TO: ACHD Commission, Director Wong
FROM: Gary Inselman, Development Services Manager
SUBJECT: Request to Install Permeable Brick Pavers in Bridgetower Heights Subdivision
MEETING DATE: May 22, 2013

Facts and Findings
1. Bridgetower Investments, LLC, Mike McCollum, Manager (Developer) requests to install permeable interlocking concrete pavement (PICP) or permeable brick pavers in lieu of the standard paved street section on the local roadways within Bridgetower Heights Subdivision (aka Volterra Subdivision).
2. Bridgetower Heights Subdivision is located north and south of McMillan Road, west of Ten Mile Road. See Exhibit 1.
3. The Developer is proposing to build three phases of Bridgetower Heights Subdivision in 2013. The three phases include a combined total of approximately 1 mile of local roadways.
4. Bridgetower Heights Subdivision overall includes approximately 4 miles of local roadways. See Exhibit 2.
5. ACHD staff has worked with the Developer and representatives from Oldcastle and their subsidiary Belgard Hardscapes (Supplier) to investigate design and construction standards as well as the maintenance requirements of PICP.
6. ACHD staff contacted jurisdictions around the country using PICP to seek recommendations and to learn from their experiences.
7. ACHD staff assimilated the data into the following recommended conditions of approval:
   a. Design and Construction
      1) PICP system shall be designed by a professional engineer with experience in PICP systems.
      2) Design and construction shall meet the minimum recommendations and specifications of the Interlocking Concrete Pavement Institute PICP Manual as well as ASCE 58-10.
      3) The PICP system shall include an under drain with over flow to a surface system if the required 100 year storm volume cannot be accommodated or the system cannot drain 90% of the 100 year storm volume in 24 hours.
      4) The PICP system shall include a transverse under drain in the location of longitudinal low points (sags), and the plat shall include easements behind the sidewalks in these areas, to accommodate future seepage beds if they become necessary in the event of some failure of the PICP system.
      5) Geotechnical investigation shall be provided to confirm onsite bearing pressure, infiltration rates, groundwater elevation and any other data necessary in the design of the system.
      6) The planter strip between the curb and sidewalk should be designed as a shallow swale to keep runoff and landscaping debris from the roadway if a detached sidewalk is constructed.
      7) The ACHD Commission and City of Meridian must approve the use of PICP including the color of the pavers.
8) Contractor shall use experienced installers for the pavers.

b. Warranty and Performance Guarantees
1) Supplier to provide full warranty of all materials, the design, workmanship, and performance of the entire PICP system for 5 years from the date of acceptance by ACHD. The warranty will require a written agreement between ACHD and Supplier and a financial guarantee of 10% of the entire PICP system costs in the form of a warranty bond. The warranty period will start upon acceptance of the streets by ACHD.
2) Local Streets or any roadways with front on housing will require a written agreement between ACHD and the Developer or Supplier and a financial surety (in the form of an irrevocable letter of credit) in the amount of the total cost to replace all joint aggregate. The financial surety will be held until all homes have been constructed in that phase, the building sites stabilized, and the Developer or Supplier has restored the PICP system to full design infiltration capacity.
3) The PICP system infiltration rate shall be tested upon completion of construction, following build out of homes, and at the end of the warranty period. The system shall meet design performance levels prior to acceptance of the streets and prior to release financial sureties.
4) Sweeping and maintenance of the PICP system shall be the responsibility of Developer or Supplier through home build out.

c. Maintenance
1) Developer shall provide the District 5 pallets of pavers and the associated joint aggregate palletized in UV protected super sacks prior to acceptance of the streets.
2) Supplier shall provide a detailed maintenance manual as well as training of District Maintenance personnel.

8. The Developer is in agreement with the conditions of approval.

Recommendation
Staff recommends approval of the use of PICP on local and collector roadways on a trial basis. The design and construction of PICP shall meet the requirements outlined above and be limited to Bridgetower Heights Subdivision and ACHD capital projects during the trial period. The trial should be for a period of 5 years or, until enough data has been gathered to support the expanded use of PICP or, to discontinue the use of PICP.
Site Plan

Exhibit 2

Volterra Subdivision