted in the identification of no previously unrecorded architectural resources within the APE. Two previously recorded architectural resources (BY-27 and BY-488) are located within the visual APE. 40BY488 is no longer extant. The NRHP eligibility assessment of BY-27 (Wright House) is addressed in the TRC's letter report and the University of Tennessee Archaeological Research Laboratory's (ARL) enclosed report titled *Architectural Assessment of Site 40BY200 and Archival Research on a 575.5-Acre Industrial Park, Bradley County, Tennessee*. (Please note that the ARL report refers to BY-27 as 40BY200. This will be revised in the final report). Both consultants recommend BY-27 ineligible for the NRHP due to modern exterior and interior alterations that have compromised the architectural integrity of the house. TVA agrees with TRC's and ARL's recommendation that BY-27 is ineligible for the NRHP.

A portion of 40BY166 (Trail of Tears) also is located within the visual APE. It is TVA's finding that the proposed project would have a visual affect to 40BY166, but the effect would not be adverse. The view shed of 40BY166 has been compromised by modern industrial development and highway construction. ARL suggests on page 43 of their report that, "Because the Cherokees owned and occupied the project area prior to the signing of the Treaty of New Echota in 1836 as well as during the brief period of internment in 1838, it is quite possible that the project area contains archaeological deposits related to historic Cherokee use." No archaeological material was recovered during the Phase I survey to suggest a Cherokee occupation.

Those listed
Page 3
August 13, 2010

TVA is consulting with the following federally recognized Indian tribes regarding properties within the proposed project's APE that may be of religious and cultural significance to them and eligible for listing in the NRHP: Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, The Chickasaw Nation, Muscogee (Creek) Nation of Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Kialegee Tribal Town, Thlopthlocco Tribal Town, Seminole Tribe of Florida, Absentee Shawnee Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, and the Shawnee Tribe.

By this letter, TVA is providing notification of these findings and is seeking your comments regarding this undertaking and any properties that may be of religious and cultural significance to your federally recognized tribe and may be eligible for the NRHP.

If you have any questions regarding this undertaking, please contact Pat Ezzell at 865-632-6461 or by email at (pbezzell@tva.gov). If you would like to provide comments, please respond within 30 days.

Sincerely,



Pat Bernard Ezzell
Native American Liaison and Historian
Cultural Compliance
WT 11D-K

EEP:PBE:IKS
Enclosure

cc: Cynthia M. Anderson, LP 5D-C
Kelly R. Baxter, WT 11D-K
Gregory L. Broyles, WT 11D-K
Susan J. Kelly, LP 5U-C
Khurshid K. Mehta, WT 6A-K
EDMS, WT 11D-K

THOSE LISTED:

Dr. Richard Allen
Policy Analyst
Cherokee Nation
Post Office Box 948
Tahlequah, Oklahoma 74465

Governor Bill Anoatubby
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Ms. Augustine Asbury
Cultural Preservation Coordinator
Alabama Quassarte Tribal Town
Post Office Box 187
Wetumka, Oklahoma 74883

Mr. Bryant Celestine
Tribal Historic Preservation Officer
Alabama-Coushatta Tribe of Texas
571 State Park Rd. 56
Livingston, Texas 77351

Mr. Charles Coleman
NAGPRA Representative
Thlopthlocco Tribal Town
Route 1, Box 190-A
Weleetka, Oklahoma 74880

Ms. Robin DuShane
Cultural Preservation Director
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Mr. Henry Harjo
Environmental Director
Kialegee Tribal Town
Post Office Box 332
Wetumka, Oklahoma 74883

Mr. Tyler Howe
Historic Preservation Specialist
Eastern Band of the Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

cc: Mr. Russ Townsend
Tribal Historic Preservation Officer
Eastern Band of the Cherokee Indians
Post Office Box 455
Cherokee, North Carolina 28719

Ms. Karen Kaniatobe
Tribal Historic Preservation Officer
Absentee Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper
Shawnee, Oklahoma 74801

Ms. Lisa C. LaRue
Director, Language, History and Culture &
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464

Mr. Kirk Perry
Administrator
Division of Policy and Standards
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Ms. Jennifer Pietarila
Archaeological Data Analyst
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61 Box 21-A
Clewiston, Florida 33440

cc: Ms. Anne Mullins
Project Coordinator
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440

cc: Mr. Willard Steele
Tribal Historic Preservation Officer
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440

Ms. Julie Ray
Preservation & Repatriation Manager
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

cc: Ms. Virginia (Gingy) Nail (w/Enclosure)
Tribal Historic Preservation Officer
The Chickasaw Nation
Post Office Box 1548
Ada, Oklahoma 72821-1548

Mr. Emman Spain
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Mr. Ron Sparkman
Chairman
Shawnee Tribe
Post Office Box 189
Miami, Oklahoma 74355

cc: Ms. Kim Jumper (w/Enclosures)
Tribal Historic Preservation Officer
Shawnee Tribe
Post Office Box 189
Miami, Oklahoma 74355

