INNOVATIVE USE OF MICROPILES ON THE CBD PROJECT

15TH STREET LOOKING NORTHWEST: BENTS 2-5

MAJOR FOUNDATION ISSUES
SCHEDULE - #1
LOGISTICS - #2
COST - #3
ENGINEERING - #4
2/14/2019

**LOWER HEADROOM OPTIONS:**

- **Drilled Shafts**
  - Lack of headroom
  - Rock depth increases moving eastward.
  - Temporary casing issues
  - Long duration

- **Driven Piles**
  - Lack of headroom
  - Risk for pile house
  - Multiple pile changes
  - Low capacity
  - More piles
  - Larger caps
  - Long duration

- **Micropiles**
  - Low headroom risk
  - Skipping is possible
  - Cost effective
  - No damage to pilings
  - Acceptable duration

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**MICROPILE CAP**

- Service load per each micropile: 375 kips or 187.5 tons
- 40 caps
- 480 micropiles
- ~20,000 linear feet
Theoretical Deformation (inches)

Average Cumulative Deformation (inches)

Applied Load vs Deformation

-0.41"

752 kips

Deformation (inches)

Applied Load (kips)
Drilled Shafts
H-Piles
Micropiles

MICROPILE PRODUCTION WORK BEGAN FEBRUARY 2018
~9 MONTHS OF WORK

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QUESTIONS?