



U.S. Army Corps
of Engineers

Baltimore District

Public Notice

In Reply to Application Number
CENAB-OPR-M (BA REC & PARKS/FORT HOWARD
PARK/MARSH CREATION) 2016-60834-M07

PN 16-67

Comment Period: December 15, 2016 to January 17, 2017

THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM THE PUBLIC REGARDING THE WORK DESCRIBED BELOW. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.

This District has received an application for a Department of the Army permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (33. U.S.C. 1344)** as described below:

APPLICANT: Mr. Patrick McDougall
Baltimore County Department of Recreation & Parks
9831 Van Buren Lane
Cockeysville, Maryland 21030

WATERWAY AND LOCATION: The proposed project is located in the Chesapeake Bay, Fort Howard, Baltimore County, Maryland.

PROPOSED WORK: To construct an approximate 4,200 linear foot shoreline stabilization and marsh creation project not to exceed a maximum distance of 195 feet channelward from the approximate mean high water (MHW) shoreline. The work would include the following:

- Marsh creation: approximately 2,900 linear feet/135-foot channelward of MHW to include spreading clean, sandy fill and planting the shoreline with low and high marsh vegetation landward of the stone breakwaters;
- New stone sill: approximately 1,786-foot long by 18-foot wide;
- Supplemental sill: approximately 789-foot long by 22-foot wide;
- Breakwater: approximately 2,318-foot long by 44-foot wide.

Additionally, temporary impacts to approximately 4,490 square feet of nontidal wetlands would result from the conversion of forested nontidal wetlands to emergent nontidal wetlands for site access. The purpose of the project is to provide shoreline stabilization and marsh creation along 4,200 linear feet of shoreline. All work will be completed in accordance with the enclosed plans dated July 2016.

If you have any questions concerning this matter, please contact Ms. Maria N. Teresi at 410-962-4501 or maria.teresi@usace.army.mil.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people.

The evaluation of the impacts of the work described above on the public interest will include application of the Clean Water Act 404(b)(1) Guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by the District Engineer, U.S. Army Corps of Engineers, Baltimore District, [Attn: Ms. Maria N. Teresi, CENAB-OPR-MN], 10 S. Howard Street, Baltimore, Maryland, 21201 or maria.teresi@usace.army.mil, within the comment period specified above.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely effect Essential Fish Habitat (EFH).

The project site lies in or adjacent to EFH as described under MSFCMA for windowpane flounder (*Scopthalmus aquosus*) juvenile and adult; blue fish (*Pomatomus saltatrix*) juvenile and adult; summer flounder (*Paralichthys dentatus*) juvenile and adult; and egg, larvae, juvenile and adult stages of red drum (*Sciaenops ocellatus*), king mackerel (*Scomberomorus cavalla*), spanish mackerel (*Scomberomorus maculatus*), and cobia (*Rachycentron canadum*), all managed species under the MSFCMA.

The project has the potential to adversely affect EFH or the species of concern by loss of spawning, nursery, forage and/or shelter habitat as described under the MSFCMA for the species and life stages identified above. The Baltimore District has made a preliminary determination that site-specific impacts would not be substantial and an abbreviated consultation will be conducted with NMFS. This determination may be modified if additional information indicates otherwise and would change the preliminary determination.

WATER QUALITY CERTIFICATION: The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act from the Maryland Department of the Environment. Any written comments concerning the work described above which relate to water quality certification must be received by the Maryland Department of the Environment, Tidal Wetlands Division, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230-1708 within the comment period as specified above to receive consideration. MDE has a statutory limit of one year from the date of this public notice to make its decision.

COASTAL ZONE MANAGEMENT PROGRAMS: The applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the Maryland Coastal Zone Management (CZM) Program. By this public notice, we are requesting the State concurrence or objection to the applicant's consistency statement. Public comments relating to consistency must be received by the Maryland Department of the Environment, Tidal Wetlands Division, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230-1708 within the comment period specified above to receive consideration. MDE has a statutory limit of 6 months to concur or object to the applicant's consistency determination.

The applicant must obtain any State or local government permits which may be required.

A preliminary review of this application indicates that the proposed work will not affect Federal listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

Review of the latest published version of the National Register of Historic Places indicates that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. Currently unknown archeological, scientific, prehistoric, or historical data may be lost or destroyed by the work to be accomplished under the request permit.

Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received by the District Engineer, U.S. Army Corps of Engineers, Baltimore District, [Attn: Ms. Maria N. Teresi, CENAB-OPR-MN], 10 S. Howard St., Baltimore, Maryland 21201, within the comment period as specified above to receive consideration. Also it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected.

It is requested that you communicate this information concerning the proposed work to any persons know by you to be interested and not being known to this office, who did not receive a copy of this notice.

