

OFFSHORE COMMON UTILITY CORRIDOR CONSIDERATIONS



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EXECUTIVE SUMMARY

- Designated corridors may be advisable under certain circumstances
- Designated corridors present significant construction, environmental and policy concerns that must be fully considered
- Designated corridors, if created, should not be exclusive; they should be preferential.
- Designated corridors could allow for expedited review and approval of projects by eliminating alternatives review.

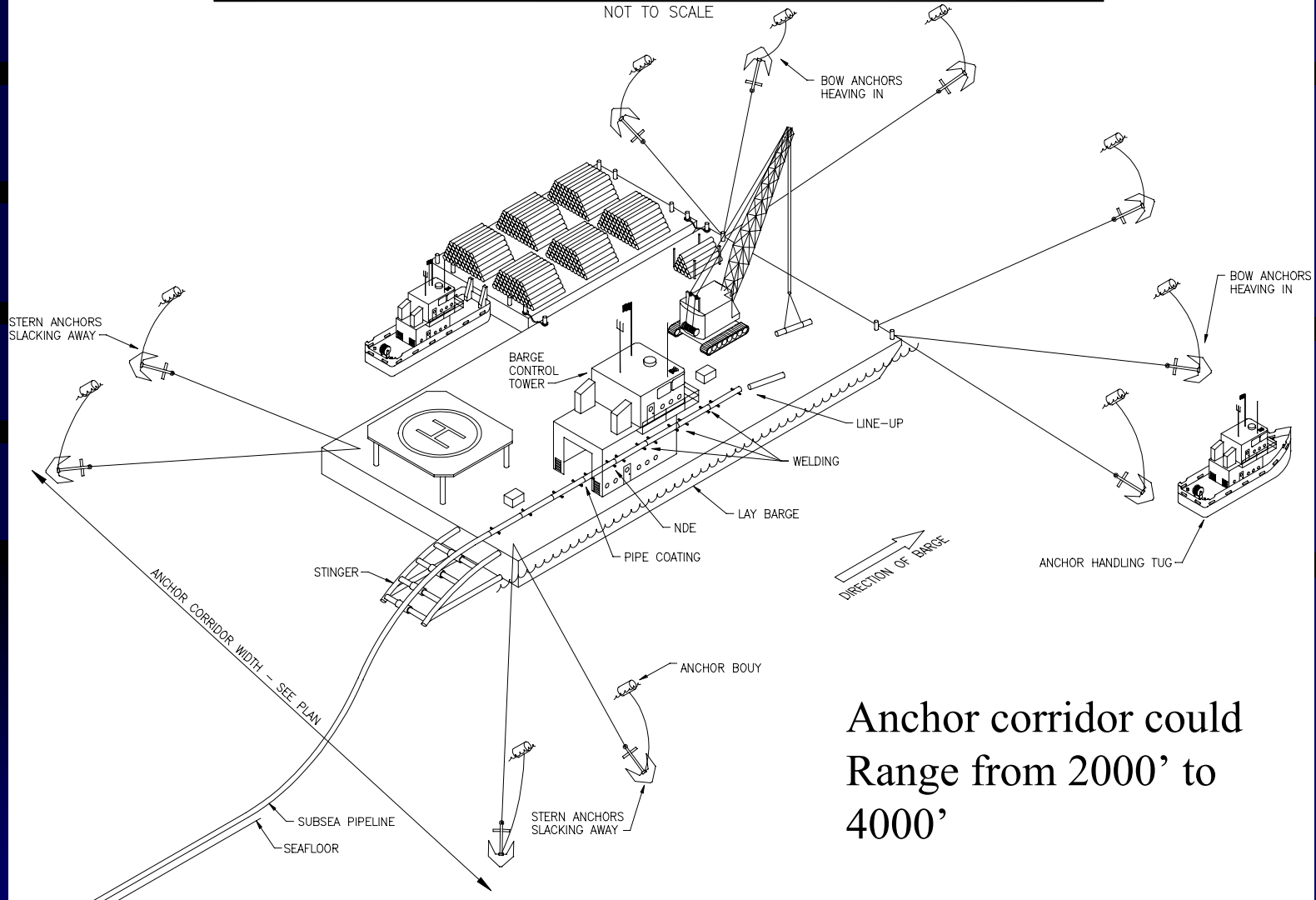
CONSTRUCTION

- Factors to be Considered in Determining Corridor Width
 - **Anchoring During Subsequent Utility Construction**
 - Clearance with Utility: 1000 feet, typically, in Gulf of Mexico
 - **Clearance Determination Dictated by Accuracy of Placement and Anchor Drag (Soil Type)**