Mr. Tim Thompson
Cultural Preservation Department
Muscogee (Creek) Nation
Post Office Box 580
Okmulgee, Oklahoma 74447

Chief Glenna J. Wallace
Eastern Shawnee Tribe of Oklahoma
127 West Oneida
Seneca, Missouri 64865

Mr. Elliot York
Archaeological Data Analyst
Seminole Tribe of Florida
Ah-Tah-Thi-Ki Museum
HC-61, Box 21-A
Clewiston, Florida 33440



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

August 26, 2010

Mr. A. Eric Howard
Tennessee Valley Authority
400 West Summit Hill Dr.
Knoxville, Tennessee, 37902-1499

RE: TVA, WACKER CHEMIE AG, UNINCORPORATED, BRADLEY COUNTY

Dear Mr. Howard:

In response to your request, received on Tuesday, August 17, 2010, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process.

Considering available information, we find that the project as currently proposed MAY ADVERSELY AFFECT PROPERTIES THAT ARE ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. You should now begin immediate consultation with our office. Please direct questions and comments to Joe Garrison (615) 532-1550-103. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jyg



TENNESSEE HISTORICAL COMMISSION
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
2941 LEBANON ROAD
NASHVILLE, TN 37243-0442
(615) 532-1550

August 30, 2010

Mr. A. Eric Howard
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902-1499

RE: TVA, ARCHAEOLOGICAL ASSESSMENT, WACKER CHEMIE AG DEV'T/S. MOUSE CR,
CLEVELAND, BRADLEY COUNTY, TN

Dear Mr. Howard:

At your request, our office has reviewed the above-referenced archaeological survey report in accordance with regulations codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739). Based on the information provided, we concur that the project area contains no archaeological resources eligible for listing in the National Register of Historic Places.

If project plans are changed or archaeological remains are discovered during construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

September 17, 2010

Mr. E. Patrick McIntyre, Jr.
Executive Director
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), 26A PERMIT AND LAND USE REQUEST
(PROPERTY BY-27 ADDITIONAL INFORMATION), WACKER CHEMIE AG (WACKER),
BRADLEY COUNTY, TENNESSEE

In response to a previous letter dated August 13, TVA corresponded with your office regarding a 26a permit and land use request submitted by Wacker for construction activities along the South Mouse Creek shoreline, a tributary to the Hiwassee River. In your letter dated August 26, your office disagreed with TVA's findings regarding the National Register of Historic Places (NRHP) eligibility assessment of BY-27, determining the proposed undertaking would have an adverse effect to the property.

By this letter, TVA is providing additional information regarding the potential for the proposed undertaking to visually affect BY-27. Enclosed is the letter report *Property BY-27 Phase I Cultural Resources Survey of the TVA Wacker Industrial Site, Bradley County, Tennessee*.

The proposed undertaking would not destroy, damage, or physically alter BY-27. The visual setting of BY-27 is characterized by industrial development east and south of the house, cell towers, and an existing 161-kV transmission line. It is TVA's finding that the visual setting of BY-27 has been compromised by modern industrial development and, although the undertaking would have a visual effect to BY-27, the effect would not be adverse.

It is TVA's finding that no cultural resources potentially eligible for the NRHP would be adversely affected by the proposed undertaking and no further investigations are recommended. Pursuant to 36 CFR Part 800, we are seeking your concurrence with TVA's findings and recommendations.

Mr. E. Patrick McIntyre, Jr.
Page 2
September 17, 2010

If you have any questions or comments, please contact Richard Yarnell by telephone at (865) 632-3463 or by email at wryarnell@tva.gov.

Sincerely,

A handwritten signature in cursive script that reads "Eric Howard".

A. Eric Howard
Federal Preservation Officer
Manager (Acting) Cultural Compliance
WT 11D-K

RY:MH:IKS

Enclosure

cc: Cynthia M. Anderson, LP 5D-C
Kelly R. Baxter, WT 11D-K
Gregory L. Broyles, WT 11D-K
Susan J. Kelly, LP 5U-C
Khurshid K. Mehta, WT 6A-K
EDMS, WT 11D-K

SEMINOLE TRIBE OF FLORIDA
TRIBAL HISTORIC PRESERVATION OFFICE

TRIBAL HISTORIC
PRESERVATION OFFICE

SEMINOLE TRIBE OF FLORIDA
AH-TAH-THI-KI MUSEUM

34725 WEST BOUNDARY ROAD
CLEWISTON, FL 33440

PHONE: (863) 983-6549
FAX: (863) 902-1117



TRIBAL OFFICERS

CHAIRMAN
MITCHELL CYPRESS

VICE CHAIRMAN
RICHARD BOWERS JR.