FOR THE DISTRICT ENGINEER:

Joseph P. DaVia
Chief, Maryland Section Northern

FORT HOWARD PARK SHORELINE ENHANCEMENT

FORT HOWARD PARK
BALTIMORE COUNTY, MARYLAND



SHEET LIST

SHEET NO. FIGURE NO. DRAWING TITLE

| | | |
|----|--------|---------------------------|
| 1 | IP-000 | COVER |
| 2 | IP-100 | KEY MAP |
| 3 | IP-101 | IMPACT PLATE I |
| 4 | IP-102 | IMPACT PLATE II |
| 5 | IP-103 | IMPACT PLATE III |
| 6 | IP-104 | IMPACT PLATE IV |
| 7 | IP-105 | IMPACT PLATE V |
| 8 | IP-106 | IMPACT PLATE VI |
| 9 | IP-107 | IMPACT PLATE VII |
| 10 | IP-108 | IMPACT PLATE VIII |
| 11 | IP-109 | IMPACT PLATE IX |
| 12 | IP-110 | IMPACT PLATE X |
| 13 | IP-111 | IMPACT PLATE XI |
| 14 | IP-112 | BEST MANAGEMENT PRACTICES |
| 15 | IP-501 | IMPACT PLATE DETAILS I |
| 16 | IP-502 | IMPACT PLATE DETAILS II |
| 17 | IP-503 | IMPACT PLATE DETAILS III |

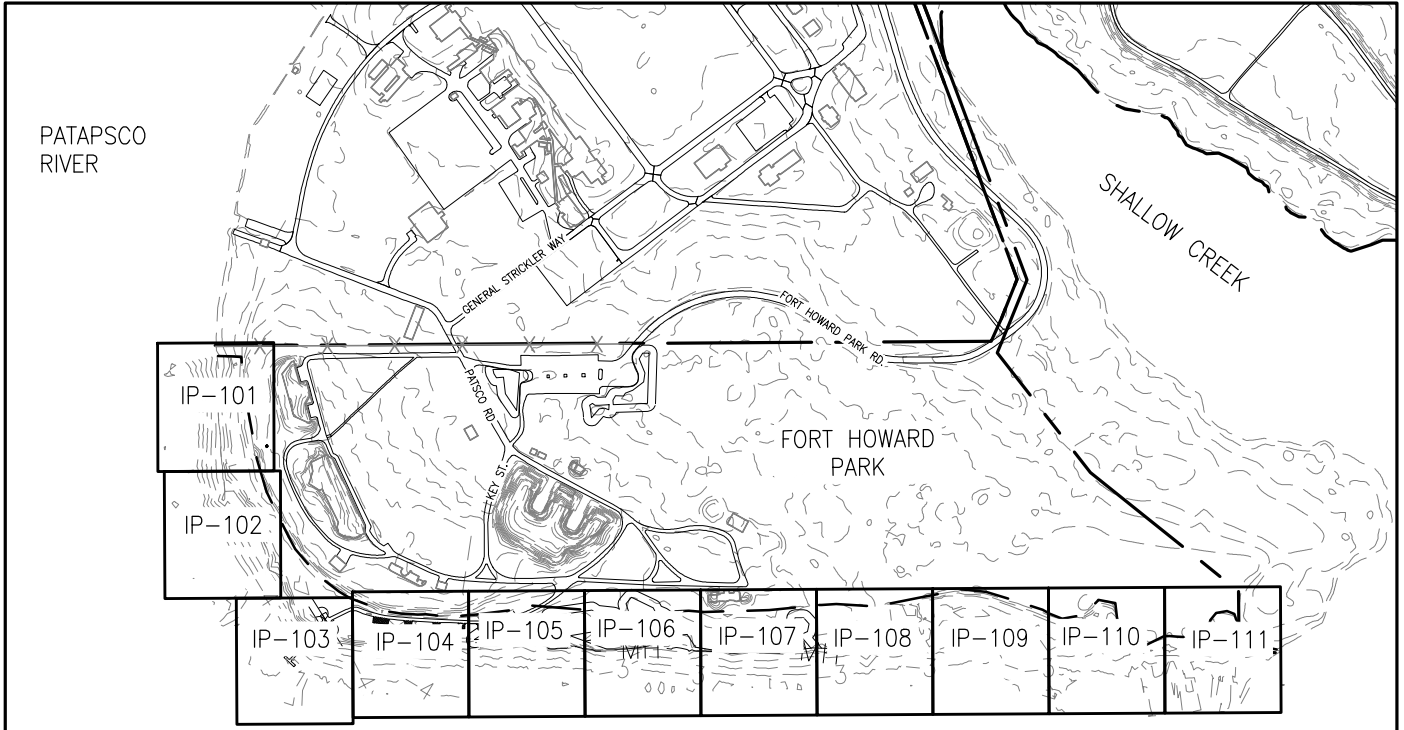


FORT HOWARD PARK
SHORELINE ENHANCEMENT
FORT HOWARD PARK
BALTIMORE COUNTY, MARYLAND

COVER

| | | | | | | | |
|---------------------|------------------|-------------------|----------------------|--------------------|-------------------------------|--------------------------|-------------------|
| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 1 OF 17 | FIGURE: IP-000 |
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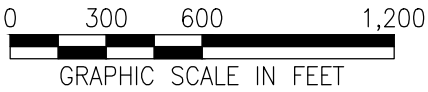
FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-100 - KEY MAP] BARTON, ALISON 7/22/2016 8:54 AM