LAY VESSEL SPREAD

TYPICAL OFFSHORE PIPELINE LAY BARGE SPREAD

NOT TO SCALE

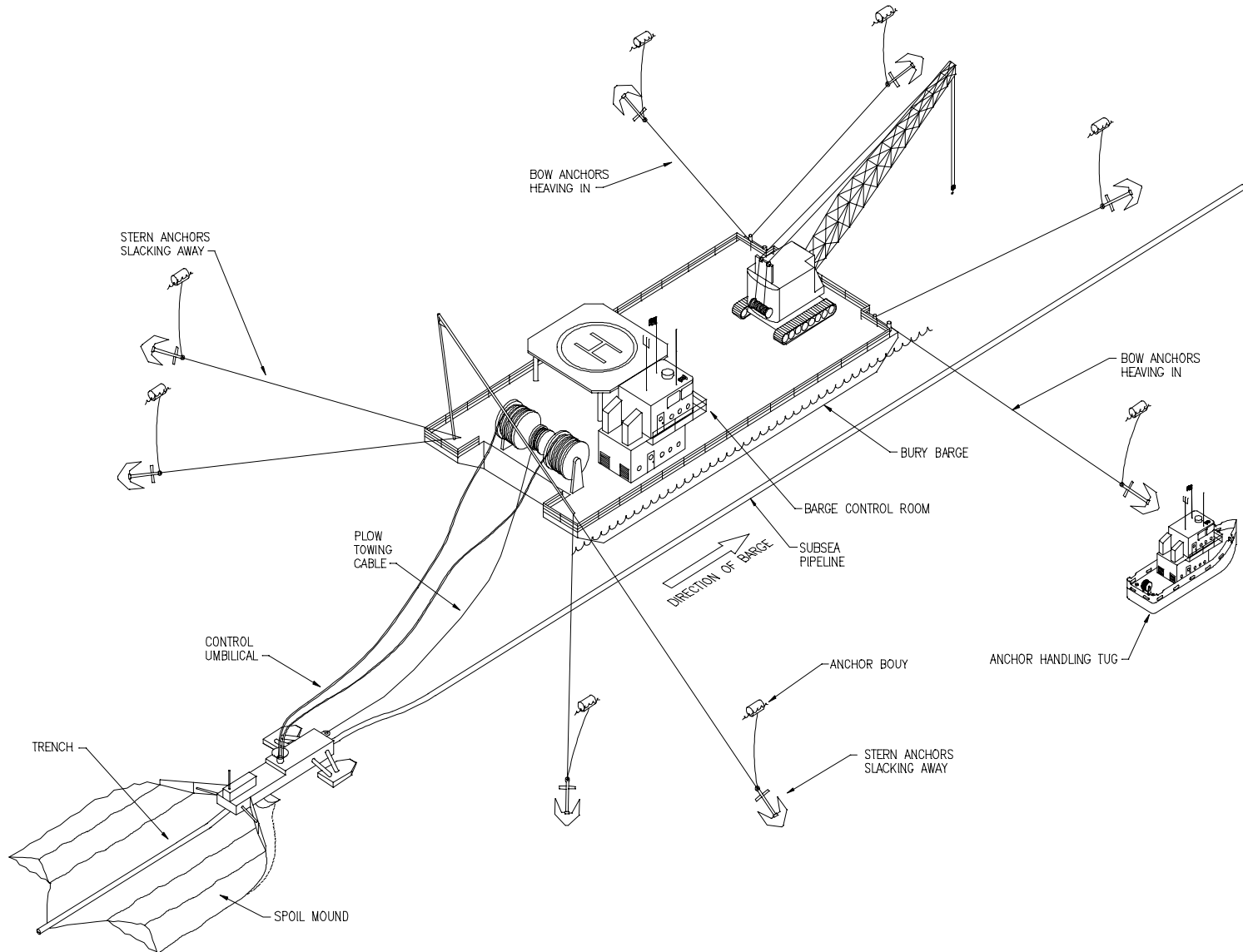


Anchor corridor could
Range from 2000' to
4000'