SECRETARY
PRISCILLA D. SAYEN

TREASURER
MICHAEL D. TIGER

Pat Ezzell
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902-1499

THPO#: 006665

August 16, 2010

Subject: Assessment of Effects for the Proposed 26A Permit and Land Use Request, Wacker Chemie Ag, Bradley County, Tennessee

Dear Ms. Ezzell,

The Seminole Tribe of Florida's Tribal Historic Preservation Office (STOF-THPO) has received the TVA's correspondence concerning the aforementioned project. The STOF-THPO has no objection to your findings at this time. However, the STOF-THPO would like to be informed if cultural resources that are potentially ancestral or historically relevant to the Seminole Tribe of Florida are inadvertently discovered during the construction process. We thank you for the opportunity to review the information that has been sent to date regarding this project. Please reference **THPO-006665** for any related issues.

We look forward to working with you in the future.

Sincerely,

Willard Steele
Tribal Historic Preservation Officer
Seminole Tribe of Florida

Direct routine inquiries to:

Anne Mullins
Compliance Review Supervisor
annemullins@semtribe.com

ety:AM



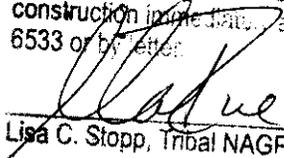
Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

August 13, 2010

Ms. Lisa C. LaRue
Director, Language, History and Culture &
Acting Tribal Historic Preservation Officer
United Keetoowah Band
of Cherokee Indians in Oklahoma
Post Office Box 746
Tahlequah, Oklahoma 74464

RECEIVED AUG 16 2010

The United Keetoowah Band of Cherokee Indians in Oklahoma has no objection to the referenced project. However, if any remains, artifacts or other items are inadvertently discovered, please cease construction immediately and contact us at 918-456-6533 or by letter.


Lisa C. Stopp, Tribal NAGPRA POC

8-17-10
Date

Dear Ms. LaRue:

TENNESSEE VALLEY AUTHORITY (TVA), 26A PERMIT AND LAND USE REQUEST,
WACKER CHEMIE AG (WACKER), BRADLEY COUNTY, TENNESSEE

TVA is reviewing a 26a permit and land use request submitted by Wacker for construction activities along the South Mouse Creek shoreline, a tributary to the Hiwassee River. There is approximately 1.67 acres of TVA fee-owned land involved in the land use request. The permit is associated with construction of a facility that would manufacture polycrystalline silicon, the prime component used to make solar panels and semiconductors. The facility will be located on Wacker's approximately 564-acre property in Bradley County, Tennessee. The facility construction would involve approximately 273 acres of the 564-acre property and would consist of a main plant building, several buildings for support processes and warehousing, an administrative office building, access roads, and above and below ground supply lines associated with operations. In addition, the project impacts will result in the need for 14.1 acres of on-site wetland mitigation, on-site stream mitigation, and one off-site stream mitigation area that will be located in nearby Cleveland, Tennessee (see enclosed map and drawings). The construction activities also require a 404 permit from the U.S. Army Corps of Engineers and the proposed project would be partially funded through the American Recovery and Reinvestment Act, which is administered by the U.S. Department of Energy. TVA has agreed to be the lead federal agency for this undertaking. TVA considers the archaeological area of potential effects (APE) to be the 273-acre Wacker property, 1.67 acres of TVA fee-owned land and stream mitigation tract where ground disturbance may occur. The architectural/visual APE was identified as a 0.5-mile area surrounding the approximately 275-acre footprint (Wacker and TVA property). Since the proposed off-site stream mitigation would not introduce any above ground visual changes, TVA finds that it would have no effect on any historic view sheds.

Prior to TVA involvement, Phase I surveys were conducted within portions of the archaeological APE by Weaver and Associates (Weaver). Enclosed on a compact disc are the reports titled *An Intensive Phase I Cultural Resources Survey of the Proposed Bond Industrial Park near Cleveland, Bradley County, Tennessee* (Sharp and Weaver 2006), *An Intensive Phase I Cultural Resources Survey of Approximately 362 Acres Near Cleveland, Bradley County* (Blazier 2008), and *An Intensive Phase I Cultural Resources Survey of Approximately 60 Acres near Cleveland, Bradley County, Tennessee* (Blazier 2008).

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**Attachment I – Proposed TVA Land Use and Section 26a Actions
and Impact Area Map**

