DESIGN STUDIO II

LAAR 62100
February 01-May 16, 2016
Mondays and Thursdays 2pm-6pm

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. . . Stuff and stevedores, barges and back-haul, cold-storage and coke piles, erased edges and evolving interior. Transfer and transform. (*Atlas of Brooklyn* (v.1, pl 5,6), 1916.)

MATTER, MEASURE, AND ORGANIZATION

Red Hook, with its worn warehouses and industrial incentives, is a lesson in the conversion (and codification) of matter into market forms. Grafted, filled, and formed from the tidal flats of Brooklyn, its constructed shores run from Gowanus Canal and the Erie Basin (east) to the Atlantic Basin along the Buttermilk channel (west). These maritime edges were built to capitalize on trade from New York's canal system – Erie in the 1825 - and the opportunities opened up by international tariffs - the Warehousing Acts of 1846. Like most ports - organized around the logistics of connection, concentration, and tax exemptions – Red Hook's low-slung 'stores' were surplus manifest; interim, 'off-shore' spaces dedicated to pausing, parsing, and re-packaging the raw imports of the periphery as metropolitan goods and cultural commodities.

Amid the latest wave of (neoliberal) globalization, increasing urbanist attention has been paid, broadly, to such 'empty' storage sites, conduits, and connective tissue. Researchers have explored a vast array of logistical and infrastructural assemblages: Allen Berger's *DrossScape* maps the novel, industrial edges of sprawling post-war incentive zones. Keller Easterling's *Enduring Innocence* offers organizational sketches (and the dark labor abuses) brewed within the exceptional territories of free-trade and agricultural optimization. Jesse LeCaviller traces the urban impact of Wallmart taylorism and UPS protocols. The Dredge Collective explores sedimentary management mechanisms and instruments of the Army Corps as one way of understanding the navigated conduits of capitalism. And likewise, in architecture, theorists from Sanford Kwinter to Kazys Varnelis have excavated the logics, rules, and rhythms codified within infrastructure (whether in Lagos, Shenzhen, or

LA) and its continual conditioning of urban space. Urbanist fascination has, of course, run toward the sublime; post-colonial peripheries, sediment islands, and 'off-shore' entities have dominated the discourse on urban logistics and global cities.

Largely absent in this discussion are the mixed urban fabrics and contested, gentrifying industrial neighborhoods that populate many adapted (pre-containerization) port cities. More often than not, such difficult sites have been address only in terms of waterfront renewal (London, Toronto, Philadelphia, Baltimore, Battery Park, etc.). With an emphasis on absolute abandonment (assuming full de-industrialization), the notion of 'clean, green, semi-public' re-use has accompanied the blanket conversion into recreation corridors and white-collar campuses. While this may foster passive public space, such developments rarely address on-going industrial mixes, lingering zoning overlays, or the externalities of conversion; they neglect the environmental impacts and in-built socio-economic bias in their model of improvement and access. The working water's edge (the workers, and even the water's contents) down shore or down river are out of sight and out of mind.

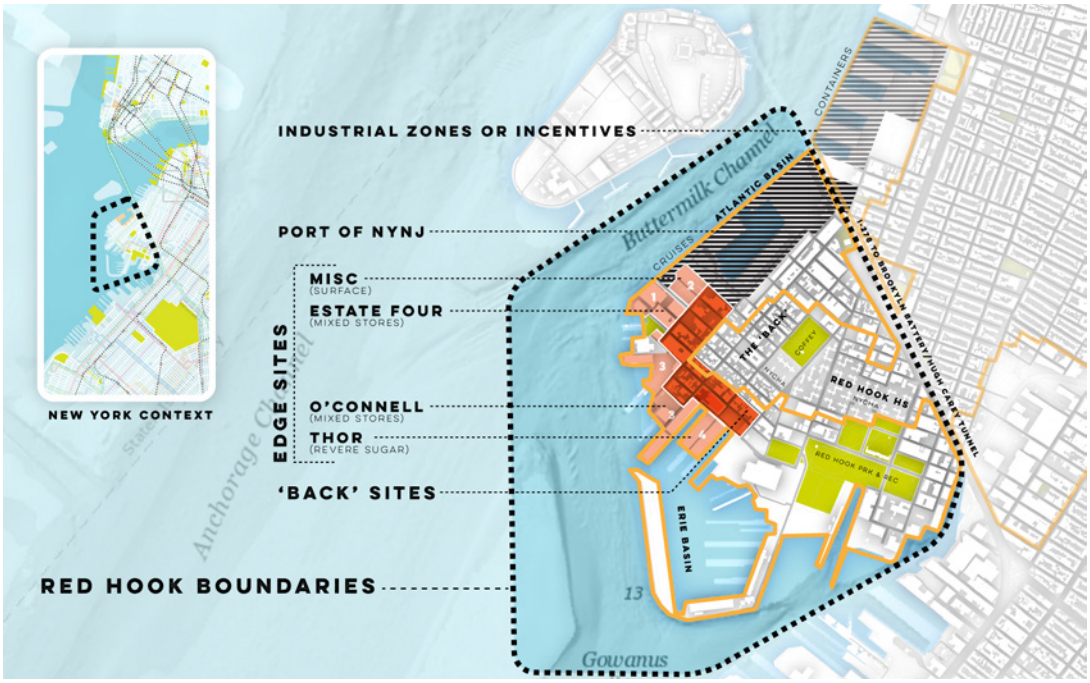
Red Hook, with its mix of industrial surface sites, abandoned piers, and over-sized warehouse parcels is certainly primed for conversion, but it is also overlaid with a host of incentivized manufacturing zones and maritime logistics (of mixed scales). And, like Sunset Park to its south, it bears the social legacy of nearly two centuries of investment that were focused on the global circulation of its 'products' and not its population. This studio however wants to turn such a strategic, even logistical gaze back onto the mixed territory of Red Hook; it asks you, as students, to re-conceptualize waterfront redevelopment in material, operational, and socio-environmental terms. Instead of simple 'clean, green' edges, your projects will address deeper transects and connections with neighorhood, developing corridors of access anchored in the 'back-side' of the old port. Here, your projects will explore how to excavate and manipulate the logics, standards, and rhythms involved in remedial redevelopment, as an alternate routes to more equitable and environmentally just urban interventions.

MIXED, MULTI-SCALAR, AND MATERIAL PROCESSES

As with recent logistical studies, the studio will focus on process and staging: exploring the internal dynamics of remediation and resilence planning grounded in Red Hook's under-utilized surface sites. This emphasis should dove-tail with your introduction to urban ecology, providing a ground for quantitatively, spatially, and temporally testing the performance - ecological, physical, and ultimately social - of remedial relays, eco-system service elements, and green infrastructure. Of course, as a second semester studio, this performative engagement with landscape will be entwined with developing fundamental spatial vocabulary and syntax. To that end, each student team will be responsible for staging their design (driven by material processes) and elaborating on potential organization effects within the larger Red Hook neighborhood, from phenomenal and programmatic elements to environmental impacts.

