

## ENVIRONMENTAL ASSESSMENT

(File No. 200701556)  
Applicant: City of Pigeon Forge

PROPOSED STREAM ENCAPSULATIONS AND CHANNEL RELOCATIONS  
AT UNNAMED TRIBUTARIES TO THE WEST PRONG LITTLE PIGEON RIVER,  
IN PIGEON FORGE, SEVIER COUNTY, TENNESSEE

U.S. ARMY CORPS OF ENGINEERS  
Nashville District, Regulatory Branch  
in cooperation with the  
TENNESSEE VALLEY AUTHORITY

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## 1.0 Proposed Activity

**1.1 Project Description.** The **City of Pigeon Forge (CPF)** proposes to extend Jake Thomas Road, widen Teaster Lane, expand the intersection at **Teaster Lane (TL)** and **Jake Thomas Road (JTR)**, and create a regional parking facility as part of its regional plan to address traffic problems in the city. The TL widening would occur from approximately (approx.) 2,200' east of the TL and JTR intersection to a point approx. 3,800' west of the intersection. The planned road improvements would serve a variety of developments including the proposed **Pigeon Falls Village (PFV)**, **Main Street Marketplace (MSM)**, and **West Terrace (WT)**. The JTR extension, which would be accessed in part by **Pigeon Falls Lane (PFL)**, would eventually link the Parkway (US 441/321) in Pigeon Forge to the Dollywood theme park and the Veterans Boulevard regional bypass.

**Proposed Impacts.** The proposed work would impact approx. 7,228' (6,291' culvert and 937' relocated channel) of several unnamed tributaries to the **West Prong Little Pigeon River (WPLPR)**. Some stream descriptions are provided below:

**Stream H.** This stream is located within the proposed JTR extension (east of the proposed PFV). It flows generally north-south to TL at the existing TL/JTR intersection. Approx. 3,299' would be filled. The upper portion of the channel is poorly defined but becomes more defined as it flows south toward TL. The average channel width is 2-4'. The substrate is primarily pebbles and silt. Flow is intermittent with average depths of 2-4". Macroinvertebrate life was observed.

**Stream G-1.** This stream is located along the south side of TL east of the JTR/TL intersection. It flows generally east to west then turns south and flows into the WPLPR. The channel is poorly defined, lacks sinuosity, and possesses a mud and silt substrate with minimal in-stream habitat. Macroinvertebrate life was observed.

**Streams E and F-1.** Approx. 937' of these streams are proposed for relocation. They are located on the south side of TL and the proposed PFV development on either side of the proposed regional parking facility. Both streams have been relocated in the past. Stream E currently flows in a poorly defined channel at the toe of a retaining wall.

**Wetland Impacts.** Approx. 0.47 acres of herbaceous jurisdictional wetlands would be impacted in three areas: Wetland 1 (0.20 acres) by the widening of TL; Wetland 2 (0.12 acres); and Wetland 3 (0.15 acres) part of a larger wetland area with the construction of the regional parking facility.

**Construction Methods/Commitments.** French drains and pipes would be used in the channel to collect the subsurface seeps and springs. An impermeable layer would be constructed over the french drains and pipes to separate the subsurface flow from the proposed development. In addition, a collection/treatment system is designed to collect/treat stormwater runoff from the majority of the new proposed roadways. A portion of the existing TL would be retrofitted with the collection system during the proposed road improvements. The collection system would receive runoff and transfer it to a subsurface treatment system to be located on the City's portion of the terrace area (regional parking facility). In addition to the proposed stormwater management system, the City is committed to using pervious pavement in its proposed parking areas. Parking areas would be graded to drain towards 8' wide pervious concrete strips underlain by a perforated pipe embedded in gravel. These pavement strips would collect stormwater runoff and facilitate infiltration for up to a 10-year storm.

Alternatives. In its original application, CPF stated that it had attempted to avoid stream impacts but because of existing/proposed development the option for acquiring **right-of-way (ROW)** is limited. It added that topography, regional traffic concerns, utility corridors, and regional road improvements were related to the need to conduct these activities at their proposed locations. The proposed road improvements were able to accommodate 937' of stream relocations as opposed to encapsulations. The relocations are located in the down-gradient portions of some of the tributaries where impacts are proposed. Due to the nature of the proposal, a widening of existing roads, further consideration of alternative locations is not warranted. Alternative construction methods have been evaluated to reduce impacts where possible.

Initial Mitigation Proposal.

Wetland Mitigation. The CPF proposed wetland mitigation in the form of the onsite creation of 0.47 acres adjacent to relocated stream F-1 and 0.30 acres adjacent to relocated stream E. Both would be designed as floodplain wetlands to receive overbank flow. Hydric material would be utilized from the existing wetland. Wetland trees species would be planted on 10-foot centers. In addition, CPF proposed to purchase 0.42 excess credits that Riverwalk Park, LLC, bought from the **Indian Creek Advanced Wetland Mitigation Site (ICAWMS)** in Roane County. A total of 1.19 acres would be generated to offset impacts to 0.47 acres. The CPF proposed to perform annual monitoring of the created wetlands and guarantee success for five years.

Stream Mitigation. The CPF could not identify suitable mitigation sites in the area. Therefore, CPF proposed to pay \$200 per foot to the Tennessee Stream Mitigation Program for impacts to 6,291' of stream.

Final Mitigation Proposal. As indicated in Sections 1.3 and 1.6.2 below, commitments were formulated during meetings among CPF, **Tennessee Department of Environment and Conservation (TDEC)**, and other interested parties. TDEC has included the commitments as special conditions to its water quality certification (Appendix A). The commitments also satisfy **Corps of Engineers (Corps)** and **Tennessee Valley Authority (TVA)** permit mitigation requirements. As expressed in the water quality certification, mitigation will be granted proportionally as follows:

- Pursue **Leadership in Energy and Environmental Design (LEED)** certification and use **Low Impact Design (LID)** techniques (35% of mitigation), which includes year-end reports to agencies on water quality testing results
- Assist the City of Pigeon Forge with the development of a comprehensive stormwater management plan (30% of mitigation)
- Off-site Physical Habitat Improvements including, if necessary, use of the **Tennessee Stream Mitigation Program (TSMP)** (35% of mitigation).

**Note:** The Corps and TVA consider LEED and LID mitigation as non-traditional and are allowing its implementation on this project on a trial basis. Prior to this project, the Corps had accepted use of LEED and LID on only two permit decisions, PFL (File 200600583), issued 15 May 2008, and PFV (200602640), issued 25 July 2008. Benefits will be monitored, and based on the results, this type of mitigation may be accepted for other future developments. *However, it is essentially being allowed here as a pilot project.* The approval of this non-traditional mitigation should not be construed as an indication that the Corps or TVA will utilize it from this point forward.

1.2 Purpose and Need. The *basic purpose* of this project is to improve and construct public roads and provide public parking. The *overall project purpose* is to extend JTR, widen TL, expand

the JTR/TL intersection, and create a regional parking facility and trolley center to serve PFV, MSM, WT, and other developments. For purposes of the Section 404(b)(1) Guidelines (Guidelines) of the **Clean Water Act (CWA)** (40 CFR 230), the proposed construction fills are presumed to be “non-water dependent.” In reaching this presumption, the Guidelines assume that practical alternatives not involving special aquatic sites (e.g., wetlands, riffle/pool complexes, etc.) or resulting in less damaging impacts on the aquatic environment are available. A compliance document rebutting the above presumptions and showing that the proposal would comply with the Guidelines with appropriate and practical conditions will be prepared separately and attached to the Corps **Statement of Findings (SOF)/Findings of No Significant Impacts (FONSI)** document. We determined the overall project purpose based on information submitted by CPF.

### 1.3 Project Changes.

1.3.1 Environmental Commitments. Concerns for water quality and aquatic resources impacts were raised during the application’s public interest review and the state’s water quality certification processes. A meeting attended among others by representatives from TDEC, CPF, Gresham Smith & Partners, Waterfield Design, and S&ME, Inc. (CPF consultant) was held on 29 August 2007 to discuss the issues raised and formulate a response. On 13 September 2007, CPF submitted to the Corps information on the commitments formulated during the meeting. The following commitments were drafted: Pursue project and city LEED certifications, showcase project-specific use of Green Infrastructure and LID techniques, develop a city-wide Comprehensive Stormwater Management Plan, make Off-site Physical Habitat Improvements or if necessary, make ILF payments to the TSMP. Details of the supplemental information are provided in Appendix B. The Corps and TVA have agreed to these experimental mitigation measures provided CPF complies with the annual water quality testing and reporting requirements. In the event state water quality standards are contravened, CPF would reconstruct, replace, repair, or otherwise fix any parts of the design that are not contributing toward sustaining or improving upon state water quality standards of the receiving stream.

1.3.2 Regional Parking Facility. The CPF made clear that to satisfy financing requirements for the proposed road and infrastructure improvements it would like to start working on a portion of the regional parking facility. The selected area would not contain streams or wetlands and no impacts to known archaeological resources would occur (Appendix C). During the initial phases of development, construction would be limited to the hillside and terrace area on the southeastern portion of the site. Weathered rock from the hill area would be placed in the proposed parking area. A few proposed stormwater pipes would require cuts limited to 2.5’ in depth. Outside of the cut areas for stormwater piping and within the areas of archaeological concerns, grading operations will begin with close-to-the-ground mowing, layered fill placement using low-contact pressure dozers, and finally standard compaction with regular equipment.

In a letter dated 16 May 2008, the Corps granted CPF permission to work in the requested portion of the regional parking facility. Subsequently, TVA wrote a letter of no-objection to CPF for this work on 21 May 2008. Direct and indirect impacts resulting from construction and operation of this portion of the regional parking facility have been considered in this document.

1.4 Additional Proposed Area Development. Additional commercial, residential, and recreational developments along with new roadways are planned for this area.

1.4.1 PFL. CPF proposes to construct 2,800’ of roadway to serve the proposed PFV and several other future businesses and anticipated development ventures, e.g., the existing Belz Mall, proposed condos on a tract of land behind the mall, and a new CPF welcome center. PFL would

connect to the anticipated new and improved JTR, provide alternative access to the Dollywood Theme Parks, and eventually connect to Veterans Boulevard. The Corps and TVA completed an EA for this project on 6 May 2008. The Corps issued its Department of the Army (DA) permit on 15 May 2008 (File No. 200600583). TVA issued its 26a permit for the proposal on 31 July 2008 (RLR No. 174909).

1.4.2 PFV. Development of an 85-acre tract by Pigeon Falls, LLC, which would include hotels, retail space, recreational attractions, a residential development, a parking garage, and a water feature mimicking a natural stream system. The tract is located north-northeast of the intersection of JTR and TL. The Corps and TVA completed an EA for this project on 16 July 2008. The Corps issued its DA permit on 25 July 2008 (File No. 200602640). TVA issued its 26a permit for the proposal on 26 August 2008 (RLR No. 175162).

1.4.3 WT. This development would consist of retail space, restaurants, and associated infrastructure on approx. 12 acres west of existing JTR and south of TL. A DA Nationwide permit was issued by the Corps on 3 September 2008 (File No. 200502342).

1.4.4 MSM. This development would consist of retail space, restaurants, a 12-screen cinema, and associated infrastructure on approx. 25 acres east of existing JTR and south of TL. The DA Nationwide permit was issued by the Corps on 22 September 2008 (File No. 200502342).

1.5 Decisions Required. Section 301 of the CWA prohibits the discharge of dredged or fill material into **waters of the United States (WUS)** unless authorized by the DA pursuant to Section 404 of the same Act. The unnamed tributaries to the WPLPR and their adjacent wetlands are WUS as defined by 33 CFR 328. A DA permit under Section 404 of the CWA is required for the work. Section 26a of the TVA Act (16 USC 831y-1) requires that no dam, appurtenant work, or other obstruction affecting navigation, flood control, or public lands or reservations be constructed and thereafter operated or maintained across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by TVA. TVA is a cooperating agency in the preparation of this EA. TVA and DA permits are required for the work; therefore, the agencies must decide on one of the following:

- issuance of a permit for the proposal
- issuance of a permit w/modifications or conditions
- denial of the permit.

1.6 Other Approvals Required. The proposed work requires a TDEC water quality certification pursuant to Section 401(a)(1) of the CWA. TDEC issued the required certification for the proposal on 7 December 2007 (Appendix A). The certification is valid until 6 December 2012. The agency incorporated 21 Special Conditions (SC) to ensure that the proposed activities will not violate applicable state and federal water quality standards and effluent limitations. SCs 8, 9, and 10 address in detail the stream mitigation requirements as well as proportionate credits. In particular, SC 8A requires LEED certification and use of LID techniques (35% of mitigation), 8B requires implementation of a comprehensive stormwater management plan (30% of mitigation), and 8C allows for potential offsite mitigation including, if necessary, use of the TSMP (35% of mitigation). SCs 9 and 10 specify post-construction water quality monitoring and reporting requirements. The monitoring would occur quarterly at the three confluences of the onsite streams with the WPLPR and several locations within the development. As a control, a similar development would be chosen within CPF for monitoring that has none of these storm water designs. The city would report its findings every year on 31 October until TDEC notifies the permittee that reporting can be terminated. Wetland mitigation, monitoring, and reporting requirements are specified in SCs 11-16. A requirement to

secure the services of an approved environmental consultant is indicated under SC 18. Finally, SC 21 clarifies that LEED and LID requirements are just a demonstration project (i.e., experimental), and the information gathered will be used for future permitting decisions by TDEC and other agencies.

1.7 Scope of Analysis. The Corps must determine the proper scope of analysis for **National Environmental Policy Act (NEPA)**, **National Historic Preservation Act (NHPA)**, **Endangered Species Act (ESA)**, and any other laws related to its permit actions. Once the scope of analysis is established, the Corps can address the impacts of the specific activity requiring a DA permit and those portions of the entire project over which we have sufficient control and responsibility to warrant federal review. This is generally coincidental with the definition for "Permit Area". NEPA Implementation Procedures for the Corps Regulatory Program (33 CFR 325, Appendix B, Paragraph 7b) list the typical factors to be considered in determining whether sufficient control and responsibility exists to warrant federal review: (a) whether the regulated activity comprises merely a link in a corridor type project, (b) whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity, (c) the extent to which the entire project will be within Corps jurisdiction, and (d) the extent of cumulative federal control and responsibility. In determining whether sufficient cumulative federal involvement exists to expand the scope of federal action outside the "Permit Area," we should consider whether other federal agencies are required to take federal action under other environmental review laws and/or executive orders.

Once the scope of analysis is determined, alternatives to the proposed action (Section 4) and primary, secondary, and cumulative impacts (Section 3.5) must be considered in the appropriate NEPA analysis. However, when analyzing secondary impacts, the strength of the relationship between those impacts and the regulated portion of the activity should be considered, i.e., whether or not the impacts are likely to occur even if the permit is not issued, in deciding the level of analysis and what weight to give these impacts in the decision. This attenuation should consider whether another project, not requiring a permit, could likely occur at the site or in the vicinity, and whether its impacts would be similar to impacts of the project requiring a permit.

The proposed action consists of road improvements and a regional parking facility to serve a variety of adjacent developments including the proposed PFV, MSM, and WT. However, the Corps and TVA have recently evaluated impacts resulting from the PFV, MSM, and WT developments under the provisions of NEPA, NHPA, ESA, and other laws. DA, TVA, and TDEC permits have been issued for those projects. Because environmental reviews are already complete for the proposed PFV, MSM, and WT, we have determined that the scope of analysis for this DA permit application should include the regional parking facility tract as well as the entire ROW of the affected JTR and TL roadways.

1.8 Existing Setting. The project consists of a regional parking facility and trolley center and two miles of road construction/improvements in the vicinity of the Jake Thomas Farm in Pigeon Forge, Tennessee. The project borders upon MSM and WT to the south and PFV to the north and west. Since May 2004, Mr. J. Ruben Hernandez, Project Manager, Regulatory Branch, and TVA staff have visited the site's general area numerous times in connection with projects such as PFV, PFL, MSM, and WT. Most of the property north of TL and along the corridor of the JTR extension is hilly consisting of a series of narrow ridges separated by narrow valleys running in a southwest-northeast direction. Vegetation clearing from past timber harvests has occurred to a certain degree. Property to the south of TL is mostly flat due to its proximity to the WPLPR. The stream channels observed were generally poorly defined--particularly in the upper reaches, lacked sinuosity, and

possessed a mostly mud/silt substrate with few pebbles or other type of in-stream habitat. Streams on the terrace portion appear to have been straightened and relocated for agricultural use.

## 2.0 Public Involvement Process

2.1 General. On 7 August 2007, the Corps issued Joint Public Notice (JPN) No. 07-69 to advertise the proposed work (Appendix D). The JPN was distributed to a wide list of interested parties that included federal, state, and local agencies, elected officials, private/public organizations, news agencies, commercial navigation interests, adjacent property owners, and individuals. Comments to the JPN were received from the State Historic Preservation Officer (SHPO), U.S. Fish and Wildlife Service (USFWS), and U.S. Environmental Protection Agency (EPA). The comments have been summarized below and a copy included in Appendix E. Where a response to the comment was warranted, one is provided to clarify the issues raised.

TDEC issued a public notice in May 2007 and held a public hearing on 28 June 2007 in Pigeon Forge on four related projects within the city: this project (NRS 07.034), PFV (NRS 06.250), PFL (NRS 06.258), and Riverwalk Park (NRS 05.422). Under review were permit applications from Pigeon Falls, LLC, Riverwalk Park, LLC, and CPF for wetland and stream alterations associated with developments affecting unnamed tributaries to the WPLPR. Riverwalk Park is the former name for the MSM and WT projects. Comments on each proposal from one federal agency, one nongovernmental conservation organization, and four private citizens were received. Issues raised in these comments are addressed in this EA.

### 2.2 Public Notice Comments.

2.2.1 In a letter dated 15 August 2007, SHPO concurred with the JPN assessment that the project area contained a prehistoric archaeological site (40SV164) potentially eligible for listing in the NRHP. However, the agency stated that it could not complete its review until receipt of the Phase II testing and additional Phase I reports. *Response: On 29 February 2008, the Corps provided copies of the JPN, archaeological reports, and applicant's **burial treatment and avoidance plan (BTAP)** to the **Eastern Band of Cherokee Indians (EBCI), United Keetoowah Band of Cherokee Indians (UKBCI), and Cherokee Nation** inviting them to consult on historic properties under 36 CFR 800.3(f)(2). In response to the invitation, the EBCI and UKBCI tribes concurred with the BTAP's recommendation of keeping the "burial feature" under a landscaped island in the parking lot. EBCI asked that no signage be placed in the area of site 40SV164 and that they be allowed to participate in any discussions to determine the amount of fill over the burial feature. On 18 April 2008, the Corps wrote to the SHPO submitting the BTAP for final review along with findings that site 40SV164 was not eligible for listing in the NRHP. The Corps failed to enclose with the 18 April letter documentation evidencing consultation with the tribes. The SHPO responded on 22 April 2008 that documentation and results of the consultation with the federally recognized tribes was necessary before it could complete its review. The Corps sent the requested information to the SHPO on 9 May 2008. Based on the evidence provided, SHPO concurred on 12 May 2008 that site 40SV164 contained no archaeological resources eligible for listing in the NRHP. In addition, SHPO was satisfied with the tribe consultation documentation and concurred that the burial feature would be adequately protected if the BTAP's provisions were followed. As explained before, the tribes also expressed agreement with this solution.*

2.2.2 By letter dated 31 August 2007, USFWS stated that based on available collection records no federally listed or proposed threatened or endangered species were known to occur in the impact area. Therefore, based on the information available at the time, it believed that Corps obli-

gations under Section 7 of the Endangered Species Act had been fulfilled. Provided CPF makes the appropriate payment to the TSMP in a timely manner, USFWS would not object to the issuance of the permit. *Response: CPF has agreed to adequately mitigate for the impacts resulting from construction of the project. Impact mitigation would be through project-specific use of Green Infrastructure and LID techniques, pursuing project and city LEED certifications, developing a city-wide Comprehensive Stormwater Management Plan, making Off-site Physical Habitat Improvements, or if necessary, make ILF payments to the Tennessee Stream Mitigation Program (TSMP). We consider CPF's mitigation offer sufficient.*

2.2.3 In a 20 November 2007 email, the **Environmental Protection Agency (EPA)** recommended protection of the existing uses of the Tier 1 receiving streams. EPA welcomed the offer of LID, "green" building, subsurface storm water management system, etc., and other innovations as well as promises to maintain downstream flow and water quality. The agency recommended that conditions for appropriate construction **best management practices (BMPs)** be included in accordance with state requirements. In addition, post-construction monitoring conditions (e.g., flow, pH, TSS, turbidity, metals, etc.) should also be included in the permit. An adaptive management clause should also be included in the event state water quality standards are contravened. Finally, EPA recommended that any monies paid into the TSMP to offset any remaining impacts not mitigated on site or via alternative storm water mitigation BMPs should be paid prior to or concurrent with construction. *Response: Same response as in Paragraph 2.2.2. In satisfying the conditions stipulated in TDEC's water quality certification (Appendix A), CPF would satisfy all of EPA's requirements and recommendations.*

2.3 Applicant's Rebuttal. We furnished CPF the JPN objections/comments (Section 2.2) for an opportunity to resolve or rebut. CPF also received similar objections/comments from TDEC associated with the response to the 401 certification public notice and public hearing (Section 2.1). Representatives from TDEC, CPF, S&ME, Inc., Gresham Smith & Partners, and Waterfield Design met on 29 August 2007 to discuss the project. In a letter dated 13 September 2007, S&ME, Inc. responded to the substantive issues raised by the commenters. The following commitments are being offered by CPF: showcase project-specific use of green infrastructure and LID techniques; make ILF payments to the TSMP; pursue project and city LEED certifications; develop a city-wide comprehensive stormwater management plan; and make off-site physical habitat improvements. A copy of S&ME's response on behalf of CPF has been included in Appendix F.

