


Draft Guidance on Alternatives Analysis

Methods and Factors to Consider to complete Alternatives Analysis

Presentation
to the
Citizens Advisory Council

March 2020
Harrisburg, PA

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Contributors to the Guidance Document

- **State Agency Representatives**
  - DEP's Regional Permit Coordination Office
  - DEP's Bureau of Oil and Gas
  - DEP's Southeast Regional Office
  - DEP's Bureau of Clean Water
  - DEP's Bureau of Waterways Engineering and Wetlands
  - PA Department of Conservation and Natural Resources
  - PA Department of Transportation (PennDOT)
  - PA Fish & Boat Commission
- **Appellant Representatives**
  - Clean Air Council
  - Mountain Watershed Association
  - Delaware Riverkeeper Network
- **Federal Agency Representatives**
  - U.S. Army Corps of Engineers
- **Industry Representatives**
  - Oil and Gas Experts
  - Transportation Experts
  - Pa Homebuilders
  - Consultant, Ch. 105 Expert

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- Advisory Committees and Boards we are presenting to include:
  - Water Resources Advisory Committee (WRAC) – *October 2019*
  - Agricultural Advisory Board (AAB) – *November 2019*
  - Citizens Advisory Council (CAC) – *March 2020*
  - Environmental Justice Advisory Board (EJAB) - *February 2020*
  - Oil and Gas Technical Advisory Board – *January 2020*

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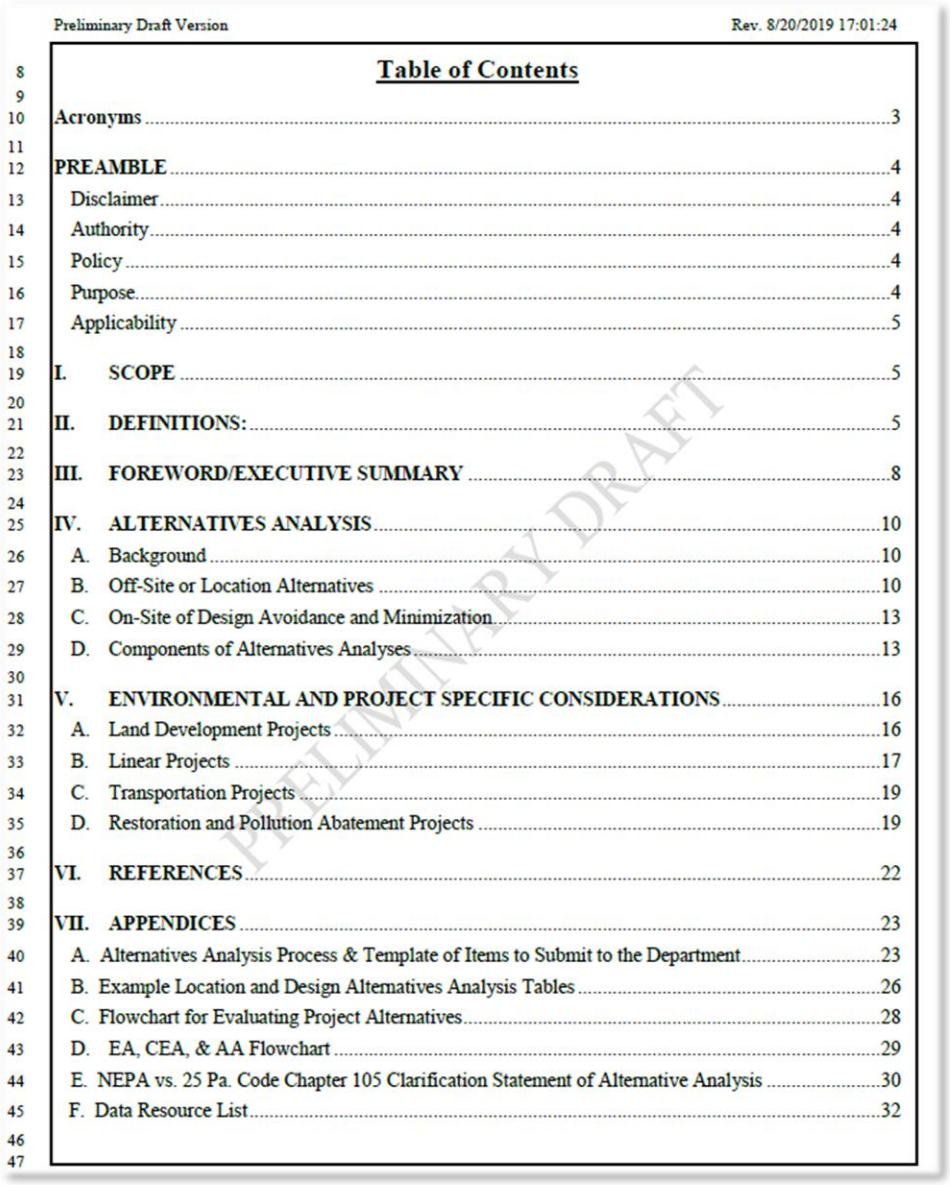