Thus, for the term, student pairs will choose from four pairs of aggregated parcels (back and waterfront), moving roughly from the Buttermilk Channel around to the Erie Basin. Each team will address a two blocks of the 'Back,' the area of parcels within the industrial incentive zone that is largely filled with parking lots, old and abandoned workshops, sheds and brownfield sites. Typically overlooked in the market-rush to redevelop the water's edge, these areas will be your anchor sites for developing a remediation process, landscape staging, and mixed-use programming. As a team, you will develop linkages between these areas, the waterfront, and the surrounding neighborhood. Each team will also pick a composite waterfront parcel. Here the assumption is that the market will drive new development. Your task will be to develop revitalized access corridors, expanding and extending r.o.w.'s to the water's edge in order to develop a new typology of public landscape/infrastructure for the general public.

The first composite parcel, formerly four sites at the end of Van Dyke street, has recently been purchase by the real estate redevelopment firm Estate Four. The second parcel(s) sits at the end of Wykcoff street between Estate Four and the Port Authorities' working waterfront (cruises at the Atlantic Basin and Container Port further north). Listed prominently within the Mayor's Remediation Plan and promoted as an alternate edge for increased ferry traffic, this site is not facing immediate development, but provides an ideal moment for mediation between the different economic anchors, environmental hazards, and vulnerabilities of the area. A third set starts just beyond Louis Valentino Park and holds the collected development properties of The O'Connell Organization, including the Fairway site, the historic stores, and docks for the Waterfront Museum and New York's Water Taxi's. The last, and most precarious, parcel is the old Revere Sugar Refinery pier held by Thor Equities.



Between these areas, students encounter: empty surface lots, abandoned piers, over-sized warehouse parcels, gentrification pressures, high-end development plans, industrial activities, incentivized manufacturing zones, maritime logistics (of mixed scales), historic fabric, etc. This context offers an array of unresolved or under-acknowledged material streams and vectors: point and non-point pollution (soil/water/groundwater/run-off/maritime discharges), the relays of remediation staging, the inevitable recurrence of storm surges (rising tides, brackish groundwater, cso/drainage challenges, infrastructure impacts), as well as the differential development of infrastructural investments for port and residential utilization. These relays will become the immediate 'matter' of design, but each student will define the conceptual connections and contests their projects addresses based on their Red-Hook research.

For establishing those larger connections and context, student teams will examine the way Red Hook has been inflected by its industrial edges and logistic priorities, including but not limited to: the segregation by automotive infrastructure and lack of adequate public transit connections; inadequate sewerage, cso pump failures, and basic physical vulnerability to climate-change; and increased social vulnerability and lack of cultural, economic, and institutional resources (or even basic recovery funding) for the area's combined housing projects. The challenge is to seize upon and link together these problematics; to explore landscape's dynamic temporal and spatial scales - from chemical and microbial digestion to constructed hydrologies and urban ecologies – to design a sited, phased conversion process that can be leveraged for systemic urban inflection.

METHOD

The studio will work through iteration, developing alternate tools for analyzing, extracting, and then manipulating or hybridizing socio-environmental systems and constructed resource streams. We will begin abstractly, analyzing aerials and unconnected sites, to discover manifest forces and play through physical permutations. The studio will then turn to Red Hook and set to analyzing maps, media, and site materials to draw out the key dynamics, subsidized elements, and embedded but oft overlooked systems - material, social, environmental, and economic – guiding area redevelopment and spurring conflict and contest. Students will select a material/remedial process to address their 'back' anchor sites, extracting and defining these systems through argumentative mapping, rigorous, research-based diagramming, and finally sited testing. For

midterm they will test/develop a prototype assembly - manipulating inputs, limited phasing, programmatic potentials, and footprints – with an eye to addressing site and aggregate environmental metrics, creating meaningful spaces/articulated landscape enclosure, and developing opportunities for neighborhood impact. The later half of the term will work through this cycle to refine and develop their prototypes, balancing the schematic articulate of their wider systems (and dispersed impacts) with the resolution of site phasing, site design, and appropriate programming.

EDUCATIONAL GOALS

As the second studio in the landscape design sequence, students will develop a sited, urban intervention in Red Hook. Constructivist in nature (learning by doing), the studio's series of short, specific research and design exercises will both facilitate core landscape skill acquisition, critical decision-making, and, ultimately, rigorous exploration/visual-assertion practices.

Educational goals in this course include the development of the following list of skills and concepts:

- Critical Thinking + Conceptualization
- Visual Communication
- Landscape Systems
- Professional Design and Landscape Planning Practice
- Design and Planning in the Urban Realm
- Positioning Landscape in the 21st century

LEARNING OBJECTIVES

The learning objectives of Design Studio II are developed from the above educational goals, and include the following actions and activities through which these specific skills and concepts are conveyed to the student.

Students will build skills in the following areas:

- CRITICAL THINKING + CONCEPTUALIZATION The research component of the studio will require students to research and speculate on how embedded cultural ideas and socially normative environmental values shape the physical realm of the city. Students will be expected to bring a critical thought process to assessing where there are opportunities and constraints in ideas of city and nature, sustainability, and "green" design. In responding to these contexts, students will also be expected to engage in critical, organizational thinking at a variety of scales, and to develop material strategies for site design and development that have formal and physical impact as well as organizational effects at larger scales.

- VISUAL COMMUNICATION Students will improve their visual and written communication skills through development of the site analysis, process diagramming, and context documentation, including a range of info-graphics, matrices, maps, plans, sections, and iterative paper models. They will develop the technical tools and design sensibility to visualize and argue for ideas, strategies, and elements. They will discern the appropriateness of one mode, software package, or scalar pairings of representation over another in the service of particular arguments. They will generate multiples (scenarios), serial progressions (transformations of a sort), and iterations (transformations of another) to develop provocations and system prototypes. In short, students will parse the complexity of urban landscape systems in order to document them coherently. They will develop multi-scalar and mixed media works that speak to the material intensity of landscape.

- LANDSCAPE SYSTEMS The studio instruction will be supported by the required course in Ecology which has been developed to provide a foundation in urban ecological theory and practice. With supplemental readings from contemporary urbanism on logistics, infrastructure, organization thinking, and sub-specialties of ecology, like industrial ecology and landscape ecology, students will expected to engage with landscape as a medium of interaction and hybridity. Students will explore and document multi-scalar social, cultural, and environmental systems of New York City as the basis for their design proposals, which will have to account for current policy opportunities and constraints as well as speculation on future environmental policy-making.