2.4 Supplemental Public Notice. The basic precept of the public notice process is to include sufficient information to give a clear understanding of the nature and magnitude of the activity to generate meaningful comment. A supplemental notice must be issued whenever there is a change in the application data that would affect the public's review of the proposal or when the probable impacts to the aquatic environment resulting from the changes are substantially greater from those described in the original notice. The changes and/or commitments described in Section 1.3 (Project Changes) would not increase the scope of work and are intended to address the environmental impacts that were identified during the public involvement phase. The mitigative measures listed in Section 1.3.1 would not result in additional project impacts. We believe advertisement of the changes would not have substantially affected the public's review of the proposal. Therefore, issuance of a revised JPN to advertise the changes is not warranted. The environmental evaluation conducted in Section 3 of this decision document is based on the final proposal including all changes.

### 3.0 Environmental and Public Interest Factors Considered

3.1 Introduction. 33 CFR 320.4(a) states that the decision whether to issue a DA permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. All factors that may be relevant to the proposal must be considered (for full list see JPN 07-69, Appendix D). The following sections describe the relevant factors identified and the impacts of the proposed action. The baseline data discussed in this section has been obtained from information provided by CPF, field investigations, input to the JPN, Corps and TVA data, and other sources.

3.2 Physical/Chemical Characteristics and Anticipated Changes. The relevant blocks are checked with a description of the impacts. An unchecked block denotes that negligible to no adverse effects are expected.

(x) substrate – Information included by S&ME, Inc., in the DA/TVA permit application indicate that stream substrate ranges from a mud and silt composition to pebbles with minimal in-stream habitat. Accordingly, wetland substrate consists of hydric soils. Approx. 21,684 **square feet (ft<sup>2</sup>)** or 0.5 acres of substrate would be lost when the existing channels are filled or culverted and about 20,473 ft<sup>2</sup> (0.47 acres) of wetland substrate would be lost when the existing areas are filled. CPF plans to mitigate for stream substrate impacts through commitments formulated during the project review phase (Section 1.3). Wetland substrate impacts would be mitigated through the on-site creation of 0.77 acres of wetlands adjacent to the relocated stream channels. Additionally, CPF acquired 0.426 wetland credits from the Indian Creek Advanced Mitigation Site in Roane County, Tennessee. When compared to the amount of available biologically productive substrate in the county and region, this impact is considered minor.

(x) currents, circulation or drainage patterns – The proposed stream modifications, together with grading and drainage requirements, would result in minor changes to the drainage pattern. In areas where fill material is to be placed over the existing channel, french drains and pipe would be used in the channel to collect the subsurface seeps. An impermeable layer would be constructed over the french drain and pipe to separate the subsurface flow from the proposed development. The water collected in the french drain would be discharged in the existing channels located at the downstream end of each of the proposed channel impacts. As in the original drainage pattern, all relocated channels and stormwater collection pipes would discharge into the WPLPR.

(x) suspended particulates, turbidity – There would be minor releases of sediment and turbidity associated with the site development activities. The proper use of best management practices/ standards and conditions would minimize these impacts. Terms and special conditions set forth in the Corps and TVA permits and the TDEC 401 water quality certification would require that all stream work be performed in a manner that would prevent violations of water quality standards. Examples of these special conditions include requirements to apply green infrastructure and LID techniques, LEED certification, a comprehensive stormwater management plan, off-site physical habitat improvements or, if necessary, ILF payments to the TSMP.

(x) water quality (temperature, color, odor, nutrients, etc) – The project site is located in the Lower French Broad River Watershed (HUC 06010107). The proposed action would impact unnamed tributaries of the WPLPR. The streams are generally first order streams that have not been assessed for support of classified uses. The WPLPR discharges into the Little Pigeon River (LPR) approx. 10 miles downstream of the site. The LPR in turn discharges into the French Broad River. The WPLPR and LPR are Tier 1 waters listed as impaired in the draft version of the 2008 TDEC 303(d) list. The WPLPR is a category 5 river and is impaired by the presence of e-coli, siltation, and

phosphorus. The LPR is a category 4a river and is impaired by the presence of e-coli from septic tanks and collection failure. Water quality of the unnamed tributaries within the project site is degraded. The permit application states that most channels are poorly defined and flows are insignificant. In addition, some of the streams to be impacted were likely relocated to the existing road corridors to facilitate agricultural activities.

Excavation and grading activities would result in minor short-term localized increases in turbidity and siltation. However, the employment of sound construction techniques, including use of effective erosion and sedimentation control measures, would minimize impacts to the receiving streams. Sound construction techniques include, but are not limited to adherence to existing codes and laws, employment of safety practices, use of quality materials, and minimization of errors.

Conditions in the state-issued water quality certification (Appendix A) would require CPF to showcase project-specific use of Green Infrastructure and LID techniques, pursue project and city LEED certifications, assist the City in the development of a city-wide Comprehensive Stormwater Management Plan, make Off-site Physical Habitat Improvements, monitor surface water discharges at various locations to prove the adequacy of the stream mitigation and water quality commitments, or if necessary, make ILF payments to the TSMP. The project site would be monitored for water quality quarterly and year-end reports will be submitted by CPF on this nontraditional mitigation. Post-construction monitoring has been required by TDEC to evaluate whether the project mitigation is working, or if CPF needs to make changes to the system to improve the water quality leaving the site. Post-development sampling will be compared with results from other non-LID sites. CPF would report its findings every year on October 31 until TDEC notifies that reporting can be terminated. Water quality conditions are expected to return to background levels when construction ceases. Long-term adverse impacts are expected to be minimal.

(x) flood control functions – The proposed facilities would be constructed outside of WPLPR's designated floodway and 100- and 500-year floodplains. The proposed development is being designed to appropriately collect and redirect stormwater so as to minimize flooding potential.

( ) storm, wave, and erosion buffers – No adverse effects.

(x) baseflow – Baseflow can be defined as the normal dry-weather flow which is mainly derived from groundwater. The proposed filling of the unnamed streams would impact baseflow since french drains and pipes would be used in the channel (buried under the fill) to collect subsurface flows. An impermeable layer would be constructed over the french drain and pipe to separate the subsurface flow from the proposed development. In addition, a collection system with subsurface treatment is designed to collect/treat stormwater runoff from this project and from PFL advertised under separate public notice (Section 1.4). Because the impacted channel areas are small and measured flows are reduced, the proposed action would have minor negative effects on baseflow in the overall WPLPR watershed.

3.3 Biological Characteristics and Anticipated Changes. The relevant blocks are checked with a description of the impacts. An unchecked block denotes that negligible to no adverse effects are expected.

(x) special aquatic sites (wetlands, mudflats, pool and riffle areas, vegetated shallows, sanctuaries, and refuges, as defined in 40 CFR 230.40-45) – As indicated in the "substrate" paragraph in Section 3.2, streambed composition ranges from mud and silt to pebbles with minimal in-stream habitat. Wetlands at the site are characterized as open field herbaceous with a few low shrubs. The proposed road project would impact three separate wetland areas for a total impact of 0.47

acres. As compensatory wetland mitigation, CPF has offered to create 0.47 acres on site adjacent to relocated stream F-1 and 0.30 acres adjacent to relocated stream E. Both would be designed as floodplain wetlands to receive overbank flow. Hydric material would be utilized from the existing wetland. Wetland trees species shall be planted on 10-foot centers. In addition, CPF has purchased 0.42 wetland credits from the ICAWMS in Roane County. A total of 1.19 acres would be generated to offset impacts to 0.47 acres. CPF will monitor the created wetlands and guarantee success for five years. There would be minimal impacts to riffles and pools, and wetland impacts would be adequately mitigated. Therefore, impacts on special aquatic sites would not be significant.

(x) habitat for fish and other aquatic organisms – The affected streams have poorly defined channels and are characterized by the presence of mud and silt substrate and very limited in-stream habitat (i.e., pools, riffles, and point bars). Fish were not observed; however, macro-invertebrate life was present. Canopy was lacking along most of the reaches, and streambank stability ranged from fair (upper reaches) to good (lower reaches). The proposal would eliminate streambed composition and permanently reduce the biological productivity of approx. 0.5 acres of this type of area. In addition, approx. 0.47 acres of wetland habitat would be permanently lost. The stream impact is considered minor since the affected areas constitute just a small fraction of the available aquatic habitat in this watershed. In the same manner, wetland habitat impacts are considered minor since compensation would occur on site with the creation of approx. 1.19 acres.

(x) wildlife habitat – The road project (within ROW limits) and regional parking facility would impact approx. 33.5 acres of wildlife habitat. Substantial modification of the surrounding landscape has occurred, particularly in the regional parking facility area. Historical land uses were predominantly agricultural and residential, but it is increasingly becoming commercial. The proposed site grading activities would result in the permanent loss of wildlife habitat within the ROW limits. Due to the relative abundance of upland vegetation and common wildlife species in the area and region, including the Great Smoky Mountains National Park, and the present disturbed/fragmented state of the property, impacts on wildlife and their habitats would be insignificant.

(x) endangered or threatened species – A review of existing records did not reveal the presence of any federally listed **threatened or endangered (T/E)** species or designated critical habitat at the project site. Responding to JPN 07-69, USFWS stated by letter dated 31 August 2007 (Section 2.2.2), that no federally listed or proposed endangered or threatened species exist within the project impact area. Therefore, it believes that the requirements of Section 7 of the Endangered Species Act of 1973, as amended, have been fulfilled. Based on a review of all relevant information, the Corps and TVA have reached a “no effect” determination concerning T/E species.

(x) biological availability of possible contaminants in dredged/fill material – To the Corps’ and TVA’s knowledge, no contaminants have been identified or are suspected in the fill material.

3.4 Human Use Characteristics and Anticipated Impacts. The relevant blocks are checked with a description of the impacts. An unchecked block denotes that negligible to no adverse effects are expected.

(x) existing and potential water supplies; water conservation – Our permit database does not contain any records of municipal or industrial raw water intakes on the WPLPR. In 2005, TVA and the Corps approved Sevierville Water Systems’ proposal to construct a 12 million gallon per day raw water treatment plant, associated intake, and finished water line on McCroskey Island at French Broad River Mile 27.5L. In addition, a golf course irrigation intake permit has been recently granted to the Sevierville Water and Sewer Department at Mile 3.2 of the LPR. Neither

the Corps nor TVA is aware of any plans for future intakes or dams on any of these rivers. Therefore, impacts on existing/potential water supplies would be negligible. The proposed action would not affect the availability of water or opportunities to reduce demand and improve efficiency. The commitments by CPF described in Section 1.3.1, e.g., LID, LEED, stormwater management plans, etc., would incorporate water conservation techniques into the development to lessen the overall impact of this development on the area's existing resources.

(x) water-related recreation – The unnamed WPLPR tributaries described in this document are not suitable for recreational uses such as canoeing, kayaking, or the operation of any type of motorboat or personal watercraft. Although fishing is not possible at the site, opportunities exist downstream in the WPLPR (receiving stream). However, TDEC considers fish caught there are unsuitable for human consumption. The proposed action would have no adverse effects on the recreational uses that could potentially occur on the unnamed tributaries and only negligible adverse effects on the recreational uses of WPLPR or LPR located downstream.

(x) aesthetics – As previously indicated, human activity (farming, residential/commercial construction, etc.) has already modified most of the road ROW. The proposed action would cause an additional short- and long-term disruption to area aesthetics. However, the development is typical of many found in this rapidly growing city and region and would not be out of character. Therefore, impacts would not be significant.

(x) traffic/transportation patterns – CPF proposes to extend JTR, widen TL, expand the TL/JTR intersection, and create a regional parking facility as part of their regional plan to address traffic problems in the city. A combined total of 31 lanes of traffic would enter the new TL/JTR intersection. The TL widening would occur from approximately 2,200' east of the TL/JTR intersection to a point approx. 3,800' west of the intersection. The planned road improvements would serve a variety of developments including the proposed PFV, MSM, and WT developments. The JTR extension, which would be accessed in part by PFL, would eventually link the Parkway (US 441/321) in Pigeon Forge to the Dollywood theme park and the Veterans Boulevard regional bypass. Dollywood is approx. two miles from TL. The proposed project would improve capacity, flow, and safety. Many area streets appear to be reaching the limits of their service capacity to accommodate the short- and long-term highway traffic increases during and after construction, respectively. Decisions regarding highway capacity, connections, and geometric design rests with state and/or county highway departments and are normally accepted by the Corps and TVA.

( ) energy consumption or generation – No adverse effects.

( ) navigation – No adverse effects.

(x) safety – The proposed road construction and regional parking facility would provide improved access to existing and proposed area developments. Decreased vehicular safety would be experienced during construction. However, provided an appropriate traffic control plan (state or locally controlled) is implemented, construction impacts would be minor. Long-term, by redirecting and/or removing some traffic away from other city streets, the carrying capacity of those streets would be slightly improved. A higher capacity or volume results in an improved level of service (LOS). A higher LOS is synonymous with improved safety.

(x) air quality – Tennessee is subject to the National Ambient Air Quality Standards which limit outside air concentrations of six pollutants: particulate matter (<2.5  $\mu\text{m}$  & <10  $\mu\text{m}$ ), sulfur dioxide, carbon monoxide, ozone (8-hour & 1-hour), nitrogen dioxide, and lead. The EPA Air data website

(<http://www.epa.gov/oar/data/geosel.html>) indicates that Sevier County is a "non-attainment" area concerning 8-hour ozone criteria air pollutant. The proposed road improvements and regional parking facility would allow traffic access to future developments such as PFV, MSM, and WT. The Dollywood Theme Park, which is a major regional tourist destination, would also eventually benefit from the proposed project. Another project benefit is a slight reduction in traffic presently using other city streets. Thus, it is likely that the improved traffic flow in the area would result in a minor decrease in overall indirect emissions (those from vehicles using the road) in the area. Overall, the proposed action would only result in minimal direct pollutant emissions (those from construction activities). Section 176(c) of the Clean Air Act (CAA) requires that federal agencies assure that activities they engage in (e.g., agency actions, permits, licenses, etc.) conform to federally approved CAA state implementation plans. The Corps has made a conformity applicability determination for this permit action and has documented such compliance in its Statement of Findings/FONSI document.

(x) noise –Noise levels would increase slightly above background values during the construction phase. Long-term noise level increases resulting mostly from highway traffic are expected to be minor and comparable to the levels now emanating from the nearby streets and commercial development.

(x) historic properties and cultural values – A Phase I archaeological survey was completed by DuVall & Associates, Inc. (DuVall) , in 2004 for the PFV development area comprising approx. 85 acres of vacant land northeast of TL in Pigeon Forge, Tennessee. The report entitled: A Phase I Archaeological Survey of the Proposed Riverwalk Park Development (Management Area A: Uplands) Along Teaster Lane in Pigeon Forge, Sevier County, Tennessee, documents that no archaeological sites or historic properties were identified on the development site. In addition, a Phase I archaeological survey was completed by DuVall in 2004 for the floodplain areas of the Jake Thomas Farm southwest of TL. The report entitled: Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County, Tennessee, documents that a prehistoric site (40SV164) potentially eligible for the NRHP could be affected.

In 2007, CPF contracted to have a Phase II and limited Phase I archaeological survey conducted on 40SV164. The reports were entitled "Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164" and "Verification of Potential Human Burial Areas in the City of Pigeon Forge Portion of 40SV164". The reports were the result of work requested by the Corps (lead federal agency for purposes of Section 106 of the NHPA) after it was determined that 40SV164 was potentially eligible for listing in the NRHP. The first report details continuing investigations on the CPF's portion of 40SV164. The second report was to confirm the location of, and the "nature and form" of, the two previously recorded mortuary deposits within the proposed project area.

On 29 February 2008, the Corps provided copies of the JPN, archaeological reports, and applicant's BTAP to EBCI, UKBCI, and Cherokee Nation inviting them to consult on historic properties under 36 CFR 800.3(f)(2). In response to the invitation, the EBCI and UKBCI tribes concurred with the BTAP's recommendation of keeping the "burial feature" under a landscaped island in the parking lot. EBCI asked that no signage be placed in the area of site 40SV164 and that they be allowed to participate in any discussions to determine the amount of fill over the burial feature. On 18 April 2008, the Corps wrote to the SHPO submitting the BTAP for final review along with findings that site 40SV164 was not eligible for listing in the NRHP. The Corps failed to enclose with the 18 April letter documentation evidencing consultation with the tribes. The SHPO responded on 22 April 2008 that documentation and results of the consultation with the federally recognized tribes was necessary before it could complete its review. The Corps sent the requested information to the

SHPO on 9 May 2008. Based on the evidence provided, SHPO concurred on 12 May 2008 that site 40SV164 contained no archaeological resources eligible for listing in the NRHP. In addition, SHPO was satisfied with the tribe consultation documentation and concurred with the BTAP. Concurrence on the BTAP was conditional to leaving the burial feature in place under a parking lot “green island” adequately protected from additional disturbance.

(x) land use classification – Land use along the JTR extension and TL corridor is agricultural, commercial, and residential in nature. The proposed road project and regional parking facility would not substantially alter these classifications or affect the principal uses for which the properties are suited. The highway corridor and parking facility land has to be properly zoned for that type of use prior to construction. The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The Corps will normally accept decisions by such governments on those issues.

(x) conservation – The proposed project would permanently eliminate approx. 0.97 acres of aquatic habitat (streams and wetlands) and about 33.5 acres of wildlife habitat. As indicated in Section 3.3, the affected streams possess marginal to poor aquatic macroinvertebrate habitat. They are characterized by the presence of mud and silt substrate and very limited in-stream habitat (i.e., pools, riffles, and point bars). Fish were not observed. Due to the abundance of upland vegetated areas in this region and the present disturbed/fragmented state of vegetation on the property, wildlife habitat impacts would be considered minor. CPF documented in its permit application efforts to avoid stream impacts (Section 1.1). In addition, CPF has developed the following mitigation commitments: Showcase project-specific use of green Infrastructure and LID techniques, pursue project and city LEED certifications, develop a city-wide comprehensive stormwater management plan, make off-site physical habitat improvements, or if necessary, make ILF payments to the TSMP.

(x) economics – The economic benefits of many projects are important to the local community and contribute to needed improvements in the local economic base, affecting factors such as employment, tax revenues, community cohesion, community services, and property values. The DA permit application package provides detailed information on the important economic benefits expected from PFV and other projects in CPF. Tourism is the primary revenue for CPF. Although the permanent population of the city is 5,500, services are provided for approx. 11 million annual visitors. All public services are designed to enhance the visitors’ experience. The city allocates approx. 42% of its annual budget to the tourism program. CPF is home to the top tourist attraction in the state, Dollywood (approx. 2.4 million visitors).

