



Implementing Low Impact Development



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Report Documentation Page

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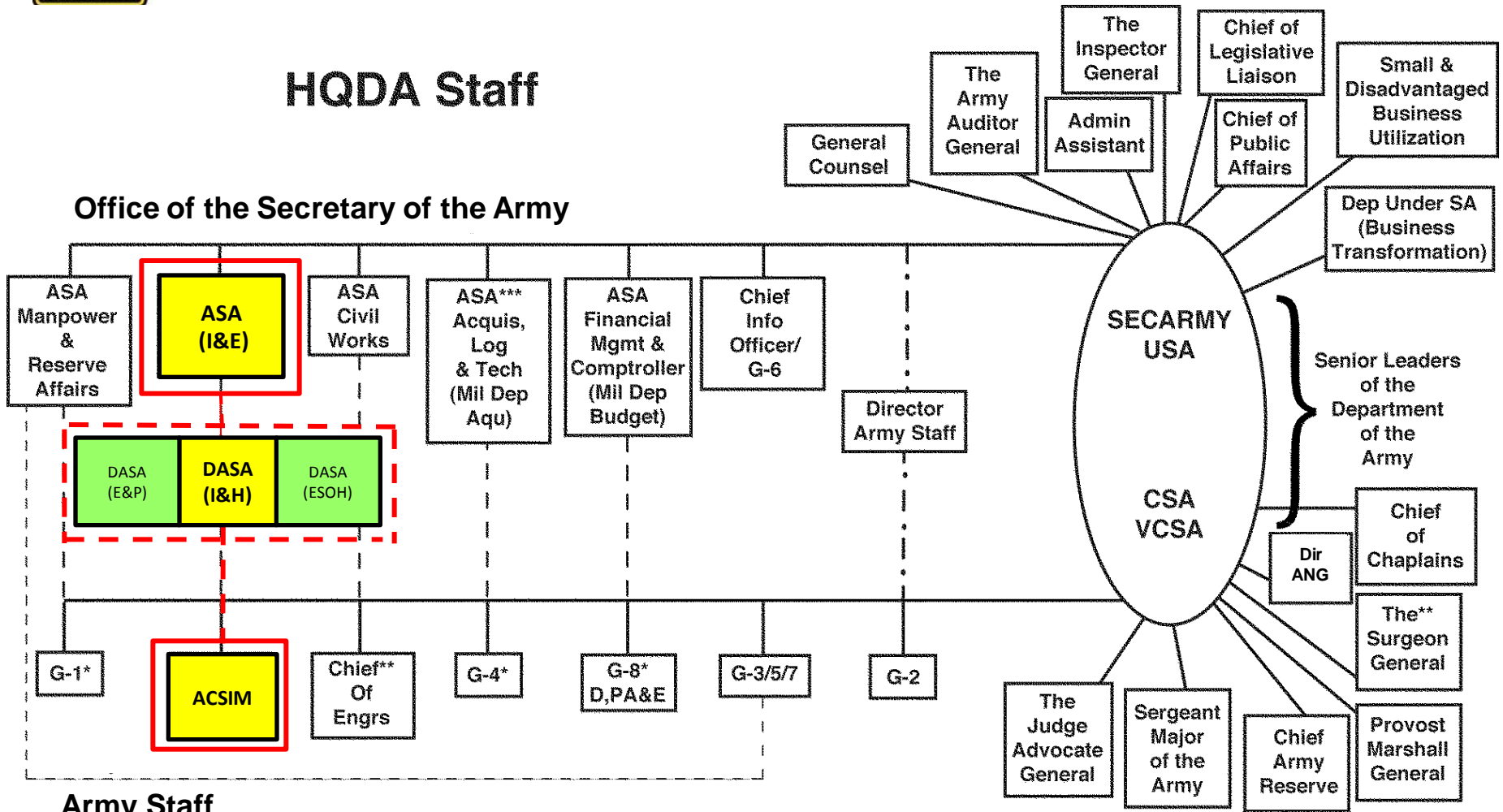
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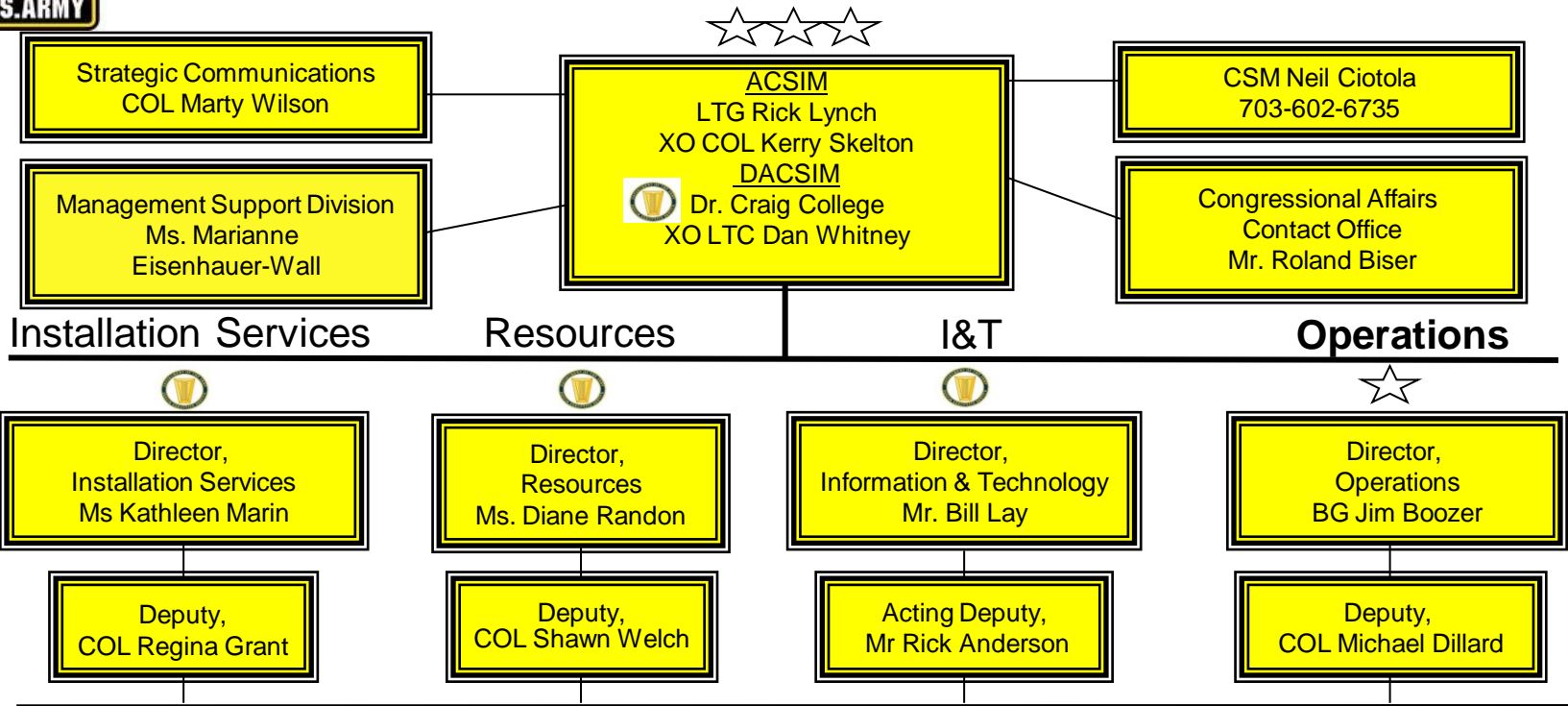