- NOTES:
1. A MAJORITY OF CONSTRUCTION ACTIVITY IS TO BE PERFORMED FROM THE WATER.
 2. PERMANENT IMPACTS TO NON-TIDAL WETLANDS AND NON-TIDAL WETLAND BUFFERS ARE ASSOCIATED WITH CONVERSION OF PFO TO PEM FOR ACCESS.
- CHESAPEAKE BAY

TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 319,838
 TIDAL WETLAND AND OPEN WATER FILL (CY) = 38,300
 FLOODPLAIN FILL (CY) = 0
 SUBMERGED AQUATIC VEGETATION IMPACTS (SF) = 0
 NON-TIDAL WETLAND IMPACTS (SF) = 4,590
 NON-TIDAL WETLAND BUFFER IMPACTS (SF) = 12,740

- -100 --- EX. MAJOR CONTOURS
- -102 --- EX. MINOR CONTOURS
- ===== 100 YEAR FEMA FLOODPLAIN
- LOD --- LOD --- LOD --- LIMIT OF DISTURBANCE
- TP --- TP --- TP --- TREE PROTECTION
- WET --- WET --- WET --- EXISTING TIDAL WETLAND BOUNDARY
- NTW --- NTW --- NTW --- EXISTING NON-TIDAL WETLAND BOUNDARY
- WB --- WB --- WB --- EXISTING NON-TIDAL WETLAND BUFFER BOUNDARY
- MH --- MH --- MH --- EXISTING MEAN HIGH WATER LINE
- ML --- ML --- ML --- EXISTING MEAN LOW WATER LINE
- ML --- ML --- ML --- PROPOSED MEAN LOW WATER LINE
- [Cross-hatched box] EXISTING RUBBLE TO BE REMOVED
- [Solid grey box] TIDAL/NON-TIDAL WETLAND PERMANENT IMPACT
- [Dotted box] NON-TIDAL WETLAND



| SUMMARY OF TIDAL WETLAND IMPACTS | |
|--|------------|
| MARSH CREATION | |
| HIGH MARSH (ELEVATION +0.5 TO +1.0): | 10,810 SF |
| LOW MARSH (ELEVATION -0.6 TO 0.5): | 123,365 SF |
| TOTAL LENGTH OF MARSH CREATION: | 2,900 LF |
| MAXIMUM CHANNELWARD ENCROACHMENT OF MARSH CREATION: | 135 LF |
| NEW SILL | |
| TOTAL AREA: | 32,150 SF |
| MAXIMUM WIDTH: | 18 LF |
| TOTAL LENGTH: | 1,786 LF |
| SUPPLEMENTAL SILL | |
| TOTAL AREA: | 17,358 SF |
| MAXIMUM WIDTH: | 22 LF |
| TOTAL LENGTH: | 789 LF |
| BREAKWATER MEASUREMENTS | |
| TOTAL AREA: | 100,992 SF |
| MAXIMUM WIDTH: | 44 LF |
| TOTAL LENGTH: | 2,318 LF |
| NOTES: | |
| MAXIMUM CHANNELWARD ENCROACHMENT OF BREAKWATER (TOE OF STONE TO MHW): | 175 LF |
| MAXIMUM CHANNELWARD ENCROACHMENT OF NEW SILL (TOE OF STONE TO MHW): | 80 LF |
| MAXIMUM CHANNELWARD ENCROACHMENT OF SUPPLEMENTAL SILL (TOE OF STONE TO MHW): | 195 LF |



FORT HOWARD PARK
 SHORELINE ENHANCEMENT
 FORT HOWARD PARK
 BALTIMORE COUNTY, MARYLAND

KEY MAP

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|---------------------|------------------|-------------------|----------------------|--------------------|-------------------------------|--------------------------|-------------------|
| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 2 OF 17 | FIGURE: IP-100 |
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PROPOSED TRANSITION BREAKWATER
 MAX WIDTH: 47.0'
 MAX LENGTH: 210.0'

PROPOSED SOUTHERN BREAKWATER (TYP.)

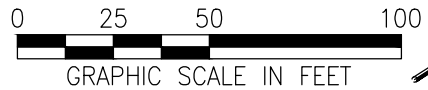
PROPOSED SAND FILL AREA WITH MARSH CREATION

APPROXIMATE LIMITS OF EXISTING RUBBLE TO BE REMOVED

CHESAPEAKE BAY

MATCHLINE - SEE SHEET IP-102

TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 45,510
 FLOODPLAIN FILL (CY) = 0



