

Central Avenue Alternative Conduit Design

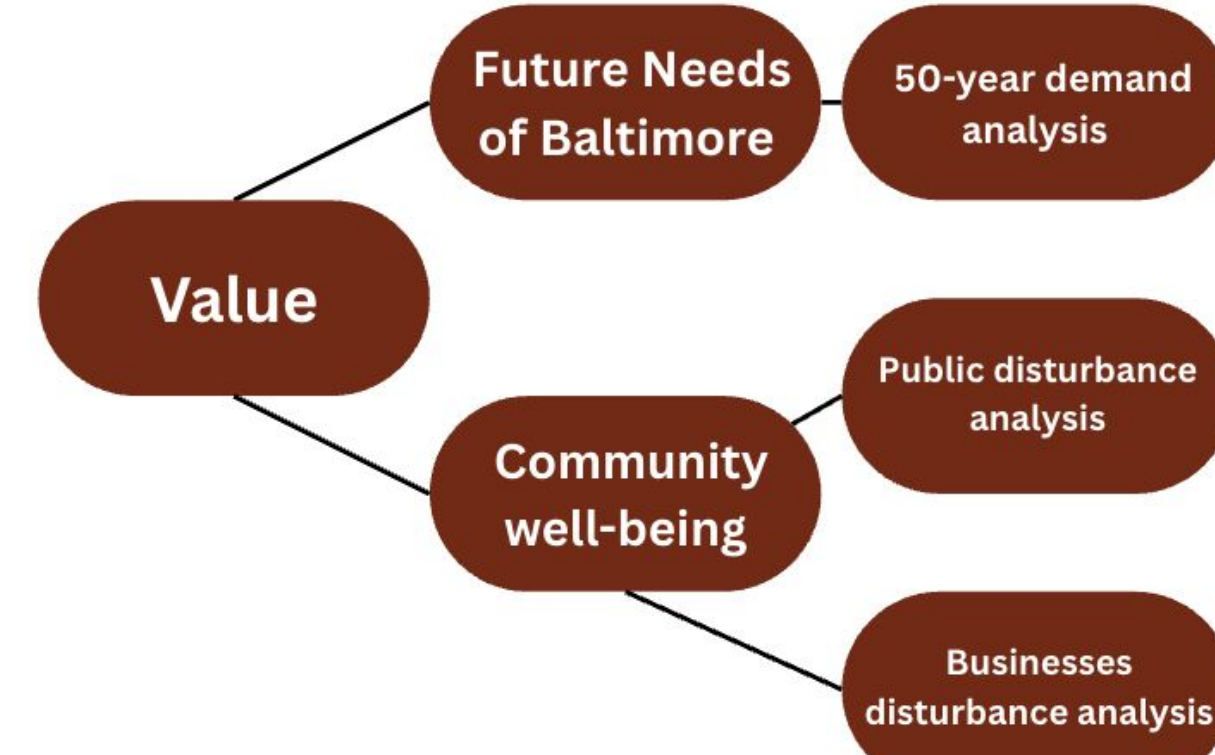
BaltConduit1 - C4
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Problem Definition

In 2016, Allan Myers was awarded the Central Avenue Design-Build Project by The Baltimore City Department of Transportation. Unlike a typical design-build, Allan Myers was forced to follow a narrow sighted design provided by the DOT to upgrade the conduit system.

Project Approach

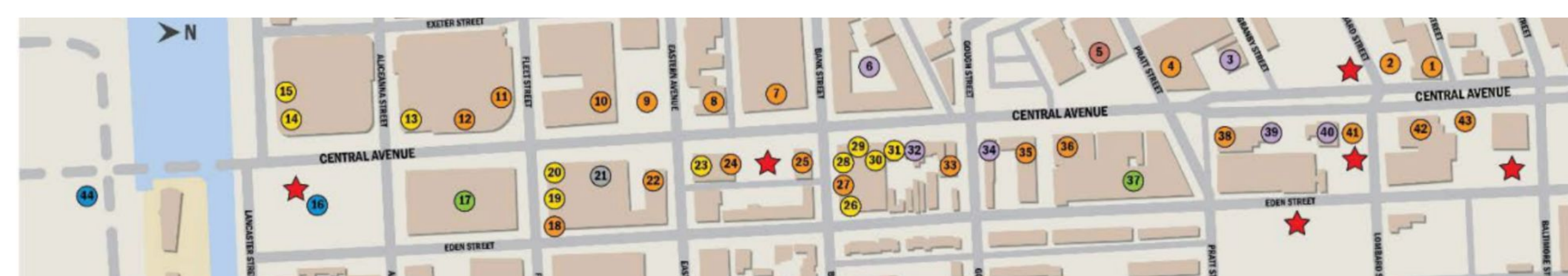
This case study examines whether creating a supplementary system adjacent to the existing could have been more optimal. Our team defines value as being more beneficial to the project's goals, with a focus on minimizing public disruption and increasing system capacity.