* Responsible to ASA for advise and assistance within functional area
 ** DRU commanders
 *** Army Acquisition Executive

--- Defined responsibilities to ASAs
 - - - Oversight
 - * - Director Army Staff - synchronize, integrate



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On Board Strength
Civilians 391
Military 54
Current fill 86%



Nutrient and Sediment Loadings

Annual Loadings to the Chesapeake Bay:

- 291 million pounds of nitrogen (59% emissions, runoff)
- 13.8 million pounds of phosphorus (30% runoff, non AG)
- 6.6 billion pounds of sediment

**Source: Chesapeake Bay Program, 2008 data*



Photograph from Low Impact Development Center



Satellite image by NASA

Photograph by Jane Thomas, IAN Image library





Army Low Impact Development Initiative

Army LID Policy to Meet or Exceed:

- Energy Independence and Security Act (EISA), Sec. 438, December 2007
- Environmental Protection Agency (EPA), Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act, December 4, 2009
- OSD Policy Memo, DoD Implementation of Storm Water Requirements under Section 438 of the Energy Independence and Security Act (EISA), 19 Jan 2010
- Executive Order (EO) 13508 Chesapeake Bay Protection and Restoration
- Under the Chesapeake Bay TMDL, EPA will establish waste load allocations for “point sources” subject to NPDES permits
- LEED Silver Construction



Proposed Army LID Policy

- Develop new ASA(I&E) storm water policy mandating use of Low Impact Development
 - All projects (not just > 5,000 sq-ft)
 - Limitations on Site Clearing & Grubbing
 - Mandatory in FY11 SRM and FY13/14 MILCON
 - No Non-recreational Retention Ponds (storage under parking lots)
 - Mandatory Modeling (LID features attempt to restore to pre-development hydrology)
- Foster Cultural Change w/Guidance and Training: (2010 spend plan)
- Project Development
 - Master Planner/LA/Architect/Engineer involvement
 - In Line w/Installation Design Standards
 - Coordination w/USACE (incorporate in Army Standards & Standard Designs)



Way to Full Implementation

- ASA(I&E) Low Impact Development Policy
- Mandatory Timelines: FY11 SRM and FY13/14 MCA
- Get the construction community engaged; Provide Guidance and Training for the DPW: Master Planner/
Landscape Architect/Architect/Engineer and USACE
- Integrate and Update: FDG/FDT- Army Standard, ARs, IDGs, Unified Facility Criteria (UFC) 3-210-10, LID Manual, COS's (Army Standard Designs), etc.
- Demonstrate success: Fort Belvoir Medical Center (GC/DPW/BRAC Project Manager/Design Build A&E); DEMVAL projects



