WACKER

NRI201026 - Issued

WL-lij ✓

ARAP application

Jeremy Copeland, CHMM
Environmental Manager

Wacker Polysilicon North America, LLC
P.O. Box 446
Charleston, TN 37310-0446
Tel. 423-780-7953
jeremy.copeland@wacker.com

JHH

March 15, 2012

fee: Wacker 2012 (Bradley)

Tennessee Department of Environment & Conservation
Division of Water Pollution Control
540 McCallie Avenue
Ste. 550 State Office Building
Chattanooga, TN 37402
Attn: Dr. Richard Urban
UPS Tracking No: 1ZA65 60Y 01 9563 0059

Subject: Wacker Polysilicon North America, ARAP Application for Wacker Construction Entrance

Dear Dr. Urban,

Enclosed please find our completed ARAP application for placement of a culvert and related activity into an unnamed tributary draining to South Mouse Creek for access onto our construction entrance.

If you have any questions regarding the application, please contact me at (423) 780-7953 or Mike Kendall at (423) 780-8099 in my absence.

Cordially,

Jeremy Copeland, CHMM
Environmental Manager
Wacker Polysilicon North America, LLC

Cc: Mike Kendall, Team Leader, Atwell, LLC

Enclosure: ARAP Application

See attached email

RECEIVED
MAR 20 2012
ENVIRONMENT & CONSERVATION
CHATTANOOGA FIELD OFFICE

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
APPLICATION FOR AQUATIC RESOURCE ALTERATION PERMIT (ARAP)
&
STATE §401 WATER QUALITY PERMIT

Section 1: Applicant Information An application submitted by a corporation must be signed by a principal executive officer; from a partnership or proprietorship, by the partner or proprietor respectively; from a municipal, state, federal or other public agency or facility, the application must be signed by either a principal executive officer, ranking elected official or other duly authorized employee.

Name: Dr. Konrad Bachhuber		**Title or Position:** Vice President and Site Manager		
Company Name: Wacker Polysilicon North America LLC				
Mailing Address: P.O. Box 446		**City:** Charleston	**State:** Tennessee	**Zip:** 37310-0446
Phone: 423.780.8800	**Fax:** 517.264.4003	**E-mail:** konrad.bachhuber@wacker.com		
Section 2: Alternate contact within your organization (not required)				
Name: Mr. Jeremy Copeland		**Title or Position:** Environmental Manager		
Mailing Address: P.O. Box 446		**City:** Charleston	**State:** Tennessee	**Zip:** 37310-0446
Phone: 423.780.7953	**Fax:** 517.264.4003	**E-mail:** jeremy.copeland@wacker.com		
Section 3: Consultant Information (a consultant is not required)				
Name: Mr. Michael Kendall		**Title or Position:** Team Leader		
Company Name: Atwell LLC				
Mailing Address: P.O. Box 460		**City:** Charleston	**State:** Tennessee	**Zip:** 37310-0460
Phone: 423.443.6412	**Fax:** 615.332.8415	**E-mail:** mkendall@atwell-group.com		

→ Place a * next to the individual's name listed above that should be the primary contact during the application process ←

Section 4: Fee (check appropriate box and submit appropriate fee with application)

Amount of fee:

☐ **$50.00** ☐ **$1,000.00** ☐ **$2,500.00** ☒ **no fee required**

Requests for General Permit coverage require no fee. Requests for Individual Permit alterations on private farms and residences require a $50.00 application fee. Requests for Individual Permit alterations less than 1,000 feet of stream or less than 10 acres of wetland require a $1,000.00 application fee. Requests for alterations over 1,000 feet of stream and greater than 10 acres of wetlands require a $2,500.00 application fee. (Checks payable to Treasurer, State of Tennessee.)

Section 5: Project Details (fill in information and check appropriate boxes)

Project / Site Name: P/5011 - Poly 11 / 564 Acre Industrial Site

Nearest City, Town or Major Landmark: Charleston, TN	**County:** Bradley

Resource Proposed for Alteration:

☒ **Stream** ☐ **Wetland** ☐ **Reservoir**

Name of Resource: Unnamed tributary to South Mouse Creek

Latitude: (decimal degrees, NAD83): 35.2877

Longitude: (decimal degrees, NAD83): -84.8061

Type of proposed alteration(s):

☒ **Road Crossing**
☐ **Utility Line**
☐ **Intake/Outfall Structure**
☐ **Stream or Wetland Restoration**
☐ **Wetland Fill/Excavation**
☐ **Other:**
☐ **Dredging**
☐ **Launching Ramp**
☐ **Bank Stabilization**
☐ **Maintenance Activities**
☐ **Water Withdrawal**

Brief Project Description (a more detailed description is requested in Section 8):
The applicant is constructing a new hyperpure polysilicon manufacturing facility. This application is for the installation of a box culvert for a road crossing from the completed construction parking lot to the existing GE entrance.

Do any other alterations require approval from any other state, federal, or local government agency associated with the project site? If yes, provide brief description and status of approval.
USACOE - Section 404 Clean Water Act Permit - applied and pending
TVA - joint with USACOE

Section 6: Directions to Project Site

From Cleveland, Tennessee proceed north on Interstate Highway I-75 to exit 33 (Charleston). The off ramp connects to Lauderdale memorial highway turn left at the first traffic light. The unnamed stream will be on the right.

Section 7: Project Schedule (fill in information and check appropriate boxes).

How long will it take to perform the proposed activity?
Approximatley 2 weeks

Is any portion of the activity complete now? ☐ **Yes** ☒ **No**
If yes, describe the extent of the completed portion below:

The required information in sections 8 - 12 must be submitted on a separate sheet(s) and submitted in the same numbered format as presented. If you believe that a certain request does not pertain to your project, explain the reason.

Section 8: Project Description

8.1 A narrative description of the scope of the project
8.2 USGS topographic map indicating the exact location of the project (can be photographic copy)
8.3 Photographs of the resource(s) proposed for alteration with location description (photo locations should be noted on map)
8.4 A narrative description of the existing stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation
8.5 A narrative description of the proposed stream and/or wetland characteristics including, but not limited to, dimensions (e.g., depth, length, average width), substrate and riparian vegetation
8.6 In the case of wetlands, include a wetland delineation with delineation forms and site map denoting location of data points

Section 9: Purpose and Justification

9. Describe the purpose for the proposed activity and overall project

Section 10: Alternatives

10. Describe all practicable alternatives considered, including what has been done to avoid or minimize impacts to streams or wetlands. For activities not covered by General Permit, each alternative must include the following: (1) feasibility, (2) environmental consequences and (3) social and economic benefits of each alternative.

Section 11: Mitigation

11.1 A detailed discussion of the proposed mitigation, if required
11.2 If you believe mitigation is not required, state the reason or cite the regulation to support this position
11.3 A detailed discussion of why you believe the mitigation would result in no net loss of resource value
11.4 A detailed description of the proposed monitoring plan for the mitigation site
11.5 A discussion of long term protection measures for the mitigation site

Section 12: Technical Information

12.1 Detailed plans, blueprints, or legible sketches of present site conditions and the proposed activity. Plans must be 8.5 x 11 inches. Additional larger plans may also be submitted to aid in application review. The detailed plans need to include dimensions of the existing and proposed stream or wetland such as depth, length, average width, substrate and riparian vegetation.
12.2 If mitigation is proposed, submit detailed plans, blueprints, or legible sketches of the proposed mitigation
12.3 For both the proposed activity and mitigation, provide a discussion regarding the sequencing of events
12.4 Location and type of erosion prevention and sediment control measures for the proposed alterations
12.5 A discussion on how the proposed activity will be performed (construction methods)
12.6 A copy of all hydrologic or jurisdictional determination documents issued for the water resources on the project site.