- PROFESSIONAL DESIGN AND ENVIRONMENTAL PLANNING PRACTICE The studio will build students' technical skills for clear and cohesive site analysis and how that analysis plays into the design process. By focusing on the connection between scales of research - the organization of urban systems; the sited-specifics of materials operations (inputs, outputs, and processing infrastructures) - students will develop a sense of how they might leverage landscape materials and landscape design (even in developer driven environments) to address different scales and agendas of effect. As this is a second semester design studios, students are expected to develop core landscape competencies by exploring a material process (and its urban staging/distribution) as it relates to a driving landscape element, including, but not limited to: coastal hydrology, tidal cycles, and urban ground/surface water dynamics; planting palettes, adaptation, and growth dynamics; grading, topography and soil as physical and chemical environments (as mediums of nutrients, moisture, salinity, and ph); and program/occupation as catalysts for both immediate site use as well as polemical exposure and provocation. While first semester encouraged the poetic articulation of such 'ground', this term will leverage such elements and interactions to explore the enlarge agency and productivity of urban landscapes.

- DESIGN AND PLANNING IN THE URBAN REALM Students will investigate urban infrastructure systems and urban logistical systems as a nexus of human and environmental processes. While working on a pre-assigned site, they will be challenged to see how 'operational' exchanges - of power, water, sewage, waste - like larger logistics, both rely on systems, standards, and protocols, but also might be diverted, converted, etc. to enable alternate outcomes and infrastructural footprints. Working in prototype, they will speculate on the aggregate potentials and likely placements of similar amendments across the urban fabric. While presentations will introduce the way canonical urban systems have been conceived of, constructed, and inhabited, their research will support the adaptation, hybridization, and creation of these new forms of urban infrastructure as a means of reshaping the urban landscape to more effectively support human and non-human biota.

- POSITIONING LANDSCAPE ARCHITECTURE IN THE 21ST CENTURY Students will act as landscape planners and designers, exploring the role of the landscape architect at multiple scales. Students will clarify their idea of the role of the landscape architect in an urban context.

SCHEDULE / GENERAL OVERVIEW

Phs 1:	wk 1-2	Organizations to Operations System & rule modeling/diagramming exercise
Phs 2:	wk 3-4	Sites to Systems: Articulating Intensity Mapping Contested Territories and Forensic Traces
Ph 3:	wk 5-7	Matter to Urban Mediator: Process Provocation and Systems Propositions Sampling site processes as demonstration, poised as part of systemic ends
	wk 8	Midterm
Ph4a:	Wk 9	Extend & Adapt System Strategy Revise proposed distribution, urban strategy, core components from mid-term Set programmatic agenda - Manifesto Poster for project
Ph4b:	Wk 10-13	Articulated Intervention: Sited design along Buttermilk/Back, Phased footprints Models studies for site organization and material operations 'grounded' Inputs, Planting, Grading, Hydrology, Outputs to match system processes Plans, Sections (phased, iterative)
Ph4c:	Wk 14	Prototype resolution and integration (sited design) Site views, Layouts Overall system integration and responsiveness (updated impacts, inputs, effects)
Final Review:	Wk15	

CLASS BY CLASS COURSE SCHEDULE

ORGANIZATIONS TO OPERATIONS parameters, priorities, & systematic alterations

M_01 02.01

STUDIO INTRODUCTION
Review of the studio brief, projects and schedule, tools and approaches
Discussion: Systems, Drivers, & Diagrams

Assignment:
- Organization & Operation I: Reading Cultural, Spatial Forms
  - Tracing, Analyzing, & Extracting Parameters from Aerials
  - 3 samples/3 systems: analysis & explanation diagrams (CAD & AI)
  - Graphic expectations, spatial & editorial thinking

Reading:
- *Extrastatescraft,* "Disposition" (Easterling)
- *Land Mosaics,* "Networks and the Matrix" (Forman)

Th_01 02.04

GROUP REVIEW - FOOTPRINTS
Discussion Form as Action: Elements and Interactions in Aggregate Systems
Split Sections: Diagram Review

Assignment:
- Organization & Operation II: Re-Working Cultural, Spatial Forms
  - Altering, Adapting, & Shifting Found Parameters
  - 3 iterations for 3 systems: from explanatory diagrams to iterative alternates (CAD & AI)

Reading:
- Glitches & Flash Crashes (Holmes, video)
- Connections, "Faith in Numbers (1.4)" (Burke, video)

M_02 02.08

GROUP REVIEW - VARIATIONS AND ITERATIONS
Discussion Glitches: Externalities, Adaptations, and Alternates in Complex Contexts
Split Sections: Alterations Review

Assignment:
- Organization & Operation III: Re-Figuring Cultural, Spatial Forms
  - Shaping & Figuring Found Parameters
  - 3 formations for a systems: physical figuration for a chosen iteration (Paper models)

Reading:
- Landscape as Infrastructure (Belanger), Landscapes of Disassembly (Belanger)
- *Landscape Urbanism* (AA), "Diagram, Dispersal, Region" (Barthes)

SITES TO SYSTEMS articulating intensities in site & urban analysis

Th_02 02.11

ORGANIZATION & OPERATION FINAL REVIEW - FIGURATIONS
Board & Model Presentation
Discussion Expanded Infrastructures, Expanded Ecologies, Expanded Problems
Discussion Model/Photographic Documentation/Integration

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SITES TO SYSTEMS INTRODUCTION
Brief on Red Hook, focus sites and forensic frames, research themes and research teams

Assignment:

Sites to Systems: *Site Forensics* - (see below) Individual prep of maps for site visit -

- print/overlay maps,
- systematic material collection (visual, material, ethnographic, etc.)
- thinking spatially, thinking indexically in terms of material and organization

Contested Territories - Begin Group/Pair Research - subdivide tasks
start mapping contested areas/infrastructures w/in Red Hook and NYC
between gis background, historic maps, policy documents and contemporary journalism on the area, draw out the major resource contests and organizational potentials of Red Hook.