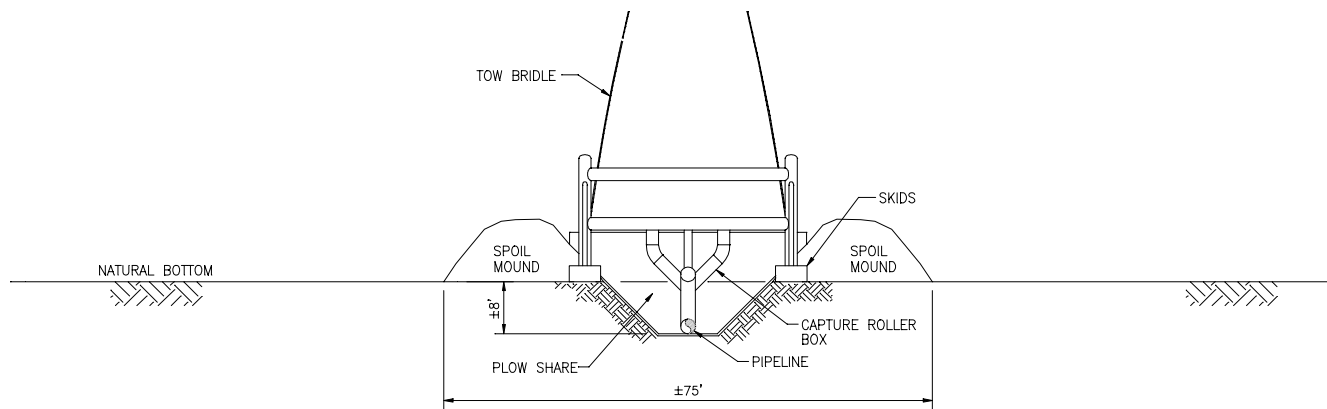
CONSTRUCTION

- Factors to be Considered in Determining Corridor Width
 - Construction Techniques that Affect Separation Distances
 - Construction
 - Lay – Anchoring, Position Tolerances
 - Trenching – Trench Width, Spoil Sidecast
 - Blasting – Separation from Existing Utilities
 - Backfilling – Extent of Backfill Plow Boards
 - Horizontal Directional Drilling (HDD) – Equipment “Footprint”
 - Soil Type Dependent Trenching Decisions
 - Repair
 - Future Pipeline Tie-in