Eagle's Wings



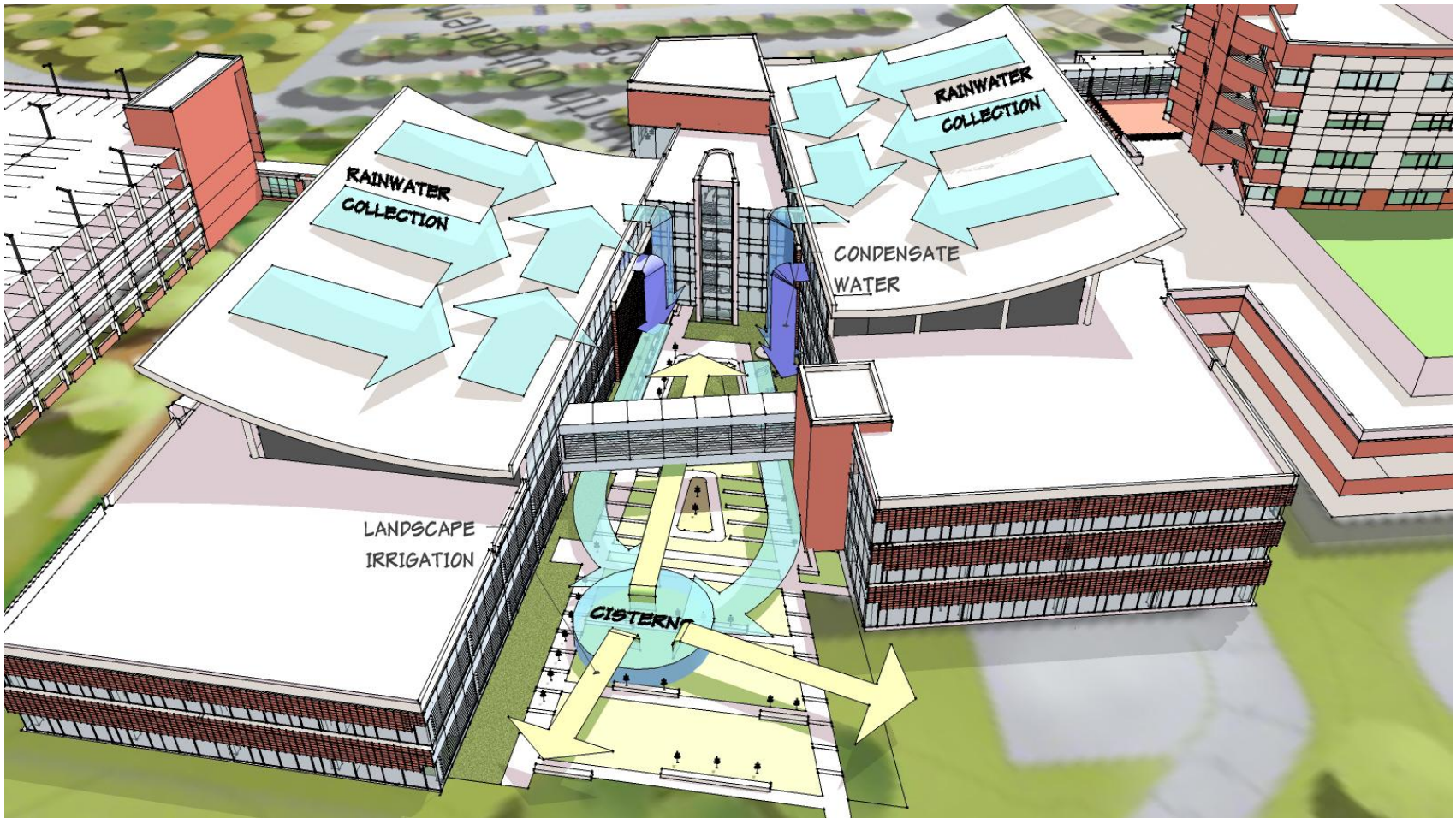


Elegant Designs





Fort Belvoir Community Hospital





Wing Construction





Structural and Non-Structural LID Controls





Eagle's Wings as of 8 Jun 10





OACSIM LID Projects

- APG
 - ARL Compound Parking Lot
 - ARL UAV Runway, Pad, Rainwater Harvesting and Parking Lot
- Fort AP Hill
 - Beaverdam Pond Parking Lot
 - Game Check/Visitor Center Parking Lot
- Fort Meade
 - Clinic Parking Lot & Drainage Channel
 - Stream Daylighting w/Wetlands



Stream Day-Lighting





QUESTIONS?



What is Low Impact Development

Low Impact Development incorporates “proven” storm water management principles and technologies into project planning and design in order to manage storm water as close to where the precipitation lands as possible. This is done to maintain or restore the pre-development hydrology of the site, reduce runoff volume and peak runoff rates, and reduce the potential transport of pollutants to receiving waters.

- Cisterns/rain barrels
- Rain gardens
- Bio-retention cells
- Soil amendments
- Reforestation
- Permeable pavement (asphalt, concrete, pavers, or blocks)
- Grass swales and bio-swales
- Green roofs



Operations Directorate, OACSIM