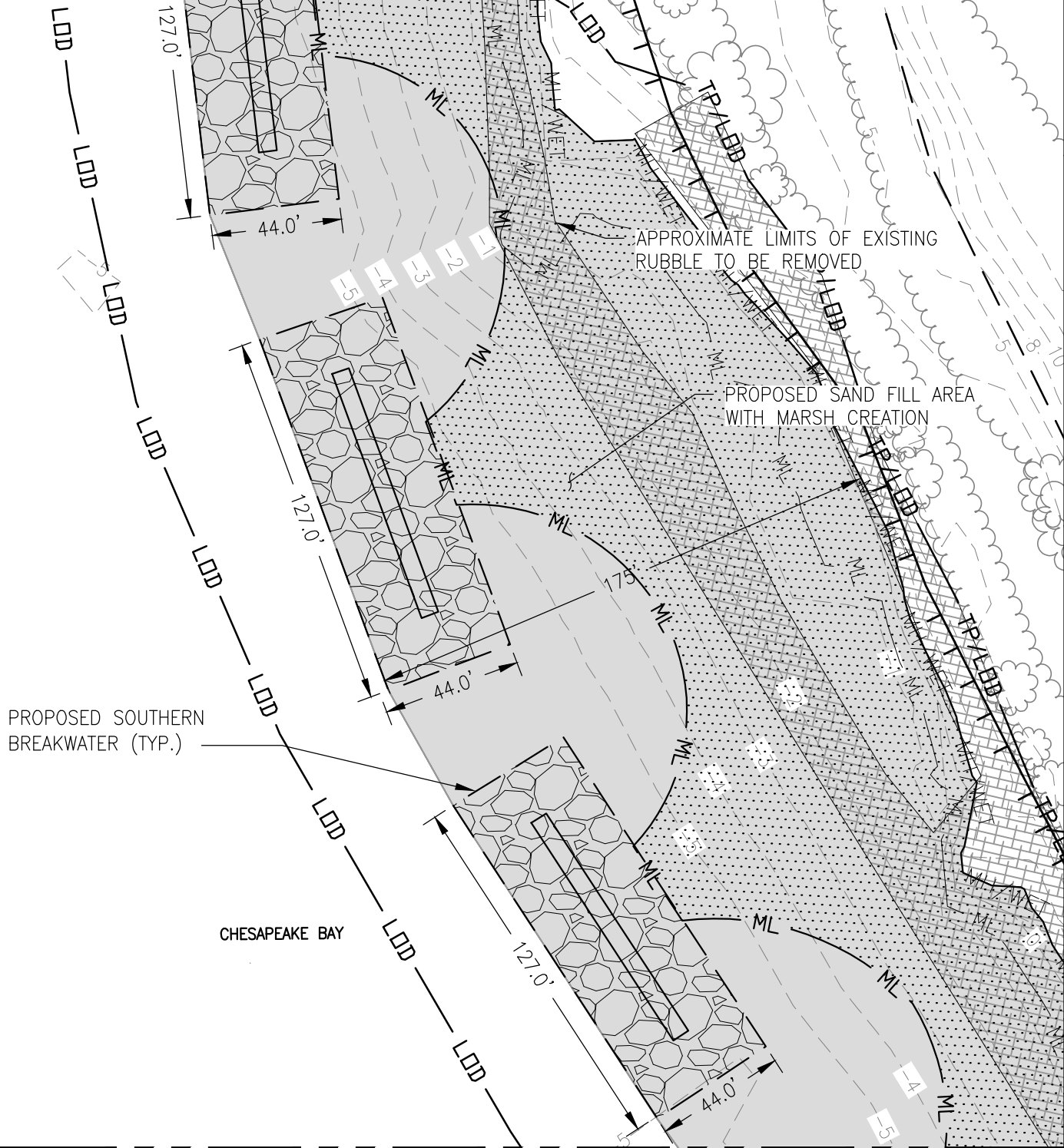
FORT HOWARD
 SHORELINE ENHANCEMENT
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IMPACT PLATE I

| | | | | | | | |
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| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 3 OF 17 | FIGURE: IP-101 |
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MATCHLINE - SEE SHEET IP-101



MATCHLINE - SEE SHEET IP-103

TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 68,710
 FLOODPLAIN FILL (CY) = 0