PLOW VESSEL SPREAD



PIPELINE TRENCHING: PLOW **(Impacts approx. 75' width)**



TYPICAL PIPE TRENCH CROSS-SECTION

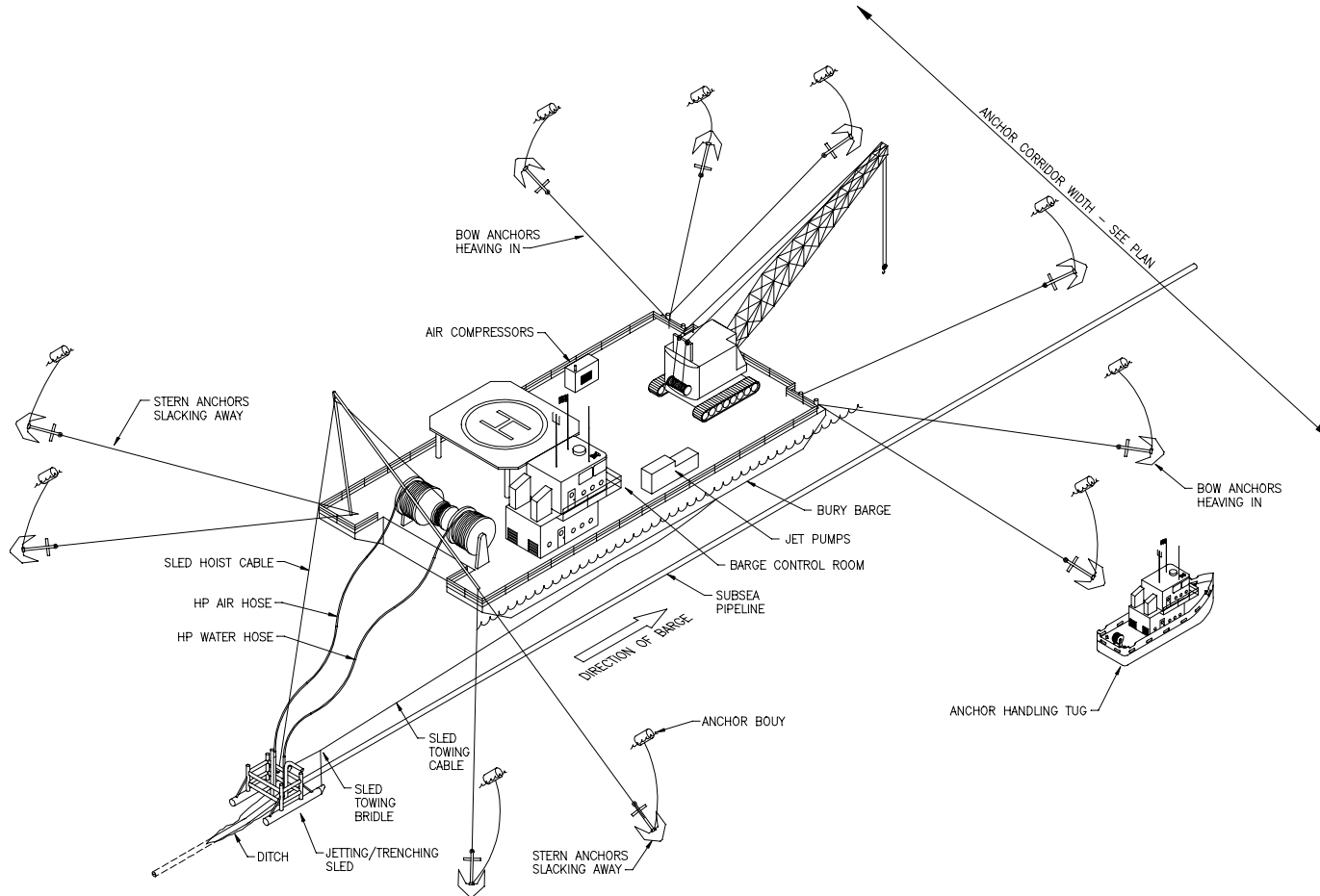
BY TOWED PLOW LOWERING METHOD

NOT TO SCALE

JET VESSEL SPREAD

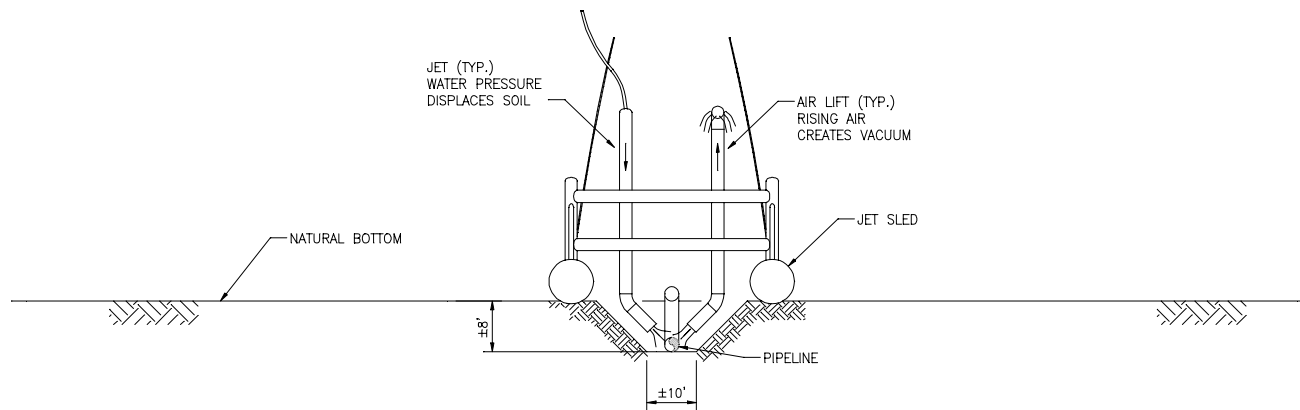
TYPICAL OFFSHORE PIPELINE TOWED JET SLED BURY BARGE SPREAD

NOT TO SCALE



PIPELINE TRENCHING: JET SLED

(Impacts 100 to 300 feet width)