In 1998 Tennessee enacted the Convention Center and Tourism Development Financing Act which allows communities to develop strategic public facilities that will leverage private investment and bring even more visitors to the state. CPF has designed a **Tourism Development Zone (TDZ)**. Through the TDZ, CPF attempts to develop new **Qualified Public Use Facilities (QPUF)** that will in turn attract the best tourism products to the city and efficiently utilize the limited land that is still available for future development.

CPF has stated that PFV, MSM, WT and other developments are expected to generate many millions in annual sales tax and is the primary funding source for CPF’s \$182 million bonded infrastructure development program. Construction of the JTR/TL road improvements and regional parking facility are part of \$120 million budgeted by CPF for public improvements that directly benefit those developments. The proposed improvements are part of a regional transportation plan critical to provide a means to alleviate traffic congestion in Pigeon Forge. The improvements would accommodate future growth anticipated within the TDZ.

( ) food and fiber production – No adverse effects.

(x) general environmental concerns - This is a broad factor almost synonymous with the area's quality of life. All the relevant issues falling under this heading have been evaluated in this document. Special conditions have been added to minimize the unavoidable adverse environmental impacts identified.

( ) mineral needs – No adverse effects.

(x) consideration of private property - Corps regulations at 33 CFR 320.4(g) state that authorization of work by the DA does not convey any property rights, either in real estate or material, or any exclusive privileges. Furthermore, a DA permit does not authorize any injury to property or invasion of rights or any infringement of federal, state or local laws or regulations. The use of this property would be consistent with uses for similar property in this area. It is not expected that the development of this property for roadways and construction of the PFV leisure mixed-use complex would result in considerable impacts to nearby public or private properties.

( ) floodplain values – No adverse effect.

3.5 Cumulative and Secondary Impacts. The Council on Environmental Quality regulations define cumulative impact as “the environmental impact which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” The Corps considers every DA permit application on its own merits and assesses its environmental impacts within the proper scope of review for National Environmental Policy Act (NEPA) purposes. The scope of analysis for this DA permit application for evaluation of direct effects is limited to the “Permit Area”. Because environmental reviews are already complete for the proposed PFV, MSM, and WT, we have determined that the Permit Area should include the regional parking facility tract as well as the entire ROW of the affected JTR and TL roadways. The Permit Area impacts described in this document would result in minor adverse cumulative impacts on areas within our NEPA scope of review. A discussion of these impacts is found in Sections 3.1 to 3.4.

This project along with other similar intensive business and roadway developments recently completed or under review would occur near the WPLPR and within the Lower French Broad Watershed. The project evaluated in this EA would occur at about WPLPR River Mile 10. The WPLPR at the project site, and for approx. 8.1 miles within Sevier County, is on the 303(d) list of impaired waters (see water quality in Section 3.2). The project site is located in about the middle of the reach of the WPLPR designated by TDEC as impaired, well downstream from the river's exit from Great Smoky Mountains National Park, where the WPLPR is designated a Tier III Outstanding National Resource Water. The two unnamed tributaries affected by this proposal are both first order streams originating within the project site, so there are no impacts to other tributaries or upstream properties associated with this development. As indicated in Section 1.1, considering the proposal nature (a widening of existing roads), location, infrastructure benefits, and transportation needs, project alternatives were not available in the Pigeon Forge area. These projects would involve substantial public and private investment and are considered in the public interest.

The Corps' permit database did not reveal past actions directly affecting the unnamed tributaries that would be affected. However, a total of 21 past actions were identified in WPLPR watershed (the receiving stream) within 10 miles of the project (five miles upstream and downstream). The

permitted actions include bridges, bank stabilization, utility line crossings, and an impoundment structure. The actions were permitted between 1981 and 2005. Neither the Corps nor TVA can predict the number of future DA and Section 26a permit applications that could affect the WPLPR channel, floodplain, or watershed. However, all future applications, including those presently under review, would be thoroughly evaluated for water quality and aquatic resource impacts. Because of the general and special conditions added to DA, TDEC, and TVA permits, the Corps' national permitting goals for no net loss to waters and wetlands, and the mitigation requirements, cumulative effects to WPLPR and its tributaries affected by these projects would be significantly reduced or avoided. Special conditions and the imposition of innovation mitigation (Section 4.4.3) would help ensure that the proposal's cumulative and secondary effects would be minor. Because of mitigation applicable to these projects, neither the Corps nor TVA expects water quality in WPLPR to worsen as a result of implementing these projects. See Appendix A for specific mitigation provisions of TDEC's water quality certification issued to CPF.

## **4.0 Alternatives**

4.1 Introduction. This section discusses alternatives as required by 40 CFR 230.10 and 33 CFR 320.4(a)(2). The relevant environmental issues identified in Section 3.0 were used to formulate the alternatives. The alternatives considered in detail are described in Section 4.2. Other alternatives not considered in detail are discussed in Section 4.3. The impacts of the alternatives considered in detail are compared in Section 4.4.

### **4.2 Description of Alternatives**

4.2.1 No Action. This alternative is one that results in no construction or work requiring a Corps or TVA permit. No Action could also be brought about by agency denial or applicant withdrawal of the DA and TVA permit application.

4.2.2 Applicant's Final Proposal. This alternative consists of the proposal and changes described in Sections 1.1 and 1.3. Neither the Corps nor TVA is a proponent or an opponent of the applicant's final proposal.

4.2.3 Applicant's Final Proposal with Added Special Conditions. This alternative consists of the Applicant's Final Proposal identified in Section 4.2.2 with the inclusion of special conditions to minimize/mitigate unavoidable environmental impacts to the maximum extent practicable.

4.3 Alternatives not Considered in Detail. CPF stated that due to constraints caused by existing present and future commercial development no other roadway alignments were available meeting its intended purpose and need. Even if such alternative alignments could be found, the resulting impacts would likely be similar in nature and magnitude, or greater (in the case of undisturbed land), to those of the selected site. Bridges in lieu of culverts and their associated subsurface collection systems could potentially be constructed at various locations to span the WUS and prevent impacts of the channel segments. Different materials could be used, e.g., steel, aluminum, plastics, wood, etc. In addition, minor design changes such as constructing slightly larger, smaller, longer, or shorter culverts and their associated subsurface collection systems are also possible. The implementation of any of these options would also result in a degree of aquatic habitat impact commensurate with the impacts of the proposed action. Some of the alternative designs would require DA permits subject to NEPA provisions. Therefore, we have decided that the evaluation of these alternative designs is not warranted in this document.

#### 4.4 Comparison of Alternatives.

4.4.1 No Action. This alternative would result if no work occurs in WUS. No Action would be brought about by agency denial or applicant withdrawal of the DA/TVA permit application or by any development scheme not requiring filling the existing stream channels. The potential environmental impacts described in Section 3.0 would not occur. Conversely, the expected socio-economic benefits also described in that section would not be achieved. No Action would not satisfy the applicant's stated purpose and need described in Section 1.2.

4.4.2 Applicant's Final Proposal. The proposed action described in Sections 1.1 and 1.3 would potentially have various adverse and beneficial environmental and socioeconomic effects. These potential effects have been listed in Section 3.0 above.

4.4.3 Applicant's Final Proposal with Added Special Conditions. This alternative would result in similar impacts and benefits to the Applicant's Final Proposal alternative described in Section 4.4.2 above. Special permit conditions have been developed (Section 4.5) to minimize adverse impacts on water quality and the aquatic environment. The special conditions are reasonably enforceable and would afford appropriate and practicable environmental protection. After conducting an analysis of the various available alternatives, we have determined that this alternative is the "least environmentally damaging practicable alternative" for purposes of satisfying the Section 404(b)(1) Guidelines of the CWA. As with the applicant's final proposal (Section 4.2.2), this alternative would also meet the applicant's stated purpose and need.

4.5 Special Conditions. The following special permit conditions have been developed to satisfy legal and public interest requirements. The special conditions are reasonably enforceable. In addition, some of the conditions help clarify the permit application and offer appropriate and practicable environmental protection.

- A preconstruction meeting must be held among representatives of the Nashville District Corps of Engineers, permittee, and contractor(s) to discuss the conditions of this permit. You should contact Mr. Ruben Hernandez of this office, telephone number (615) 369-7519, to arrange the required preconstruction meeting. *Justification: Clarify the permit application.*
- The work must be in accordance with the plans and information submitted in support of the proposed work, as attached. *Clarify the permit application.*
- You must have a copy of this permit available on the site and ensure all contractors are aware of its conditions and abide by them. *Recommended at 33 CFR 325, Appendix A.*
- You must comply with the conditions specified in the state water quality certification issued for your project as special conditions to this permit. *Satisfy legal requirements.*

(THIS SECTION INTENTIONALLY BLANK)

- The discharge shall consist of suitable material free from toxic pollutants in toxic amounts. *Minimize impacts on water quality and the aquatic environment.*

- The fill created by the discharge shall be properly maintained to prevent erosion and other non-point sources of pollution. *Minimize impacts on water quality and the aquatic environment.*

- All channel work shall be performed during low flow periods. *Minimize impacts on water quality and the aquatic environment.*

- All new channels shall be excavated in the dry with the exception of tie-ins to the existing stream. In addition, the slopes of the new channels shall be properly stabilized before diversion of the existing stream through the new channels. *Minimize impacts on water quality and the aquatic environment.*

- Siltation and erosion control methods, including entrenched silt fences and rock check dams, erosion control mats, etc., shall be used and in place prior to starting any work. All site preparations shall be conducted in a manner which minimizes any siltation of the stream below the project site. Appropriate siltation control shall be utilized in all phases of the work including the mitigation phase. *Minimize impacts on water quality and the aquatic environment.*

- Compensation for impacts to 6,291' of streams can consist of an in-lieu-fee payment of \$1,258,200 (@ \$200 per linear foot) to the Tennessee Stream Mitigation Program. Alternatively, mitigation may be provided proportionally as follows:

- Pursue Leadership in Energy and Environmental Design (LEED) certification and use Low Impact Design (LID) techniques, which includes year end reports to agencies on water quality testing results (35% of mitigation)
- Assist the City of Pigeon Forge with the development of a comprehensive stormwater management plan (30% of mitigation), and
- Off-site Physical Habitat Improvements and, if necessary, use TSMP (35% of mitigation)

*Justification: Minimize impacts on water quality and the aquatic environment.*

- The Corps considers LEED and LID mitigation as non-traditional and is allowing its implementation on this project on a trial basis, i.e., a pilot project. The approval of this non-traditional mitigation should not be construed as an indication that the Corps will utilize it from this point forward on all projects. *Satisfy legal requirements.*

- If opportunities for off-site mitigation of habitat loss within the watershed are not found within 6 months of the issuance of this permit, the permittee shall make in-lieu-fee (ILF) payments to the Tennessee Stream Mitigation Program (TSMP) in accordance with the rate/percentages established in Special Condition 10 of this permit. *Satisfy legal requirements.*

12/18/2008  
Date

Lisa R. Morris  
William L. James, Chief  
Eastern Regulatory Section  
Regulatory Branch  
Operations Division

**Appendix A**  
**Water Quality Certification**



**TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION**  
DIVISION OF WATER POLLUTION CONTROL  
401 CHURCH STREET  
7<sup>th</sup> FLOOR L & C ANNEX  
NASHVILLE, TENNESSEE 37243-1534

Certified Mail Receipt 7099 3400 0014 0976 0922

December 7, 2007

Ms. Earlene M. Teaster  
City of Pigeon Forge  
P.O. Box 1350  
Pigeon Forge, TN 37868-1350

Subject: **§401 Water Quality Certification; State of Tennessee  
Application NRS No. 07.034 – Jake Thomas Road Extension,  
Widening of Teaster Lane, Regional Parking Facility; Unnamed  
tributaries to the West Prong Little Pigeon River and wetlands;  
Pigeon Forge, Sevier County.**

Dear Ms. Teaster:

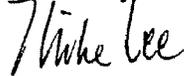
We have reviewed your application for the proposed impacts to 7,228 linear feet (6,291 feet of culvert and 937 feet of relocation) of unnamed tributaries to the West Prong of the Little Pigeon River and placement of fill in 0.47 acres of jurisdictional wetland. Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the state of Tennessee is required to certify whether the activity described below will violate applicable water quality standards.

Subject to conformance with accepted plans, specifications and other information submitted in support of the referenced application, the state of Tennessee hereby issues certification for the proposed activity (enclosed). Failure to comply with the terms of this permit or other violations of the *Tennessee Water Control Act of 1977* is subject to penalty in accordance with T.C.A. § 69-3-115.

It is the responsibility of the permittee to ensure that all contractors involved with this project have read and understood the permit conditions before the project begins. If you need any additional information of clarification, please contact Mike Lee at 615-532-0712 or by e-mail at Mike.Lee@state.tn.us.

**§401 CERTIFICATION  
CITY OF PIGEON FORGE  
NRS #07.034  
PAGE 2.**

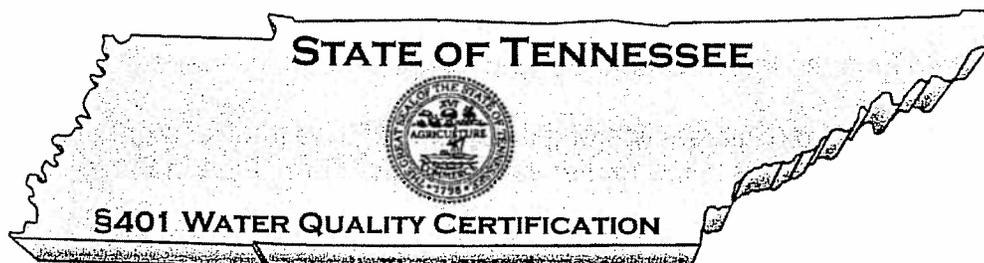
Sincerely,



Mike Lee  
Natural Resources Section

Cc: Knoxville Environmental Field Office  
Ruben Hernandez, U.S. Army Corps of Engineers (COE), Nashville Dist.  
Tom Welborn, U.S. Environmental Protection Agency, Atlanta, GA  
Lee Barclay, U.S. Fish and Wildlife Service, Cookeville, TN  
Rob Todd, Tenn. Wildlife Resources Agency, Nashville, TN  
Stan Davis, TVA  
Liz Porter, S&ME, Inc.  
File Copy.

**§401 CERTIFICATION  
CITY OF PIGEON FORGE  
NRS #07.034  
PAGE 3.**



***NRS 07.034***

Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the state of Tennessee is required to certify whether the activity described below will violate applicable water quality standards. Accordingly, the Division of Water Pollution Control requires reasonable assurance that the activity will not violate provisions of *The Tennessee Water Quality Control Act of 1977* (T.C.A. § 69-3-101 et seq.) or of §§ 301, 302, 303, 306 or 306 of *The Clean Water Act*.

Subject to conformance with accepted plans, specifications and other information submitted in support of application NRS 07.034, the state of Tennessee hereby certifies the activity described under authorized work below pursuant to 33 U.S.C. 1341. This shall serve as authorization pursuant to §T.C.A. 69-3-101 et seq.

**PERMITTEE:**           **City of Pigeon Forge**

**AUTHORIZED WORK:** The encapsulation of 3,299 linear feet of Stream H, 427 feet of Stream D, 477 feet of Stream E, 79 feet of Stream F, 847 feet of Stream F-1, 127 feet of Stream G, 1443 feet of Stream G-1, 110 feet of Stream H-1, 133 feet of Stream I, 286 feet of Stream J, 0.20 acres of Wetland 1, 0.12 acres of Wetland 2 and 0.15 acres of Wetland 3.

Compensatory stream mitigation shall occur with a combination of low impact development (LID), certification in Leadership in Energy and Environmental Design (LEED), a comprehensive stormwater management plan for the City of Pigeon Forge and the physical habitat improvements in offsite streams in the watershed.

Compensatory wetland mitigation shall occur with the onsite creation of 0.47 acres adjacent to Stream F-1 and 0.30 acres adjacent to relocated Stream E. In addition, the City will purchase 0.46 excess credits that Riverwllak Park LLC

**§401 CERTIFICATION  
CITY OF PIGEON FORGE  
NRS #07.034  
PAGE 4.**

obtained from the Indian Creek Wetland Mitigation Site in Roane County.

**LOCATION:** At the intersection of Jake Thomas Road and Teaster Lane in the adjacent to the former Jake Thomas Farm, Pigeon Forge, Sevier County.

**EFFECTIVE DATE:** December 7, 2007

**EXPIRATION DATE:** December 6, 2012

**SPECIAL CONDITIONS:**

1. The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of the above application and the limitations, requirements and conditions set forth herein. The supporting documentation includes the September 13, 2007 S&ME correspondence submitted on behalf of the City and Pigeon Falls LLC.
2. No impacts to any waters of the state by this project, other than those specifically addressed in the plans and this permit, are allowed. All other streams, springs and wetlands shall be fully protected prior, during and after construction until the area is stabilized. Any questions, problems or concerns that arise regarding any stream, spring or wetland either before or during construction, shall be addressed to the Division of Water Pollution Control, 865-594-6035. Wetlands outside of the proposed area of impact shall not be used as storage or staging areas for equipment.
3. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in Rule 1200-4-3-.03 of the Rules of The Tennessee Department of Environment and Conservation. This includes but is not limited to the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of waters of the state for any of the uses designated by Rule 1200-4-4. These uses include fish and aquatic life, livestock watering and wildlife, recreation, irrigation, industrial water supply, domestic water supply, and navigation.
4. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the state. All spills must be reported to the appropriate emergency management agency, and

**§401 CERTIFICATION  
CITY OF PIGEON FORGE  
NRS #07.034  
PAGE 5.**

measures shall be taken immediately to prevent the pollution of waters of the state, including groundwater.

5. Adverse impact to formally listed state or federal threatened or endangered species or their critical habitat is prohibited.

6. This permit does not authorize adverse impacts to cultural, historical or archeological features or sites.

7. A compensatory stream mitigation plan for the encapsulation of 3,299 linear feet of Stream H, 427 feet of Stream D, 477 feet of Stream E, 79 feet of Stream F, 847 feet of Stream F-1, 127 feet of Stream G, 1443 feet of Stream G-1, 110 feet of Stream H-1, 133 feet of Stream I, and 286 feet of Stream J shall be in accordance with "Rule 1200-4-7-04(7)(a) Mitigation of state waters other than wetlands": Mitigation measures include, but are not limited to: 1. Restoration of degraded stream reaches and/or riparian areas; 2. New (relocated) stream channels; 3. Removal of pollutants from hydrologic buffering of stormwater runoff; and 4. Any other measures which have a reasonable likelihood of increasing the resource value of a state water.

8. In order to accomplish these mitigation measures the permittee shall conduct the following:

- A. The proposed project shall be LEED (Leadership in Energy and Environmental Design) certified and utilize low impacts designs (LID) techniques that will maintain or replicate the predevelopment hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic landscape. Hydrological functions of storage, infiltration, ground water recharge as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale stormwater retention and detention areas, reduction of impervious surface, and the lengthening of flow paths and runoff time. Specifically these design techniques will include, but are not limited to, water efficient landscaping, innovative wastewater technologies, water use reduction, disconnection of roof and paved areas from traditional drainage structures into vegetated swales, buffers, strips, bioretention areas, rain gardens. Native vegetation shall be utilized emphasizing soil amendments and trees. LID techniques will be distributed throughout the development. Impervious surface

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CITY OF PIGEON FORGE  
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reduction shall be a priority with use of pervious pavement in parking, sidewalks and in the overall reduction of these structures. At least three months prior to construction of any phase the permittee shall submit a draft plan of that phase for approval detailing the Low Impact Development design techniques, and the LEED certification techniques, and a long-term maintenance plan of these techniques. The plan shall compare pre- and post development site hydrology. (35% of the mitigation).