Urban and Commercial Disruption

50% Disturbance Decrease:

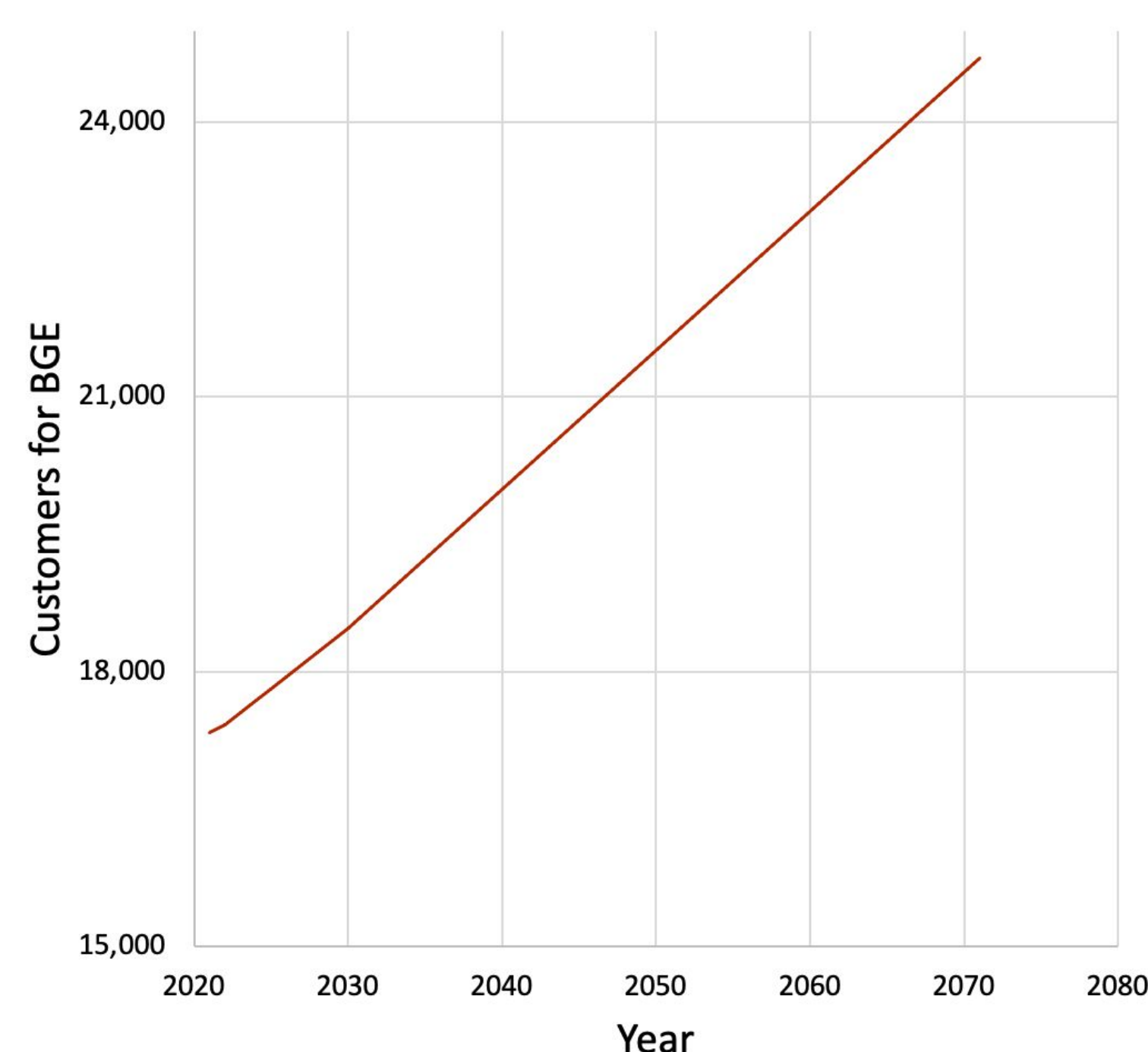
- Allan Myers Manhole Construction Period: **8 weeks**
- Proposed Precast Manhole Construction Period: **4 weeks**