See Studio Bibliography for research areas.

your maps will link to larger systems (neighborhood/city/global) so work at 3 scales
(suggested scales to be given in 'Sites to System' brief)

Reading:

See Red Hook References for research, maps
Cabinet, Murky Evidene (Tavares) [Latour, Uexkuell]
Visual Catalogs - Smithson, Ruscha, Matta-Clark, Belchers (reflexive framing)

M_03 02.15 PRESIDENTS DAY (no fomal class - desk crits, confirm site choice, adequate map progress)

Th_03 02.18 SITE VISIT - 3 hours directed, rest independent site documentation

Assignment:

SITES TO SYSTEMS: Site Forensics -
develop a board that establishes the immediate context of your site with attention to material indexes of larger systems and organizational potentials:

- catalog its ubran infrastructures (water, sewer, electric, docking, cable, transit stops, etc.);
- presence within the Red Hook (visual, audible, wind/microclimate/expsoure, etc.);
- opportunities/constraints of access, connection edge conditions (land and water);
- surface/subsurface hydrology (salt/brackish/fresh) and vegetal indices's;
- current, adjacent, and projected uses (reno areas/undetermined/adjacent shifts);
- material traces/current ecologies, etc.

develop serial analysis maps and descriptive transect with material/photo samples
your maps will link to larger systems and shown material samples so work at 3 scales
(suggested scales to be given in 'Sites to System' brief)

M_04 02.22 DOCUMENTATION & RESEARCH GROUP CRITS
Check on site forensics, Check on contested territories progress
discussion Forensics & Form - drawing out Murky Evidence in multi-scalar diagrams, scores
direction by group Research Tactics for Contested Territories- Journalistic Debates, Policy Docs, Tax & Accounting Trails, Community Minutes, Commercial/Proprietary Analogs, etc.

Reading:

Mapping, "Agency of Mapping" (Corner) skim

Archaeology of Knowledge, "Contraditions" (Foucault)

Th_04 02.25 SITE FORENSICS REVIEW
Presentation boards of individual analysis, mark-up for revision & argumentative integration
discussion Cartographies, Interactions, & Intensity
discussion Urban Matter, Urban Ideals

Assignment:
Finalize Contested Territories Mappings for review

Resources:
Skim Forman and Easterling to refresh on analytic/org. extractions & arguments (wk 1)
See Urbanisms list for precedents from discussion
See Graphics List for diagrammatic Inspiration

MATTER TO URBAN MEDIATOR Process Provocation and System Strategy

M_05 02.29 CONTESTED TERRITORIES REVIEW
Board Presentations of group research
Peer Introduction of neighborhood systems, resources alignments & absences, organizational leverage points & critical neglect in Red Hook

Assignment:
Process Provocation - Identify Sited Externality to work with - industrial operation or remediation relay: draw from site forensics, development contests, and externalities list
a) develope a matter-landscape process(ing) diagram (general systems)
b) sketch phasing assumptions/choreography based on material research (general)

Reading:
See Externalities starting lists

Th_05 03.03 DESK CRITS - CHOOSEN MATERIAL(s) FOR PROCESS PROVOCATION
Check on system choice, basic material components, and spatial understanding
Simplified behaviors to be explored as sited provocation; assumed in-puts, desired out-puts

Assignment:
Process provocation - research revisions -
a) diagram & indentify process thresholds & adaptive range to explore in provocation
(bring on or off-line, transplant or harvest, flood immersion, shifting materials)
b) identify instruments, metrics used in implementation
c) choose demonstration site, based on Site Forensics

Reading:
See Standards List as start point for expansion, elaboration, etc.

M_06 03.07 DESK CRITS - CHOOSEN THRESHOLD/CYCLE FOR PROCESS PROVOCATION
Check on understanding of process cycles, material streams, demo siting, and metric understanding

Assignment: Extracting & Manipulation Parameters from Process
3 footprints/3 models: iterative option for handling material streams, inflections

Th_06 03.10 REVIEW: 3 ALTERNATE FOOTPRINTS, 3 PAPER MODELS

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Draft variations given process at chosen moment
discussion - urban form, urban standards - expanded performance, phenomenal ops, org ops

Assignments: Phasing & Figuring Temporal Parameters from Process, Alternate Futures
2 sets of 3 sections: serial snapshots of development (output & inhab sketches)

Reading (general resources/inspiration):
306090 "Sustain and Develop"
tbd.

M_07 03.14

REVIEW: 3 SECTIONS PHASED (2 series), include outputs & habitation ideas
2 alternate process 'futures' given different input assumptions, human and non-human networks

Assignments: Outcomes to Urban Articulations - presuming a full scale system,
chart/map the distributed Red Hook interactions implied by system outputs
number or use color hierarchy to identify priority contributions or impacts
provide your siting criteria

Th_07 03.17

DESK CRITS - PROVOCATION TO URBAN ARTICULATIONS - AREA IMPACTS, PHASED PLAN
Integration your sited process(es) and outputs with neighborhood agenda from Contested Territories

Assignments: Refine Urban Articulations - Graft Information from Contested Territories to ground
siting criteria
refine graphics as necessary
MOCK-UP MIDTERM BOARDS

MIDTERM REVIEW Site Forensics, Contested Territories, Process Provocation, Urban Articulation Plan

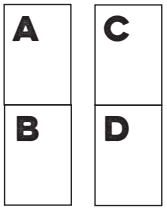
M_08 03.21

WORKING SESSION, LAYOUT FEEDBACK ON BOARDS

Assignments: MIDTERM PREP

Th_08 03.24

MIDTERM (date to be finessed, critics to be announced)
Presentation must include: (17 students, 4 boards each 2'x3' portrait in a square)



A. Contested Territories - From all group analysis, each student should revise argumentative maps that relate to their material process, its outputs, and organization alterations. This board identifies the urban problem(atic) to be engaged. (mixed cartographic scales, diagrams, exisiting condition photos)

B. Site Forensics - Site analysis updated to emphasize glocal ground of problematic, areas/ indexed systems drawn out should foreshadow either placement or matter at stake in Process Provocation (updated plans, diagrams, exisiting conditions photos)

C. Process Provocation - Diagrammatic explanation of process engaged including assumed inputs, phasing, demonstration siting and programmatic ops with serial models, plans, and sections (update process diagram, phasing diagram, plans and sections should be keyed to paper test models (photographed and annotated or mounted))

D. Prototype to system - Maps locating process outcomes as organizational alterations: distributed Red Hook public interventions and/or analogous urban sites facing similar industrial/ redevelopment pressures (maps with projected, aggregate impacts, quantitative diagrams and

qualitative before/after sections for argument of effect)

Assignments:
Write up critic comments in 2-3 paragraphs (InD mark-up of boards is also useful to tag ideas)
Identify core directions for development articulated by each speaker, holes in argument
Identify first revisions steps

ADAPTATION OF SYSTEM STRATEGY feedback revisions

M_09 03.28 DESK CRITS - DEVELOPMENT DIRECTIONS AND FIRST STEPS

Assignments: Respond to critic comments, review larger proposal of process and identify missing components/cycles/temporal frameworks to be incorporated that were omitted from Provocation

Th_09 03.31 DESK CRITS - PROGRAM & MANIFESTO

Assignments: brainstorm programmatic ideas that dovetail with site/edge usage and Red Hook needs (list and sketches atop/appropriating Provocation sections)
Graphic manifesto - develop a poster and logo that thematizes your process, its programs, and benefits - use graphics that speak to Red Hook residents and program audiences- imagine this as a portrait advertisement on the F-line, B61/57, and Ferries (have fun!)