- B. The permittee shall develop and implement a Comprehensive Stormwater Management Plan. As the first step in the process, the permittee shall add a full time Stormwater Manager to their staff. Within six months of the hire date, the permittee shall generate a draft of the plan and submit to this office. The plans shall identify specific goals, including the establishment of targeted sediment reduction goals, and provide an implementation schedule to improve stormwater management in the City of Pigeon Forge. The plan should ensure that water quality from post construction stormwater meet the requirements for post construction similar to what is utilized by the City of Knoxville as well as other state programs. (30% of the mitigation).
- C. Offsite mitigation of habitat loss within the watershed. If insufficient or no opportunities are identified, after demonstration that reasonable effort has been undertaken, within 6 months of the issuance of the 404 and 401 permits then the permittee shall utilize the Tennessee Stream Mitigation Program ( TSMP) (35% of the mitigation).

9. In order to prove the adequacy and viability of the stream mitigation plan the permittee and the City of Pigeon Forge shall monitor the surface water discharge. On site post construction monitoring will occur quarterly at the three confluences of the onsite streams with the West Prong and several locations within the development. In addition, a similar development will be chosen within the City for monitoring that has none of these stormwater designs. A minimum of one grab sample will be taken. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours for the previously measurable (greater than 0.1 inch rainfall) storm event. The required 72-hour storm event interval is waived where

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the preceding measurable storm event did not result in a measurable discharge from the activity. The required 72-hour storm event interval may also be waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. If this is not practicable then a grab sample can be taken during the first hour of the discharge. Total suspended solids, settleable solids, metals (asbestos, oil/grease, TPH (total petroleum hydrocarbons), nutrients (phosphates and nitrates), flow, temperature and dissolved oxygen will be monitored. To compare pre- and post development concentrations baseline data shall be collected for these pollutants in the West Prong prior to development. Cut-off concentrations will follow those of Table AD-1 of the Tennessee Stormwater Multi-Sector General Permit. If the results of the monitoring reveal that cut-off concentrations exceed Table AD-1 and pre-development baseline concentrations the permittee shall within 60 days from the event review its stormwater plan and make modifications or additions necessary to reduce the concentrations. A draft plan shall be submitted to the division for approval within 3 months of the issuance of the 404 and 401 permits.

10. Any approved offsite stream mitigation (condition #8 C.) shall include monitoring protocol, performance criteria and reporting schedule.

11. Compensatory wetland mitigation shall occur with the onsite creation of 0.47 acres adjacent to Stream F-1 and 0.30 acres adjacent to relocated Stream E. In addition, the City will purchase 0.46 excess credits that Riverwllak Park LLC obtained from the Indian Creek Wetland Mitigation Site in Roane County. A copy of the purchase agreement shall be provided to this office prior to the placement of fill in the wetlands.

12. The wetland creation area shall be excavated to an elevation several inches lower than the existing wetland elevations,. Then the topsoil with plant material shall be excavated from the impacted wetlands and **unevenly spread** over the created area up to the elevation of the existing wetlands. No compaction of this material shall occur.

13. Approximately 1/3 of the wetland mitigation area shall be planted with a pure live seed mix of native wetland herbaceous species while the remaining areas shall be planted with the tree species, size and spacing submitted in the plan. Species shall be planted with no one species comprising more than 20% of the total.

14. All vegetative plantings shall occur from Late November to approximately March 15.

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15. The permittee shall provide this office with a post construction verification report. Such report shall document in a narrative and photographic form that the wetland mitigation plan has been completed according to plans. This shall be submitted immediately following completion.

16. The mitigation wetlands shall be monitored and annual reports submitted to this office and to the COE for five years. Permanent vegetative sampling points shall be established. The created wetland must at a minimum meet PEMIC and PFOIA criteria within the 1987 COE Delineation parameters. Tree survival shall be 75% while the herbaceous area shall have at least a minimum 85% coverage of facultative and facultative wet species. The COE routine wetland delineation forms shall be completed and submitted. Each monitoring report shall also contain a list of wetland herbaceous species indicating wetland indicator status and relative dominance. The list shall be updated each year indicating new species.

17. The first monitoring report shall be submitted by October 31, 2008 and each subsequent year until the division notifies the permittee that reporting can be terminated. (If no work has been completed by the due date of the first monitoring report then a no work report shall be submitted.)

18. The permittee shall retain the services of an approved environmental consultant (preferably the consultant who has been involved in the permitting process) to oversee any compensatory mitigation and monitoring. The name of the responsible party shall be submitted to this office within 3 months after receipt of this permit and the COE 404 permit.

19. Signs, Carsonite or similar, shall be placed around the wetland mitigation area, remaining existing wetlands and the stream relocation that clearly indicate that they are Protected Wetlands and stream and that no disturbance is permitted.

20. It is the responsibility of the permittee to convey all the terms and conditions of this certification to all contractors.

21. The compensatory stream mitigation plan that utilizes low impact development (LID) and LEED certification is a demonstration project. The information gathered from this project shall be used in future permitting decisions by the Division

A copy of this permit, approved plans and any other document pertinent to the activities authorized by this permit shall be maintained on site at all times during periods of construction activity.

This does not preclude requirements of other federal, state or local laws. In particular, work shall not commence until the applicant has received the federal

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§404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. This permit also serves as a Tennessee Aquatic Resource Alteration Permit pursuant to the *Tennessee Water Quality Control Act of 1977* (T.C.A. § 69-3-101 et seq.).

The state of Tennessee may modify or revoke this permit or seek modification or revocation should the state determine that the activity results in more than an insignificant violation of applicable water quality standards or violation of the act.

Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

An appeal of this action may be made to the Water Quality Control Board. In order to appeal, a petition requesting a hearing before the Board must be filed within 30 days after receipt of the permit. In such petition, each contention should be stated in numbered paragraphs that describe how the proposed activity would be lawful and the action of the state is inappropriate. The petition must be prepared on 8½" x 11" paper, addressed to the Water Quality Control Board and filed in duplicate at the following address: Paul E. Davis, Director, Division of Water Pollution Control, 6<sup>th</sup> Floor L C Annex, 401 Church Street, Nashville, Tennessee 37243-1534. Any hearing would be in accordance with Tennessee Code Annotated Section 69-3-110 and 4-5-301 et seq. Questions concerning this certification should be addressed to Mike Lee at 615-532-0712.

  
Paul E. Davis, P.E.  
Director, Division of Water Pollution Control

**Appendix B**  
**Supplement to Permit Application**

**TDEC File Nos.:** NRS06-258, NRS07-034, NRS06-250, NRS05-422  
**USACE File Nos.:** 07-67, 07-68, 07-69

September 13, 2007

TDEC DWPC  
6<sup>th</sup> Floor, L&C Annex  
Nashville, Tennessee 37243-1534  
Attention: Mr. Mike Lee

U.S. Army Corps of Engineers  
Nashville District  
3701 Bell Road  
Nashville, TN 37214  
Attention: Mr. Ruben Hernandez

Tennessee Valley Authority  
Cherokee-Douglas Watershed Team  
3726 E. Morris Boulevard  
Morristown, Tennessee  
Attention: Ms. Karen Stewart

**SUBJECT: SUPPLEMENT TO PERMIT APPLICATIONS**  
City Tract – Former Jake Thomas Farm  
Pigeon Forge, Tennessee  
S&ME Project Nos. 1434-05-679, -329, -329A

Dear Mike, Ruben and Karen:

On behalf of the City of Pigeon Forge (City) and Pigeon Falls LLC (Pigeon Falls), S&ME is providing this correspondence to respond to comments raised during the permit review process for the above referenced projects. Representatives from the Tennessee Department of Environment and Conservation (TDEC), the City, Pigeon Falls, Gresham Smith & Partners (GS&P), Waterfield Design, and S&ME met on August 29, 2007 to discuss the projects.

The applicants are providing this joint response because the projects under consideration are collectively part of a development scenario for the former Jake Thomas Farm tract. As such, they have been public noticed together to consider the cumulative effect of the

impacts. Likewise, the cumulative impacts of the mitigation efforts should be considered as they collectively address water quality and quantity issues.

## **PROMOTING GREEN INFRASTRUCTURE**

The City has expressed to the regulatory agencies on several occasions the significance of this proposed development to future City planning. The City and the developer have worked closely to plan a project that meets the objectives of all involved parties. Guided by City objectives for the development of the former Jake Thomas farm, local, state and federal regulatory agencies are working together to achieve City objectives within the framework of the current regulatory requirements. Recognizing that water quality and stormwater management are issues of increasing concern, regulatory agencies are tasked with balancing resource protection with sustainable growth and development.

Promoting resource protection strategies, Mr. Benjamin Grumbles, the Environmental Protection Agency (EPA) Assistant Administrator for Water, testified before the United States House of Representatives Subcommittee on Technology and Innovation on May 10, 2007. In his testimony, Mr. Grumbles promoted green infrastructure, referring to “systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated”. On March 7, 2007, Mr. Grumbles issued a memorandum to all of EPA’s Regional Administrators, expressing “strong support for the increased development and use of green infrastructure in water program implementation”.

Recognizing that EPA is promoting and encouraging green infrastructure, the City and the developer have committed to use these techniques in the proposed development. Incorporating input from all involved parties, the proposed development will be a showcase project for the community and for the state, using Low Impact Design (LID) to protect water quality and enhance the development.

## **WASTEWATER TREATMENT PLANT COMMITMENT**

Both TDEC and the City are committed to recovering uses of the West Prong Little Pigeon River (WPLPR), and the City’s proposed Wastewater Treatment Plant (WWTP) is a significant component of the recovery process. As part of the Tourism Development Zone package approved by the State of Tennessee, the City has committed to providing up to \$29 million in sales tax revenue from the development for the new WWTP. Documentation from the City outlining their commitment to this funding is attached.

## **PROPOSED MITIGATION COMMITMENTS**

Mitigation for this project has been evaluated with consideration of TDEC Rule 1200-4-7-04 (7)(c)10, which requires consideration of the quality of the streams to be impacted. As has been previously documented, the features in question are intermittent streams originating onsite. As documented in the permit applications, the streams were evaluated by TDEC as part of the jurisdictional determination, and were found to be degraded, with limited riparian buffer on the downstream portion of the channels, and evidence of previous channel alterations. Prior to the onsite evaluation for the jurisdictional

determination, these intermittent streams had not been assessed by TDEC as part of the 2006 State of Tennessee Stream Assessment Draft (Geographic File), further supporting the assertion that the features are highly intermittent first order features. The TDEC database for similar sized first order streams indicates that they generally have a designated use limited to fish and aquatic habitat. The intermittent nature of the streams would not support fish, and historic agricultural impacts and ongoing urban impacts have reduced the diversity of other aquatic habitats. Discharge from the streams flows directly into the WPLPR, and therefore these channels are not contributors to second or third order streams down gradient of the property.

Mitigation proposed in the permit applications included payment of \$200/foot into the Tennessee Stream Mitigation Program for stream impacts that could not be mitigated onsite. Both TDEC and the applicants in subsequent conversations expressed an interest in modifying this mitigation approach to develop a plan that would more directly benefit water quality in the Pigeon Forge community. Taking into consideration the existing stream conditions, the commitment to green development, and the City's role in planning for their future growth, TDEC and the applicants discussed potential mitigation allocations during the August 29, 2007 meeting.

Following the meeting, S&ME and the applicants have attempted to address the TDEC concerns, and offer the following mitigation strategy. S&ME has attached a draft list of Proposed Special Conditions that reflect the strategy discussed in the following sections. The applicants understand that the proposed mitigation efforts must demonstrate a plan to improve water quality, with specific action items to be implemented, and subsequent monitoring to demonstrate the effectiveness of the selected techniques.

### ***LEED DEVELOPMENT***

The applicants propose to collectively offset 25 % of the mitigation effort through a commitment to Leadership in Energy and Environmental Design (LEED) certification. Recognizing EPA's recommendation to utilize green infrastructure in new developments, both the City and Pigeon Falls are committed to achieving LEED certification.

### ***ADDITIONAL LOW IMPACT DESIGN COMPONENTS***

The LEED certification process assigns points for green technologies from a variety of design components. As stated in the permit application and in meetings with TDEC representatives, the applicants are committed to addressing onsite stormwater management with a variety of green technologies. As discussed during the August 29, 2007 meeting, the applicants will exceed the available credits in the stormwater management categories under the LEED program. Consequently, the applicants would like to offset an additional 20 % of the mitigation effort through the use of LID technologies that exceed the LEED point structure. These additional LID technologies would also be focused on stormwater management and water quality, and would include the measures previously discussed in the permit applications.

The proposed LID stormwater controls will be designed to limit the offsite discharge of stormwater pollutants to pre-development levels to the maximum extent practicable using Best Management Practices (BMPs). The major goal of these BMPs is to remove an approved amount of Total Suspended Solids (TSS). Most municipalities strive for TSS removal rates of 80%, which will be the goal for the Pigeon Falls Parking and Roadway Improvements project.

The construction of infrastructure to support the Pigeon Falls development will require the use of various BMPs to address water quality. Knoxville's stormwater guidelines will be used in the implementation and design of these BMPs. Listed below are common BMPs that may be utilized in the infrastructure mentioned above to provide 80% TSS removal, as a stand alone BMP or in a treatment train.

Stormwater wet ponds, stormwater wetlands, bioretention areas, and water quality swales, organic filters, underground sand filters, infiltration trenches and perimeter sand filters are able to achieve 80% TSS removal as stand alone BMPs. When combined with other methods, features such as dry detention ponds, stand alone water quality units, gravity separators, and grass channels can also provide the 80% TSS removal required. These BMPs will be implemented in the site design to achieve the desired water quality measures. In some areas, the intent is to use some of the stand alone 80% TSS removal BMPs in conjunction with each other, in an effort to remove greater than 80% TSS.

As an added effort to address overall water quality, the City has previously committed to leaving the stream channels open on the terrace portion of the site to the extent practicable, and creating fringe wetlands where feasible. Both measures will serve to improve water quality in these channels prior to discharging into the WPLPR.

The proposed stormwater controls and improvements to the downstream channel segments are designed to decentralize the stormwater treatment to the extent practicable, and to move beyond conventional stormwater collection systems in the application of LID technologies. For a project of this size, this approach is unprecedented in the East Tennessee region, and is intended to be a showcase for green technologies.

To highlight these efforts, the City has committed to developing an educational program in conjunction with their transportation facility and/or event center, and both the City and Pigeon Falls will highlight the green technologies in their marketing efforts for the development. These opportunities to increase awareness of benefits of green development will assist in promoting this EPA initiative.

### **COMPREHENSIVE STORMWATER MANAGEMENT PLAN**

In accordance with TDEC's request to address regional concerns as well as onsite water quality, 25% of the mitigation effort is proposed to be accomplished through development and implementation of a Comprehensive Stormwater Management Plan (Plan) for the City of Pigeon Forge.

As a first step in this process, the City is prepared to add a full time Stormwater Manager to their staff. Within six months of the hire date, this individual would generate a draft of the Plan for submittal to TDEC. The Plan would identify specific goals and an implementation schedule intended to improve stormwater management in the City.

### **PHYSICAL HABITAT IMPROVEMENTS**

TDEC expressed an interest in improving physical habitat in offsite streams in Pigeon Forge as a component of the mitigation effort. As stated previously, the streams to be impacted are low quality, they originate onsite, and they discharge directly to the WPLPR. Mitigation of the physical habitats provided by these highly intermittent and degraded streams could offset the remaining 30% of the mitigation effort.

Habitat improvement can be accomplished in a variety of ways. The new WWTP planned by the City should reduce pathogen levels in surface waters in the Pigeon Forge area, which is one of the primary contributors to the TDEC 303(d) listing. A second contributor is siltation, which would be a target of the City's Comprehensive Stormwater Management Plan. Phosphorus is also a contributor to the stream impacts. The City will use their Stormwater Management Plan to structure an educational program using media and general mailings to raise community awareness of the phosphorus issue and the link to fertilizer and agricultural activities.

The permit applications currently under review by the regulatory agencies address efforts to search for additional offsite mitigation opportunities. To supplement this activity, the City recently contracted Fuller Mossbarger Scott & May (FMSM) to perform a stream restoration assessment, also intended to identify potential stream mitigation opportunities in Pigeon Forge. Four stream segments were identified by FMSM and the report findings were discussed with representatives of the Tennessee Stream Mitigation Program (TSMP). Due to property owner or TSMP concerns, none of the identified streams has yielded a viable mitigation opportunity.

Combined with the work previously performed by S&ME, the FMSM study demonstrates that the City has put forth considerable effort to locate mitigation sites in their community. The pathogen, siltation, and phosphorus reduction methods mentioned above are also intended to mitigate stream quality. The proposed Stormwater Manager position will also be used to continue to search for mitigation opportunities. If additional opportunities are identified, the sites will be discussed with the regulatory agencies to determine the mitigation credits available. As the development proceeds, in the absence of additional viable stream mitigation opportunities, the applicants request the flexibility to utilize TSMP payment for this portion of the mitigation effort.

### **SUMMARY**

The applicants appreciate the opportunity to provide the regulatory agencies with this summary of the issues discussed during the August 29, 2007 meeting. The items detailed herein are also itemized in the attached Proposed Special Conditions. These conditions are intended to provide our understanding of the requirements TDEC presented in the meeting.

The applicants understand that the regulatory agencies typically have standard permit conditions, and the items addressed herein would be in addition to these standards.

Thank you for your continued assistance with this important and innovative project. The City of Pigeon Forge and Pigeon Falls LLC are committed to creating a showcase development for the State of Tennessee. We hope the information contained herein adequately addresses the objectives outlined by TDEC in our recent meeting. Please contact us if you require additional information.