Wacker Polysilicon Project - TVA Land Actions

Request	Approval Needed	Cost	26a Required	Recommended Term	Acreage	Comments
Fill material - TVA property (685.44' contour and below) <u>THREE AREAS</u>	CEO - Easement	FMV	Yes	30 year term	0.272	Acreage involved would be .272 acres on TVA fee land. Term recommendations based on TVA desired term (30 year). Fill also requires 26a approval.
Storm Water Sheet Flow - TVA property	CEO - Easement	FMV	Yes	30 year term	0.01	Any water directed at TVA lands which impacts TVA a greater rate than at the previously undeveloped rate, will be subject to easement. Wacker has confirmed this will take place in one area to be impacted by storm water outfall/runoff. Term recommendations based on TVA desired term (30 year). Any structures/obstructions associated with the outfalls will require 26a
Place structures between 694 .1'-685.44' contours - Wacker Property (<u>FOUR AREAS</u>)	CEO - Abandonment/ Deed Mod.	FMV	Yes	30 year term	11.25	TVA retains rights to prevent structures below the 694.1' contour which impacts Wacker property. Wacker is requesting to place fill (11.25 acres) in this area which would require TVA to abandon its right to prevent the structures Wacker is proposing but retain rights to remove future structures. Fill requires 26a approval.
Wetland Mitigation Area #1 (adjacent to Old Lower River Rd) - Hydraulic Connectivity Point - ONE (1) Cut on TVA Fee Land	CEO-EASEMENT	FMV	YES	30 year term	0.03	Wacker to obtain the necessary land rights to cut/remove TVA Fee Owned land.
Wetland Mitigation Area #2 (S. Mouse Creek) - Hydraulic Connectivity Points - THREE (3) Cuts on TVA Fee Land	CEO-EASEMENT	FMV	Yes	30 year term	0.08	Wacker to obtain the necessary land rights to cut/remove TVA Fee Owned land.
26a 'Only' Actions						
Fill between 715'-696.8' - Wacker Property	N/A	N/A	Yes	N/A	62.2	Wacker proposes to fill 62.2 acres between 715' - 696.8' contours. This area is above the 500-year floodplain but falls within TVA's deeded rights to temporary/intermittent flood. Regulations allow for 26a jurisdiction to be taken to the extent of TVA's deeded rights. TVA will take jurisdiction for the 26a actions where deeded rights exist (in this case, up to the 715' contour).
Fill in 500 year floodplain (696.8'-694.1') - Wacker Property	N/A	N/A	Yes	N/A	15.5	Wacker proposes to fill 15.5 acres between 696.8'-694.1' contours
Encapsulation of perennial stream	N/A	N/A	Yes	N/A	N/A	Stream #1 was identified as a perennial stream and will be encapsulated.
Offsite stream mitigation	N/A	N/A	Yes	N/A	N/A	26a approvals needed for obstructions, etc.
Storm Water Outfalls	N/A	N/A	Yes	N/A	N/A	26a approvals needed for obstructions, etc.
Stream Bank Restoration/Enhancement - Mitigation Area #2 - S. Mouse Creek	N/A	N/A	Yes	N/A	N/A	26a approvals needed for obstructions, etc.

Wacker Polysilicon Project - TVA Land Actions						
Request	Approval Needed	Cost	26a Required	Recommended Term	Acreage	Comments
1a. Fill Below TVA Fee-Owned Contour (685.44')	CEO-Easement	FMV	YES	30 Year Term	0.13	Please see "TVA Impacts Map" for exact location of this proposed action.
1b. Fill Below TVA Fee-Owned Contour (685.44')	CEO-Easement	FMV	YES	30 Year Term	0.19	Please see "TVA Impacts Map" for exact location of this proposed action.
1c. Fill Below TVA Fee-Owned Contour (685.44')	CEO-Easement	FMV	YES	30 Year Term	0.002	Please see "TVA Impacts Map" for exact location of this proposed action.
2. Storm Water - Flow Impacts - TVA Property	CEO-Easement	FMV	YES	30 Year Term	0.01	Please see "TVA Impacts Map" for exact location of this proposed action.
3a. Wetland Mitigation Area #1 (adjacent to Old Lower River Rd) - Hydraulic Connectivity Point - ONE (1) Cut on TVA Fee Land	CEO-Easement	FMV	YES	30 Year Term	0.03	Please see "TVA Impacts Map" for exact location of this proposed action.
3b. Wetland Mitigation Area #2 (S. Mouse Creek) - Hydraulic Connectivity Points - THREE (3) Cuts on TVA Fee Land	CEO-Easement	FMV	YES	30 Year Term	0.08	Please see "TVA Impacts Map" for exact location of this proposed action.
4a. Fill Below TVA's Deeded Structure Profile (Contour Zone 694.1'-685.44')	CEO-Deed Mod	FMV	YES	30 Year Term	7.78	Please see "TVA Impacts Map" for exact location of this proposed action.
4b. Fill Below TVA'S Deeded Structure Profile (Contour Zone 694.1'-685.44')	CEO-Deed Mod	FMV	YES	30 Year Term	3.47	Please see "TVA Impacts Map" for exact location of this proposed action.

Wacker Polysilicon Project - 26a 'Only' Actions						
5. Fill Between "Contour Zone" 715'-696.8' (Wacker Property)	N/A	N/A	YES	N/A	62.2	Please see "TVA Impacts Map" for exact location of this proposed action.
6a. Fill Between "Contour Zone" 696.8'-694.1' (500-yr Floodplain)	N/A	N/A	YES	N/A	2.51	Please see "TVA Impacts Map" for exact location of this proposed action.
6b. Fill Between "Contour Zone" 696.8'-694.1' (500-yr Floodplain)	N/A	N/A	YES	N/A	2.02	Please see "TVA Impacts Map" for exact location of this proposed action.
6c. Fill Between "Contour Zone" 696.8'-694.1' (500-yr Floodplain)	N/A	N/A	YES	N/A	1.58	Please see "TVA Impacts Map" for exact location of this proposed action.
7a. Storm Water Outfall #2	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.
7b. Storm Water Outfall #3 & #4	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.
7c. Storm Water Outfall #6	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.
8. Stream Bank Restoration/Enhancement (S. Mouse Creek) - Stabilization and Native Plantings on TVA Fee Land	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.
9. Stream Encapsulation (On-Site)	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.
10. Stream Enhancement (Off-Site Mitigation)	N/A	N/A	YES	N/A	N/A	Please see "TVA Impacts Map" for exact location of this proposed action.