- | Property Type | Property Name | Property Name | Property Name |
|----------------------------|--|---|--|
| Outdoor Seating/Restaurant | 1. Just Temps | 13. Manchurian Rice Co. (Restaurant With Outdoor Seating) | 25. ABC Radiator & Air Conditioning |
| Hotel | 2. Lenny's Deli | 14. Ouzo Bay (Restaurant) | 26. Pic Di Grotta Italian Bakery & Pastry Shop |
| Business | 3. Albemarle Square Community Center | 15. Gordon Biersch (Bar/Restaurant With Outdoor Seating) | 27. Bikram Yoga Baltimore |
| Residential | 4. Gerry's Tire (Old Location) | 16. To Become New Whole Foods/ Apartments | 28. Heavy Seas Alehouse |
| Future Development | 5. Stratford University | 17. Warehouse | 29. Mustang Alley (Bar/ Restaurant With Bowling) |
| Warehouse | 6. Canal Street Malt House Condos | 18. Floyd's 99 (Barbershop) | 30. Davidus Cigars |
| Other | 7. Little Italy Parking Garage | 19. Cava Mezze | 31. My Thai |
| Possible Staging Area | 8. Gas Station/Garage | 20. Nando's Peri-Peri | 32. Residential |
| | 9. Alexander's Auto Sales | 21. Hyatt Place | 33. Fells Point Collision |
| | 10. Laureate Education Inc. | 22. Enterprise Car Rental | 34. Residential |
| | 11. Education Inc./ Fidelity & Guaranty Life/ Harbor East Dental | 23. By Degrees Cafe (With Outdoor Seating) | 35. Auto Repair |
| | 12. AT&T | 24. Groove (Flex Office Space) | 36. S.H. Landsman & Sons Inc. Scrap Metal |
| | | | 37. Warehouse Space |
| | | | 38. Harbor Auto Center |
| | | | 39. Residential |
| | | | 40. Residential |
| | | | 41. Parking (Gerry's Tire) |
| | | | 42. Gerry's Tire |
| | | | 43. Sherwin Williams |
| | | | 44. Harbor Point |