Sincerely,

Elizabeth Porter, P.G.  
Project Manager

Eric Solt, P.G.  
Environmental Services Manager

Attachment: City WWTP Commitment  
Proposed Special Conditions - Draft

cc: Mr. Paul Sloan, TDEC  
Mr. Paul Davis, TDEC  
Mr. Dan Eagar, TDEC  
Ms. Earlene Teaster, City of Pigeon Forge  
Mr. John Jagger, City of Pigeon Forge  
Mr. Buddy Kaplan, Riverwalk Park LLC  
Mr. Michael McCall, Pigeon Falls Leisure Land Co., LLC  
Mr. Norm Johnson, Waterfield Design  
Mr. Jason Brady, GS&P

## PROPOSED SPECIAL CONDITIONS - DRAFT:

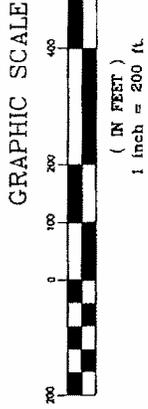
1. The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of the above application, and the limitations, requirements and conditions set forth herein. The supporting documentation includes the September 13, 2007 S&ME correspondence submitted on behalf of the City and Pigeon Falls LLC.
2. The project will be LEED Certified. **(25% of the mitigation effort)**
3. In accordance with Rule 1200-4-7-04 (7)(a)3., as part of the mitigation, removal of pollutants from hydrologic buffering of stormwater runoff will be required. This will be accomplished, beyond the LEED Certification of Condition 2, through the use of additional Low Impact Development (LID) Design Techniques. Prior to construction, both the City of Pigeon Forge (City) and Pigeon Falls LLC (the Developer) will be required to submit their respective plans with specific LID components identified. The LID components used for LEED Certification will be identified, along with a minimum of two additional LID components from each party for their respective projects. **(20% of the mitigation effort)**
4. In an effort to prove the adequacy and viability of the mitigation, in accordance with TDEC Rule 1200-4-7-04 (7)(c)9, a surface water monitoring program is to be established. Beginning with the issuance of the permit, or earlier at the discretion of the applicants, surface water discharge will be monitored quarterly at the three confluences of onsite streams with the West Prong Little Pigeon River. The monitoring will occur within 72 hours of a measurable storm event at each location, and the samples will be analyzed for total suspended solids. Annual reports will be required from the applicants for a period of five years, documenting the progress of the development, the LID components installed to date, and the quarterly surface water sampling results. Increases in total suspended solids will be accompanied by a discussion of the presumed cause of the increase and a remedy to address the issue.
5. The City of Pigeon Forge will develop and implement a Comprehensive Stormwater Management Plan. As a first step in this process, the City will add a full time Stormwater Manager to their staff. Within six months of the hire date, this individual would generate a draft of the Plan for submittal to TDEC. The Plan would identify specific goals, including the establishment of targeted sediment reduction goals, and provide an implementation schedule intended to improve stormwater management in the City. **(25% of the mitigation effort)**
6. If offsite opportunities for stream mitigation are identified as the development progresses, the sites will be discussed with the regulatory agencies to determine the mitigation credits available. In the absence of viable stream mitigation opportunities within 6 months of the permit issuance, TSMP will be utilized for the balance of the mitigation. **(30% of the mitigation effort).**

**Appendix C**  
**Parking Lot and Trolley Area Map**

Roben / Karen / Kyle -

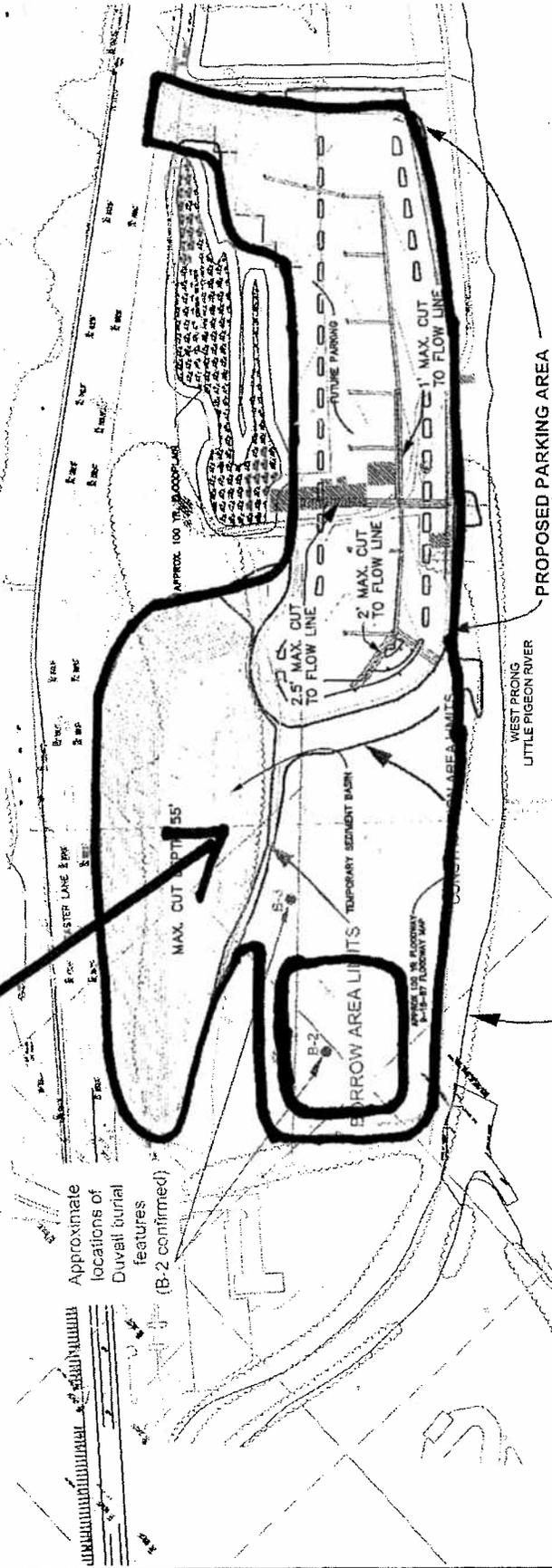
Can work begin in this area?

(No wetland or stream issues in the proposed work area)



Note: Base map provided by Gresham Smith and Partners, Nashville, Tennessee.

CONSTRUCTION



CONSTRUCTION LIMITS:  
FILL ONLY, AS PER TDOT STANDARDS, FOLLOWING SURFACE PREPARATION

PROPOSED CUT AREAS  
MAX CUT DEPTHS AS SHOWN

DATE: 3-16-07	SCALE: 1" = 200'	PROJECT NO. 1434-05-679	CHECKED BY: CRH
FORMER JAKE THOMAS FARM		PIGEON FORGE SEVER COUNTY, TENNESSEE	
PROPOSED PARKING AREA		WWW.S&M.COM	
FIGURE NO. 1		S:\2005 Projects\679 City of Pigeon Forge\Riverwalk\perm\1434\Drawings\From Gresham Feb_March_07\SME parking area.dwg	



**Design Services For The Built Environment**

- Atlanta
- Birmingham
- Charlotte
- Columbus
- Dallas
- Fort Lauderdale
- Indianapolis
- Jacksonville
- Knoxville
- Louisville
- Memphis
- Richmond
- Richmond
- San Antonio
- Tampa

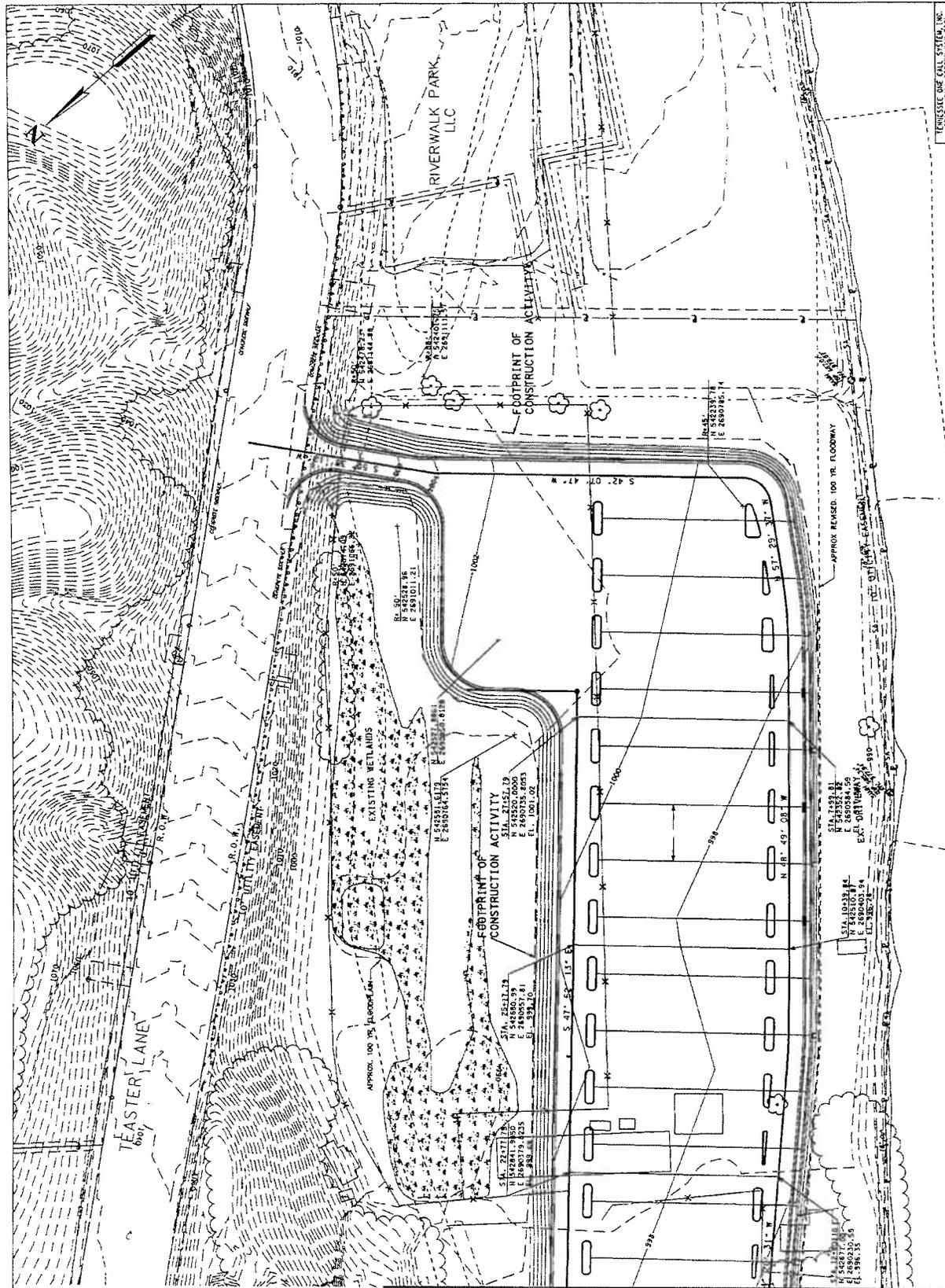
**GRESHAM SMITH AND PARTNERS**  
 2000 JEFFERSON AVENUE, SUITE 1000  
 KNOXVILLE, TN 37919-1000  
 TEL: 615.523.1000 FAX: 615.523.1000  
 WWW.GSP.COM

**PIGION FORGE PUBLIC PARKING AND TOILET CENTER SEWER COUNTY, TENNESSEE**

NO.	DATE	REVISION

DESIGNED AND DRAWN BY: **COMMITTEE**

**C-05**  
 11/11/11  
 11/11/11



THIS IS A PRELIMINARY DESIGN. IT IS NOT TO BE USED FOR CONSTRUCTION. CALL FOR MORE INFORMATION. THREE YEARING BASIS BEFORE FOR BIG

MATCH LINE STA. + SEE SHEET NO.

DATE: 11/11/11  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 APPROVED BY: [Name]



**Appendix D**  
**Joint Public Notice**



**US Army Corps  
of Engineers.**

# Public Notice

Public Notice No. 07-69

Date: August 7, 2007

Nashville District

Application No. 200701556

Expires: September 6, 2007

*Please address all comments to:* Regulatory Branch, 3701 Bell Road, Nashville, TN 37214-2660; ATTN: J. Ruben Hernandez

JOINT PUBLIC NOTICE  
US ARMY CORPS OF ENGINEERS  
AND  
TENNESSEE VALLEY AUTHORITY

**SUBJECT:** Proposed Stream Encapsulations and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

**TO ALL CONCERNED:** The application described below has been submitted for a Department of the Army (DA) Permit pursuant to **Section 404 of the Clean Water Act (33 USC 1344) and Tennessee Valley Authority permit pursuant to Section 26a of the TVA Act (16 USC 831y-1)**. Before a DA permit can be issued, certification must be provided by the State of Tennessee, Division of Water Pollution Control, pursuant to Section 401(a)(1) of the CWA, that applicable water quality standards will not be violated. The applicant has applied for the State certification by separate application (NRS 07-034).

**APPLICANT:** City of Pigeon Forge  
P.O. Box 1350  
Pigeon Forge, Tennessee 37868-1350

**LOCATION:** Several unnamed tributaries to West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee, Lat 35.7999N, Lon 83.5656W, USGS Pigeon Forge Topographic Quadrangle.

**DESCRIPTION:** The applicant proposes to extend Jake Thomas Road, widen Teaster Lane, expand the intersection at Teaster Lane and Jake Thomas Road, and create a regional parking facility as part of their regional plan to address traffic problems in the city. The Teaster Lane widening would occur from approximately 2,200' east of the Teaster Lane and Jake Thomas Road intersection to a point approximately (approx) 3,800' west of the intersection. The planned road improvements would serve a variety of developments including the proposed Pigeon Falls Village, Main Street Marketplace, and West Terrace Development. The Jake Thomas Road extension, which would be accessed in part by Pigeon Falls Lane, would eventually link the Parkway in Pigeon Forge to the Dollywood theme park and the Middle Creek Road regional bypass.

Stream Impacts. The proposed work would impact approx. 7,228' (6,291' culvert and 937' relocated channel) of several unnamed tributaries to the West Prong Little Pigeon River. Some stream descriptions are provided below:

Stream H: This stream is located within the proposed Jake Thomas Road extension (east of the proposed Pigeon Falls Village). It flows generally north-south to Teaster Lane at the existing Teaster Lane/Jake Thomas Road intersection. Approx. 3,299' would be filled. The upper portion of the channel is poorly defined but becomes more defined as it flows south toward Teaster Lane. The average channel width is 2-4'. The substrate is primarily pebbles and silt. Flow is intermittent with average depths of 2-4". Macroinvertebrate life was observed.

Stream G-1: This stream is located along the south side of Teaster Lane east of the Jake Thomas/Teaster Lane intersection. It flows generally east to west then turns south and flows into the West Prong. The channel is poorly defined, lacks sinuosity, and possesses a mud and silt substrate with minimal in-stream habitat. Macroinvertebrate life was observed.

Streams E and F-1: Approx. 937' of these streams are proposed for relocation. They are located on the south side of Teaster Lane and the proposed Pigeon Falls Development on either side of the proposed regional parking facility. Both streams have been relocated in the past. Stream E currently flows in a poorly defined channel at the toe of a retaining wall. The applicant expects that the relocations of both channels and the creation of fringe wetlands would result in improvement to their overall quality. Both would be monitored and annual reports required.

Wetland Impacts. Approx. 0.47 acres of herbaceous jurisdictional wetlands would be impacted in three areas: Wetland 1 - 0.20 acres by the widening of Teaster Lane; Wetland 2 - 0.12 acres; and Wetland 3 - 0.15 acres of a larger wetland area with the construction of the regional parking facility.

Construction Methods/Commitments. French drains and pipes would be used in the channel to collect the subsurface seeps and springs. An impermeable layer would be constructed over the french drains and pipes to separate the subsurface flow from the proposed development. In addition, a collection/treatment system is designed to collect/treat stormwater runoff from the majority of the new proposed roadways. A portion of the existing Teaster Lane would be retrofitted with the collection system during the proposed road improvements. The collection system would receive runoff and transfer it to a subsurface treatment system to be located on the City's portion of the terrace area (regional

parking facility). In addition to the proposed stormwater management system, the City is committed to using pervious pavement in its proposed parking areas. Parking areas would be graded to drain towards 8' wide pervious concrete strips underlain by a perforated pipe embedded in gravel. These pavement strips would collect stormwater runoff and facilitate infiltration for up to a 10-year storm.

Alternatives. The applicant states that it has attempted to avoid stream impacts but because of existing/proposed development the option for acquiring R.O.W. is limited. It adds that topography, regional traffic concerns, utility corridors, and regional road improvements were related to the need to conduct these activities at their proposed locations. The proposed road improvements were able to accommodate 937' of stream relocations as opposed to encapsulations. The relocations are located in the down-gradient portions of some of the tributaries where impacts are proposed.

Wetland Mitigation. Compensatory wetland mitigation would consist of the onsite creation of 0.47 acres adjacent to relocated stream F-1 and 0.30 acres adjacent to relocated stream E. Both would be designed as floodplain wetlands to receive overbank flow. Hydric material would be utilized from the existing wetland. Wetland trees species shall be planted on 10-foot centers. In addition, the applicant would purchase 0.42 excess credits that Riverwalk Park, LLC, bought from the Indian Creek Advanced Wetland Mitigation Site in Roane County. A total of 1.19 acres would be generated to offset impacts to 0.47 acres. The applicant shall monitor the created wetlands and guarantee success for five years.

Stream Mitigation. The applicant could not identify suitable mitigation sites in the area, and therefore, compensatory stream mitigation for impacts to 6,291' of stream would consist of a payment of \$200/foot to the Tennessee Stream Mitigation Program.

**ADDITIONAL PROPOSED AREA DEVELOPMENT:** By separate public notices we are advertising additional projects planned for the Pigeon Forge area. Information on these projects may be obtained by visiting: <http://www.lrn.usace.army.mil/cof/notices.htm>

*Pigeon Falls Village:* Pigeon Falls, LLC proposes to commercially develop an 85-acre tract located north-northeast of the Jake Thomas Road and Teaster Lane intersection. (Public Notice 07-68, File 200602640)

*Pigeon Falls Lane:* The City of Pigeon Forge proposes the construction of a roadway to alleviate regional traffic problems. (Public Notice 07-67, File 200600583)

Public Notice No. 07-69

Plans of the proposed work are attached to this notice.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision will 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 Section 404(b)(1) of the CWA (40 CFR Part 230). A permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is 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 permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

An Environmental Assessment will be prepared by this office prior to a final decision concerning issuance or denial of the requested Department of the Army Permit.

Cultural Resources. A Phase I archaeological survey was completed by DuVall & Associates, Inc., in 2004 for the area comprising approx. 85 acres of vacant land northeast of Teaster Lane in Pigeon Forge, Tennessee. This area is planned to be developed as a project known as Pigeon Falls Village. The report entitled: *A Phase I Archaeological Survey of the Proposed Riverwalk Park*

*Development (Management Area A: Uplands) Along Teaster Lane in Pigeon Forge, Sevier County, Tennessee*, documents that no archaeological sites or historic properties were identified on the development site. In addition, a Phase I archaeological survey was completed by DuVall & Associates, Inc., in 2004 for the floodplain areas of the Jake Thomas Farm southwest of Teaster Lane. The report entitled: *Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County, Tennessee*, documents that a prehistoric site (40SV164) potentially eligible for the National Register of Historic Places (NRHP) could be affected.

In 2007, the City of Pigeon Forge contracted to have a Phase II and limited Phase I archaeological survey conducted on 40SV164. Consultation will be undertaken between the federal agencies and the Tennessee State Historic Preservation Officer upon review of the Phase II report. This review constitutes the full extent of cultural resources investigations unless comment to this notice is received documenting that significant sites or properties exist which may be affected by this work, or that adequately documents that a potential exists for the location of significant sites or properties within the permit area. Copies of this notice are being sent to the office of the State Historic Preservation Officer.

Endangered Species. Based on available information, the proposal will not destroy or endanger any federally-listed threatened or endangered species or their critical habitats, as identified under the Endangered Species Act. Therefore, we have reached a no effect determination. Initiation of formal consultation procedures with the U.S. Fish and Wildlife Service is not planned at this time.

Other federal, state, and/or local approvals required for the proposed work are as follows:

a. Tennessee Valley Authority (TVA) approval under Section 26a of the TVA Act. In addition to other provisions of its approval, TVA would require the applicant to employ best management practices to control erosion and sedimentation, as necessary, to prevent adverse aquatic impacts.

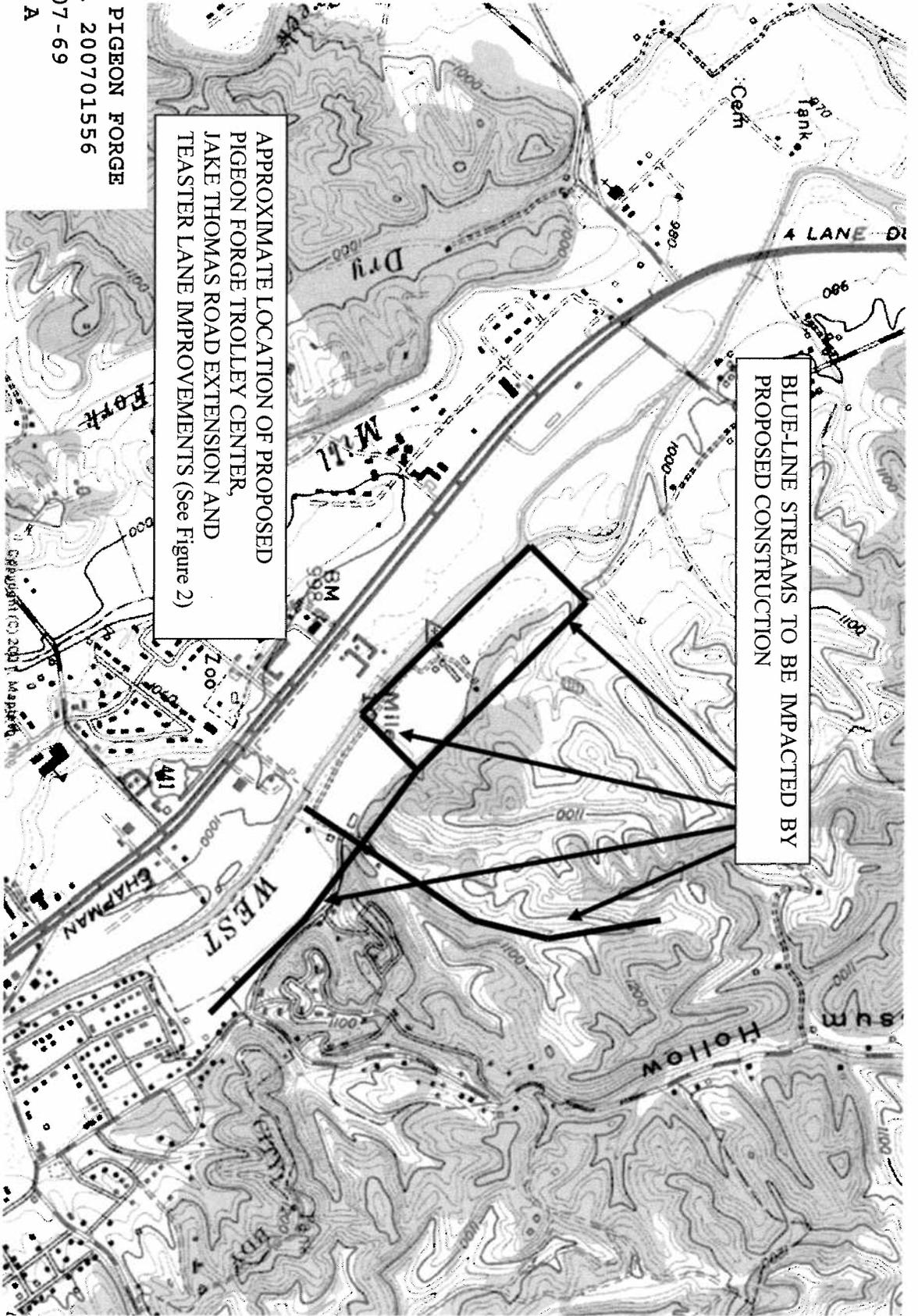
b. Water quality certification from the State of Tennessee in accordance with Section 401(a)(1) of the Clean Water Act.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Such requests shall state, with particularity, the reasons for holding a public hearing.