Section 13: Certification and Signature:

I certify under penalty of law that this document and all attachments were prepared at my request or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Dr. Konrad Bachhuber	VP and Site Manager	Bachhuber	03/13/2012
Printed Name	Official Title	Signature	Date

Section 14: Where do I send my application?

For General Permit coverage, submit the original completed and signed application to the local Environmental Field Office (EFO) for the county of your activity. Addresses of the EFOs are listed below. Mark the application ATTN: Water Pollution Control. Submit all applications for Individual ARAPs to the Natural Resources Section at the following address, and send a copy to the appropriate EFO.

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

Jackson EFO	Nashville EFO	Cookeville EFO	Johnson City EFO
1625 Hollywood Drive 38305 Phone: 731-512-1300 Counties: Benton, Carroll, Chester, Crockett, Decatur, Dyer, Gibson, Hardeman, Hardin, Haywood, Henderson, Henry, Lake, Lauderdale, Madison, McNairy, Obion, Weakley	711 R. S. Gass Boulevard 37243 Phone: 615-687-7000 Counties: Cheatham, Davidson, Dickson, Houston, Humphreys, Montgomery, Robertson, Rutherford, Stewart, Sumner, Trousdale, Williamson, Wilson	1221 South Willow Ave. 38506 Phone: 931-432-4015 Counties: Cannon, Clay, Cumberland, Dekalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren, White	2305 Silverdale Road 37601 Phone: 423-854-5400 Counties: Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington
Memphis EFO	**Columbia EFO**	**Chattanooga EFO**	**Knoxville EFO**
2510 Mt. Moriah Road STE E-645 Perimeter Park 38115 Phone: 901-368-7939 Counties: Fayette, Shelby, Tipton	2484 Park Plus Drive 38401 Phone: 931-380-3371 Counties: Bedford, Coffee, Franklin, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Wayne	540 McCallie Avenue STE 550 State Office Building 37402 Phone: 432-634-5745 Counties: Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie	3711 Middlebrook Pike 37921 Phone: 865-594-6035 Counties: Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union

Section 15: Administrative Information (Official Use Only).

Date Received:	File# assigned	Fee paid: ☐ Yes ☐ No ☐ N/A Ck #	Application administratively complete: ☐ Yes ☐ No	Complete Application date:

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Application for Aquatic Resources Alteration Permit

For

WACKER POLYSILICON NORTH AMERICA, LLC
CONSTRUCTION ACCESS ENTRANCE
1520 Lauderdale Memorial Highway
Charleston, Bradley County, Tennessee 37310

Prepared for:

Dr. Konrad Bachhuber
Wacker Polysilicon North America, LLC
553 McBryant Road NW, PO Box 446
Charleston, Tennessee 37310-0446

Atwell, LLC
Project No. 08003466.06

March 8, 2012

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Appendices:

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1.0 APPLICANT INFORMATION

Wacker Polysilicon North America LLC (applicant) site is located at 553 McBryant Road NW in Bradley County, Charleston, Tennessee 37310. The primary contact is:

Dr. Konrad Bachhuber, V.P. and Site Manager
Wacker Polysilicon North America LLC
P.O. Box 446
Charleston, Tennessee 37310-0446
Phone 423.780.8800

2.0 ALTERNATE CONTACT

The applicant's alternate contact is:

Mr. Jeremy Copeland, Environmental Manager
Wacker Polysilicon North America LLC
P.O. Box 446
Charleston, Tennessee 37310-0446
Phone 423.780.7953

3.0 CONSULTANT CONTACT

The applicants' consultant contact is:

Mr. Michael Kendall, PG, Team Leader
Atwell, LLC
P.O. Box 460
Charleston, Tennessee 37310-0460
Phone 423.780.8099

4.0 APPLICANT FEES

The applicant's impact is less than one tenth of an acre and falls under general permit conditions and therefore a fee is not expected to apply.

5.0 PROJECT DETAIL

The applicant project is a small box culvert to provide a road crossing over an unnamed tributary that drains into mouse creek. From the crossing the unnamed tributary is a man-made section that runs straight to mouse creek and intersects mouse creek at approximately the 2.5 mile marker. The center of the box culvert at the crossing is located at Latitude35° 17' 15.9936" and Longitude84° 48' 21.79351" which converts to Latitude35.2877 and Longitude-84.806054.

5.1 PROJECT DESCRIPTION

The applicant is proposing to construct an access road over an unnamed tributary to provide construction access to their manufacturing facility currently under construction for production of hyperpure polycrystalline silicon (Polysilicon) for the solar cell industry in Bradley County,

Tennessee. This document was prepared by Atwell, LLC (Atwell) to address the proposed project in accordance with Tennessee Department of Environment and Conservation (TDEC) for impacts to Waters of the United States in association with the project.

The immediate project, which is part of the overall 564 acre development, will include installation of a box culvert into the unnamed tributary filling to the surface and connecting a road from the entrance at 1520 Lauderdale Memorial Highway Charleston, Tennessee (see attached Plan Set) to the applicants existing construction parking lot (hereafter referred to as connection). Site work, grading, excavation, road construction, will occur between the existing parking lot constructed by the applicant and the adjoining entrance to the west that service the warehouse used for storage of General Electric products. The impacts in this small area will result from placement of a box culvert into the unnamed tributary.

Atwell conducted a field investigation of the entire property in September and November 2008 to determine the location and extent of potential waters of the United States, including streams and wetlands. A site reconnaissance was conducted again on April 13, 2011 to confirm and/or revise presence of wetlands within the utility corridor on a related construction project that included this construction access area.

5.2 APPLICABLE AGENCIES

1. United States Army Corp of Engineers

   The ACOE administers a regulatory program under Section 404 of the Clean Water Act (CWA). Section 404 requires prior authorization from the ACOE for the discharge of dredged or fill material into Waters of the U.S., including wetlands. The term "discharge of dredged material" means any addition of dredged material into Waters and the term "discharge of fill material" mean the addition of fill material into Waters. Authorization is granted via a permitting process that follows CFR Title 33, Sections 320-332.

   Under Section 404 of the Clean Water Act (33 U.S.C 1344), the ACOE takes jurisdiction over "waters of the U.S." including wetlands, streams, and water bodies that are adjacent to or have a significant nexus to a Traditional Navigable Water (TNW). Wetlands or streams that would be defined as waters of the U.S. would fall under the jurisdiction of the ACOE. Discharge of dredged or fill material into waters of the U.S. requires a Section 404 permit from the ACOE.

   According to ACOE, the work meets the criteria for authorization under a general permit which is expected to be received on March 12, 2012.

2. Tennessee Department of Environment and Conservation

   Regulation of wetlands, watercourses and bodies of water is further provided under Section 401 of the Clean Water Act (33 U.S.C. 1341) and the Tennessee Water Quality Control Act (TCA §69-3-108). Section 401 Water Quality Certification from TDEC stating that an activity will not violate state water quality standards is necessary for issuance of a Section 404 permit. The Tennessee Water Quality Control Act regulates activities that may result in the alteration of any "waters of the state," including wetlands. An Aquatic Resource Alteration Permit (ARAP) from TDEC is required for any alteration of state waters, including wetlands that do not require a federal permit.