Adjacent Properties Along the Project

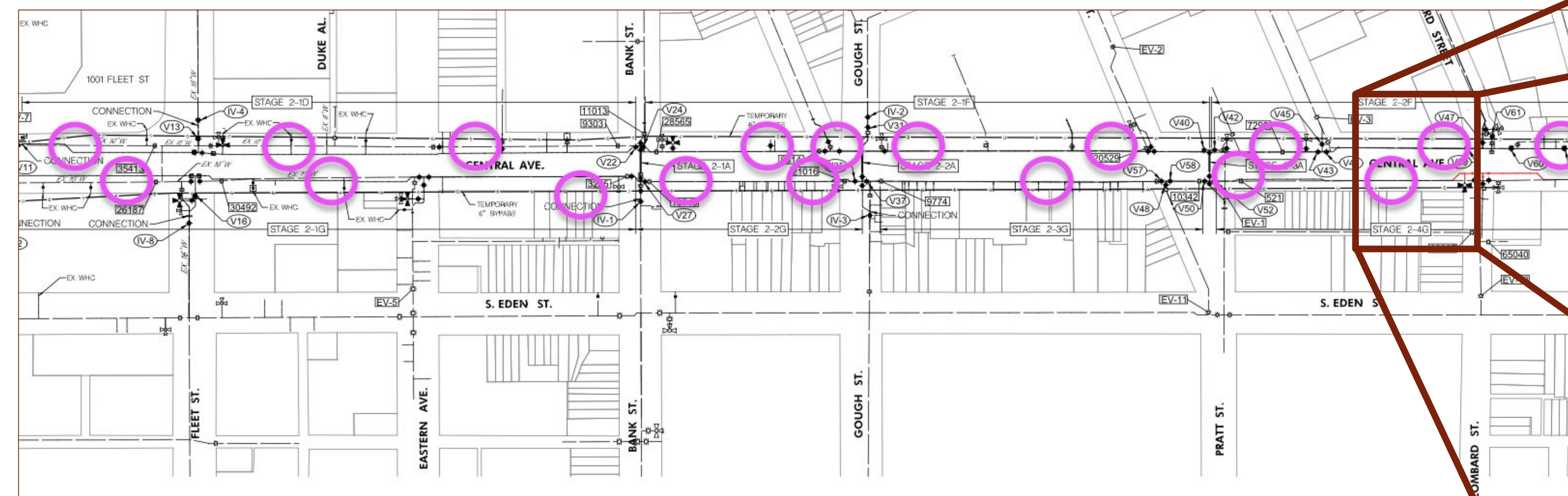
50-Year Demand Analysis



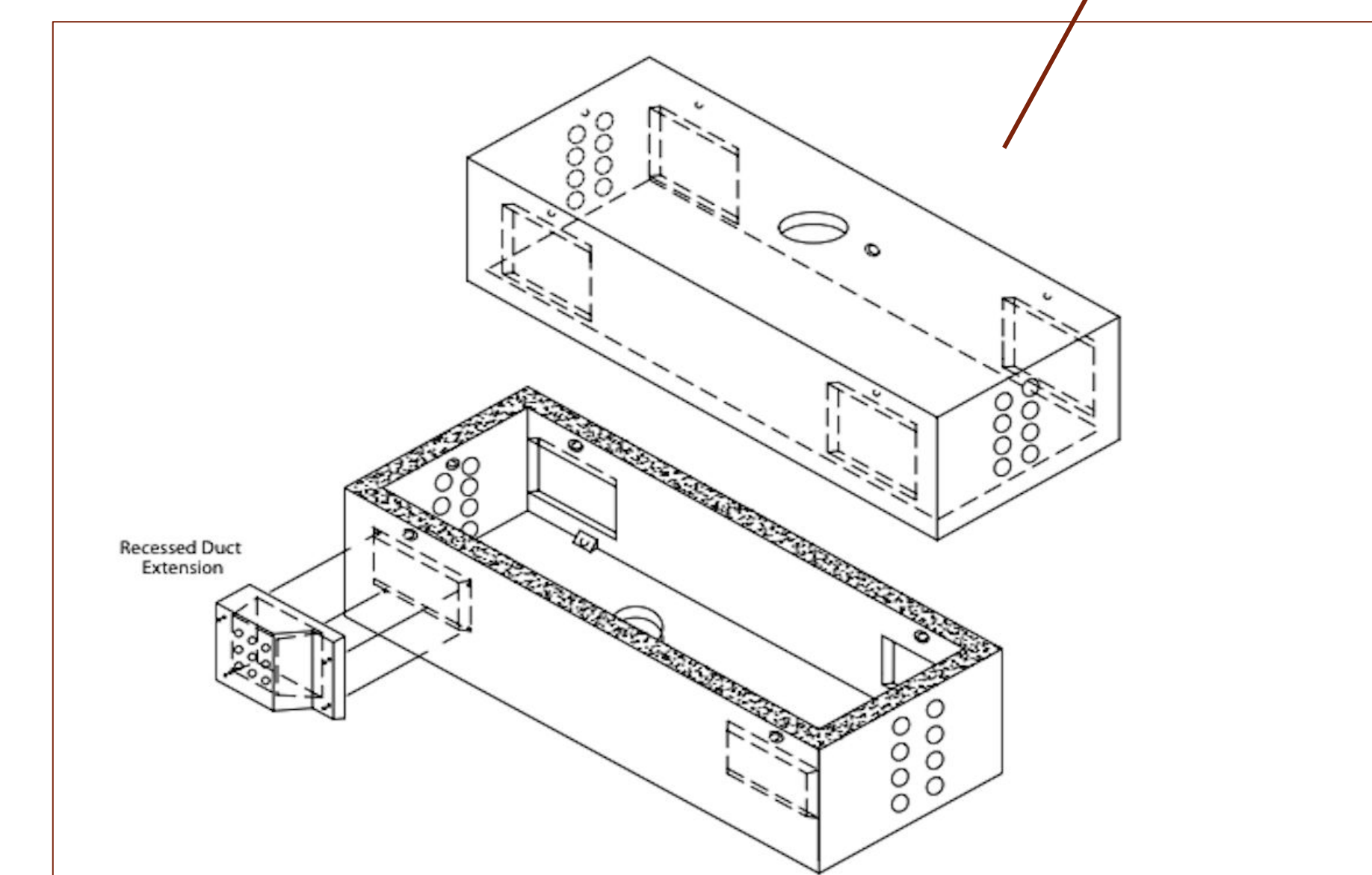
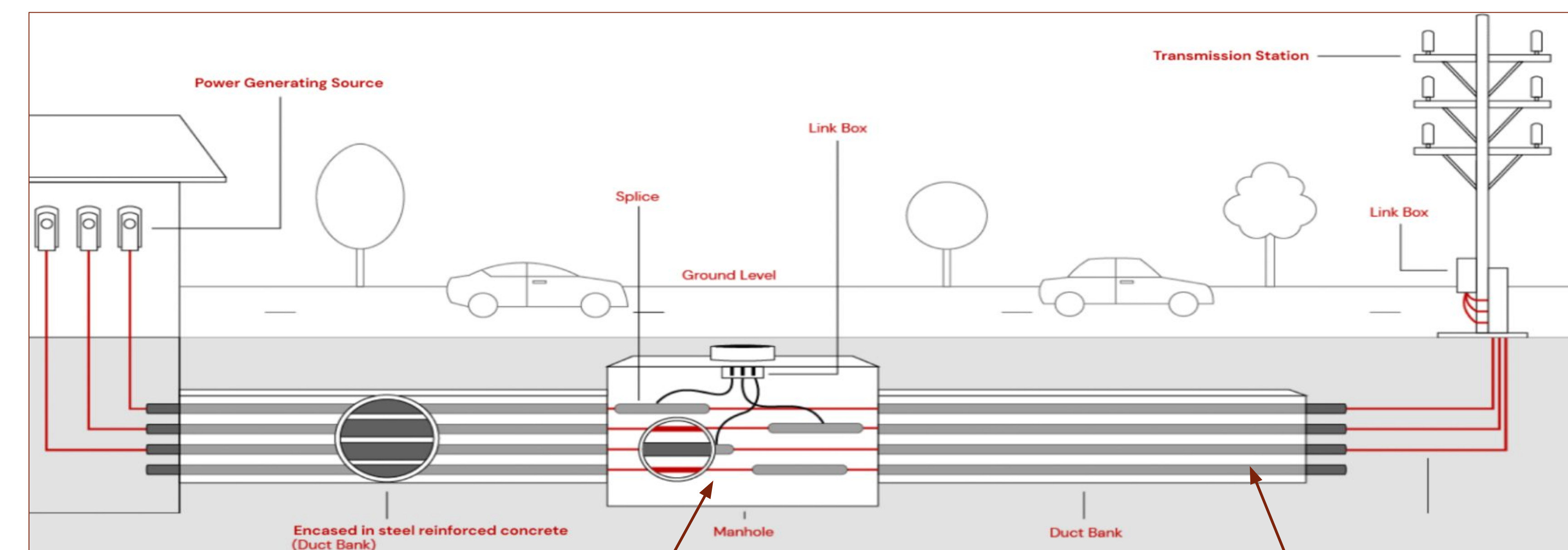
The projected customers for BGE in 50 Years near Central Avenue in Baltimore, MD.

Based on Census Tracts 203 & 302, near the region of Central Avenue, the increase of BGE customers from 2021-2030 is 1,142 people, which is about 6.6%. From **2021-2071**, the **increase** in BGE customers would be 7,359 people which is about **42.4%**.