ARTICULATED INTERVENTION Sited design along Buttermilk, Phased footprints

M_10 04.04 GROUP REVIEW - MANIFESTOS

Assignments: Given revision notes and process omissions, develop new component footprints, iterate through min. 3 variations that relate to Provocation developments

Th_10 04.07 WORKSHOP DAY - QUICK PAPER PROTOTYPING

Assignments: Document iterations and align components in spatial sequence,
create 3 quick collages to bring together 'plan' photographs into alternate arrangements on site

M_11 04.11 DESK CRITS - SITE DESIGN

Assignments: COLLAGE TO PLAN, LONG SITE/SYSTEM SECTION (GENERAL MASSING)

Th_11 04.14 DESK CRITS -SITE DESIGN

Assignments: PHASED DEVELOPMENT, SITE/SYSTEM SECTION SKETCH EVOLVING ECOLOGIES

M_12 04.18 DESK CRITS - SITE DESIGN

Assignments: PROGRAM WITHIN PHASING, SITE/SYSTEM SECTION SOCIO-ECO FEEDBACK BY PHASE

Th_12 04.21 DESK CRITS - SITE DESIGN

Assignments: SYNTHESIS - CHECK SYSTEM SCALES, INTEGRATIONS, OUTPUT TABUATIONS (do you need to adjust your ambitions or urban argument, are your system variables/phases still reasonable and adaptable? Make sure your design work and diagrammatic explications have legible relationship.)

IMMERSIVE MOMENT - FOCUS AREA(s) IN PLAN, FOCUS AREA IN FINAL DISTRIBUTIONS - add detail, texture, program/pep to sample plans, sections and revised distributed areas

M_break 04.25 SPRING BREAK - RECUPERATE - desk crits available on request (synthesis working time)

Th_break 04.28 SPRING BREAK - RECUPERATE - (immersive moments working time)

M_13 05.02 GROUP REVIEW - SITE SYNTHESIS DEVELOPMENT, SITE PLANS & DETAILS

Assignments: CONCEPTUAL VIEWS to match 3 focus areas (2 In site design, 1 in distributed area)

Th_13 05.05 DESK CRITS - IMMERSIVE MOMENTS, CONCEPTUAL VIEWS

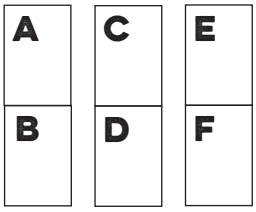
Assignments: Final Board Layouts- develop revised layout in InDesign for your final boards - slot current drawings in and make notes on elements to be revised or added

M_14 05.09 GROUP REVIEWS: FINAL ARGUMENT MOCK-UP

Assignments: Work on Final Boards

Th_14 05.12 WORKING SESSION, ARGUMENT/ARTICULATION TRIAGE

Assignments: Work on Final Boards



Final Boards

A. Manifesto

B. Contested Territories (revised)

C. Process: Components, Construction, Relays (adapted from Provocation & Typological development)

D. Process: Articulated, Sited systems (site design development)

E. Process: Focus phasing & phenomenal articulation (site design development)

F. Prototype to system - (revised)

M_15 05.16 (TBD) FINAL REVIEW

Assignments: Portfolio & pdf of midterm and final boards due by May 27th
(disk and dedicated google drive folder)

GRADING BREAKDOWN

Grading for the class will be determined according to the following criteria:

Performance in Research	15%
Organization and Strategic System Conceptualization	15%
Mid-review presentation	10%
Iterative Prototyping Performance	15%
Sited Design	20%
Clarity/Content of Final Proposal	25%

Documentation is expected throughout
Packaged copies will be due at the end of term; failure to submit boards and final proposal portfolio will effect entire grade

GRADING CRITERIA:
WORK WILL BE GRADED BASED ON THE FOLLOWING:

In addition to formal midterm and final jury reviews, students will be evaluated on preparation and quality of work at periodic desk critiques, pin ups, peer reviews and informal discussions with instructors and visiting professionals. Feedback during the semester will be honest and constructive. Evidence of progress in individual work, as well as the team work within the individual design groups will be taken into account in evaluations. Final grades for the studio, as well as grades for individual phases, will take into account collaborative contributions as well individual design work.

Design work will be graded based on the following standards:

Completeness: Instructions carried out in detail

Technical Skills and Attention to Detail: Assignments executed with the appropriate method and knowledge of technique? Student shows proficiency in the various media skills?

Accuracy and Presentation: Assignments completed with precision and presented professionally?

Effort and Concept: Student iterates through multiple drafts and shows evidence of experimentation and improvement during the assignments? Concepts are clearly articulated and well developed. On a broader scale, student shows consistent effort and improvement over the course of the semester.

Incompletes: There will be no Incomplete given for a course except for a documented medical excuse at the discretion of the instructor. You are required to attend all classes and be present in the classroom during the allocated times. Absence need to be notified as mentioned in the paragraph above in schedule.

Attendance and timely submission of assignments: More than two unexcused absences in a course will result in a failing grade (two absences is equal to over 13% of total class time). Late assignments (including work for pinup or review) will not

be reviewed for a grade. Each student must turn in what is completed or receive a failing grade for the particular assignment. Names of groups and individuals should be clearly indicated on all assignments.

!!! WE START ON TIME, PLEASE BE IN CLASS AND READY TO DISCUSS AT 2pm !!!
Students who are not in class and ready to participate at 2:05 will be marked late. Three lates will equal an unexcused absence. Failure to have plots ready and posted at the start of a group review will be equivalent to two lates. (Print early, print often.)

GRADING STANDARDS
CONFORMS TO CCNY 2008-2010 GRAD BULLETIN:

Grade	Explanation (refers to class performance)	Quality Points
A+	Rare, near perfect achievement	4.00
A	Exceptional	4.00
A-	Excellent	3.70
B+	High caliber	3.30
B	Satisfactory	3.00
B-	Below average	2.70
C+	Not satisfactory	2.30
C	Poor	2.00
F	Course failure	0.00

USEFUL REFERENCES

READING LIST
all homeworm readings (above) and in-class exercise readings will be posted to google drive

RED HOOK REFERENCES/ CONTESTED TERRITORIES RESEARCH
Students will start from the following sites (web links below bibliography) in developing their research, but are encouraged to push beyond these initial sources, following leads as they develop (do not hesitate to start searches from google or wikipedia; just trace them back to reputable sources):

0_STARTING MAPS (for visit orientation & notes)
see drive (in GIS, DWG, AI/PDF)

1_BASIC ENVIRONMENT & TERRITORY
"NYC Open Data." NYC Open Data. search: street curbs, building footprints (current, historical), waters' edges, 2' contours, parks, water access, sandy innundation, etc. https://data.cityofnewyork.us/ (split research with 03_ urban infrastructures)

"NYS GIS - Hudson River Estuary Data and Maps." 1-meter bathymetric contours, river morphology/hydrology, sediment samples (w/ 04_Brownfields). http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1136.