In addition, the Tennessee Water Quality Act of 1977 provides that it is unlawful for any person, except in accordance with the conditions of a valid permit, to carry out any activity which may result in the alteration of any Waters of the State, including wetlands. These activities include discharge of dredge or fill material, dredging, stream channel modifications, water withdrawals, alterations to wetlands, and any other construction activity (Ch 1200-4-7, TDEC).

3. Tennessee Valley Authority

The Tennessee Valley Authority (TVA) has been given authority within the Tennessee River watershed to regulate activities along shorelines. The TVA Act is legislation passed by Congress in 1933 that established the TVA. TVA and USACE have a memorandum of understanding and permitting fall under USACE jurisdiction with concurrence from TVA. This concurrence is obtained from TVA by the USACE.

Due to the limited nature of development, the immediate project falls under jurisdiction of the TDEC and the United States Army Corps of Engineers (USACE). USACE permission was applied for on March 8, 2012 and is expected March 12, 2012. USACE will receive confirmation from the Tennessee Valley Authority (TVA) through their agency joint memorandum of understanding, since this project falls under USACE as the lead agency.

6.0 PROJECT LOCATION

The subject property is located northeast of the City of Cleveland in Bradley County, Tennessee. The area around connection is bordered on all sides by the Industrial Development Board of Cleveland. The surrounding land uses include agricultural areas, and industrial development. The site is located within the USGS Charleston Quadrangle. From I-75 at exit 33 head east on Lauderdale Memorial Highway approximately 0.5 mile to the first traffic light then west and the connection is on the right within approximately 500 feet.

7.0 PROJECT SCHEDULE

Project supplies are due for delivery by mid April. The project work will then be completed within approximately two weeks.

8.0 PROJECT DESCRIPTION

The applicant has fully permitted, and begun construction, on a new hyperpure Polysilicon manufacturing facility. The facility will provide a silicon product to the photovoltaic market. This immediate project permit request involves installation of a connection from the site construction entrance to the newly installed traffic light on Lauderdale Memorial Highway. The connection is approximately 50 feet wide by approximately 150 feet long connecting applicant's construction parking lot to the GE entrance.

8.1 PROJECT SCOPE

The immediate project, which is part of the overall 564 acre development, will include installation of a box culvert into the unnamed tributary, filling to the surface, and connecting a road from the

entrance at 1520 Lauderdale Memorial Highway Charleston, Tennessee (see attached Plan Set) to the applicants existing construction parking lot.

8.2 TOPOGRAPHIC SETTING

The USGS Topographic Quadrangle Map for Charleston, Tennessee indicated that the subject property ranges in elevation between 695 and 706 feet above sea level. Relatively flat topography exists across the immediate project site. In terms of land cover and use, the subject property is depicted much the same as it appeared during the site inspection. The majority of the property is previously disturbed, developed land.

The map indicates cleared land back to the 1960's.

The map indicates this areas surface drainage has been reduced in size by the construction of I-75 and the neighboring Amazon project. Maps are presented in *Appendix A, Maps*.

8.3 SITE PHOTOGRAPHS AND PHOTOGRAPH LOCATION MAP

A photograph log containing a representative depiction of the site and its resources, and all surface water features proposed to be impacted by the project, has been included in *Appendix B*. A Photograph Location Map showing the photograph number and direction as it corresponds to the photographs presented in the log has also been included. This location map has been overlaid with a recent aerial photograph of the site and included in *Appendix B, Aerial Photo*.

8.4 EXISTING STREAM AND WETLAND CHARACTERISTICS

This connection is proposed for development across already industrially owned land. No wetlands, other than minor wetland fringe in the unnamed tributary are present. Due to the minor and insignificant nature of the stream work, mitigation is not proposed. A substantial amount of wetland mitigation was previously approved for the applicant's facility that has already been permitted. The stream is manmade and proceeds in a straight line from Lauderdale Memorial Highway to its connection point on South Mouse Creek which is at South Mouse Creeks approximate 2.5 mile marker.

8.5 DESCRIPTION OF PROPOSED IMPACTS TO SURFACE WATERS

No trees are present in the area of construction. A box culvert will be placed into the unnamed tributary utilizing bypass structures for any water flow. Upon install and backfill, the bypass structure would be removed.

8.6 WETLAND DELINEATION INFORMATION

Atwell conducted a field investigation of the property on April 13, 2011 to determine the location and extent of potential waters of the United States, including streams and wetlands. Identification of potential jurisdictional wetlands required characterization of plant community types, identification of hydric soils and hydrologic indicators for each community type. Areas identified as potential Waters of the U.S. and areas that exhibited all three indicators of potential jurisdictional wetlands were noted.

The delineation found no wetland area outside of the unnamed stream.

9.0 PURPOSE AND JUSTIFICATION

The applicant is currently the world's second largest producer of hyperpure Polysilicon for the semiconductor and photovoltaic industry. In an effort to meet the demand for solar-silicon to the photovoltaic's industry within North America the applicant has determined a need for a manufacturing facility in the United States. The overall site location was chosen based on several criteria. The land in Bradley County offers adequate space for a new integrated silicon-based manufacturing site. A redundant power supply will be provided by a TVA substation located along the northern portion of the property along Old Lower River Road. The OLIN Corporation, which is another chemical manufacturing facility adjacent to the site to the northeast, will supply a local source of chlorine and numerous other products necessary for production. In addition, the Tennessee Department of Transportation (TDOT) will construct a new, wider road to service OLIN and other current and future industrial businesses and to a lesser degree the applicant's new plant. The major consideration for the new route is the alleviation of congestion and truck traffic in local residential areas and downtown Charleston, Tennessee. This congestion is currently a problem due to the poor condition of the Lower River Road bridge crossing over South Mouse Creek.

As part of the Phase I construction activity, and prior to the TDOT road construction, an alternate route was established into the site utilizing the existing Haney road located approximately 2 city blocks east of the connection area. Due to location and safety consideration the TDOT would not allow an alternate entrance. In communication and cooperation with TDOT, Amazon, and GE, it was decided that a shared entrance would be the best solution to keep traffic flow steady and safe and not pose a safety risk due to backups into the I-75 corridor. No mitigation is planned at this time.

10.0 PROJECT ALTERNATIVES

Alternate sites for the plant were evaluated outside Tennessee and outside the U.S. as detailed in section 10.4 below. Additionally, alternate locations for this applicants construction entrance were evaluated and this route was chosen due to the least amount of impacts to the environment as well as utilizing the same entrance as is currently being used by the GE Warehouse and Amazon facility. The discussion presented in the following sections addresses issues related to the preferred design of the connection.

10.1 PREFERRED DESIGN

The applicants' current development includes 273 acres. This acreage consists of the northern portion of the site extending south from Old Lower River Road and continuing south to just north of the former Wright House estate that is now part of the applicant's property.

Site clearing and grading allows for the development of a manufacturing facility containing a main plant, several warehouse facilities, administrative building, access roads and an extensive

system of above and below ground supply lines. During site grading activities approximately 4 million cubic yards of soil will be displaced during construction of the development.

The project requires a considerable amount of truck traffic averaging 200 to 400 trucks per day as a minimum, which is the basis for this application. The impacts will result from placement of a box culvert into the unnamed tributary to mouse creek.