Public Notice No. 07-69

Written statements received in this office on or before September 6, 2007, will become a part of the record and will be considered in the determination. Any response to this notice should be directed to the Regulatory Branch, Attention: J. Ruben Hernandez, at the above address, telephone (615) 369-7519. It is not necessary to comment separately to TVA since copies of all comments will be sent to that agency and will become part of its record on the proposal. However, if comments are sent to TVA, they should be mailed to Ms. Karen Stewart, Holston-Cherokee-Douglas Watershed Team, 3726 E. Morris Boulevard, Morristown, Tennessee 37813-1270.

If you received this notice by mail and wish to view all of the diagrams, visit our web site at:  
<http://www.lrn.usace.army.mil/cof/notices.htm>, or contact Mr. Hernandez at the above address or phone number.



CITY OF PIGEON FORGE  
FILE NO. 200701556  
PN NO. 07-69  
EXHIBIT A

APPROXIMATE LOCATION OF PROPOSED  
PIGEON FORGE TROLLEY CENTER,  
JAKE THOMAS ROAD EXTENSION AND  
TEASTER LANE IMPROVEMENTS (See Figure 2)

BLUE-LINE STREAMS TO BE IMPACTED BY  
PROPOSED CONSTRUCTION

Topo Name: Pigeon Forge, TN	Scale: 1" = 1500'
Topo Date: 1956	Checked By: EMP
Topo Revision: 1970	Drawn By: BD
Contour Interval: 20 feet	Date: 06/10/05



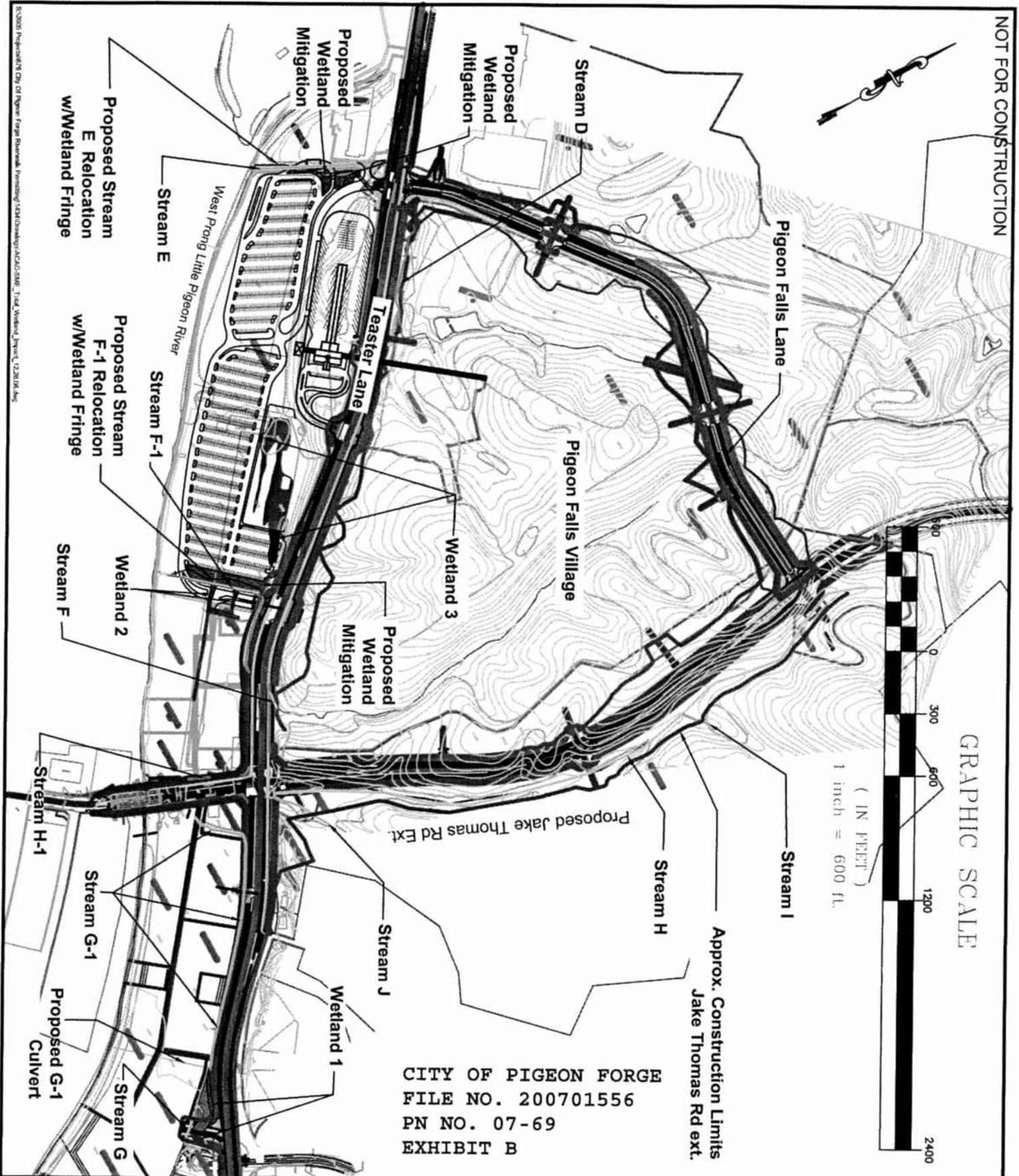
Site Vicinity Map  
Proposed Pigeon Forge  
Road Improvements  
Pigeon Forge, Tennessee  
Project No: 1434-05-679

Figure  
**1**

NOT FOR CONSTRUCTION



GRAPHIC SCALE



CITY OF PIGEON FORGE  
FILE NO. 200701556  
PN NO. 07-69  
EXHIBIT B

# City of Pigeon Forge Proposed Road Improvements

Proposed Stream and Wetland Impacts  
Pigeon Forge, Tennessee



1413 Topside Road  
Louisville, Tennessee 37777

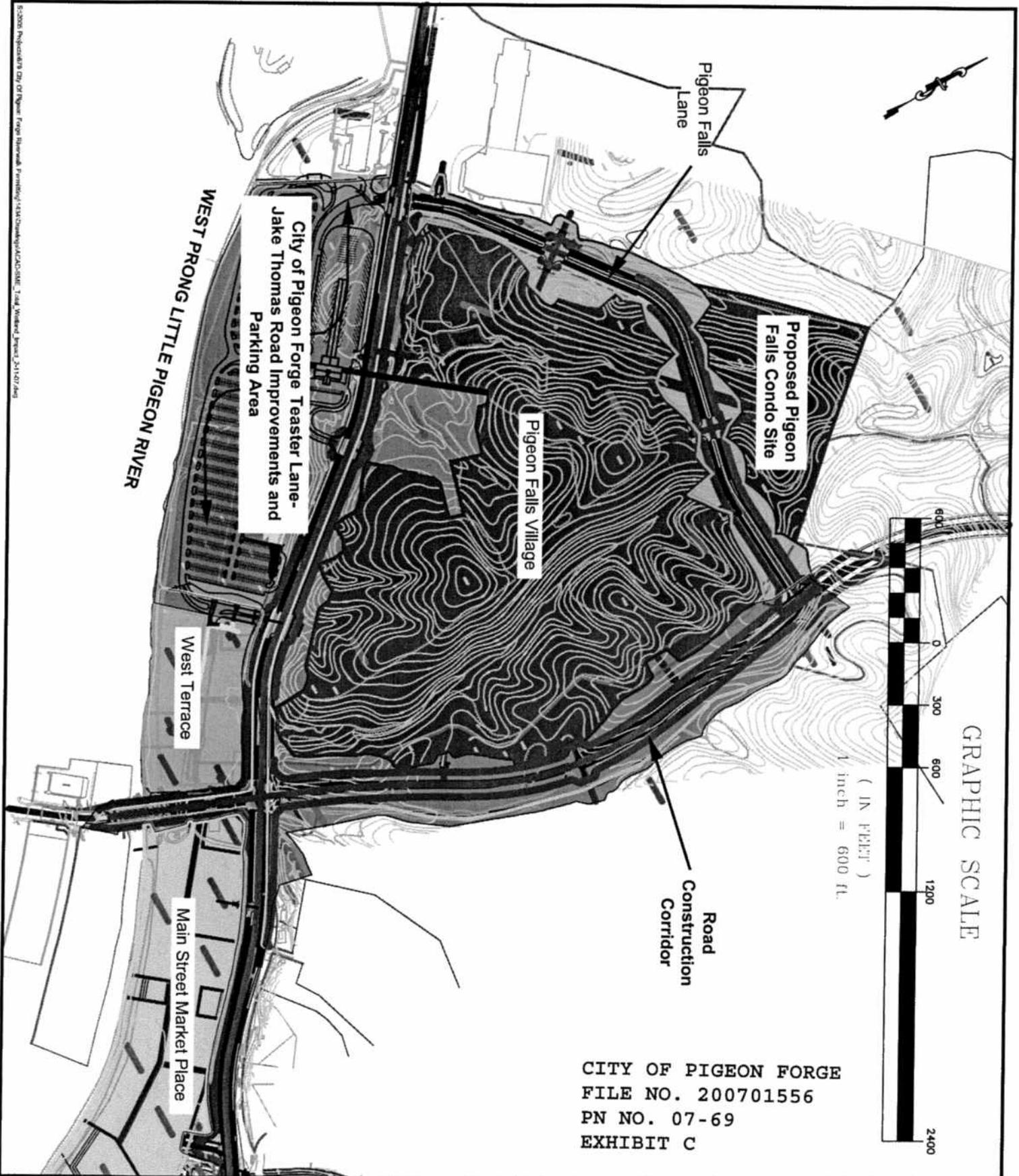
Phone: (865) 970-0003  
Fax: (865) 970-2312

DRAWN BY:	CRH
APPROVED BY:	EMP
SCALE:	1"=600'
PROJECT NO.:	1434-05-679
DATE:	05-21-07

FIGURE 2A

©2006 Professional City of Pigeon Forge Renewal Planning, 3030 Highway 421, Pigeon Forge, TN 37761

5:0000 Pigeon Forge, TN  
City of Pigeon Forge  
Map No. 200701556  
Date: 05-21-07



GRAPHIC SCALE



CITY OF PIGEON FORGE  
FILE NO. 200701556  
PN NO. 07-69  
EXHIBIT C

FIGURE 1

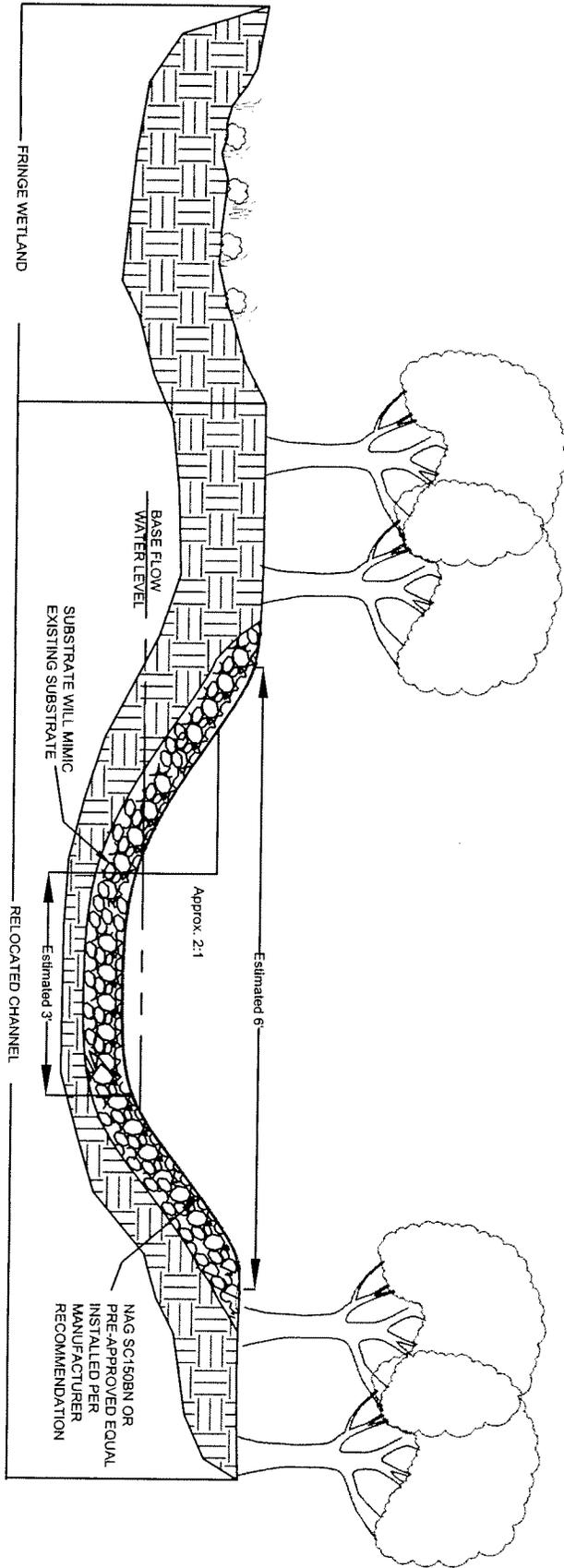
DRAWN BY:	CRH
APPROVED BY:	EMP
SCALE:	1"=600'
PROJECT NO.:	1434-05-679
DATE:	05-21-07

**Former Jake Thomas Farm**  
**Development Plans**  
Proposed Stream and Wetland Impacts  
Pigeon Forge, Tennessee

**S&ME**  
ENGINEERING TESTING  
ENVIRONMENTAL SERVICES  
WWW.SMEINC.COM

1413 Topside Road  
Louisville, Tennessee 37777

Phone: (865) 970-0003  
Fax: (865) 970-2312



TYPICAL CROSS-SECTION  
RELOCATED STREAM AND FRINGE WETLANDS  
N.T.S.

CITY OF PIGEON FORGE  
FILE NO. 200701556  
PN NO. 07-69  
EXHIBIT D

DRAWN BY:	CRH
APPROVED BY:	EMP
SCALE:	NTS
PROJECT NO.:	1434-05-679
DATE:	05-21-07

FIGURE 2A

## City of Pigeon Forge Proposed Stream Cross Section

Proposed Stream Relocation  
Pigeon Forge, Tennessee



ENGINEERING TESTING  
ENVIRONMENTAL SERVICES  
WWW.SMEINC.COM

1413 Topside Road  
Louisville, Tennessee 37777

Phone: (865) 970-0003  
Fax: (865) 970-2312

S:\2006 Projects\2007\City of Pigeon Forge\Road\Permitting\1434\Drawings\KAC\KAC\_SME\_Trial\_Mitland\_Paper\_12.26.06.dwg

## Stream and Wetland Impacts

Stream D	427 ft
Stream E	477 ft
Stream F	79 ft
Stream F-1	847 ft
Stream G	127 ft
Stream G-1	1443 ft
Stream H	3299 ft
Stream H-1	110 ft
Stream I	133 ft
Stream J	286 ft
<b>TOTAL STREAM IMPACTS</b>	<b>7228 ft</b>
<b>PROPOSED STREAM RELOCATION</b>	<b>937 ft</b>
<b>STREAM BALANCE</b>	<b>6291 ft</b>
Wetland 1	0.20 ac
Wetland 2	0.12 ac
Wetland 3	0.15 ac
<b>TOTAL WETLAND IMPACTS</b>	<b>0.47 ac</b>
<b>PROPOSED WETLAND MITIGATION</b>	<b>0.77 ac</b>
<b>WETLAND BALANCE (2:1 MITIGATION RATIO)</b>	<b>0.17 ac</b>

FIGURE 2B

DRAWN BY:	CRH
APPROVED BY:	EMP
SCALE:	NA
PROJECT NO.:	1434-05-679
DATE:	05-21-07

**City of Pigeon Forge**  
**Proposed Road Improvements**  
 Proposed Stream and Wetland Impacts  
 Pigeon Forge, Tennessee



ENGINEERING TESTING  
 ENVIRONMENTAL SERVICES  
 WWW.SMEINC.COM

1413 Topside Road  
 Louisville, Tennessee 37777

Phone: (865) 970-0003  
 Fax: (865) 970-2312

**Appendix E**  
**Public Responses**



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

August 15, 2007

Mr. J. Ruben Hernandez  
U.S. Army Corps of Engineers, Nashville District  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

RE: COE-N, PN#07-69/JAKE THOMAS RD/TEASTER LN, PIGEON FORGE, SEVIER COUNTY,

Dear Mr. Hernandez:

At your request, our office has reviewed the above-referenced undertaking and previously submitted 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 archaeological resources potentially eligible for listing in the National Register of Historic Places.

Upon receipt of the Phase II testing and additional Phase I survey report, we will complete our review of this undertaking as expeditiously as possible. Please submit a minimum of two copies of each final report to this office in accordance with the Tennessee Historical Commission Review and Compliance Section Reporting Standards and Guidelines. Complete and/or updated Tennessee Site Survey Forms should be submitted to the Tennessee Division of Archaeology. Until such time as this office has rendered a final comment on this project, your Section 106 obligation under federal law has not been met. Questions and comments may be directed to Jennifer M. Barnett (615) 741-1588, ext. 17.

Your cooperation is appreciated.

Sincerely,

*E. Patrick McIntyre, Jr.*

E. Patrick McIntyre  
Executive Director and  
State Historic Preservation Officer

EPM/jmb

20 AUG 2007



**DEPARTMENT OF THE ARMY**  
NASHVILLE DISTRICT, CORPS OF ENGINEERS  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

REPLY TO  
ATTENTION OF:

February 29, 2008

Regulatory Branch

SUBJECT: File No. 200701556; Proposed Stream Encapsulations and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Mr. Michell Hicks, Principal Chief  
Eastern Band of Cherokee Indians  
P.O. Box 455  
Cherokee, North Carolina 28719

Dear Mr. Hicks:

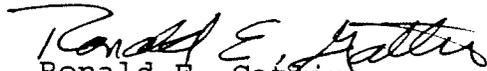
The U.S. Army Corps of Engineers, Nashville District, is processing a Department of the Army Permit request pursuant to Section 404 of the Clean Water Act for the City of Pigeon Forge for activities associated with the widening of Jake Thomas Road and Teaster Lane, the expansion of the Teaster Lane and Jake Thomas Road intersection and the construction of a regional parking facility in Pigeon Forge, Sevier County Tennessee. A copy of the public notice (Public Notice 07-69) is included for your review.

During the permit application review process, we have required the city to perform cultural resource surveys for the affected property. The description and location of the survey coverage is defined in the enclosed reports: *A Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County Tennessee (2004)*; *Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164 (2006)*; and *Verification of Potential Human Burial Areas in the City of Pigeon Forge Portion of 40SV164 (2007)*. A compact disc, containing all archaeological reports, has been included with this letter. Since human burials were found during the course of the Phase I survey the City of Pigeon Forge has proposed a Burial Management enclosed for your review.