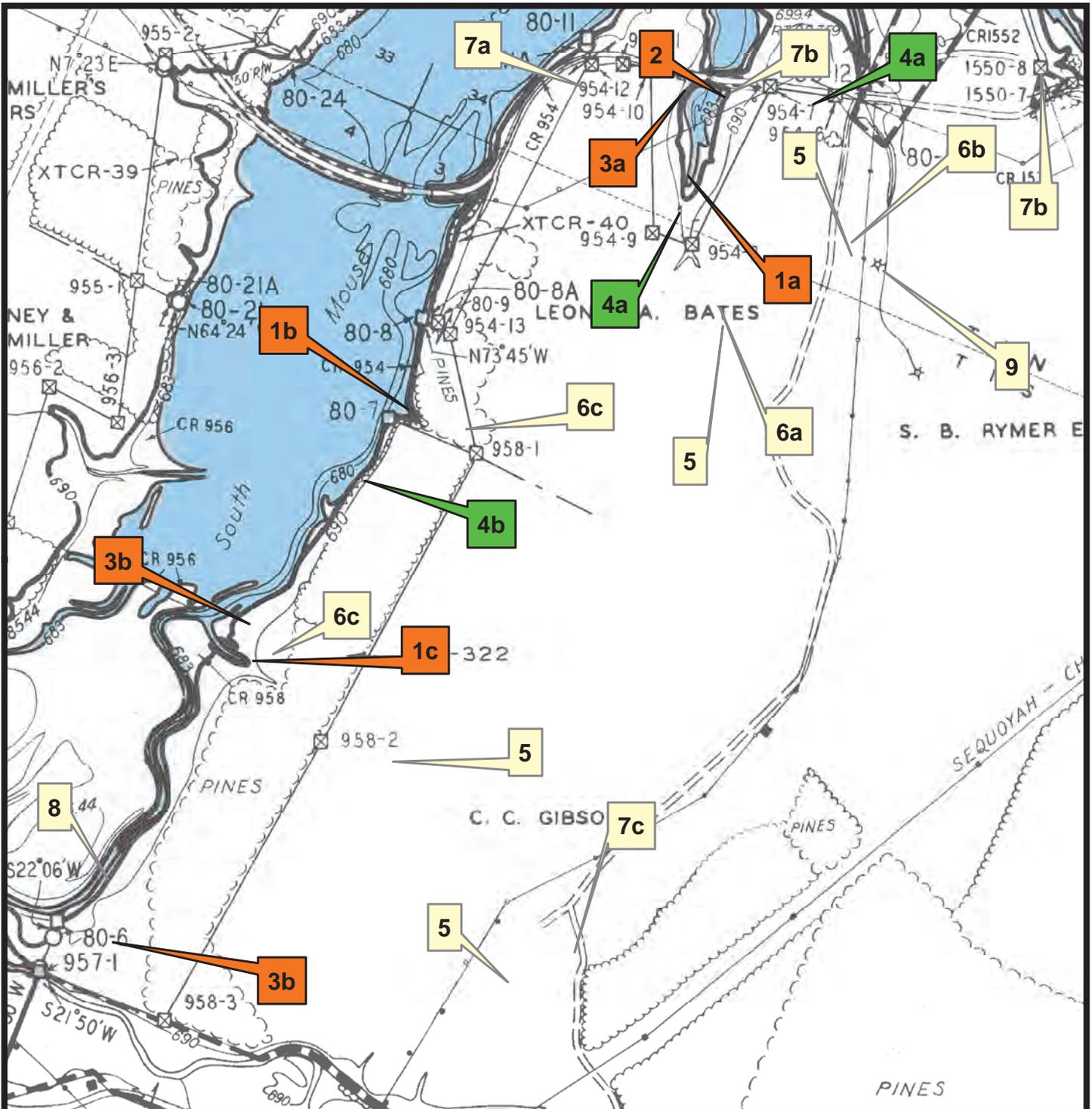


Exhibit Map

Chickamauga Reservoir Impacts Map

Wacker Polysilicon North America LLC
Hiwassee River Mile 16.4L

Map Reference:
C/D Stage: 80
Quad: 119 SE



Land and Shoreline
Management

September 07, 2010

Deed Modifications

Easements

26a Actions



**Attachment J – United States Environmental Protection Agency List of Toxic
Pollutants and Hazardous Substances From National Pollutant Discharge Elimination
System Permit Application**

**TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES
REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT**

TOXIC POLLUTANT	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Asbestos	Dichlorvos	Naled
	Diethyl amine	Napthenic acid
HAZARDOUS SUBSTANCES	Dimethyl amine	Nitrotoluene
	Dintrobenzene	Parathion
Acetaldehyde	Diquat	Phenolsulfonate
Allyl alcohol	Disulfoton	Phosgene
Allyl chloride	Diuron	Propargite
Amyl acetate	Epichlorohydrin	Propylene oxide
Aniline	Ethion	Pyrethrins
Benzonitrile	Ethylene diamine	Quinoline
Benzyl chloride	Ethylene dibromide	Resorcinol
Butyl acetate	Formaldehyde	Strontium
Butylamine	Furfural	Strychnine
Captan	Guthion	Styrene
Carbaryl	Isoprene	2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)
Carbofuran	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Carbon disulfide	Kelthane	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Chlorpyrifos	Kepone	Trichlorofon
Coumaphos	Malathion	Triethanolamine
Cresol	Mercaptodimethur	Triethylamine
Crotonaldehyde	Methoxychlor	Trimethylamine
Cyclohexane	Methyl mercaptan	Uranium
2,4-D (2,4-Dichlorophenoxyacetic acid)	Methyl methacrylate	Vanadium
Diazinon	Methyl parathion	Vinyl acetate
Dicamba	Mevinphos	Xylene
Dichlobenil	Mexacarbate	Xylenol
Dichlone	Monoethyl amine	Zirconium
2,2-Dichloropropionic acid	Monomethyl amine	

HAZARDOUS SUBSTANCES

1. Acetaldehyde	74. Carbaryl	145. Formaldehyde
2. Acetic acid	75. Carbofuran	146. Formic acid
3. Acetic anhydride	76. Carbon disulfide	147. Fumaric acid
4. Acetone cyanohydrin	77. Carbon tetrachloride	148. Furfural
5. Acetyl bromide	78. Chlordane	149. Guthion
6. Acetyl chloride	79. Chlorine	150. Heptachlor
7. Acrolein	80. Chlorobenzene	151. Hexachlorocyclopentadiene
8. Acrylonitrile	81. Chloroform	152. Hydrochloric acid
9. Adipic acid	82. Chloropyrifos	153. Hydrofluoric acid
10. Aldrin	83. Chlorosulfonic acid	154. Hydrogen cyanide
11. Allyl alcohol	84. Chromic acetate	155. Hydrogen sulfide
12. Allyl chloride	85. Chromic acid	156. Isoprene
13. Aluminum sulfate	86. Chromic sulfate	157. Isopropanolamine
14. Ammonia	87. Chromous chloride	dodecylbenzenesulfonate
15. Ammonium acetate	88. Cobaltous bromide	158. Kelthane
16. Ammonium benzoate	89. Cobaltous formate	159. Kepone
17. Ammonium bicarbonate	90. Cobaltous sulfamate	160. Lead acetate
18. Ammonium bichromate	91. Coumaphos	161. Lead arsenate
19. Ammonium bifluoride	92. Cresol	162. Lead chloride
20. Ammonium bisulfite	93. Crotonaldehyde	163. Lead fluoborate
21. Ammonium carbamate	94. Cupric acetate	164. Lead flourite
22. Ammonium carbonate	95. Cupric acetoarsenite	165. Lead iodide
23. Ammonium chloride	96. Cupric chloride	166. Lead nitrate
24. Ammonium chromate	97. Cupric nitrate	167. Lead stearate
25. Ammonium citrate	98. Cupric oxalate	168. Lead sulfate
26. Ammonium fluoroborate	99. Cupric sulfate	169. Lead sulfide
27. Ammonium fluoride	100. Cupric sulfate ammoniated	170. Lead thiocyanate
28. Ammonium hydroxide	101. Cupric tartrate	171. Lindane
29. Ammonium oxalate	102. Cyanogen chloride	172. Lithium chromate
30. Ammonium silicofluoride	103. Cyclohexane	173. Malathion
31. Ammonium sulfamate	104. 2,4-D acid (2,4- Dichlorophenoxyacetic acid)	174. Maleic acid
32. Ammonium sulfide	105. 2,4-D esters (2,4- Dichlorophenoxyacetic acid esters)	175. Maleic anhydride
33. Ammonium sulfite	106. DDT	176. Mercaptodimethur
34. Ammonium tartrate	107. Diazinon	177. Mercuric cyanide
35. Ammonium thiocyanate	108. Dicamba	178. Mercuric nitrate
36. Ammonium thiosulfate	109. Dichlobenil	179. Mercuric sulfate
37. Amyl acetate	110. Dichlone	180. Mercuric thiocyanate
38. Aniline	111. Dichlorobenzene	181. Mercurous nitrate
39. Antimony pentachloride	112. Dichloropropane	182. Methoxychlor
40. Antimony potassium tartrate	113. Dichloropropene	183. Methyl mercaptan
41. Antimony tribromide	114. Dichloropropene-dichloropropane mix	184. Methyl methacrylate
42. Antimony trichloride	115. 2,2-Dichloropropionic acid	185. Methyl parathion
43. Antimony trifluoride	116. Dichlorvos	186. Mevinphos
44. Antimony trioxide	117. Dieldrin	187. Mexacarbate
45. Arsenic disulfide	118. Diethylamine	188. Monoethylamine
46. Arsenic pentoxide	119. Dimethylamine	189. Monomethylamine
47. Arsenic trichloride	120. Dinitrobenzene	190. Naled
48. Arsenic trioxide	121. Dinitrophenol	191. Naphthalene
49. Arsenic trisulfide	122. Dinitrotoluene	192. Naphthenic acid
50. Barium cyanide	123. Diquat	193. Nickel ammonium sulfate
51. Benzene	124. Disulfoton	194. Nickel chloride
52. Benzoic acid	125. Diuron	195. Nickel hydroxide
53. Benzointrile	126. Dodecylbenzenesulfonic acid	196. Nickel nitrate
54. Benzoyl chloride	127. Endosulfan	197. Nickel sulfate
55. Benzyl chloride	128. Endrin	198. Nitric acid
56. Beryllium chloride	129. Epichlorohydrin	199. Nitrobenzene
57. Beryllium fluoride	130. Ethion	200. Nitrogen dioxide
58. Beryllium nitrate	131. Ethylbenzene	201. Nitrophenol
59. Butylacetate	132. Ethylenediamine	202. Nitrotoluene
60. n-Butylphthalate	133. Ethylene dibromide	203. Paraformaldehyde
61. Butylamine	134. Ethylene dichloride	204. Parathion
62. Butyric acid	135. Ethylene diaminetetracetic acid (EDTA)	205. Pentachlorophenol
63. Cadmium acetate	136. Ferric ammonium citrate	206. Phenol
64. Cadmium bromide	137. Ferric ammonium oxalate	207. Phosgene
65. Cadmium chloride	138. Ferric chloride	208. Phosphoric acid
66. Calcium arsenate	139. Ferric fluoride	209. Phosphorus
67. Calcium arsenite	140. Ferric nitrate	210. Phosphorus oxychloride
68. Calcium carbide	141. Ferric sulfate	211. Phosphorus pentasulfide
69. Calcium chromate	142. Ferrous ammonium sulfate	212. Phosphorus trichloride
70. Calcium cyanide	143. Ferrous chloride	213. Polychlorinated biphenyls (PCB)
71. Calcium dodecylbenzenesulfonate	144. Ferrous sulfate	214. Potassium arsenate
72. Calcium hypochlorite		215. Potassium arsenite
73. Captan		216. Potassium bichromate