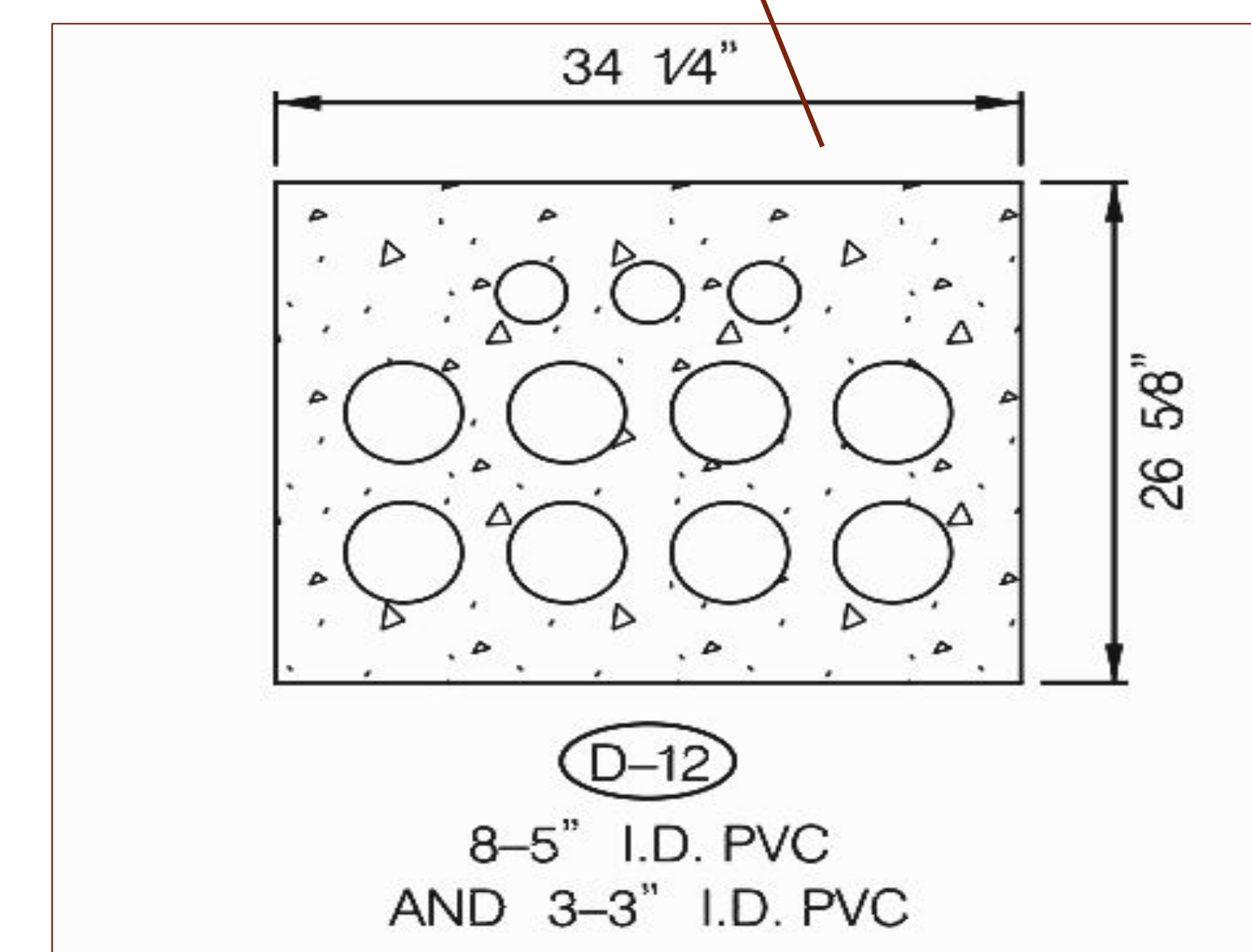
Recommended Supplementary Design