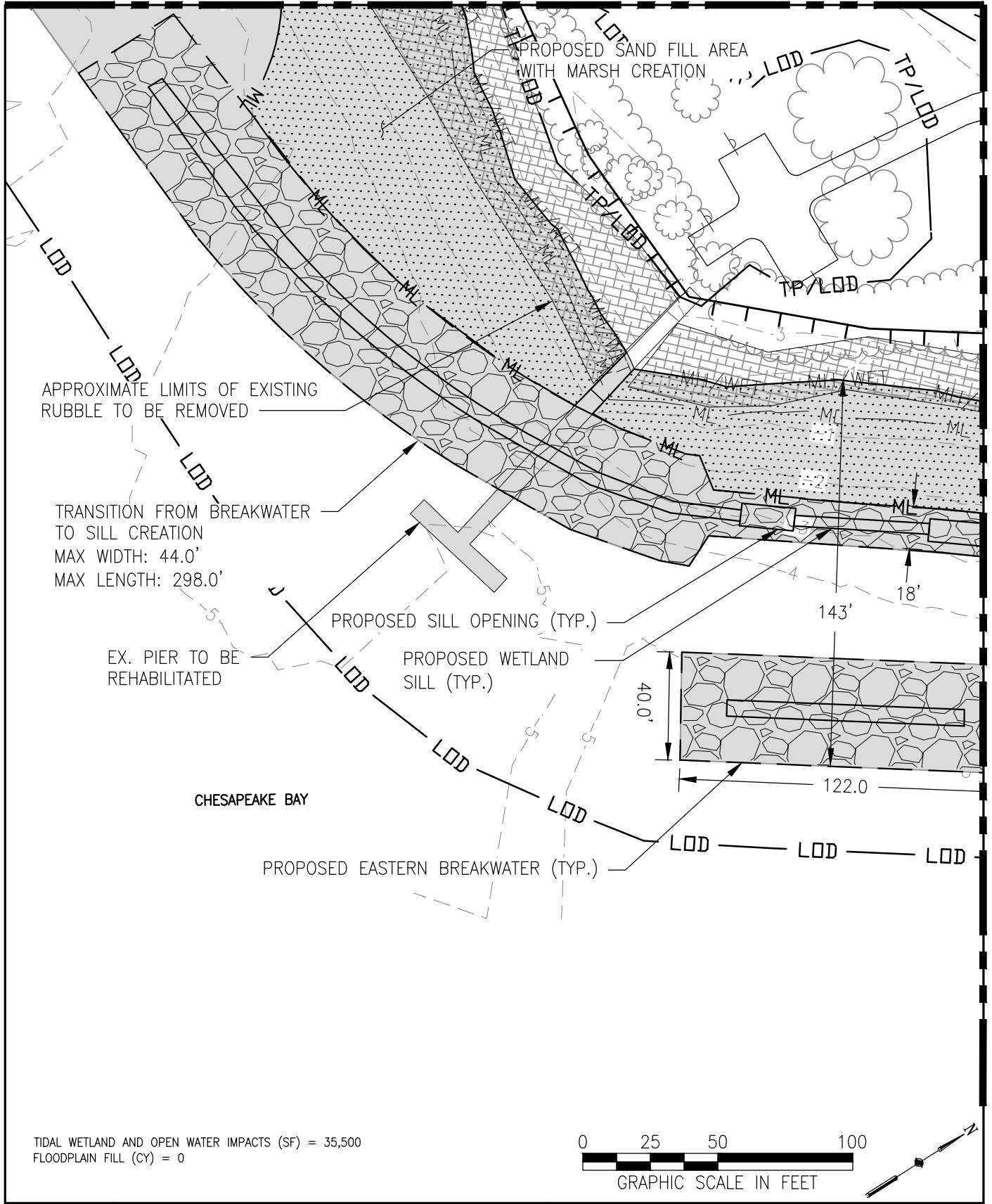
FORT HOWARD
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 FORT HOWARD PARK
 BALTIMORE COUNTY, MARYLAND

IMPACT PLATE II

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| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 4 OF 17 | FIGURE: IP-102 |
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MATCHLINE - SEE SHEET IP-102

MATCHLINE - SEE SHEET IP-104



FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-103 - IMPACT PLATE III] BARTON, ALISON 7/22/2016 8:55 AM

TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 35,500
 FLOODPLAIN FILL (CY) = 0



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 SHORELINE ENHANCEMENT
 FORT HOWARD PARK
 BALTIMORE COUNTY, MARYLAND