10.2 SOCIAL AND ECONOMIC BENEFITS GAINED

The project will be the applicant's first hyperpure Polysilicon manufacturing plant outside of Europe. One hundred percent of the output from this project will be sold to the photovoltaic market.

The local economic benefit is substantial. Direct employment will total over 600 individuals once the facility is operational. Indirect employment will total 475 individuals for a total of over 1,075 new jobs in Bradley County.

10.3 SOCIAL AND ECONOMIC BENEFITS LOST

This connection area is already industrially owned land. Given the type of industry, the demographics of the area, and the local industrial community, the applicant does not anticipate a loss of any social or economic benefits.

10.4 ALTERNATIVE SITE SELECTION

The subject site was chosen not only because of the existing and proposed infrastructure, but also for the support and cooperation of Bradley County and the State of Tennessee, and adjacent industry (OLIN Corporation). Several incentives including transportation access, a reliable source of water, and electric based energy were presented to the applicant. The construction of this facility will take the lead in a push by the State to make renewable energy an integral part of Tennessee's economy.

Several other locations outside of Tennessee and outside the U.S. were reviewed for development; please reference previous site development applications for further detail.

10.5 AVOIDANCE, MINIMIZATION AND ALTERNATIVE DESIGNS

As mentioned in the previous sections, alternative sites were reviewed. Small variations of the preferred design grading and excavation limits have been reviewed in an effort to avoid and minimize impacts to streams, wetlands, and floodways. The route chosen was based upon communication and coordination with TDEC, TDOT, and the adjoining property occupants (GE and Amazon) to minimize impacts within the chosen route. The previously approved permit did include some wetland and stream mitigation that was permitted for the applicants facility that has begun construction. Very minor impacts will be encountered in the connection area.

11.0 PROPOSED MITIGATION

Due to the minor and insignificant nature of the wetland impacts being less than 1/10 of an acre, mitigation related to this connection in the unnamed tributary is not proposed. A substantial amount of wetland mitigation was previously approved for the applicant's facility that has already been permitted. If the agencies determine that mitigation is required for the impacts resulting from the connection, mitigation can be added to the existing facility mitigation plan.

12.0 TECHNICAL INFORMATION – PREFERRED DESIGN

12.1 SITE PLANS

Site grading plans, surface water feature impact maps, and other pertinent drawings and mapping are included in *Appendix D, Photos and Figures*.

12.2 MITIGATION PLANS

As stated previously, no mitigation is planned for this connection through an unnamed tributary. If the agencies determine that mitigation is required for the impacts resulting from the connection, the mitigation can be added to the existing facility mitigation plan.

12.3 SEQUENCING OF EVENTS – PROJECT CONSTRUCTION AND MITIGATION TIMING

Site clearing and grading for the project has commenced as of January 2011. The connection is expected to commence within 6 weeks of this writing, mid to late April (depending on material delivery dates) and will take approximately two (2) weeks to complete. The completion timing is crucial to preventing traffic backups from supply arrivals which will increase dramatically in the next few months and through project completion. Mitigation of the connection is not expected.

12.4 SEDIMENT AND EROSION CONTROL

The construction plans for the proposed project will include the use of site-appropriate Best Management Practices (BMP's) to manage the stormwater runoff during construction activities. BMP's will be installed to prevent sediment laden runoff from flowing into the surrounding wetlands and streams. Sediment fencing will be placed throughout all stages of construction to manage sheet flow runoff. BMP's will continue to be installed and maintained as construction continues on the site. The construction time at the connection is short and therefore permanent seeding application will be used at the end of the construction process to stabilize disturbed areas.

All sediment controls that are utilized will be regularly inspected and maintained until the site has been permanently stabilized. The establishment of a vegetative cover will decrease erosion potential and assist the sediment controls installed during construction.

The applicant will apply for general storm water permit coverage in compliance with national storm water permit regulations. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and kept on-site for TDEC-DWPC and public review. All SWPPP measures will be appropriately implemented.

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12.5 CONSTRUCTION METHODS

Conventional construction methods for clearing, grading, and conducting general earthwork will be utilized. Typical heavy construction equipment will also be utilized during site preparation.

12.6 AGENCY DETERMINATIONS

Applicable agency evaluations, permissions and determinations were obtained as required. The applicant has a determination from the United States Fish and Wildlife Service (USFWS) of No Sensitive or Endangered Species within the project site area. Please see Appendix D, USFWS Determination for a copy of this determination

12.7 ARCHAELOGICAL AND HISTORICAL PRESERVATION

This project is an extension of the previous ARAP submittal. A Phase I Archaeological Survey is deemed not necessary as this connection appears to have been cleared and graded previously.

13.0 CITATIONS

Federal Register 1980. *40 CFR Part 230: Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material.* U.S. Government Printing Office, Washington, DC Vol. 45, No. 249, pp. 85352-3.

Federal Register. 1982. *Title 33: Navigation and Navigable Waters; Chapter II, Regulatory programs of the Corps of Engineers.* U.S. Government Printing Office, Washington, DC Vol. 47, No. 138, p31810.

Tennessee Department of Environment and Conservation (TDEC)-Division of Water Pollution Control: General Permits, Aquatic Resource Alteration Permit Program

Tennessee Department of Environment and Conservation – Water Pollution Control Board. April 1987. Chapter 1200-4-7 Aquatic Resource Alteration Rules.

U.S. Army Corps of Engineers (ACOE)-Clean Water Act, Section 404,

www. usace.army.mil/inet/functions/cw/cecwo/reg/

United States Department of Agriculture - (Soil Conservation Service) Natural Resources Conservation Service. USDA-NRCS. 2009. *NRCS Web Soil Survey for Bradley County* available online: http://websoilsurvey.nrcs.usda.gov/app/ and the National Hydric Soils List by: http://soils.usda.gov/use/hydric/

United States Department of the Interior-Fish and Wildlife Service. 1995. Digital National Wetland Inventory Maps. Bradley County, Tennessee. http://www.fws.gov/wetlands/

United States Geological Service. USGS. 1982. *Charleston, Tennessee* Quadrangle, 7.5 minute series (Topographic). Maps prepared by the U.S. Geological Survey

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University of Tennessee Center for Business and Economic Research. 2008. Economic Impact Model for the Wacker Chemie Site. Prepared for the Cleveland/Bradley Chamber of Commerce.