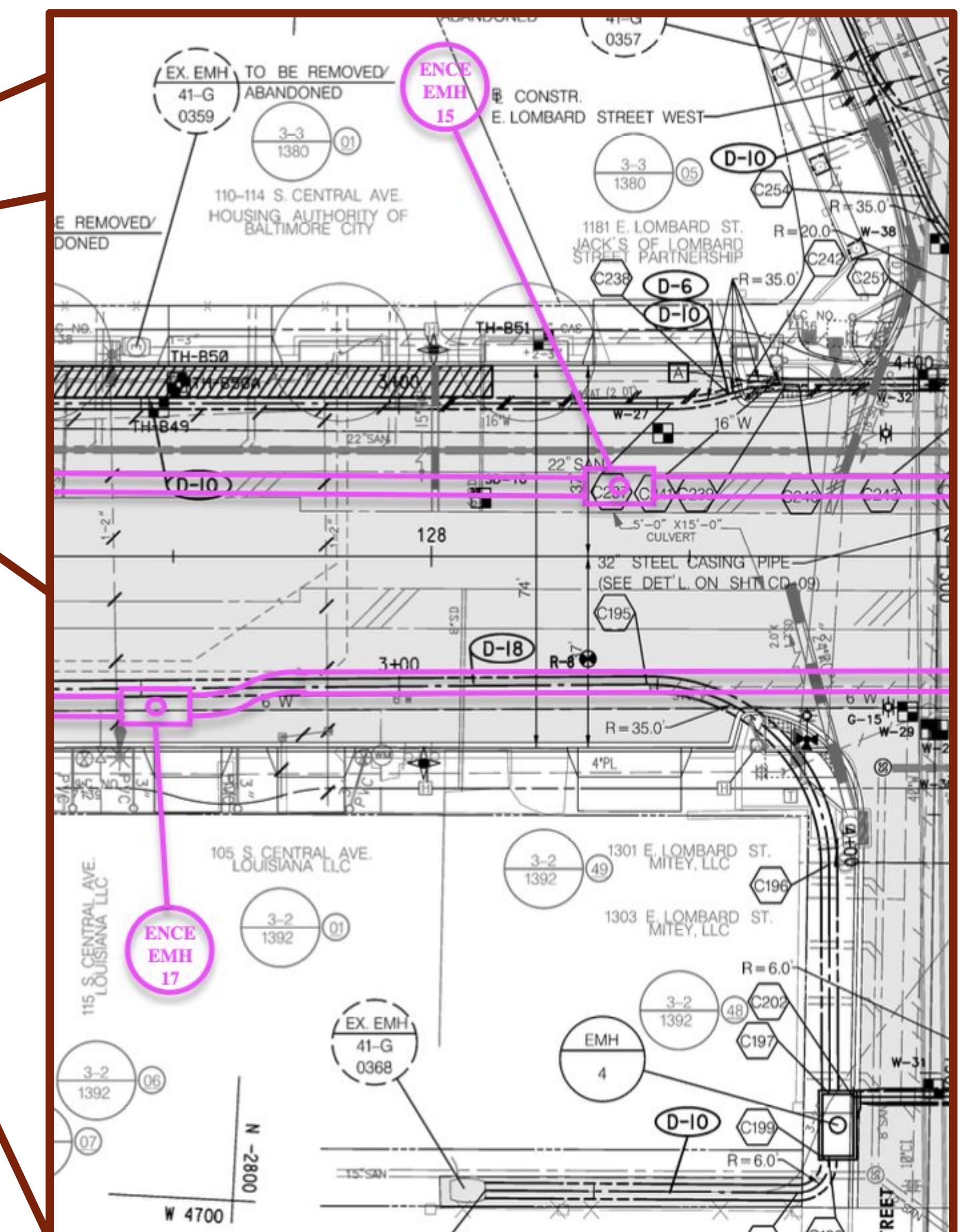
Central Avenue Redesign Manhole Locations