"New York Geologic Map Data." USGS. https://mrdata.usgs.gov/geology/state/state.php?state=NY.

"National Centers for Environmental Information (NCEI) Formerly (NCDC) | Archives of Oceanic, Atmospheric, Geophysical and Coastal Data." http://www.ncdc.noaa.gov/

In addition to basic physical structure and climatic trends, this group is responsible for showing the boundaries and overlaps in regulatory jurisdictions - state, city, national, army-corps, epa, other.

2_HISTORIC FORMATION
"Archaeology of Red Hook (1976).pdf." NYC Water. http://s-media.nyc.gov/agencies/lpc/arch_reports/266.pdf

"Brooklyn Visual Heritage." While a trip to the Brooklyn Historical Society would be welcome, this archival collaboration provides another way to develop a visual chronology of changing urban footprints and densities. Their links page

leads to the larger fabric of Brooklyn Historical Institutions. http://www.brooklynvisualheritage.org/

"Digital HOLC Maps | Research Projects." These provide the 'redlined' pattern of disciminatory mortages in the area and should be considered in tandem with the interwar parks and housing development. http://www.urbanoasis.org/projects/holc-fha/digital-holc-maps/. (w/ 05_demographics)

"NYC Open Data." NYC Open Data. search: building footprints (current, historical) https://data.cityofnewyork.us/

"NYPL - NYC Fire Insurance, Topographic and Property Maps." http://www.nypl.org/collections/nypl-recommendations/guides/fire-topo-property-maps#bk.

"The Regional Plans." Regional Plan Association link provides access to the historic plans for NYC, specifically the 1922/25 plan debated by Mumford and, later, Rem Koolhaas for their conceptualization of the city in largely logistical and transit terms. http://www.rpa.org/regional-plans. (w/ 03_Urban Infrastructure, 07_Maritime)

"Sanborn Maps, 1867-1970." There are some Sanborn Maps in the Architectural library and a full digital subsscription series that can be reached, down the hill, at the NYPL's Schumberg Center. These maps, along with the NYPL series above should make it possible to draw out the historic hydrology, building footprints, and pin-point areas of storage for hazardous materials for likely remediation. http://www.nypl.org/collections/articles-databases/sanborn-maps-1867-1970. (w/ 04_Brownfields, 07_Maritime)

3_URBAN INFRASTRUCTURES

"DEP- Water Treatment System Intro" General Intro to sewage processing system. http://www.nyc.gov/html/dep/pdf/wwsystem.pdf

"MTA Neighborhood Maps." Basic bus and subway service guides and schedules. http://web.mta.info/maps/

"NYC DOT - Red Hook Streetcar Feasibility Study." This is one transit study amidst an on-going discussion of bus service, additional ferry service, etc. to reconnect the area with greater New York. http://www.nyc.gov/html/dot/html/about/redhookstreetcar.shtml.

"NYC Open Data." NYC Open Data: search: transit systems, MTA-data, traffic speeds, bike routes, railroads, truck routes and thru truck routes, major water and sewer complaints, (CSO outfalls can be found from the state inventory below in 04), trash/recycling/ewaste & transfer stations, compost & community gardens, parks/beaches/recreational ops, marinas, blueways & water trails, etc. https://data.cityofnewyork.us/ (split research with 01_basic environment)

"NYPL - NYC Fire Insurance, Topographic and Property Maps." http://www.nypl.org/collections/nypl-recommendations/guides/fire-topo-property-maps#bk. Collaborate w/ 02_Historic Formation as insurance maps have the historic water provision system for streets and lots marked for fire purposes (mains, size of pipes, standpipes, etc.)

"Open Sewer Atlas" General information on sewersheds and outfalls in NYC. http://openseweratlas.tumblr.com/map. for fines see below in 04.

Private utility information is harder to come-by, but begin by scouring Con-Edison's website for electric and gas information. Resilience documents also give a general sense of system structure to begin researching from: http://www.nyc.gov/html/sirr/downloads/pdf/final_report/Ch_6_Utilities_FINAL_singles.pdf

4_BROWNFIELDS & ECOLOGICAL INVENTORIES

"Combined Sewer Overflow (CSO) - NYS Dept. of Environmental Conservation." City CSO's and recommended revisions. Consider outflow volumes with sediment samples from Hudson. http://www.dec.ny.gov/chemical/48595.html.

"NYC OER- Existing Conditons and Brownfield Analysis, Red Hook Brooklyn" http://www.nyc.gov/html/oer/downloads/pdf/Red%20Hook%20-%20Brooklyn.pdf

"NYC Open Data." NYC Open Data: search: air quality metrics, habor water quality, 311 infestation & health complaints, sustainability metrics, greenstreets, sreet trees, impervious areas, etc. https://data.cityofnewyork.us/

"Natural Resources and Environmental Protection Maps - NYS DEC." This provides a series of klm links to search a range of available data on google maps. Adjacent pages also provide the possibility of downloading similar info for gis. http://www.dec.ny.gov/pubs/103459.html.

"NYS GIS - Hudson River Estuary Data and Maps." Hudson sediment samples (w/ 01_Basic Environment). http://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1136.

5_DEMOGRAPHICS & INSTITUTIONS

"Brooklyn Ink." Brooklyn wide web-news for informal sense of recent issues. See also the Star-Revue and NYT. http://thebrooklynink.com/.

"DCP - Community Portal - Brooklyn Community District 6." Summary only - you should be able to extract more informative synthesis from Open Data. http://www.nyc.gov/html/dcp/html/neigh_info/bk06_info.shtml.

"NYCHA - Developments." Introductory materials for Red Hook Houses. See gis version from Open Data for footprints. Do a web search on NYCHA recovery funds to find up to date information on the lack of Sandy repairs. http://www1.nyc.gov/site/nycha/about/developments.page.

"NYC Open Data." NYC Open Data: search: schools and after-school programs, senior centers, adult edu and summer programs, vacant lots cleaned, response times - fire and police, churches and community centers, advocacy, justice, and public health service access, oil-boilers and building complaints as an index of public health issues, etc. https://data.cityofnewyork.us/

"NYPD Stop Question and Frisk Report Data Base." Geocode for racial profiling maps in the city, index to race and class divides. http://www.nyc.gov/html/nypd/html/analysis_and_planning/stop_question_and_frisk_report.shtml.

"Red Hook Star-Revue - South Brooklyn's Community Newspaper." Red Hook Star-Revue http://www.star-revue.com

"Social Explorer" Quick Demographics, Census Mapping made easy. http://www.socialexplorer.com/6f4cdab7a0/explore.

Also search for the social acitivies, orgs of: Red Hook Initiative, Red Hook Community Justice (and youth court), Brooklyn Waterfront Artists Coalition, Beam Center, etc.