TYPICAL PIPE TRENCH CROSS-SECTION
BY TOWED JET SLED LOWERING METHOD
NOT TO SCALE

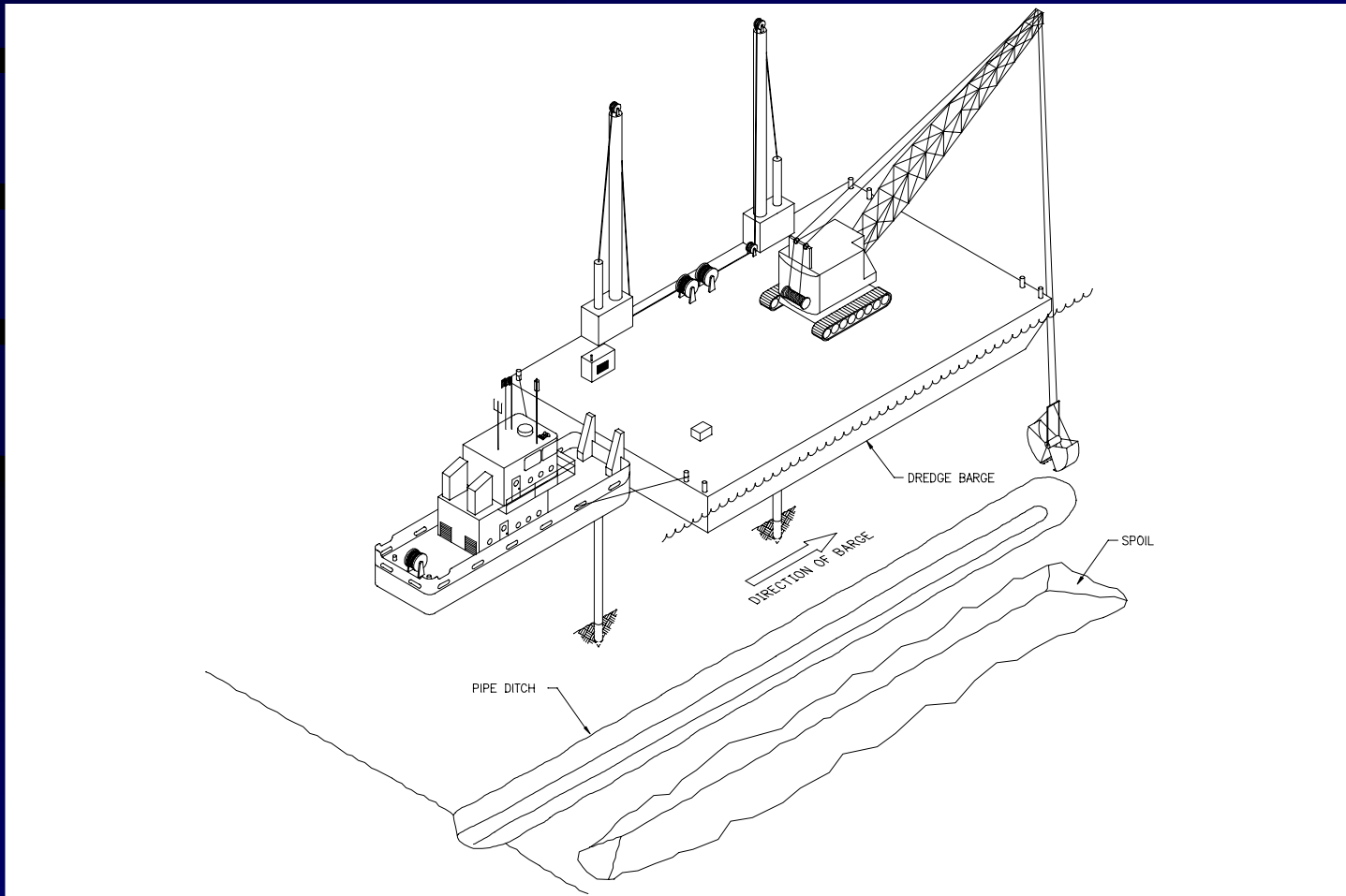
CONSTRUCTION

- Soil Type Dictates/Affects Construction Technique and Impact Width
 - Sand
 - Clay
 - Silt
 - Till
 - Bedrock

CONSTRUCTION

- In shallow waters, a large separation distance better protects existing infrastructure from damage by construction/excavation equipment. May be limited by available landfall space.

DREDGE SPREAD SPUD MOORING (Impacts 150 to 200 feet width)



HDD LAYOUT: SUPPORT VESSELS



Set-up requirements of
200'-300'

CONSTRUCTION ACTIVITIES: REQUIRED WIDTHS

<u>ACTIVITY</u>	<u>REQUIRED WIDTHS</u>
PLOW BURIAL	75'
JET BURIAL	100' TO 300'
DREDGING	150' TO 200'
BLASTING	VARIES
OFFSHORE LAY BARGE ANCHORING	2000' TO 4000'
SHALLOW LAY BARGE ANCHORING	200' (SPUD) TO 2000'
HDD SUPPORT MOORING: JACKUP	200' TO 300' (JACKUP PADS)
SPUD MOORING	75' TO 200'

CONSTRUCTION

- Corridor restriction may require longer lengths of pipelines, electric and telecommunications cables.
- De-energizing/Depressurization may be required during subsequent construction activity.
- Workspace restrictions at landfall locations

OPERATIONS

- Electrolytic corrosion will be considered in design of underwater facilities:
 - Cathodic protection systems designed to offset effects of nearby utilities

OPERATIONS

- Establishment of common corridors would increase the potential for third party damage due to utility maintenance activities and could increase vulnerability to energy security risks.

ENVIRONMENTAL