At this time, the Corps of Engineers, Nashville District is inviting the Eastern Band of Cherokee Indians to participate in National Historic Preservation Act, Section 106, consultation pursuant to 36 CFR §800.3(f)(2). A copy of this letter will also be provided to your Tribal Historic Preservation Officer (THPO). Invitations to consult letters are also being sent to the United Keetoowah Band of Cherokee Indians and the Cherokee Nation.

If you have questions or require additional information, please feel free to contact Robert Karwedsky, Native American Liaison (615/736-7850) or Kyle Wright, Regulatory Archaeologist (615/736-2553).

Sincerely,

  
Ronald E. Gattin  
Chief, Regulatory Branch  
Operations Division

Copy Furnished:  
Mr. Russell Townsend, THPO

Enclosures



**DEPARTMENT OF THE ARMY**  
NASHVILLE DISTRICT, CORPS OF ENGINEERS  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

REPLY TO  
ATTENTION OF:

February 29, 2008

Regulatory Branch

SUBJECT: File No. 200701556; Proposed Stream Encapsulations and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Mr. George Wickcliffe, Chief  
United Keetoowah Band of  
Cherokee Indians  
P.O. Box 746  
Tahlequah, Oklahoma 74464

Dear Mr. Wickcliffe:

The U.S. Army Corps of Engineers, Nashville District, is processing a Department of the Army Permit request pursuant to Section 404 of the Clean Water Act for the City of Pigeon Forge for activities associated with the widening of Jake Thomas Road and Teaster Lane, the expansion of the Teaster Lane and Jake Thomas Road intersection and the construction of a regional parking facility in Pigeon Forge, Sevier County Tennessee. A copy of the public notice (Public Notice 07-69) is included for your review.

During the permit application review process, we have required the city to perform cultural resource surveys for the affected property. The description and location of the survey coverage is defined in the enclosed reports: *A Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County Tennessee (2004)*; *Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164 (2006)*; and *Verification of Potential Human Burial Areas in the City of Pigeon Forge Portion of 40SV164 (2007)*. A compact disc, containing all archaeological reports, has been included with this letter. Since human burials were found during the course of the Phase I survey the City of Pigeon Forge has proposed a Burial Management enclosed for your review.

At this time, the Corps of Engineers, Nashville District is inviting the United Keetoowah Band of Cherokee Indians to participate in National Historic Preservation Act, Section 106, consultation pursuant to 36 CFR §800.3(f)(2). A copy of this letter will also be provided to your Tribal Historic Preservation Officer (THPO). Invitations to consult letters are also being sent to the Cherokee Nation and the Eastern Band of Cherokee Indians.

If you have questions or require additional information, please feel free to contact Robert Karwedsky, Native American Liaison (615/736-7850) or Kyle Wright, Regulatory Archaeologist (615/736-2553).

Sincerely,

  
Ronald E. Gatlin  
Chief, Regulatory Branch  
Operations Division

Copy Furnished:  
Ms. Lisa Stoop

Enclosures



**DEPARTMENT OF THE ARMY**  
NASHVILLE DISTRICT, CORPS OF ENGINEERS  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

REPLY TO  
ATTENTION OF:

February 29, 2008

Regulatory Branch

SUBJECT: File No. 200701556; Proposed Stream Encapsulations and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Mr. Chad Smith, Principal Chief  
Cherokee Nation  
P.O. Box 948  
Tahlequah, Oklahoma 74465

Dear Mr. Smith:

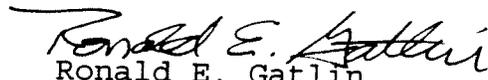
The U.S. Army Corps of Engineers, Nashville District, is processing a Department of the Army Permit request pursuant to Section 404 of the Clean Water Act for the City of Pigeon Forge for activities associated with the widening of Jake Thomas Road and Teaster Lane, the expansion of the Teaster Lane and Jake Thomas Road intersection and the construction of a regional parking facility in Pigeon Forge, Sevier County Tennessee. A copy of the public notice (Public Notice 07-69) is included for your review.

During the permit application review process, we have required the city to perform cultural resource surveys for the affected property. The description and location of the survey coverage is defined in the enclosed reports: *A Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County Tennessee (2004)*; *Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164 (2006)*; and *Verification of Potential Human Burial Areas in the City of Pigeon Forge Portion of 40SV164 (2007)*. A compact disc, containing all archaeological reports, has been included with this letter. Since human burials were found during the course of the Phase I survey the City of Pigeon Forge has proposed a Burial Management enclosed for your review.

At this time, the Corps of Engineers, Nashville District is inviting the Cherokee Nation to participate in National Historic Preservation Act, Section 106, consultation pursuant to 36 CFR §800.3(f)(2). A copy of this letter will also be provided to your Tribal Historic Preservation Officer (THPO). Invitations to consult letters are also being sent to the United Keetoowah Band of Cherokee Indians and the Eastern Band of Cherokee Indians.

If you have questions or require additional information, please feel free to contact Robert Karwedsky, Native American Liaison (615/736-7850) or Kyle Wright, Regulatory Archaeologist (615/736-2553).

Sincerely,

  
Ronald E. Gatlin  
Chief, Regulatory Branch  
Operations Division

Copy Furnished:  
Dr. Richard Allen, THPO

Enclosures



**DEPARTMENT OF THE ARMY**  
**NASHVILLE DISTRICT, CORPS OF ENGINEERS**  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

April 18, 2008

REPLY TO  
ATTENTION OF:

Regulatory Branch (1145b1)

SUBJECT: File No. 20071556; Proposed Stream Encapsulation and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Mr. E. Patrick McIntyre  
Tennessee Historical Commission  
Deputy State Historic Preservation Officer  
2941 Lebanon Road  
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

The U.S. Army Corps of Engineers, Nashville District (Corps), received an application from the City of Pigeon Forge for a Department of Army Permit pursuant to Section 404 of the Clean Water Act (33 USC 1344). A public notice advertising the proposed project was provided to your office for review (Public Notice 07-69). The project consists of the widening of Jake Thomas Road and Teaster Lane and the expansion of the intersection of these two roads along with the construction of a regional parking facility. A more detailed project description and plan maps were included within the Public Notice. The Corps has determined the Area of Potential Effect to be the entire project area (consisting of the entire right-of-way and parking facility footprint).

In compliance with requirements of Section 106 of the National Historic Preservation Act, the applicant has submitted two reports entitled; *Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164* and *Verification of Potential Human Burial Areas in the City of Pigeon Forge Portion of 40SV164*. The reports are the result of work requested by the Corps after it was determined that 40SV164 was potentially eligible for listing in the National Register of Historic Places (NRHP). The first report details continuing investigations on the City of Pigeon Forge's portion of 40SV164. The second report was to confirm the location of, and the "nature and form" of, the two previously recorded mortuary deposits within the proposed project area. Copies of the reports on cd and in paper form were delivered to your office earlier today.

Since human burials were found during the course of the Phase I survey, the City of Pigeon Forge has proposed a Burial Management Plan which is enclosed for your review. The Corps is

also conducting consultation with Native American Tribes as prescribed pursuant to 36 CFR 800.3(f)(2). All archaeological reports, the public notice, and a copy of the City of Pigeon Forge's Burial Management Plan have been sent to the tribes for their review.

After review of the submitted reports, it is the finding of the Corps that site 40SV164 is not eligible for listing in the NRHP. The Corps requests your concurrence with our finding that no historic properties will be affected by this undertaking and your comments on the Pigeon Forge Burial Plan. If you have any questions or need additional information, please contact Mr. Ruben Hernandez, Project Manager, at (615/369-7519) or Mr. Kyle Wright, Archaeologist, at (615/736-2553).

Sincerely,



William L. James  
Chief, Eastern Regulatory Section  
Operations Division

Enclosures (previously delivered)

→ JRH  
→ KYLB

W  
4/25



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

April 22, 2008

Mr. William James  
U.S. Army Corps of Engineers, Nashville District  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

RE: COE-N, PN#07-69/JAKE THOMAS RD/TEASTER LN, PIGEON FORGE,  
SEVIER COUNTY,

Dear Mr. James:

The above-referenced archaeological testing reports and burial treatment plan received by this office on Friday, April 18, 2008 have undergone initial review with regard to National Historic Preservation Act compliance by the participating federal agency or applicant for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

In order to complete our review of this undertaking, this office will need to receive from you documentation of your consultation with, and subsequent responses from, the federally recognized tribes that express an interest in participating in consultation.

Upon receipt of the additional documentation, we will complete our review of this undertaking as expeditiously as possible. Until such time as this office has rendered a final comment on this project, your Section 106 obligation under federal law has not been met. Please inform this office if this project is not permitted or canceled by the federal agency. Questions and comments may be directed to Jennifer M. Barnett (615) 741-1588, ext. 105.

Your cooperation is appreciated.

Sincerely,

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

EPM/jmb

25 APR 2008



**DEPARTMENT OF THE ARMY**  
NASHVILLE DISTRICT, CORPS OF ENGINEERS  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

REPLY TO  
ATTENTION OF:

May 9, 2008

Regulatory Branch (1145b1)

SUBJECT: File No. 200701556; Proposed Stream Encapsulation and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Ms. Jennifer Barnett  
Federal Programs Archaeologist  
Cole Building #3  
1216 Foster Avenue  
Nashville, Tennessee 37210

Dear Ms. Barnett:

Per your request in an email from 21 April 2008, enclosed you will find the requested documentation between the U.S. Army Corps of Engineers and the three Cherokee tribes. If you have any questions or need additional information, please contact Mr. Ruben Hernandez, Project Manager, at (615/369-7519) or Mr. Kyle Wright, Archaeologist, at (615/736-2553).

Sincerely,

A handwritten signature in black ink, appearing to read "R. Gatlin".

Ronald E. Gatlin  
Chief, Regulatory Branch  
Operations Division

Enclosures

## Hernandez, Jose R LRN

---

**From:** Wright, Kyle D LRN [Kyle.D.Wright@usace.army.mil]  
**Sent:** Friday, May 09, 2008 1:09 PM  
**To:** Jose R LRN Hernandez  
**Subject:** FW: Human remains within site 40SV164, Pigeon Forge, Sevier County, TN

-----Original Message-----

From: Tyler B. Howe [mailto:tylehowe@nc-chokeee.com]  
Sent: Friday, May 09, 2008 10:17 AM  
To: Wright, Kyle D LRN  
Cc: Russell Townsend  
Subject: Human remains within site 40SV164, Pigeon Forge, Sevier County, TN

Kyle:

The Eastern Band of Cherokee Indians Tribal Historic Preservation Office (EBCI THPO) accepts the invitation to act as a consulting party for the above referenced federal undertaking which will adversely impact site 40SV164. In addition, the EBCI THPO acknowledges that human remains were encountered during the archeological phase II field investigations. On 9 - April - 08, Rob Karwedsky emailed a copy of the Burial Management Plan for the human remains at site 40SV164. We concur with the recommendations found within the plan. To note, this office recognizes that the City of Pigeon Forge has redesigned their plans for the proposed parking lot, keeping "the burial feature under a landscaped island in the parking lot." The EBCI THPO concurs with this recommendation.

Additionally, this office concurs with the recommendation that no signage will be placed in the area of 40SV164 indicating either the presence of the burial, or the location of the site, which may attract unwanted attention such as looting. The EBCI THPO also concurs with the recommendation that the site will be labeled as a culturally sensitive area.

This office requests our involvement in finalizing the amount of fill to be placed over the burial

Please do not hesitate to contact me should you have any questions or comments.

Sincerely,

Tyler B. Howe  
Tribal Historic Preservation Specialist  
Eastern Band of Cherokee Indians  
828-554-6852

## Hernandez, Jose R LRN

---

**From:** Wright, Kyle D LRN [Kyle.D.Wright@usace.army.mil]  
**Sent:** Friday, May 09, 2008 1:09 PM  
**To:** Jose R LRN Hernandez  
**Subject:** FW: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

-----Original Message-----

From: Karwedsky, Robert A LRN  
Sent: Tuesday, April 15, 2008 9:17 AM  
To: Wright, Kyle D LRN  
Subject: FW: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

For your action.

Rob

-----Original Message-----

From: Tyler B. Howe [mailto:tylehowe@nc-chokeee.com]  
Sent: Monday, April 14, 2008 8:15 AM  
To: Karwedsky, Robert A LRN  
Subject: RE: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

Rob:

It would be great if you could get us a copy of the cd that was mentioned in the letter. I will get right on this project and get some comments to you this week.

Thanks,

Tyler B. Howe  
Tribal Historic Preservation Specialist  
Eastern Band of Cherokee Indians  
828-554-6852

---

From: Karwedsky, Robert A LRN [mailto:Robert.A.Karwedsky@usace.army.mil]  
Sent: Wednesday, April 09, 2008 2:04 PM  
To: Tyler B. Howe  
Subject: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

Tyler,  
Attached is a copy of the letter I spoke of earlier today in my phone message and the burial management plan. The letter mentions reports on an enclosed CD. I do not have the CD or copies of the reports, but can get them from the Regulatory office if necessary. You are welcome to send comments.

Rob Karwedsky  
Archeologist  
Project Planning Branch  
US Army Corps of Engineers  
Nashville District  
<<EBCI Notification letter PigeonForge - Ruben.doc>> <<Pigeon Forge Burial Mngmt Plan.pdf>>

## Hernandez, Jose R LRN

---

**From:** Wright, Kyle D LRN [Kyle.D.Wright@usace.army.mil]  
**Sent:** Friday, May 09, 2008 1:09 PM  
**To:** Jose R LRN Hernandez  
**Subject:** FW: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

-----Original Message-----

From: Karwedsky, Robert A LRN  
Sent: Tuesday, April 15, 2008 9:19 AM  
To: Wright, Kyle D LRN  
Subject: FW: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

Here is the response from the UKB.

Rob

-----Original Message-----

From: Lisa Stopp [mailto:lstopp@unitedkeetoowahband.org]  
Sent: Thursday, April 10, 2008 10:54 AM  
To: Karwedsky, Robert A LRN  
Subject: RE: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

Rob, Thank you for sending the information. We are satisfied with the burial management plans, and have no further comment at this time.

Lisa C. LaRue-Stopp  
Interim Director, Language, History and Culture Acting Tribal Historic Preservation  
Officer United Keetoowah Band of Cherokee Indians in Oklahoma PO Box 746 Tahlequah, OK  
74465

918.431.9998 office  
918.822.1952 cell

<http://www.ukb-nsn.gov> <blocked::http://www.ukb-nsn.gov>

This communication does not represent a consultation with the United Keetoowah Band of Cherokee Indians in Oklahoma under the stipulations of Section 106, NAGPRA or any other Historic Preservation law or procedure.

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From: Karwedsky, Robert A LRN [mailto:Robert.A.Karwedsky@usace.army.mil]  
Sent: Wednesday, April 09, 2008 12:58 PM  
To: Lisa Stopp  
Subject: Regulatory Letter and Burial Management Plan - Pigeon Forge, TN

Lisa,

Attached is a copy of the letter we spoke of earlier today and the burial management plan. The letter mentions reports on an enclosed CD. I do not have the CD or copies of the reports, but can get them from the Regulatory office if necessary. You are welcome to send comments.

Rob Karwedsky

Archeologist

Project Planning Branch

US Army Corps of Engineers

Nashville District

<<UKBCI Notification letter PigeonForge - Ruben.doc>> <<Pigeon Forge Burial  
Mngmt Plan.pdf>>



**DEPARTMENT OF THE ARMY**  
**NASHVILLE DISTRICT, CORPS OF ENGINEERS**  
3701 Bell Road  
NASHVILLE, TENNESSEE 37214-2660

REPLY TO  
ATTENTION OF:

February 29, 2008

Regulatory Branch

SUBJECT: File No. 200701556; Proposed Stream Encapsulations and Channel Relocations at Unnamed Tributaries to the West Prong Little Pigeon River, in Pigeon Forge, Sevier County, Tennessee

Mr. Chad Smith, Principal Chief  
Cherokee Nation  
P.O. Box 948  
Tahlequah, Oklahoma 74465

Dear Mr. Smith:

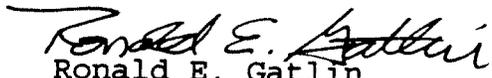
The U.S. Army Corps of Engineers, Nashville District, is processing a Department of the Army Permit request pursuant to Section 404 of the Clean Water Act for the City of Pigeon Forge for activities associated with the widening of Jake Thomas Road and Teaster Lane, the expansion of the Teaster Lane and Jake Thomas Road intersection and the construction of a regional parking facility in Pigeon Forge, Sevier County Tennessee. A copy of the public notice (Public Notice 07-69) is included for your review.

During the permit application review process, we have required the city to perform cultural resource surveys for the affected property. The description and location of the survey coverage is defined in the enclosed reports: *A Phase I Archaeological Survey of a Portion of the Proposed Riverwalk Development (Management Area B: Terraces) Pigeon Forge, Sevier County Tennessee (2004)*; *Phase I and Phase II Archaeological Evaluations of a Portion of Site 40SV164 (2006)*; and *Verification Portion of 40SV164 (2007)*. A compact disc, containing all archaeological reports, has been included with this letter. Since human burials were found during the course of the Phase I survey the City of Pigeon Forge has proposed a Burial Management enclosed for your review.

At this time, the Corps of Engineers, Nashville District is inviting the Cherokee Nation to participate in National Historic Preservation Act, Section 106, consultation pursuant to 36 CFR §800.3(f)(2). A copy of this letter will also be provided to your Tribal Historic Preservation Officer (THPO). Invitations to consult letters are also being sent to the United Keetoowah Band of Cherokee Indians and the Eastern Band of Cherokee Indians.

If you have questions or require additional information, please feel free to contact Robert Karwedsky, Native American Liaison (615/736-7850) or Kyle Wright, Regulatory Archaeologist (615/736-2553).

Sincerely,

  
Ronald E. Gatlin  
Chief, Regulatory Branch  
Operations Division

Copy Furnished:  
Dr. Richard Allen, THPO

Enclosures



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

May 12, 2008

Mr. Ronald Gatlin  
U.S. Army Corps of Engineers, Nashville District  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

RE: COE-N, ARCHAEOLOGICAL ASSESSMENT AND BURIAL TREATMENT PLAN,  
PN#07-69/JAKE THOMAS RD/TEATER LN, PIGEON FORGE, SEVIER COUNTY, TN

Dear Mr. Gatlin:

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 and, we concur that site 40SV164 contains no archaeological resources eligible for listing in the National Register of Historic Places.

We have also reviewed the Native American consultation documentation and the applicant's proposed burial treatment and avoidance plan. We concur with your agency that, provided the burials are left in place under a proposed parking lot "green island", these remains will be provided adequate protection from additional disturbance.

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

14 MAY 2008



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
446 Neal Street  
Cookeville, TN 38501

A 2007-01556

→JRM

W  
9/5

August 31, 2007

Lt. Colonel Bernard R. Lindstrom  
District Engineer  
U.S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214

Attention: Mr. J. Ruben Hernandez, Regulatory Branch

Subject: Public Notice No. 07-69. City of Pigeon Forge, Proposed Wetland Fill and Stream Encapsulation, Sevier County, Tennessee.

Dear Colonel Lindstrom:

Fish and Wildlife Service (Service) personnel have reviewed the subject public notice. The applicant (City of Pigeon Forge) proposes to fill 0.47 acre of wetlands and impact approximately 7,228 linear feet of several unnamed tributaries to the West Prong of the Little Pigeon River in Pigeon Forge, Sevier County, Tennessee. Compensatory mitigation requirements for the stream loss would be met by 937 linear feet of on-site relocation and by making a payment of \$1,258,200 to the Tennessee Stream Mitigation Program. Wetland losses would be mitigated by the onsite creation of 0.77 acre of wetlands and purchasing 0.46 excess credits that Riverwalk Park, LLC, bought from the Indian Creek Advanced Wetland Mitigation Site in Roane County. The proposed stream fill/encapsulations and fill of the wetlands are needed for roadway improvements and construction of a regional parking facility. 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 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

04 SEP 2007

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.

We do not anticipate significant adverse impacts to fish and wildlife or their habitats as a result of this project. Assuming the applicant makes the appropriate payment to the Tennessee Stream Mitigation Program in a timely manner, we would have no objection to the issuance of a permit for the work described in the subject public notice.