HAZARDOUS SUBSTANCES

217. Potassium chromate	247. Sodium selenite	270. Trimethylamine
218. Potassium cyanide	248. Strontium chromate	271. Uranyl acetate
219. Potassium hydroxide	249. Strychnine	272. Uranyl nitrate
220. Potassium permanganate	250. Styrene	273. Vanadium pentoxide
221. Propargite	251. Sulfuric acid	274. Vanadyl sulfate
222. Propionic acid	252. Sulfur monochloride	275. Vinyl acetate
223. Propionic anhydride	253. 2,4,5-T acid (2,4,5- Trichlorophenoxyacetic acid)	276. Vinylidene chloride
224. Propylene oxide	254. 2,4,5-T amines (2,4,5-Trichlorophenoxy acetic acid amines)	277. Xylene
225. Pyrethrins	255. 2,4,5-T esters (2,4,5-Trichlorophenoxy acetic acid esters)	278. Xylenol
226. Quinoline	256. 2,4,5-T salts (2,4,5-Trichlorophenoxy acetic acid salts)	279. Zinc acetate
227. Resorcinol	257. 2,4,5-TP acid (2,4,5-Trichlorophenoxy propanoic acid)	280. Zinc ammonium chloride
228. Selenium oxide	258. 2,4,5-TP acid esters (2,4,5- Trichlorophenoxy propanoic acid esters)	281. Zinc borate
229. Silver nitrate	259. TDE (Tetrachlorodiphenyl ethane)	282. Zinc bromide
230. Sodium	260. Tetraethyl lead	283. Zinc carbonate
231. Sodium arsenate	261. Tetraethyl pyrophosphate	284. Zinc chloride
232. Sodium arsenite	262. Thallium sulfate	285. Zinc cyanide
233. Sodium bichromate	263. Toluene	286. Zinc fluoride
234. Sodium bifluoride	264. Toxaphene	287. Zinc formate
235. Sodium bisulfite	265. Trichlorofon	288. Zinc hydrosulfite
236. Sodium chromate	266. Trichloroethylene	289. Zinc nitrate
237. Sodium cyanide	267. Trichlorophenol	290. Zinc phenolsulfonate
238. Sodium dodecylbenzenesulfonate	268. Triethanolamine	291. Zinc phosphide
239. Sodium fluoride	269. Triethylamine	292. Zinc silicofluoride
240. Sodium hydrosulfide		293. Zinc sulfate
241. Sodium hydroxide		294. Zirconium nitrate
242. Sodium hypochlorite		295. Zirconium potassium fluoride
243. Sodium methylate		296. Zirconium sulfate
244. Sodium nitrite		297. Zirconium tetrachloride
245. Sodium phosphate (dibasic)		
246. Sodium phosphate (tribasic)		