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APPENDIX A

MAPS

553 McBryant Road NW | Charleston, TN 37310 | 423.665.3263 Tel | 248.447.2001 Fax | www.atwell-group.com

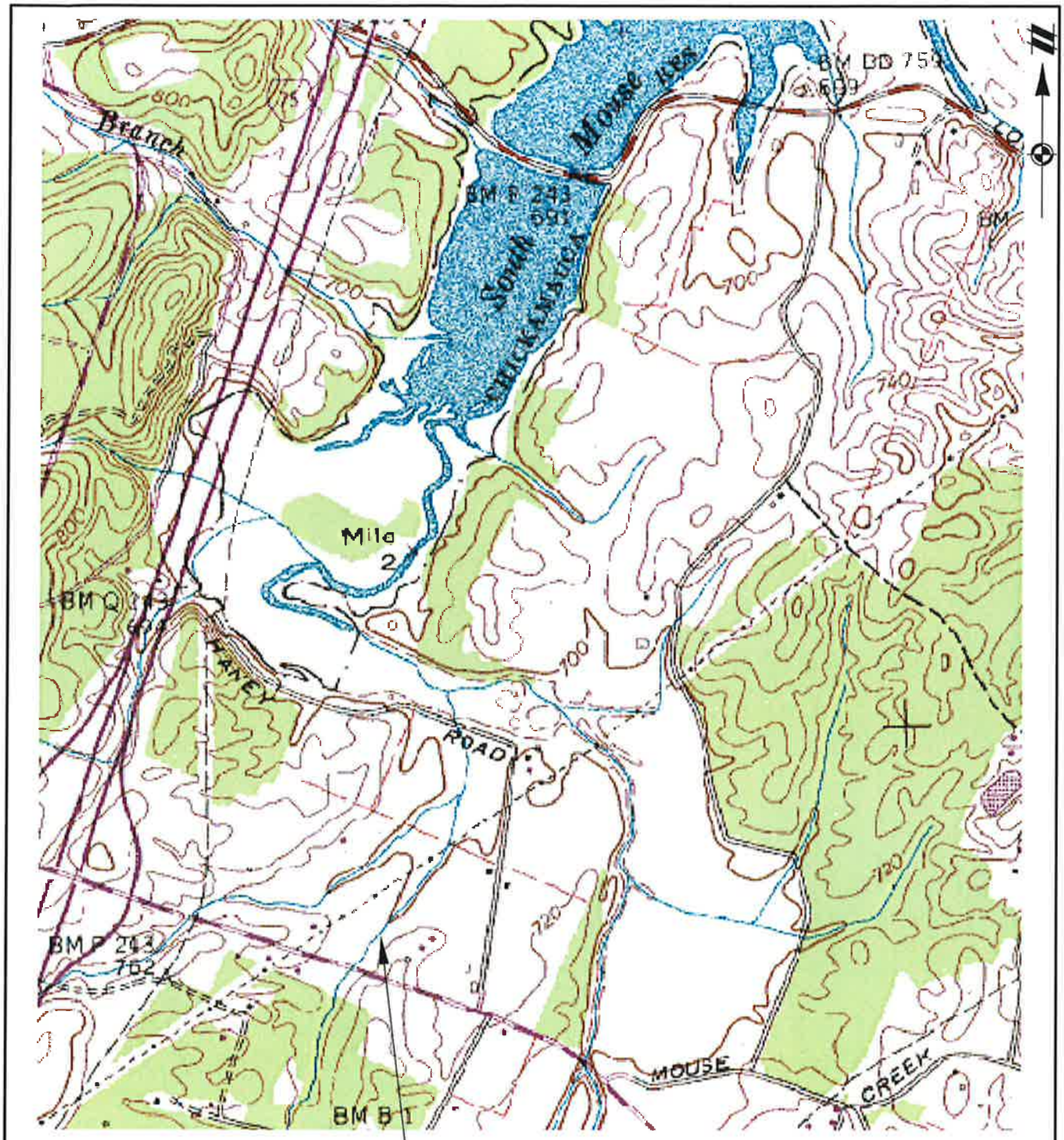


FIGURE 8.2: USGS TOPOGRAPHIC MAP

BRADLEY COUNTY, TENNESSEE

REFERENCE

USGS 7.5 MIN TOPOGRAPHIC QUADRANGLE
CHARLESTON, TENNESSEE QUADRANGLE
DATED: 1982

PROJECT: 08003466
DATE: MARCH 09, 2012
DRAWN: EWH
CHECKED: MAA
CAD FILE: 08003466BOX-CULVERT-01

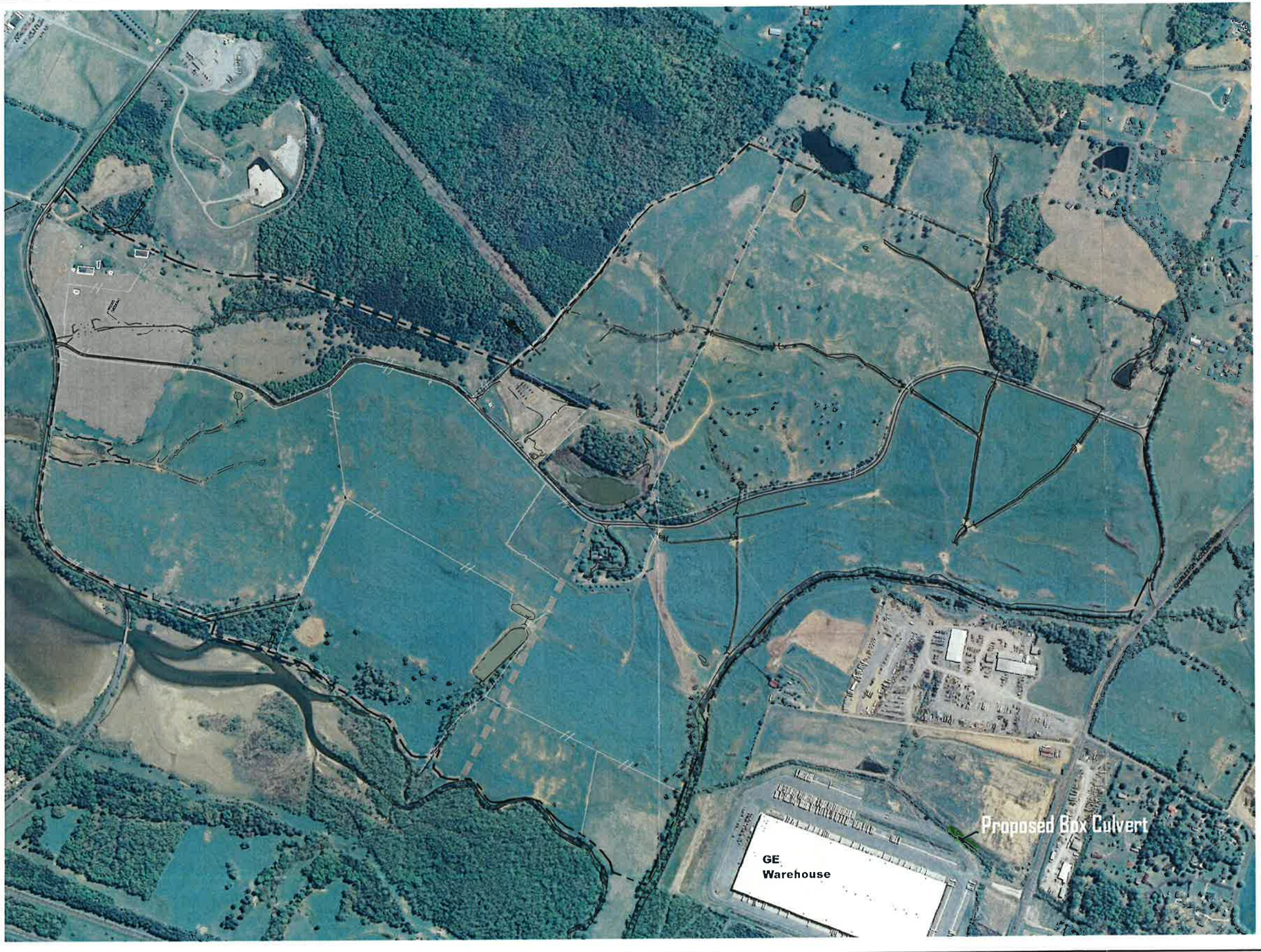
ATWELL
866.850.4200 | www.atwell-group.com
OFFICES IN NORTH AMERICA AND ASIA
655 GRASSMERE PARK DRIVE
SUITE 103
NASHVILLE, TN 37211
615.332.0414