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,

A handwritten signature in cursive script that reads "Lee A. Barclay".

Lee A. Barclay, Ph.D.  
Field Supervisor

xc: Robert Todd, TWRA, Nashville, TN  
Dan Eagar, TDEC, Nashville, TN  
Darryl Williams, EPA, Atlanta, GA

## Hernandez, Jose R LRN

---

**From:** Williams.Darryl@epamail.epa.gov  
**Sent:** Tuesday, November 20, 2007 3:34 PM  
**To:** Hernandez, Jose R LRN  
**Cc:** Mikulak.Ronald@epamail.epa.gov  
**Subject:** Pigeon Forge projects, PN #'s 07-67,07-68, 07-69

Ruben, I decided to just email you comments. We have reviewed the additional information forwarded to us on September 11, 2007, for the subject PNs all dated in early August 2007. Your office extended the comment period for review by all agencies. We have completed our review and also discussed these projects with TDEC staff and offer the following comments:

The receiving streams have been classified as Tier 1 Waters which means existing uses must be protected. The applicant(s) are implementing several innovations in their project design (LID, "green" building, subsurface storm water management system, etc.) and promises to maintain downstream flow (@ 0.012 cfs) and water quality. It is recommended that conditions for appropriate BMPs during construction be included in accordance with state requirements and that post-construction monitoring conditions (may include: flow, pH, TSS, turbidity, metals, etc.) are also included in the permit to monitor this situation once these facilities are developed. Also, an adaptive management clause should also be included in the event state water quality standards are contravened.

We recommend that any monies paid into the Tennessee Stream Mitigation (In-Lieu-Fee) Program to offset any remaining impacts not mitigated on site or via alternative storm water mitigation BMPs should be paid prior to or concurrent with construction.

**Appendix F**  
**Applicant's Rebuttal**

**TDEC File Nos.:** NRS06-258, NRS07-034, NRS06-250, NRS05-422  
**USACE File Nos.:** 07-67, 07-68, 07-69

September 13, 2007

TDEC DWPC  
6<sup>th</sup> Floor, L&C Annex  
Nashville, Tennessee 37243-1534  
Attention: Mr. Mike Lee

U.S. Army Corps of Engineers  
Nashville District  
3701 Bell Road  
Nashville, TN 37214  
Attention: Mr. Ruben Hernandez

Tennessee Valley Authority  
Cherokee-Douglas Watershed Team  
3726 E. Morris Boulevard  
Morristown, Tennessee  
Attention: Ms. Karen Stewart

**SUBJECT:                    **SUPPLEMENT TO PERMIT APPLICATIONS****  
City Tract – Former Jake Thomas Farm  
Pigeon Forge, Tennessee  
S&ME Project Nos. 1434-05-679, -329, -329A

Dear Mike, Ruben and Karen:

On behalf of the City of Pigeon Forge (City) and Pigeon Falls LLC (Pigeon Falls), S&ME is providing this correspondence to respond to comments raised during the permit review process for the above referenced projects. Representatives from the Tennessee Department of Environment and Conservation (TDEC), the City, Pigeon Falls, Gresham Smith & Partners (GS&P), Waterfield Design, and S&ME met on August 29, 2007 to discuss the projects.

The applicants are providing this joint response because the projects under consideration are collectively part of a development scenario for the former Jake Thomas Farm tract. As such, they have been public noticed together to consider the cumulative effect of the

impacts. Likewise, the cumulative impacts of the mitigation efforts should be considered as they collectively address water quality and quantity issues.

## **PROMOTING GREEN INFRASTRUCTURE**

The City has expressed to the regulatory agencies on several occasions the significance of this proposed development to future City planning. The City and the developer have worked closely to plan a project that meets the objectives of all involved parties. Guided by City objectives for the development of the former Jake Thomas farm, local, state and federal regulatory agencies are working together to achieve City objectives within the framework of the current regulatory requirements. Recognizing that water quality and stormwater management are issues of increasing concern, regulatory agencies are tasked with balancing resource protection with sustainable growth and development.

Promoting resource protection strategies, Mr. Benjamin Grumbles, the Environmental Protection Agency (EPA) Assistant Administrator for Water, testified before the United States House of Representatives Subcommittee on Technology and Innovation on May 10, 2007. In his testimony, Mr. Grumbles promoted green infrastructure, referring to “systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated”. On March 7, 2007, Mr. Grumbles issued a memorandum to all of EPA’s Regional Administrators, expressing “strong support for the increased development and use of green infrastructure in water program implementation”.

Recognizing that EPA is promoting and encouraging green infrastructure, the City and the developer have committed to use these techniques in the proposed development. Incorporating input from all involved parties, the proposed development will be a showcase project for the community and for the state, using Low Impact Design (LID) to protect water quality and enhance the development.

## **WASTEWATER TREATMENT PLANT COMMITMENT**

Both TDEC and the City are committed to recovering uses of the West Prong Little Pigeon River (WPLPR), and the City’s proposed Wastewater Treatment Plant (WWTP) is a significant component of the recovery process. As part of the Tourism Development Zone package approved by the State of Tennessee, the City has committed to providing up to \$29 million in sales tax revenue from the development for the new WWTP. Documentation from the City outlining their commitment to this funding is attached.

## **PROPOSED MITIGATION COMMITMENTS**

Mitigation for this project has been evaluated with consideration of TDEC Rule 1200-4-7-04 (7)(c)10, which requires consideration of the quality of the streams to be impacted. As has been previously documented, the features in question are intermittent streams originating onsite. As documented in the permit applications, the streams were evaluated by TDEC as part of the jurisdictional determination, and were found to be degraded, with limited riparian buffer on the downstream portion of the channels, and evidence of previous channel alterations. Prior to the onsite evaluation for the jurisdictional

determination, these intermittent streams had not been assessed by TDEC as part of the 2006 State of Tennessee Stream Assessment Draft (Geographic File), further supporting the assertion that the features are highly intermittent first order features. The TDEC database for similar sized first order streams indicates that they generally have a designated use limited to fish and aquatic habitat. The intermittent nature of the streams would not support fish, and historic agricultural impacts and ongoing urban impacts have reduced the diversity of other aquatic habitats. Discharge from the streams flows directly into the WPLPR, and therefore these channels are not contributors to second or third order streams down gradient of the property.

Mitigation proposed in the permit applications included payment of \$200/foot into the Tennessee Stream Mitigation Program for stream impacts that could not be mitigated onsite. Both TDEC and the applicants in subsequent conversations expressed an interest in modifying this mitigation approach to develop a plan that would more directly benefit water quality in the Pigeon Forge community. Taking into consideration the existing stream conditions, the commitment to green development, and the City's role in planning for their future growth, TDEC and the applicants discussed potential mitigation allocations during the August 29, 2007 meeting.

Following the meeting, S&ME and the applicants have attempted to address the TDEC concerns, and offer the following mitigation strategy. S&ME has attached a draft list of Proposed Special Conditions that reflect the strategy discussed in the following sections. The applicants understand that the proposed mitigation efforts must demonstrate a plan to improve water quality, with specific action items to be implemented, and subsequent monitoring to demonstrate the effectiveness of the selected techniques.

### **LEED DEVELOPMENT**

The applicants propose to collectively offset 25 % of the mitigation effort through a commitment to Leadership in Energy and Environmental Design (LEED) certification. Recognizing EPA's recommendation to utilize green infrastructure in new developments, both the City and Pigeon Falls are committed to achieving LEED certification.

### **ADDITIONAL LOW IMPACT DESIGN COMPONENTS**

The LEED certification process assigns points for green technologies from a variety of design components. As stated in the permit application and in meetings with TDEC representatives, the applicants are committed to addressing onsite stormwater management with a variety of green technologies. As discussed during the August 29, 2007 meeting, the applicants will exceed the available credits in the stormwater management categories under the LEED program. Consequently, the applicants would like to offset an additional 20 % of the mitigation effort through the use of LID technologies that exceed the LEED point structure. These additional LID technologies would also be focused on stormwater management and water quality, and would include the measures previously discussed in the permit applications.

The proposed LID stormwater controls will be designed to limit the offsite discharge of stormwater pollutants to pre-development levels to the maximum extent practicable using Best Management Practices (BMPs). The major goal of these BMPs is to remove an approved amount of Total Suspended Solids (TSS). Most municipalities strive for TSS removal rates of 80%, which will be the goal for the Pigeon Falls Parking and Roadway Improvements project.

The construction of infrastructure to support the Pigeon Falls development will require the use of various BMPs to address water quality. Knoxville's stormwater guidelines will be used in the implementation and design of these BMPs. Listed below are common BMPs that may be utilized in the infrastructure mentioned above to provide 80% TSS removal, as a stand alone BMP or in a treatment train.

Stormwater wet ponds, stormwater wetlands, bioretention areas, and water quality swales, organic filters, underground sand filters, infiltration trenches and perimeter sand filters are able to achieve 80% TSS removal as stand alone BMPs. When combined with other methods, features such as dry detention ponds, stand alone water quality units, gravity separators, and grass channels can also provide the 80% TSS removal required. These BMPs will be implemented in the site design to achieve the desired water quality measures. In some areas, the intent is to use some of the stand alone 80% TSS removal BMPs in conjunction with each other, in an effort to remove greater than 80% TSS.

As an added effort to address overall water quality, the City has previously committed to leaving the stream channels open on the terrace portion of the site to the extent practicable, and creating fringe wetlands where feasible. Both measures will serve to improve water quality in these channels prior to discharging into the WPLPR.

The proposed stormwater controls and improvements to the downstream channel segments are designed to decentralize the stormwater treatment to the extent practicable, and to move beyond conventional stormwater collection systems in the application of LID technologies. For a project of this size, this approach is unprecedented in the East Tennessee region, and is intended to be a showcase for green technologies.

To highlight these efforts, the City has committed to developing an educational program in conjunction with their transportation facility and/or event center, and both the City and Pigeon Falls will highlight the green technologies in their marketing efforts for the development. These opportunities to increase awareness of benefits of green development will assist in promoting this EPA initiative.

### **COMPREHENSIVE STORMWATER MANAGEMENT PLAN**

In accordance with TDEC's request to address regional concerns as well as onsite water quality, 25% of the mitigation effort is proposed to be accomplished through development and implementation of a Comprehensive Stormwater Management Plan (Plan) for the City of Pigeon Forge.

As a first step in this process, the City is prepared to add a full time Stormwater Manager to their staff. Within six months of the hire date, this individual would generate a draft of the Plan for submittal to TDEC. The Plan would identify specific goals and an implementation schedule intended to improve stormwater management in the City.

### **PHYSICAL HABITAT IMPROVEMENTS**

TDEC expressed an interest in improving physical habitat in offsite streams in Pigeon Forge as a component of the mitigation effort. As stated previously, the streams to be impacted are low quality, they originate onsite, and they discharge directly to the WPLPR. Mitigation of the physical habitats provided by these highly intermittent and degraded streams could offset the remaining 30% of the mitigation effort.

Habitat improvement can be accomplished in a variety of ways. The new WWTP planned by the City should reduce pathogen levels in surface waters in the Pigeon Forge area, which is one of the primary contributors to the TDEC 303(d) listing. A second contributor is siltation, which would be a target of the City's Comprehensive Stormwater Management Plan. Phosphorus is also a contributor to the stream impacts. The City will use their Stormwater Management Plan to structure an educational program using media and general mailings to raise community awareness of the phosphorus issue and the link to fertilizer and agricultural activities.

The permit applications currently under review by the regulatory agencies address efforts to search for additional offsite mitigation opportunities. To supplement this activity, the City recently contracted Fuller Mossbarger Scott & May (FMSM) to perform a stream restoration assessment, also intended to identify potential stream mitigation opportunities in Pigeon Forge. Four stream segments were identified by FMSM and the report findings were discussed with representatives of the Tennessee Stream Mitigation Program (TSMP). Due to property owner or TSMP concerns, none of the identified streams has yielded a viable mitigation opportunity.

Combined with the work previously performed by S&ME, the FMSM study demonstrates that the City has put forth considerable effort to locate mitigation sites in their community. The pathogen, siltation, and phosphorus reduction methods mentioned above are also intended to mitigate stream quality. The proposed Stormwater Manager position will also be used to continue to search for mitigation opportunities. If additional opportunities are identified, the sites will be discussed with the regulatory agencies to determine the mitigation credits available. As the development proceeds, in the absence of additional viable stream mitigation opportunities, the applicants request the flexibility to utilize TSMP payment for this portion of the mitigation effort.

### **SUMMARY**

The applicants appreciate the opportunity to provide the regulatory agencies with this summary of the issues discussed during the August 29, 2007 meeting. The items detailed herein are also itemized in the attached Proposed Special Conditions. These conditions are intended to provide our understanding of the requirements TDEC presented in the meeting.

The applicants understand that the regulatory agencies typically have standard permit conditions, and the items addressed herein would be in addition to these standards.

Thank you for your continued assistance with this important and innovative project. The City of Pigeon Forge and Pigeon Falls LLC are committed to creating a showcase development for the State of Tennessee. We hope the information contained herein adequately addresses the objectives outlined by TDEC in our recent meeting. Please contact us if you require additional information.

Sincerely,

Elizabeth Porter, P.G.  
Project Manager

Eric Solt, P.G.  
Environmental Services Manager

Attachment: City WWTP Commitment  
Proposed Special Conditions - Draft

cc: Mr. Paul Sloan, TDEC  
Mr. Paul Davis, TDEC  
Mr. Dan Eagar, TDEC  
Ms. Earlene Teaster, City of Pigeon Forge  
Mr. John Jagger, City of Pigeon Forge  
Mr. Buddy Kaplan, Riverwalk Park LLC  
Mr. Michael McCall, Pigeon Falls Leisure Land Co., LLC  
Mr. Norm Johnson, Waterfield Design  
Mr. Jason Brady, GS&P

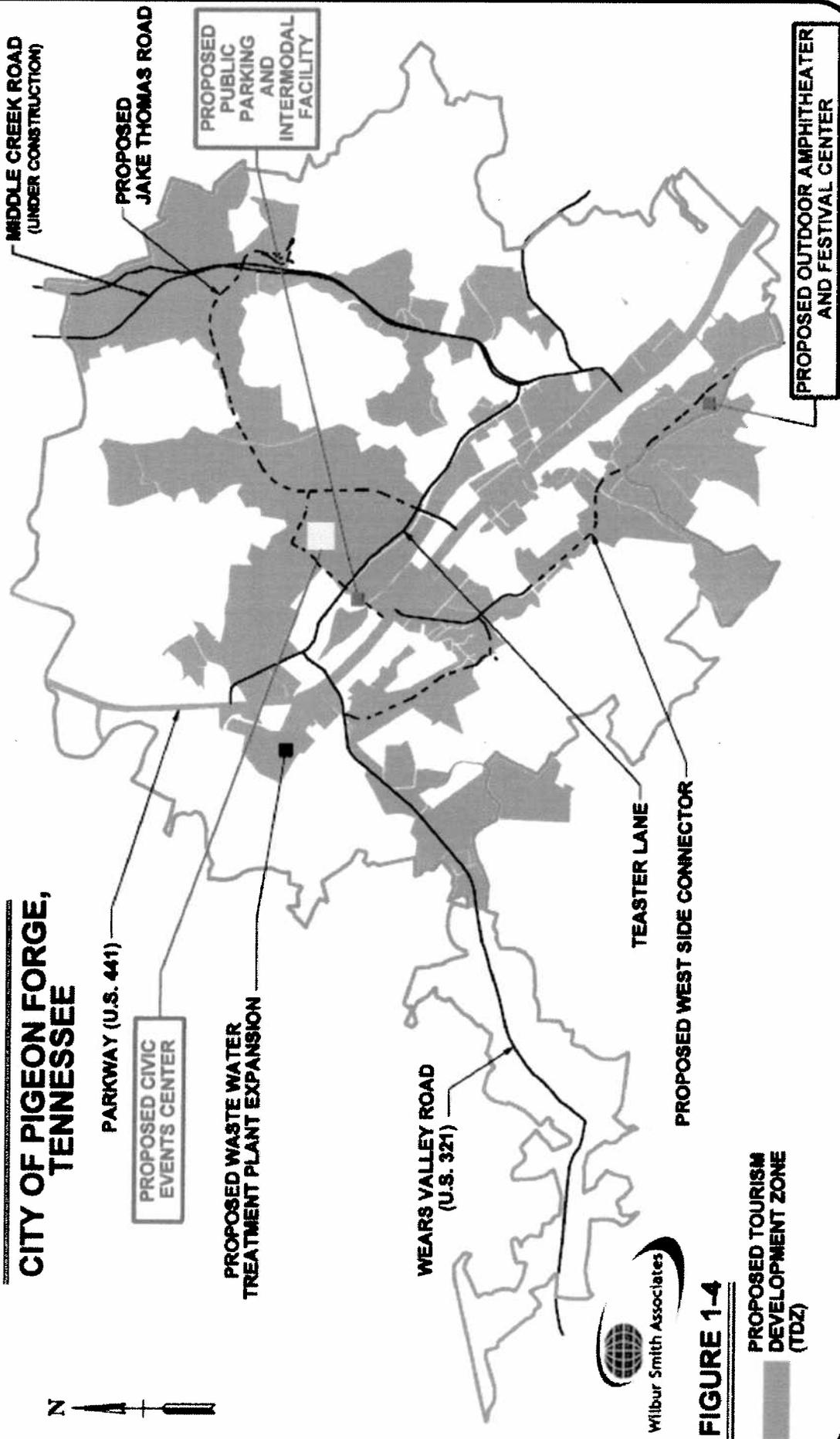
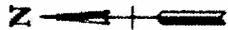
## PROPOSED SPECIAL CONDITIONS - DRAFT:

1. The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of the above application, and the limitations, requirements and conditions set forth herein. The supporting documentation includes the September 13, 2007 S&ME correspondence submitted on behalf of the City and Pigeon Falls LLC.
2. The project will be LEED Certified. **(25% of the mitigation effort)**
3. In accordance with Rule 1200-4-7-04 (7)(a)3., as part of the mitigation, removal of pollutants from hydrologic buffering of stormwater runoff will be required. This will be accomplished, beyond the LEED Certification of Condition 2, through the use of additional Low Impact Development (LID) Design Techniques. Prior to construction, both the City of Pigeon Forge (City) and Pigeon Falls LLC (the Developer) will be required to submit their respective plans with specific LID components identified. The LID components used for LEED Certification will be identified, along with a minimum of two additional LID components from each party for their respective projects. **(20% of the mitigation effort)**
4. In an effort to prove the adequacy and viability of the mitigation, in accordance with TDEC Rule 1200-4-7-04 (7)(c)9, a surface water monitoring program is to be established. Beginning with the issuance of the permit, or earlier at the discretion of the applicants, surface water discharge will be monitored quarterly at the three confluences of onsite streams with the West Prong Little Pigeon River. The monitoring will occur within 72 hours of a measurable storm event at each location, and the samples will be analyzed for total suspended solids. Annual reports will be required from the applicants for a period of five years, documenting the progress of the development, the LID components installed to date, and the quarterly surface water sampling results. Increases in total suspended solids will be accompanied by a discussion of the presumed cause of the increase and a remedy to address the issue.
5. The City of Pigeon Forge will develop and implement a Comprehensive Stormwater Management Plan. As a first step in this process, the City will add a full time Stormwater Manager to their staff. Within six months of the hire date, this individual would generate a draft of the Plan for submittal to TDEC. The Plan would identify specific goals, including the establishment of targeted sediment reduction goals, and provide an implementation schedule intended to improve stormwater management in the City. **(25% of the mitigation effort)**
6. If offsite opportunities for stream mitigation are identified as the development progresses, the sites will be discussed with the regulatory agencies to determine the mitigation credits available. In the absence of viable stream mitigation opportunities within 6 months of the permit issuance, TSMP will be utilized for the balance of the mitigation. **(30% of the mitigation effort).**

**Appendix G**  
**Tourism Development Zone (TDZ) Map**

# **TOURISM DEVELOPMENT ZONE**

## **CITY OF PIGEON FORGE, TENNESSEE**



**FIGURE 1-4**

PROPOSED TOURISM  
DEVELOPMENT ZONE  
(TDZ)