Preliminary Draft Version Rev. 8/20/2019 17:01:24

Table of Contents

PRELIMINARY DRAFT

Preamble includes:

- Disclaimer
- Authority
- Policy
- Purpose
- Applicability

Section I: Scope

Section II: Definitions

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Section III. FOREWORD/EXECUTIVE SUMMARY

Clean Streams Law (CSL) – 1937

Dam Safety and Encroachments Act (DSEA) - 1979

→ **Environmental Quality Board (EQB)** → **PA Code, Title 25 Chapter 105**

CSL & DSEA - grant EQB the power and duty to adopt regulations and standards that are necessary and proper to carry out their purposes

→

Rules and Regulations that are adopted by the EQB are contained in PA Code, Title 25. Environmental Protection, Department of Environmental Protection, Chapter 105, Dam Safety and Waterway Management, which defines how DEP is to regulate water obstructions and encroachments

§105.13(e)(viii) - Alternatives Analysis

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Alternatives Analysis regulatory language

- **§105.13(e)(viii) Alternative Analysis.** A detailed analysis of alternatives to the proposed action, including alternative locations, routings or designs to avoid or minimize adverse environmental impacts.

273 Regulations, by nature, contain general language because they are intended to apply to a variety of
274 circumstances and situations. Similarly, the language in Chapter 105 relating to alternatives analysis
275 was intentionally general because the analysis is very often project specific.

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Section IV. A. Alternatives Analysis Background

- The alternatives analysis is the project applicant's written documentation of efforts to avoid or minimize environmental impacts and to demonstrate to the Department that impacts from the proposed water obstruction(s) and encroachment(s) have been avoided and minimized to the greatest extent practicable

- Prepared by individuals with appropriate experience, training, local knowledge and familiarity with regulations

- An alternative is considered practicable if it is capable of being implemented after taking into consideration **cost**, **existing technology** and **logistics**

- Comparison to NEPA process

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Section IV. B. Off-Site or Location Alternatives

- Sites both owned and not owned by the applicant need to be considered

- Includes those not presently owned by the applicant, which could reasonably be obtained, utilized, expanded, or managed to fulfill the basic purpose of the proposed project

Additional Factors
1. Utility Issues
a. Utility or infrastructure availability (e.g. public water, sewer)
b. Joint utility easements
c. Lack of ROW for collocation of utility lines
2. Rerouting, re-siting or relocating the project
a. Availability of other sites
b. Willingness of current owners to sell
c. Property rights/eminent domain
3. Site size (to meet project purpose) vs. parcel size
4. Physical site constraints (e.g. size, slope, floodplains, highly erodible soils, geologic/geotechnical concerns)
5. Constructability of project (as designed)
6. Operation and maintenance concerns
7. Demographics
8. Presence of wetland and stream resources
a. Resource size
b. Level of impact on resource.
c. Resource value
i. Special Protection
ii. Stream impairment
iii. T&E species
9. Public health and safety
10. Other environmental concerns (e.g. riparian forest, interior forest, prime agricultural lands, upland T/E species/habitat)
11. Local land use regulations (e.g. zoning, subdivision land development ordinances)
12. Historic resources
13. Parks and recreation
14. Cost concerns
15. Conformance with local watershed plans

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Section IV. C. On-Site or Design Avoidance and Minimization

1. The spatial requirements of the proposed project;
2. The project's purpose and need, and how the purpose relates to placement or configuration;
3. Efforts to reduce the scope of the proposed project;
4. The location of any existing infrastructure or natural features that may dictate the placement or configuration of the proposed project;
5. Site constraints including local zoning requirements and site access;
6. Standard engineering and safety practices.

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Section IV. D. Components of an Alternatives Analysis

1. Aquatic Resource Impact
2. Cost
3. Existing Technology
4. Environmental Policies and Best Management Practices

Source: www.projectpals.com

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Section V. Environmental and Project Specific Considerations

A. Land Development Projects

1. Residential Development
2. Commercial Development
3. Industrial Development
4. Institutional / Educational Development

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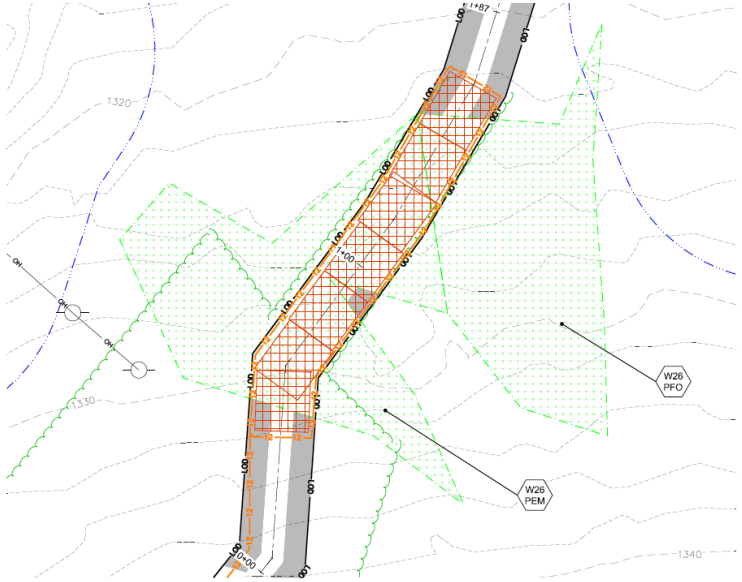
Section V. Environmental and Project Specific Considerations