ATWELL

APPENDIX B

AERIAL PHOTO

553 McBryant Road NW | Charleston, TN 37310 | 423.665.3263 Tel | 248.447.2001 Fax | www.atwell-group.com



SCALE 0 400 800

1" = 800 FEET

BOX CULVERT LOCATION
SKETCH MAP

BRADLEY COUNTY, TENNESSEE

PROJECT: 08003466.02
DATE: MARCH 09, 2012
DRAWN: TPS
CHECKED:
CAD FILE: 08003466EC-06

ATWELL
866.850.4200 | www.atwell-group.com
OFFICES IN NORTH AMERICA AND ASIA
658 GRASSMERE PARK DRIVE
SUITE 103
NASHVILLE, TN 37211
615 332 8414

ATWELL

APPENDIX C

PHOTOS AND FIGURES

Unnamed Tributary looking west (GE Warehouse beyond)

Unnamed Tributary looking west (GE Warehouse beyond)

Unnamed Tributary looking west (GE Warehouse beyond)

Unnamed Tributary looking northwest (GE Warehouse beyond)

Unnamed Tributary looking southwest (GE Warehouse beyond)

Unnamed Tributary looking west, stream flow to right (GE Warehouse beyond)

Unnamed Tributary looking northwest, stream flow to right (GE Warehouse beyond)

Unnamed Tributary stream flow to the right

LEGEND

- 10" BASE STONE ON GEOTEXTILE FABRIC (TYPAR 3601 OR APPROVED ALTERNATE)
- 6" BASE STONE ON GEOTEXTILE FABRIC (TYPAR 3601 OR APPROVED ALTERNATE)
- 10" BASE STONE W/ 3% CEMENT STABILIZATION

TOTAL NUMBER OF CONCRETE BUMPER BLOCKS = 574

TOTAL NUMBER OF PERSONAL PARKING SPACES = 952

TOTAL NUMBER OF TRUCK PARKING SPACES = 39

DENOTES BUS TRAVEL ROUTE

811 Know what's below. Call before you dig.

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NOTICE:

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Index	Alteration	Date	Name	Company
	Date / Name / 1) Supplier:			Subcontractor of 1)
Drawn				
REV. 20.0	SHOW BOX CULVERT GRADING NEAR G.E.	02-21-2012	ATG	ATWELL
REV. 19.0	REVISED PADS 5 & 7, ADDED DETAILS F1-F5	02-17-2012	AWO	ATWELL
REV. 18.0	REVISED PAD SIZES	02-10-2012	AWO	ATWELL
REV. 17.0	[illegible] 1	[illegible]	AWO JRH	ATWELL
REV. 16.0	[illegible]	[illegible]	AWO AWO	ATWELL
Index	Alteration	Date	Name	Company

	Date	Name
Drawn	07-13-2011	ATG
Checked		
Norm tested		
Approved		

Wacker Polysilicon North America, LLC
Site Charleston Tennessee

ATWELL
441 DONELSON PIKE SUITE 350
NASHVILLE, TN 37214
615 332 8414

Scale: 1" = 60'

Tolerances ISO 8015

TEMPORARY PARKING LAYOUT

Document-Typ: CONSTRUCTION DOCUMENTS CONSTRUCTION INSTALLATION PLAN

Replaces:

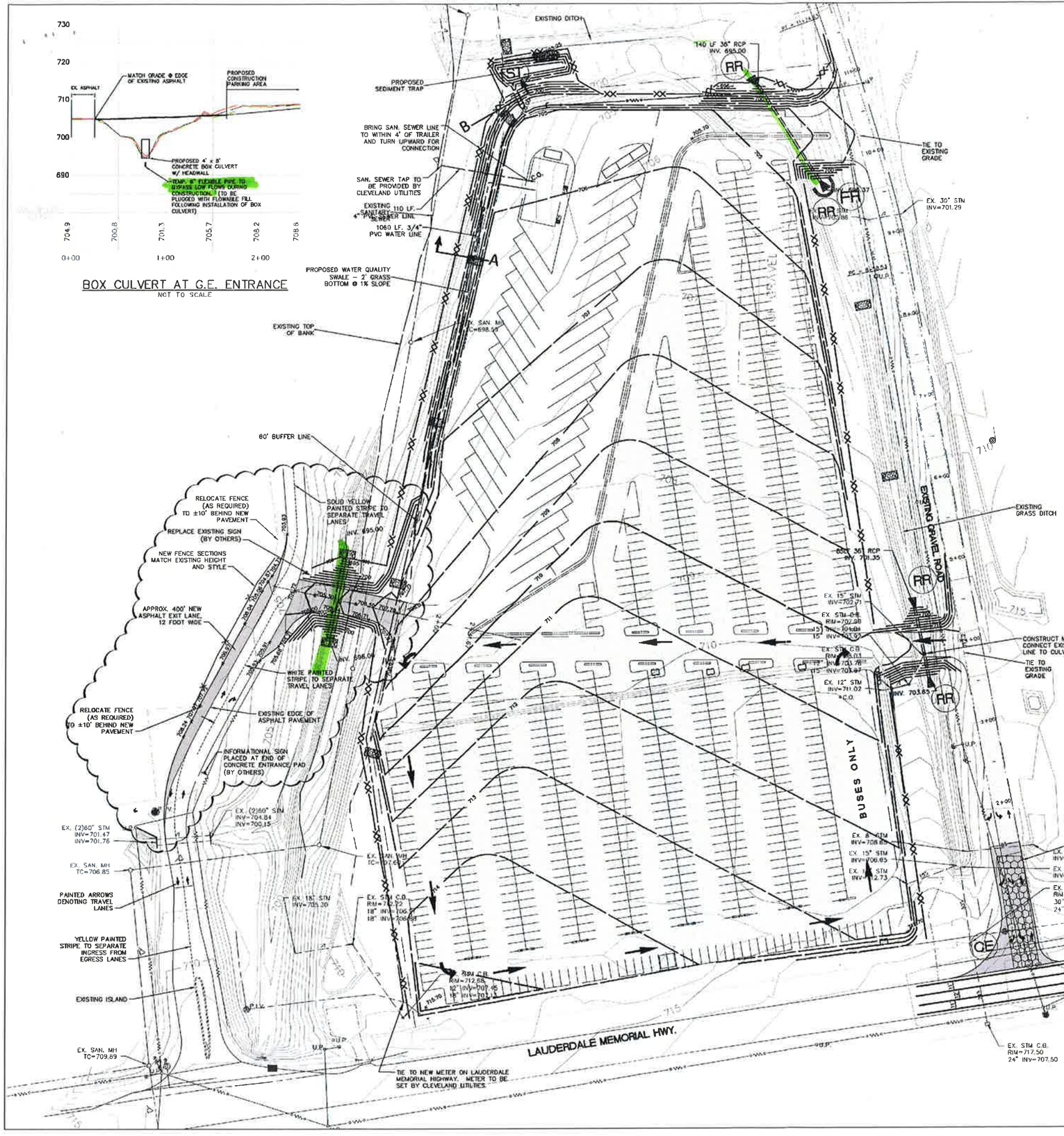
Replaced by:

Drawing-No.: C1.1

Based on Site Master Plan Rev. 3

CAD-No.: 08003468CP-02-L.dwg

BOX CULVERT AT G.E. ENTRANCE
NOT TO SCALE

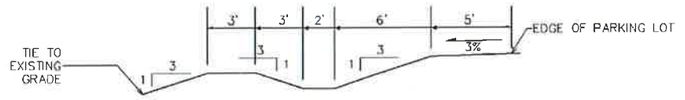


EXISTING FEATURES LEGEND

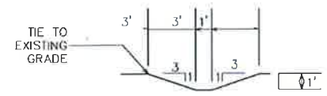
- EXIST CONTOUR
- EXIST SPOT ELEVATION
- EXIST. LIGHT POLE
- EXIST. UTILITY POLE
- EXIST. ELECTRIC TRANSFORMER
- EXIST. GAS RISER
- EXIST. CURB AND GUTTER
- EXIST. DECIDUOUS TREE
- EXIST. CONIFEROUS TREE
- EXIST. TREE OR BRUSH LIMIT
- EDGE OF WETLAND
- EXIST. FENCE
- EXIST. SIGN
- CENTERLINE OF DITCH OR EDGE OF WATER
- 10" BASE STONE ON GEOTEXTILE FABRIC (TYPAR 3601 OR APPROVED ALTERNATE)
- 4" BASE STONE ON GEOTEXTILE FABRIC (TYPAR 3601 OR APPROVED ALTERNATE)
- 10" BASE STONE W/ 3% CEMENT STABILIZATION

SOIL EROSION

- SF — TEMPORARY SILT FENCE WITH WIRE BACKING (EC-STR-3C)
- ST — TEMPORARY SEDIMENT TRAP WITH ROCK STABILIZED OUTLET
- CE — TEMPORARY CONSTRUCTION EXIT
- RR — RIP-RAP
- FR — STONE FILTER RING
- TCDB — TEMPORARY CHECK DAM (OR EROSION EEL AS APPROVED BY TDEC)



DRAINAGE DITCH 'A' DETAIL
NOT TO SCALE



DRAINAGE DITCH 'B' DETAIL
NOT TO SCALE

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DANIEL RAYMOND STREBEL — REGISTERED ENGINEER — STATE OF TENNESSEE
2/20/12

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Index	Alteration	Date	Name	Company
	Date Name 1) Supplier:			Subcontractor of 1)
Drawn				
REV. 21.0	ADD HANDHOLD FOR IT CONDUITS BETWEEN 7.0 AND 8.0	02-21-2012	ATG	ATWELL
REV. 20.0	SHOW BOX CULVERT GRADING NEAR G.E.	02-21-2012	ATG	ATWELL
REV. 19.0	REVISED PADS 5 & 7, ADDED DETAILS F1-F5	02-17-2012	AWO	ATWELL
REV. 18.0	REVISED PAD SIZES	02-10-2012	AWO	ATWELL
REV. 17.0	ADDED SWALE FROM WETLAND MITIGATION TO POND 1	02-02-2012	JRH	ATWELL

Index	Alteration	Date	Name	Company
Drawn	07-13-2011 ATG			
Checked				
Norm tested				
Approved				
Scale	1" = 60'			
Tolerances	ISO 8015			

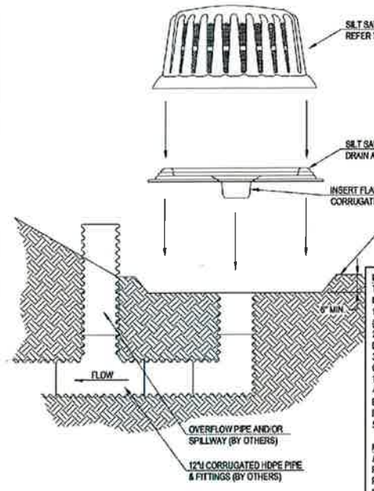
Wacker Polysilicon North America, LLC
Site Charleston Tennessee

ATWELL
441 DONELSON PIKE SUITE 350
NASHVILLE, TN 37214
615 332 8414

TEMPORARY PARKING AREA GRADING, UTILITIES, AND SOIL EROSION CONTROL PLAN

Drawing-No.: C2.1
Based on Site Master Plan Rev. 3

Document-Typ: CONSTRUCTION DOCUMENTS CONSTRUCTION INSTALLATION PLAN
Replaces:
Replaced by:
CAD-No.: 080034686CP-03-G.dwg



INSTALLATION
THE SILT-SAVER BDA-500 IS MANUFACTURED FOR EASY INSTALLATION IN DETENTION AND/OR SEDIMENT STORAGE AREAS:
1. INSTALL 12"ø CORRUGATED HDPE PIPE IN A VERTICAL POSITION (SUPPLIED BY PURCHASER).
2. LEVEL AND COMPACT BACK-FILL TO TOP OF PIPE. PROVIDE A 6" MIN. DEPRESSION FOR BACK-FILL AROUND BASE OF ATTACHMENT.
3. INSTALL BDA-500 ONTO PIPE. WHEN BDA-500 IS USED IN A HIGHLY CONCENTRATED FLOW AREA, CONTRACTOR SHALL ATTACH BDA-500 TO PIPE USING GALVANIZED SCREWS OR EQUIVALENT.
4. INSTALL SILT-SAVER R-100A FRAME AND FILTER ASSEMBLY ONTO BDA-500. R-100A SHALL BE SECURED BY FILLING FILTER POCKETS PER R-100A DETAIL.
5. BACK-FILL TO STABILIZE AS NECESSARY.

MAINTENANCE
ALL TEMPORARY EROSION, SEDIMENTATION, & POLLUTION CONTROL PRACTICES SHOULD BE INSPECTED DAILY. CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT AND DISPOSE OF IN A PROPER MANNER. INSPECT BDA-500 FOR MAINTENANCE OF PROPER CONNECTION. REPLACE OR REPOSITION AS NECESSARY.

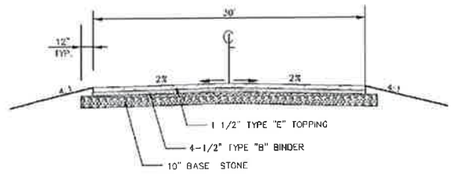
A.D.O.T. APPROVED FILTER IS TO BE USED.

SILT-SAVER
Sediment Control Products

BOTTOM DRAIN ATTACHMENT
Model # BDA-500

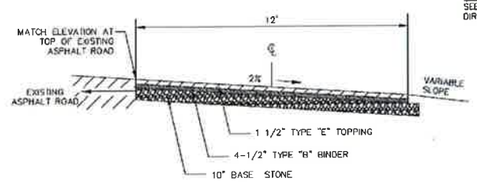
FRAME MATERIAL: BLACK 0.25" HMWPE
SCALE: NOT TO SCALE
LAST UPDATED: APRIL 2010

SILT-SAVER, INC. 1094 CULPEPPER DRIVE, CONYERS, GA 30094 PHONE: (770) 388-7818 FAX: (770) 388-7840 TOLL FREE: 1-888-362-SILT (7458) www.siltsaver.com

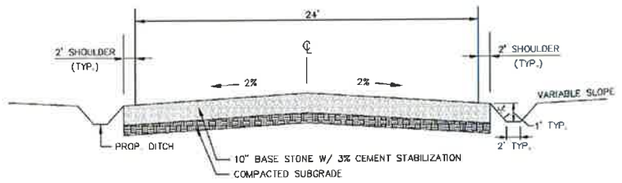


ASPHALT CROSS SECTION (STA. 0+00 TO STA. 1+50.00) ACROSS BOX CULVERT @ G.E. ENTRANCE
NO SCALE

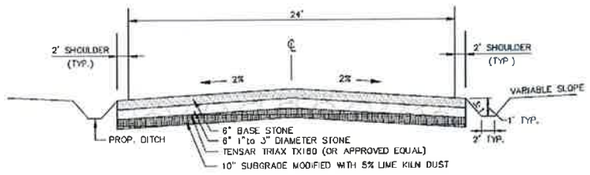
NOTE:
SEE GRADING PLAN FOR DIRECTION OF ROAD SLOPE.