- Installation of single utility lines in Long Island Sound results in a localized and temporary impact, which is rapidly recolonized by benthic organisms and recovers in a reasonable timeframe.
- Establishment of common corridors will likely result in repeated impacts in the same area, hindering the ability of the corridor to ever fully recover from construction.

ENVIRONMENTAL

- Installation of utility lines in multiple locations using adequate depth of cover does not preclude or permanently impact offshore uses such as boating, fishing or shellfishing.
- Post-construction environmental impact of corridor environment – Who is responsible?

ON-LAND IMPACTS

- Establishment of common corridors in Long Island Sound need to consider the on-land routing of transmission projects, and will result in significant increases to on-land impacts if utilities are forced to share common landfall locations.
- Cumulative Impacts at designated landfall location

ON-LAND IMPACTS

- Potential environmental justice problems siting designated landfalls
- Additional “on land” infrastructure required to reach LIS corridors.

SITING AND PUBLIC POLICY

- Determination of corridor location
 - Minimization of impacts
 - Access to existing onshore infrastructure
- Criteria and process to determine where the first and subsequent facilities will be sited within the corridor.
- Need input, coordination, and concurrence from New York.

SITING AND PUBLIC POLICY

- Coordination of interstate and intrastate siting criteria
- Corridors, once they are designated, need to be protected
- Exclusive corridors could prevent needed infrastructure development

CONCLUSIONS

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