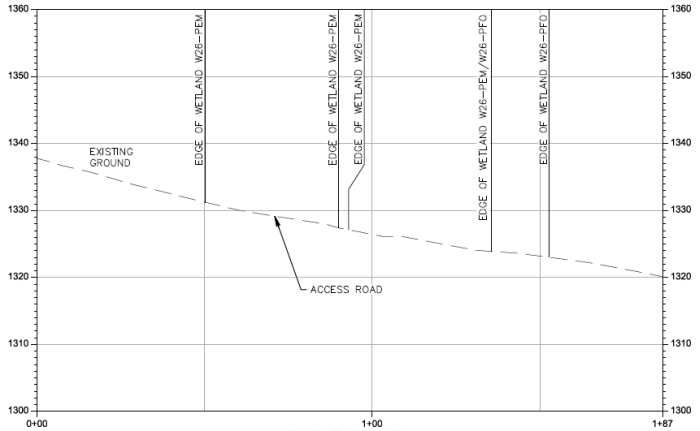
B. Linear Projects

1. Pipelines, Utility Lines, and Energy and Power Transmission Lines
   a) Open Cut vs. Trenchless Method Technologies
   b) Special Protection Waters
   c) Right of Way Reduction and BMPs
   d) Collocation BMPs
   e) Multiple Resource Crossings BMPs

2. FERC Regulated Projects



PLAN



PROFILE

Source: Columbia 134 Replacement

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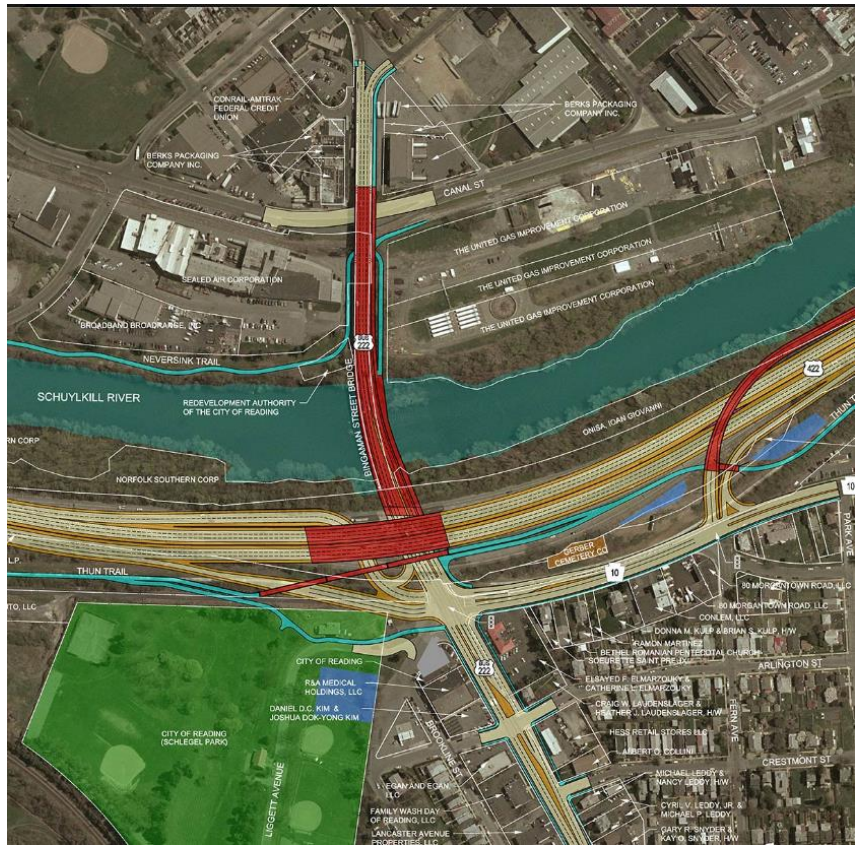
Section V. Environmental and Project Specific Considerations

C. Transportation Projects

1. New Alignments and Facilities

2. Existing Alignments and Facilities

3. Bridge or Culvert Restoration or Replacement



Source: 422 Westshore Bypass

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Section V. Environmental and Project Specific Considerations

D. Restoration and Pollution Abatement Projects

1. Aquatic Resource Restoration
2. Abandoned Mine Reclamation
3. Acid Mine Drainage or Other Drainage Treatment
4. Brownfields
5. Recreational Projects

Brownfield Redevelopment

Source: www.businesswire.com

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Appendix A – Describes the Alternative Analysis Process

Appendix B - Template of Items to Submit to the Department

Appendix C - Example Location and Design Alternatives Analysis Tables

Appendix D. Flowchart for Evaluating Project Alternatives

Questions