Proposed Precast Manhole



Proposed Duct Bank



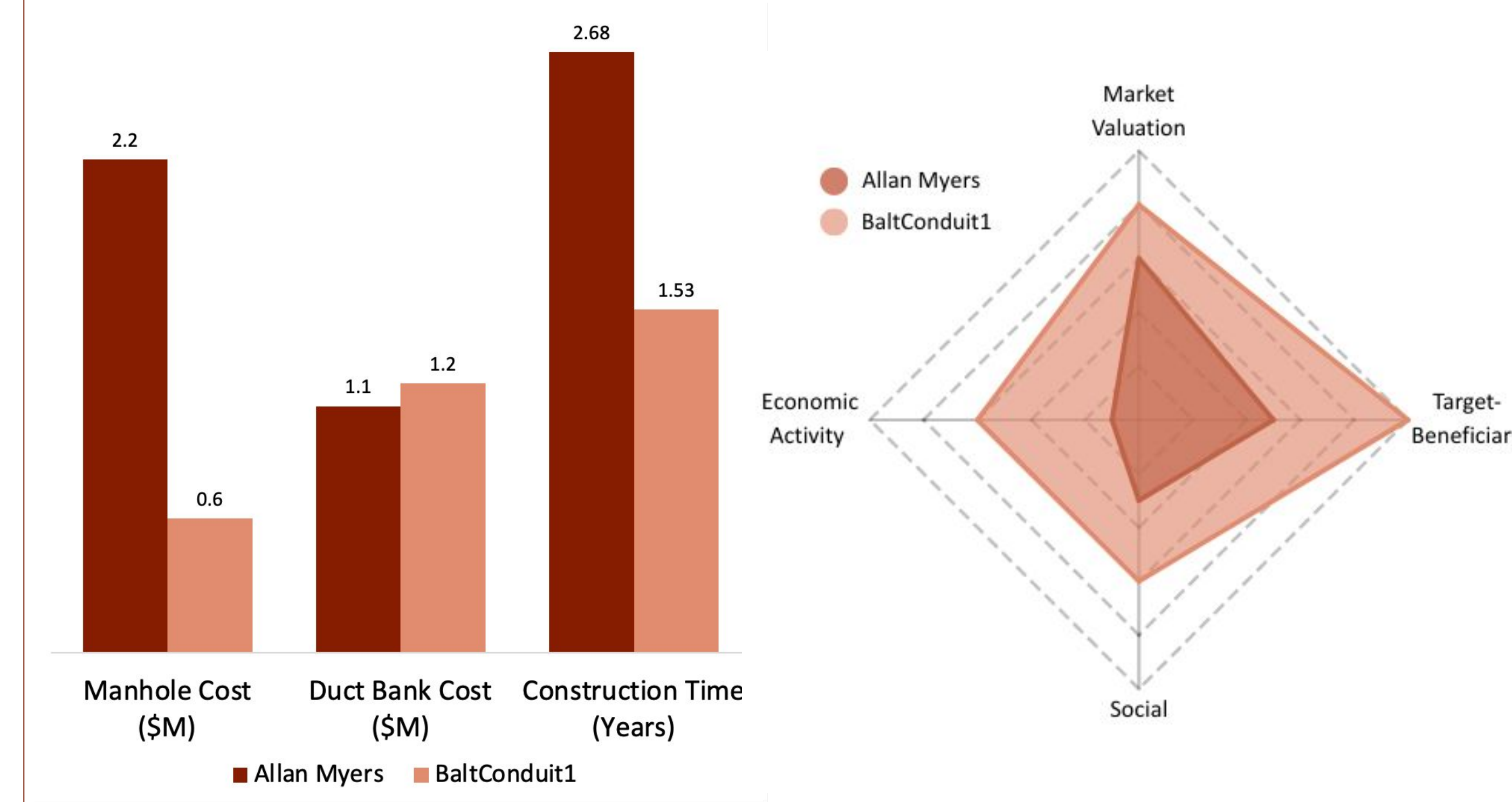
Central Avenue and Lombard Street Intersection Site Plan

The supplementary design shown in fuchsia is an adjacent conduit system running alongside the existing Central Avenue conduit. Instead of upgrading the existing system, the new proposal is adding an independent conduit system that runs adjacent to the old one. The redesign utilizes 18 precast manholes and D-12 duct banks shown to the left.

Proposed Legend

ENCE EMH X	Recommended Manhole Label
ENCE EMH	Recommended Manhole
D-12	Recommended Duct Bank

Design Comparison



Multiple Account Cost Benefit Analysis

Account	Results
Market Valuation	Allan Myers: -2.4 Million BaltConduit1: -1.78 Million
Target-Beneficiary	Allan Myers: 139 Million BaltConduit1: 143 Million
Economic Activity	Allan Myers: 140 weeks of traffic delays due to construction BaltConduit1: 80 weeks of traffic delays due to construction
Social	Allan Myers: Adverse impact on nearby residents well being due to noise BaltConduit1: Adverse impact on nearby residents well being due to noise