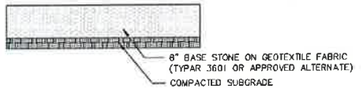
TYPICAL ASPHALT LANE ADDITION TO G.E. WAREHOUSE ACCESS ROAD
NO SCALE



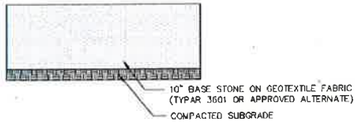
TYPICAL GRAVEL CONSTRUCTION ACCESS ROAD CROSS SECTION
NO SCALE



CROSS SECTION OF ACCESS ROAD TO TEMPORARY BRIDGE
NO SCALE
(FOR USE ON THE TEMPORARY 2ND AVENUE EXTENSION NORTH OF BRIDGE AND SOUTH OF SITE OFFICE PARKING AREA)



TEMPORARY CAR PARKING/LAY DOWN AREA CROSS SECTION
NO SCALE



TEMPORARY TRUCK PARKING AREA CROSS SECTION
NO SCALE

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DANIEL RAYMOND STREBEL — REGISTERED ENGINEER — STATE OF TENNESSEE
2/20/12

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REV. 19.0	REVISED PADS 5 & 7, ADDED DETAILS F1-F5	02-17-2012	AWO	ATWELL
REV. 18.0	REVISED PAD SIZES	02-10-2012	AWO	ATWELL
REV. 17.0	ADDED SWALE FROM WETLAND MITIGATION TO POND 1	02-02-2012	JRH	ATWELL
REV. 16.0	REVISIONS TO MULTIPLE TRANSFORMER LOCATIONS	02-01-2012	AWO	ATWELL
Index	Alteration	Date	Name	Company

	Date	Name
Drawn	07-13-2011	ATG
Checked		
Norm tested		
Approved		
Scale	NTS	
Tolerances	ISO 9016	

Wacker Polysilicon North America, LLC
Site Charleston Tennessee

ATWELL
441 DONELSON PIKE SUITE 350
NASHVILLE, TN 37214
615 332 8414

DETAIL SHEET

Drawing-No.: C8.0
Based on Site Master Plan Rev. 3

Document-Typ:
CONSTRUCTION DOCUMENTS
CONSTRUCTION INSTALLATION PLAN

Replaces:
Replaced by:
CAD-No.: 08003466CP-19-DT.dwg

ATWELL

APPENDIX D

USFWS DETERMINATION

553 McBryant Road NW | Charleston, TN 37310 | 423.665.3263 Tel | 248.447.2001 Fax | www.atwell-group.com

ATWELL

658 Grassmere Park Dr
Suite 103
Nashville, TN 37211

615.332.8414 Tel
615.332.8415 Fax

www.atwell-group.com

March 30, 2008

MAR 31 2010
CPA-0384

U.S. Fish and Wildlife Service
Cookeville Field Office
Lee Barclay, Field Supervisor
446 Neal Street
Cookeville, TN 38501

Atwell, LLC Project No. 08003466.02

RE: Threatened or Endangered Species Data Request
Proposed Wacker Chemie AG Facility (564-acres)
City of Cleveland, Bradley County, Tennessee

Dear Mr. Barclay:

I am writing to request a review of the property located near the intersection of Old Lower River Road and McBryan Road north of the city of Cleveland in Bradley County, Tennessee.

The subject property, which is 564-acres in size, is located northeast of the City of Cleveland in Bradley County, Tennessee. The site is bordered to the north by Old Lower River Road; to the east by woods, agricultural land, and residential property; to the south by agricultural and residential land and Mouse Creek Road; and to the west by South Mouse Creek. McBryant Road extends through the center of the property from Old Lower River Road to Mouse Creek Road. The surrounding land use includes pasture areas, wetland systems, South Mouse Creek, and industrial development. The site is located within the USGS Charleston Quadrangle.

The proposed development will result in the disturbance of the majority of the site. An application for authorization to impact wetlands and streams will be submitted to the Army Corps of Engineers and the Tennessee Department of Environment and Conservation concurrently with this request. This project is not federally funded.

Responses may be sent to:
Sean Peffer
Atwell, LLC
658 Grassmere Park Drive, Suite 103
Nashville, TN 37211
Mobile: (586)484-1488
E-mail: speffer@atwell-group.com

If you have any questions or concerns, please feel free to contact me at (586) 484-1488.

Sincerely,
ATWELL, LLC

Sean Peffer
Environmental Specialist
Ecological Services

Enc.

No significant impacts to wetlands are anticipated from this proposal. No federally listed endangered or threatened species, or habitat suitable for such species, are known to exist in the project area.

for Field Supervisor 4/21/10
U.S. Fish and Wildlife Service Date
Cookeville, TN 38501

Jennifer Innes

From: Michael J. Kendall <mkendall@atwell-group.com>
Sent: Thursday, March 29, 2012 4:24 PM
To: Jennifer Innes
Cc: Copeland, Jeremy
Subject: RE: ARAP for Wacker

Hi Jennifer,

The drawing shows three stream inverts, one up-stream, one 50 feet downstream (center of box), and the last at the downstream end of the box. The highest invert of the box culvert is 6 inches below the invert of the stream the other two box culvert inverts are >6 inches below the invert of the stream at their respective locations.

The box culvert is 100 feet long and the rip rap will add 8 feet to each end for a total of 116 feet.

Do you need any updates to the drawing? When we met with Dick and Micah we also relayed that we will install a check dam and not use the pipe diversion under the box culvert. Any water that accumulates upstream of the work area and check dam will be pumped around the work zone.

Best Regards,
Mike

Michael J. Kendall, PG
Team Leader
ATWELL, LLC
423.443.6412 Mobile
248.447.2001 Fax
553 McBryant Road NW PO Box 460 | Charleston, TN 37310
www.atwell-group.com
Local Real Estate Solutions | Worldwide

From: Jennifer Innes
Sent: Thursday, March 29, 2012 10:43 AM
To: 'jeremy.copeland@wacker.com'
Subject: ARAP for Wacker

Hi Jeremy

I am processing the ARAP for the new road crossing. What is the length of the proposed box culvert plus rip rap outlet protection? Also, can you verify that the bottom of the culvert is slightly below the bottom of the stream channel, per condition #5 of the general permit (attached)? I wasn't sure from the cross section which of the lines is the elevation of stream bottom.

Thanks
Jennifer

Jennifer Innes
TDEC Division of Water Pollution Control
Chattanooga Field Office
(423) 634-5719