6_OWNERSHIP / ZONING / INCENTIVES / DCP PLANS

"ACRIS." See also Pluto-Taxmaps and web version below. http://www1.nyc.gov/site/finance/taxes/acris.page.

"Pluto-Taxmaps." http://www.nyc.gov/html/dcp/html/bytes/dwn_pluto_mappluto.shtml see also ACRIS above and web version: "Property Digital Tax Map." http://www1.nyc.gov/site/finance/taxes/property-digital-tax-map.page. (Most developers form a different LLC for each parcel purchased in order to distribute risk/debt/tax liabilities. Look for overlapping individuals and similar LLC name structures when tracking multi-parcel aggregation.)

"NYCEDC-Projects." This is a general intro page for NYC's Economic Development corporation. Projects to search for include the transit ferries, industrial incentive zones, etc. https://www.nycedc.com/projects (share w/ 03_urban infrastructures and 07_maritime)

"NYC Open Data." NYC Open Data: search: zoning maps. https://data.cityofnewyork.us/ for older print and pdf versions to track changes and district overlays see http://www.nyc.gov/html/dcp/html/zone/zonedex.shtml

"Urban Waterfront Adaptive Strategies" http://www.nyc.gov/html/dcp/pdf/sustainable_communities/urban_waterfront_print.pdf.

"Vision 2020: The NYC Comprehensive Waterfront Plan - DCP-Chapters." http://www.nyc.gov/html/dcp/html/cwp/cwp_2.shtml. see also the economic development agenda: http://www.nycedc.com/sites/default/files/filemanager/Projects/WAVES/WAVESActionAgenda.pdf

"WEDG - Waterfront Edge Design Guidelines" Waterfront Alliance. http://waterfrontalliance.org/what-we-do/waterfront-edge-design-guidelines/

Also search for the incentive acitivies, orgs of: Southwest Brooklyn Industrial Development Corporation, Red Hook Economic Development, etc.

7_MARITIME LOGISTICS / TERRITORIES / ECOLOGIES

"Coast Survey's Historical Map & Chart Collection." Search for the 1845 survey of NY Harbor, exchange info on shore hardening/port development w/ 02_Historic Formation. http://historicalcharts.noaa.gov/

"DOT-Cruise Ship Waste Streams." Search the DOT site for the wastes associated with transit types; this will be useful in estimating the port footprint and by-product streams. http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/maritime_trade_and_transportation/2002/html/environmental_issues_table_01.html.

"G-Map Project: Regional Trade and Transit Study" www.nymtc.org/download_file.cfm?filename=GMAP_

Presentation_-_PFAC_NYMTC_4_16_14%5B1%5D.pdf

"NDC - U.S. Waterway Data" Army Corp site for navigation statistics on ports (port infrastructure, tonnage, etc.) for a wider comparative view. http://www.navigationdatacenter.us/data/data1.htm.

"NOAA-ENC (Nav. Charts) to GIS." NOAA's Office of Coast Survey. http://www.nauticalcharts.noaa.gov/csdl/ctp/encdirect_new.htm (share w/ 03_urban infrastructure and 01_basic territory)

"Port of New York and New Jersey - Customer Library." These summary port documents should provide basic info on the range and type of cargo/container traffic in Red Hook. Explore the 'Terminal Facilities' and schedules to start. http://www.panynj.gov/port/customer-library.html.

8_RISK / RESILENCE STUDIES, PROGRAMS, DESIGNS

Goodyear, Sarah. "Rethink, Rebuild- Atlantic Monthly." CityLab, The Atlantic. http://www.citylab.com/special-report/rethink-rebuild/

"FEMA-NYC Flood Maps." http://www1.nyc.gov/site/floodmaps/index.page.

"NYC Special Initiative for Rebuilding and Resiliency." http://www.nyc.gov/html/sirr/html/home/home.shtml

"NY Prize Opportunity Zones - NYSERDA." http://www.nyserda.ny.gov/All-Programs/Programs/NY-Prize/Opportunity-Zones-Map/Opportunity-Zones?region={0A8AF6C9-E357-40EA-8A31-96A231EE1B95}.
http://stormrecovery.ny.gov/sites/default/files/crp/community/documents/sebw_nyrcr_03_04.pdf
https://redhookcommunitymicrogrid.wordpress.com/project-map/
These should provide info on the micro-grid grants for Red Hook/ConEdison. (share w/ 03_urban infrastructures)

"NY Rising Community Reconstruction Program : RED HOOK." NY Rising Community Reconstruction Program : RED HOOK. https://redhookcrp.wordpress.com/

"Rebuild by Design: The Big U" http://www.rebuildbydesign.org/wordpress/wp-content/uploads/briefing/BIG__IP_Briefing_Book.pdf

"Red Hook- Design Relief (AIGA Comms)." AIGA/NY. http://aigany.org/making-the-city/design-relief/red-hook/

ASSIGNED STUDIO READINGS

Easterling. "Disposition," Extrastatecraft: The Power of Infrastructure Space. New York: Verso, 2014.

Forman. "Networks and the Matrix" *Land Mosaics: The Ecology of Landscapes and Regions*. New York: Cambridge University Press, 1995. 254-282.

Holmes. "Glitches and Flash Crashes: Resilient Infrastructures Lectures Series" U Minnesota College of Design, 2013. https://www.youtube.com/watch?v=rjYAWIMqNLc.

Burke. "Faith in Numbers (1.4)" *Connections*. 1978.

Bélanger. "Landscape As Infrastructure." *Landscape Journal* 28, no. 1 (January 1, 2009): 79–95.

Bélanger. "Landscapes of disassembly." *Topos 60*. October (2007): 83-91.

Barthes. "Diagram, Dispersal, Region" *Landscape Urbanism: A Manual for the Machinic Landscape*. AA Publications, 2004.

Tavares. "Murky Evidene." *Cabinet* 43: Forensics (2011).

Visual Catalogs:

Smithson. *Robert Smithson: The Collected Writings*. Edited by Jack Flam. Reprint edition. Berkeley: University of California Press, 1996.

Dion. al, et. *Archaeology*. London: Black Dog Publishing Ltd, 1999.

Odd Lots: Revisiting Gordon Matta-Clark's Fake Estates. New York: Cabinet Books/The Queens Museum of Art/White Columns, 2005.

Thompson, Paglen, and Kastner. *Experimental Geography*. Melville House, 2015.

Corner. "The Agency of Mapping." *Mappings,* ed. Cosgrove. London: Reaktion Books, 1999.

Foucault. "Contraditions." *Archaeology of Knowledge*. New York: Penguin Vintage, 1982.