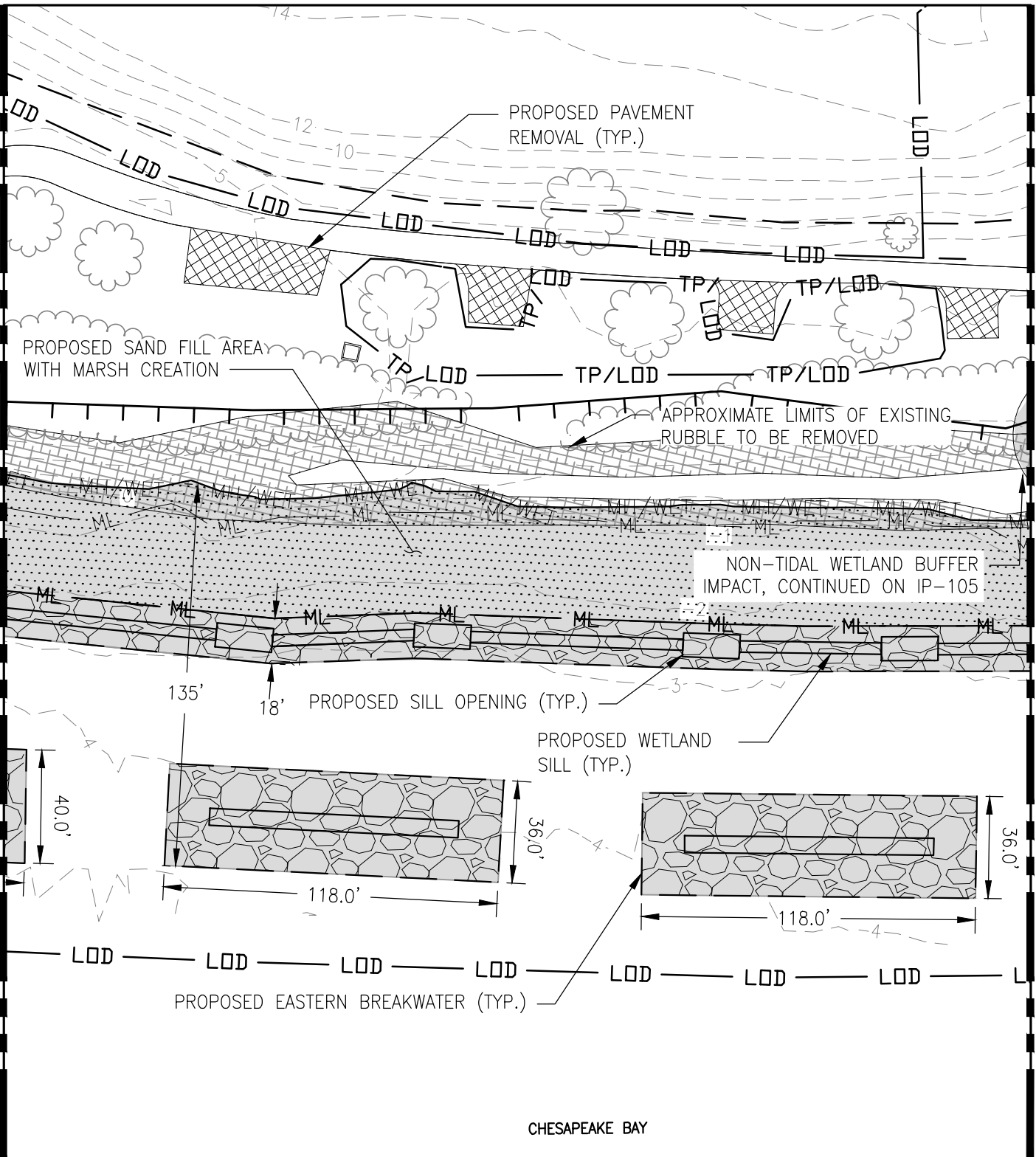
IMPACT PLATE III

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| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 5 OF 17 | FIGURE: IP-103 |
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MATCHLINE - SEE SHEET IP-103


MATCHLINE - SEE SHEET IP-105

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TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 29,515
 NON-TIDAL WETLAND BUFFER IMPACT (SF) = 130
 NON-TIDAL WETLAND BUFFER IMPACT FOR CLEARING/SITE ACCESS
 FLOODPLAIN FILL (CY) = 0

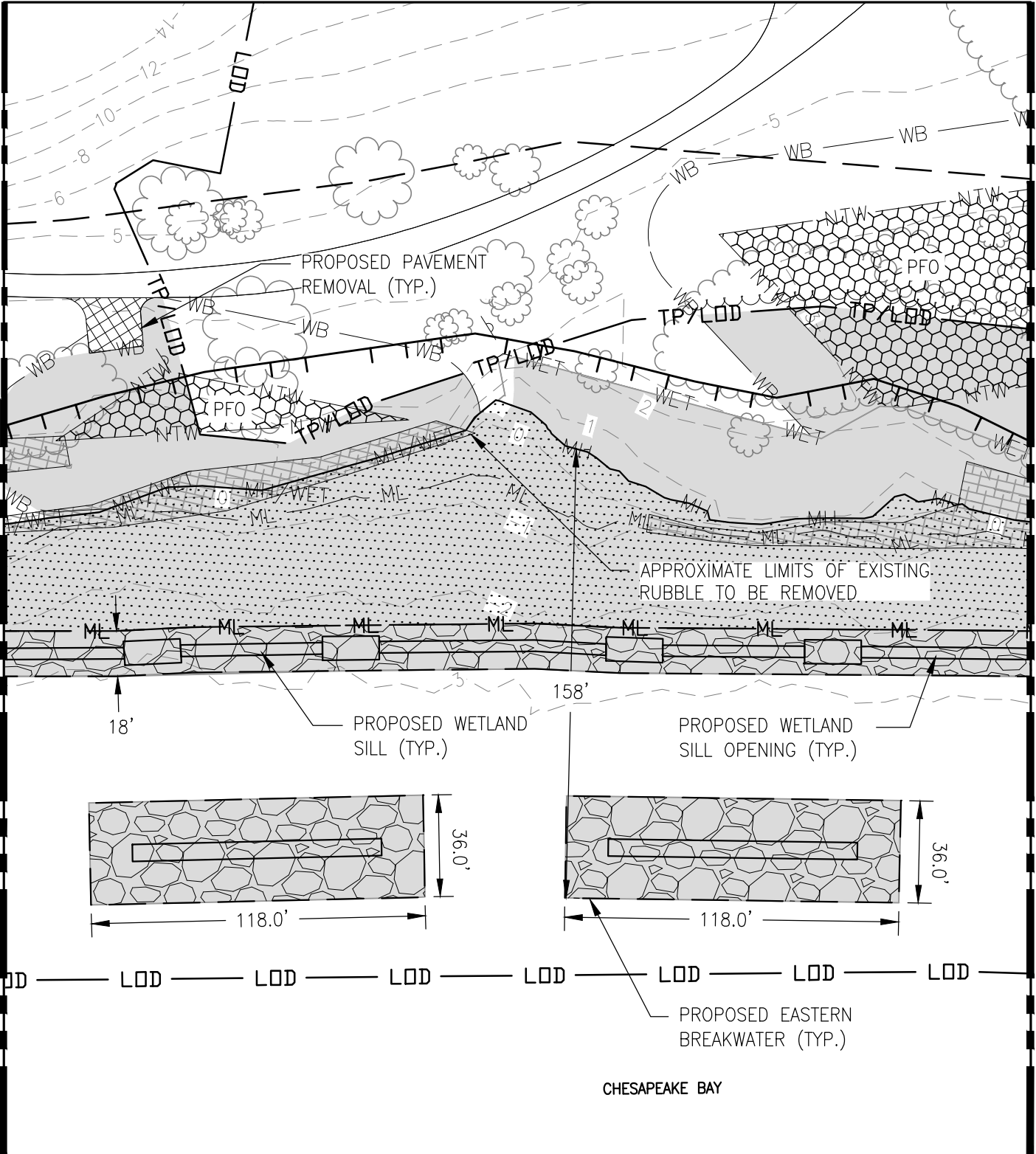


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|  EA Engineering, Science, and Technology, Inc., PBC | | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | IMPACT PLATE IV | | |
| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 6 OF 17 | FIGURE: IP-104 |