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Attachment K – The Secretary of the Interior’s Standards of Rehabilitation

TENNESSEE VALLEY AUTHORITY
SECTION 26A PERMIT AND LAND USE REQUEST

WACKER CHEMIE POLY 11

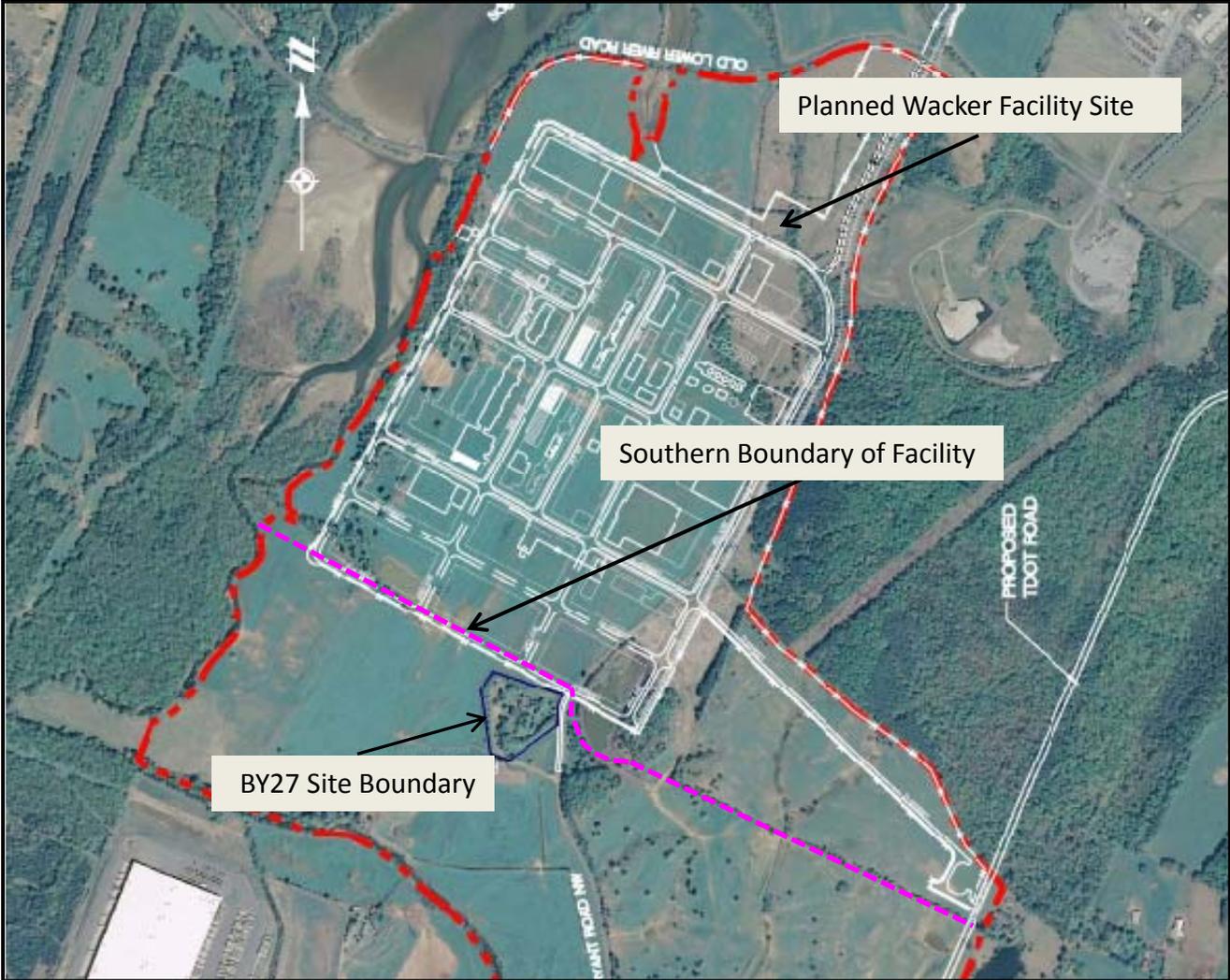
The Secretary of the Interior's Standards for Rehabilitation

The Standards (Department of Interior regulations, 36 CFR 67) pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior, related landscape features and the building's site and environment as well as attached, adjacent, or related new construction. The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

- 1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.**
- 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.**
- 3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.**
- 4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.**
- 5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.**
- 6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.**
- 7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.**
- 8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.**
- 9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.**
- 10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.**

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Attachment L – Estimated Wacker Property Boundaries



Wacker Chemie Poly 11

Approximate Property Boundaries

- - - - - Wacker Property Boundary
- - - - - Southern Boundary of Facility
- BY27 Property Boundary