SUPPLEMENTAL STUDIO READINGS

INTRO TEXTBOOKS: CORE CONCEPTS, CONTEMP CASES

Rottle and Yocom. *Basics Landscape Architecture 01: Urban Design.* AVA Publishing, 2009.
Waterman. *Basics Landscape Architecture 02: Ecological Design.* AVA Publishing, 2011.
Entwhistle and Knighton. *Basics of Landscape Architecture 03: Visual Communication.* London: Fairchild Books, 2013.

URBANISMS & LOGISTICS

Berger. *Drosscape: Wasting Land in Urban America.* NY: Princeton Architectural Press, 2007.
Davis, Holmes, and Milligan. "Isthmus: On the Panama Canal Expansion." *Places,* 2015. https://placesjournal.org/article/isthmus-panama-canal-expansion/
Ibañez and Katsikis, eds. *New Geographies, 6: Grounding Metabolism.* Harvard Graduate School of Design, 2014.
LeCavalier. "All Those Numbers: Logistics, Territory and Walmart." *Places.* 2010. https://placesjournal.org/article/all-those-numbers-logistics-territory-and-walmart/.
Mostafavi and Neimann, ed. *Ecological Urbanism* ed. Lars Muller Publishers, 2010.
Solomon and Bolchover, eds. *Sustain and Develop: 306090 Volume 13.* New York: Princeton Architectural Press, 2010.
Varnelis. *The Infrastructural City: Networked Ecologies in Los Angeles.* New York: Actar, 2009.
Waldheim and Berger. "Logistics Landscape." *Landscape Journal* 27, no. 2 (January 1, 2008): 219–46.
Waldheim. *The Landscape Urbanism Reader.* Princeton University Press, 2006.
White, Sheppard, Bhatia, and Przybylski. *Pamphlet Architecture 30: Coupling: Strategies for Infrastructural Opportunism* New York: Princeton Architectural Press, 2011.

URBAN ECOLOGY & INDUSTRIAL ECOLOGY

Allenby, et. al. *Industrial Ecology and Sustainable Engineering.* Upper Saddle River, NJ: Prentice Hall, 2009.
Beck. *Principles of Ecological Landscape Design.* Washington, DC: Island Press, 2013.
Chertow. "'Uncovering' Industrial Symbiosis." *Journal of Industrial Ecology* 11.1 2007. 10-30.
Ehrenfeld, et. al. "Industrial Ecology in Practice (Kalundborg). *Journal of Industrial Ecology* 1.1 1997. 67-80. (The list of citations provides a number of good secondary articles.)
Erkman. "Industrial Ecology - A Historic View." *Journal of Cleaner Production* 5.1-2, 1997. 1-10.
Lowe. "Creating By-Product Resource Exchanges." *Journal of Cleaner Production* 5.1-2, 1997. 57-65.
Marzluff, et. al. *Urban Ecology.* New York: Springer, 2008.

VISUALIZING INFORMATION & DRAWING SYSTEMS/SPACES

Bertin. *Semiology of Graphics: Diagrams, Networks, Maps.* Redlands, Calif: Esri Press, 2010.
Lankow, Ritchie, and Crooks. *Infographics: The Power of Visual Storytelling.* Hoboken, N.J: Wiley, 2012.
Macaulay. *The Way Things Work.* Boston: Houghton Mifflin/Walter Lorraine Books, 1988.
Macaulay. *Underground.* Boston: HMH Books for Young Readers, 1983.
Meirelles. *Design for Information.* Rockport Publishers, 2013.
Tufte. *The Visual Display of Quantitative Information.* Cheshire, Conn: Graphics Press, 2001.
Tufte. *Envisioning Information.* Cheshire, Conn: Graphics Press, 1990.

be prepared to show/tag your graphic, layout, and colour precedents to the course pinterest for discussion

MATERIALS SYSTEMS REFERENCES/RESEARCH

Students will start from the following sites (web links below bibliography) in developing their research:

EXTERNALITIES to be posted on the drive

STANDARDS & MANUALS some starting points

"CNT_Value-of-Green-Infrastructure.pdf." Center for Neighborhood Tech. (citizen manual for eco-accounting)
http://www.cnt.org/sites/default/files/publications/CNT_Value-of-Green-Infrastructure.pdf.

"NYC DDC Publications." This includes a range of the Department of Design and Construction's standards:

- Active Design Guidelines
- Sustainable Urban Site Design
- Construction & Demo Waste Manual
- High Performance Infrastructure
- Highways Infrastructure
- Sewer & Water Infrastructure

http://www1.nyc.gov/site/ddc/resources/publications.page

"NYC DOT - Street Design Manual." NYC DOT, DEP (Bloomberg/de Blasio, 2013+)
http://www.nyc.gov/html/dot/html/pedestrians/streetdesignmanual.shtml

"NYC PARKS - Tree Planting Guidelines - Standards.pdf." http://www.nycgovparks.org/permits/trees/standards.pdf.

"NYS Brownfield Redevelopment Toolbox." Links to state standards, programs, and remedial tools
http://www.dec.ny.gov/docs/remediation_hudson_pdf/bftoolbox.pdf.

"Shipshape Shores and Waters" BMP for Marina run-off management (EPA, NOAA, DEC)
http://www.epa.gov/sites/production/files/2015-09/documents/marinashdbk2003-2_0.pdf.
http://www.dec.ny.gov/docs/water_pdf/marinasbmp.pdf

"Urban Waterfront Adaptive Strategies" NYC DCP (Bloomberg, 2013).
http://www.nyc.gov/html/dcp/pdf/sustainable_communities/urban_waterfront_print.pdf

"WEDG - Waterfront Edge Design Guidelines - Waterfront Alliance." Waterfront Alliance.
http://waterfrontalliance.org/what-we-do/waterfront-edge-design-guidelines/

BROWNFIELDS, REMEDIATION, & MATERIAL-STREAMS

"CLU-IN | Strategies & Initiatives > Green Remediation Focus." EPA's Contaminated Site Clean-Up Information, 1987+
https://clu-in.org/greenremediation/

Hollander, et. al. Principles of Brownfield Regeneration: Cleanup, Design, and Reuse of Derelict Land. Washington: Island Press, 2010.

Kirkwood. Phyto: Principles and Resources for Site Remediation and Landscape Design. New York, NY: Routledge, 2015.

Kirkwood. Manufactured Sites: Rethinking the Post-Industrial Landscape. London; New York: Taylor & Francis, 2011.

"Phytotechnology Technical and Regulatory Guidance and Decision Trees, Revised." ITRC, 2009.
http://www.itrcweb.org/Guidance/GetDocument?documentID=64.

"Remediation Technologies creening Matrix." FRTR (Federal Remediation Technologies Roundtable) 20
https://frtr.gov/matrix2/top_page.html.

"Sustainable Materials Management." EPA Collections, Publications on Materials Management.
http://www.epa.gov/smm.