MATCHLINE - SEE SHEET IP-104

MATCHLINE - SEE SHEET IP-106

FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-105 - IMPACT PLATE V] BARTON, ALISON 7/22/2016 8:55 AM



TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 37,885
 FLOODPLAIN FILL (CY) = 0
 NON-TIDAL WETLAND IMPACTS (SF) = 2,700
 NON-TIDAL WETLAND BUFFER IMPACTS (SF) = 7,210
 NON-TIDAL WETLAND AND BUFFER IMPACT FOR CLEARING/SITE ACCESS

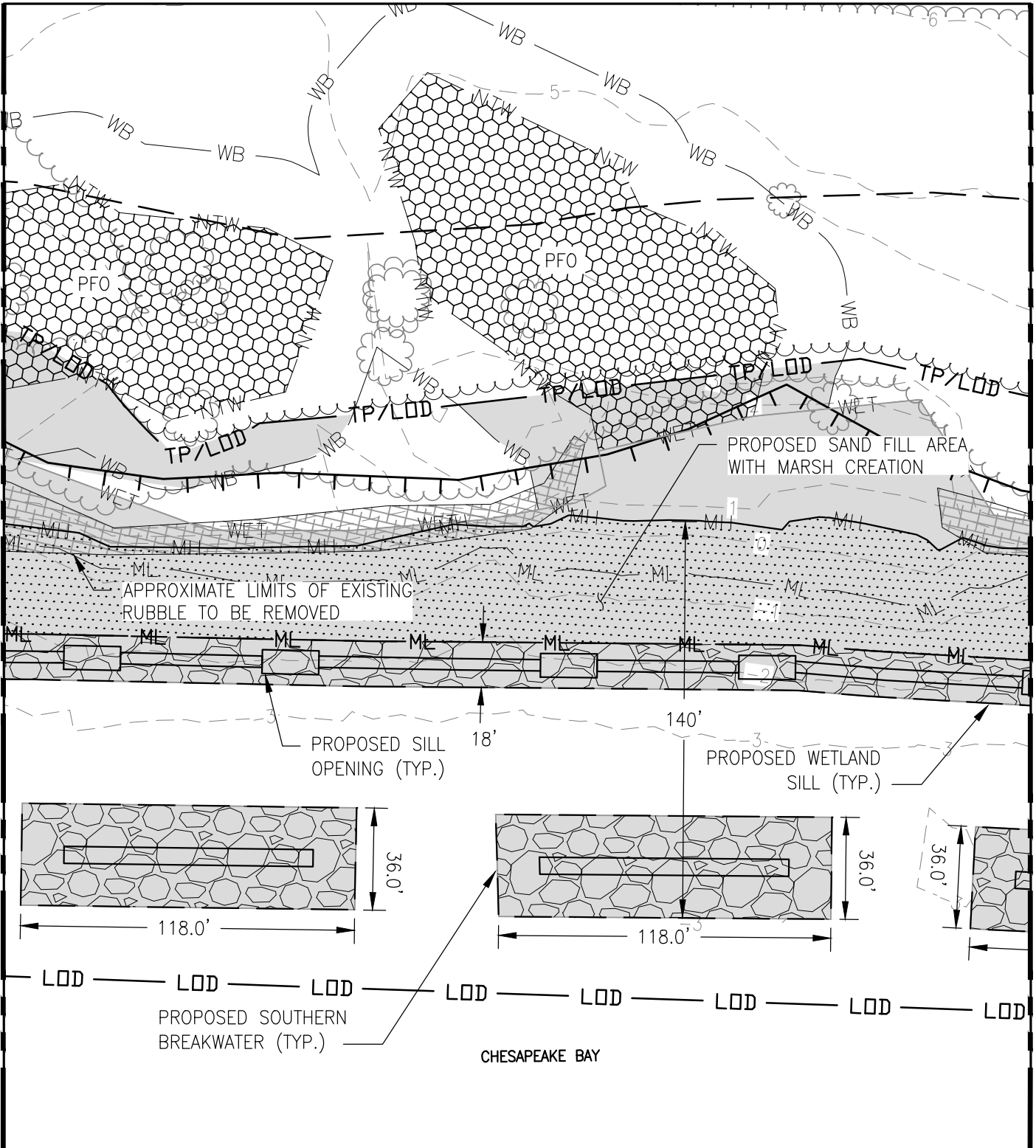


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| | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | | IMPACT PLATE V | | |
| | DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 7 OF 17 |

MATCHLINE - SEE SHEET IP-106

MATCHLINE - SEE SHEET IP-108

FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-106 - IMPACT PLATES VI] BARTON, ALISON 7/22/2016 8:55 AM



TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 36,650
 FLOODPLAIN FILL (CY) = 0
 NON-TIDAL WETLAND IMPACTS (SF) = 1,510
 NON-TIDAL WETLAND BUFFER IMPACTS (SF) = 3,835
 NON-TIDAL WETLAND AND BUFFER IMPACT FOR CLEARING/SITE ACCESS

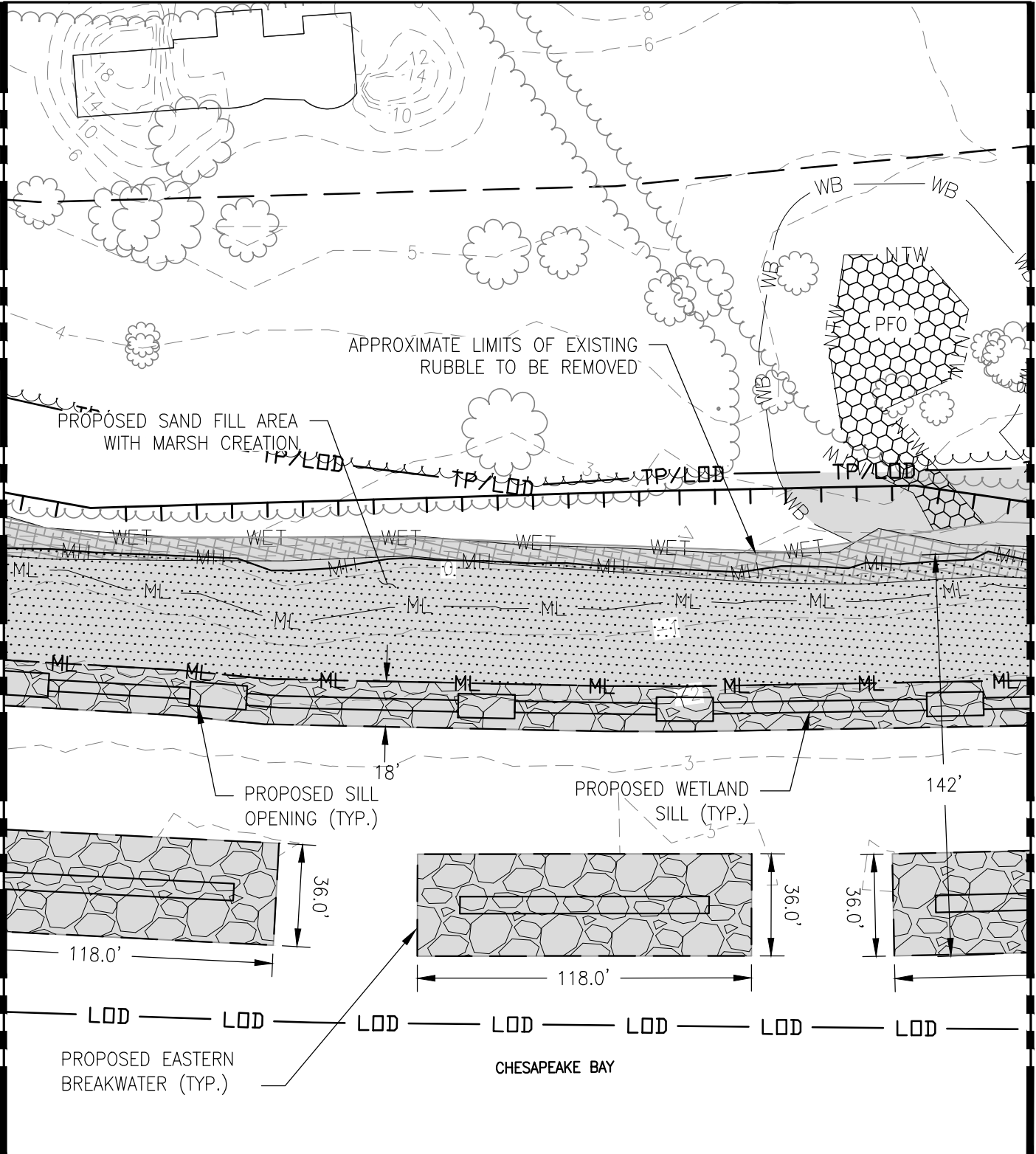


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| | | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | IMPACT PLATE VI | | |
| DESIGNED BY: | DRAWN BY: | CHECKED BY: | PROJECT MGR.: | DATE: | EA PROJECT NUMBER: | SHEET NUMBER: | FIGURE: |
| BRB | WJV | TK | MJG | JULY 2016 | 1520101 | 8 OF 17 | IP-106 |

MATCHLINE - SEE SHEET IP-107


MATCHLINE - SEE SHEET IP-109

FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-107 - IMPACT PLATE VII] BARTON, ALISON 7/22/2016 8:55 AM



TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 33,275
 FLOODPLAIN FILL (CY) = 0
 NON-TIDAL WETLAND IMPACTS (SF) = 380
 NON-TIDAL WETLAND BUFFER IMPACTS (SF) = 1,430
 NON-TIDAL WETLAND AND BUFFER IMPACT FOR CLEARING/SITE ACCESS

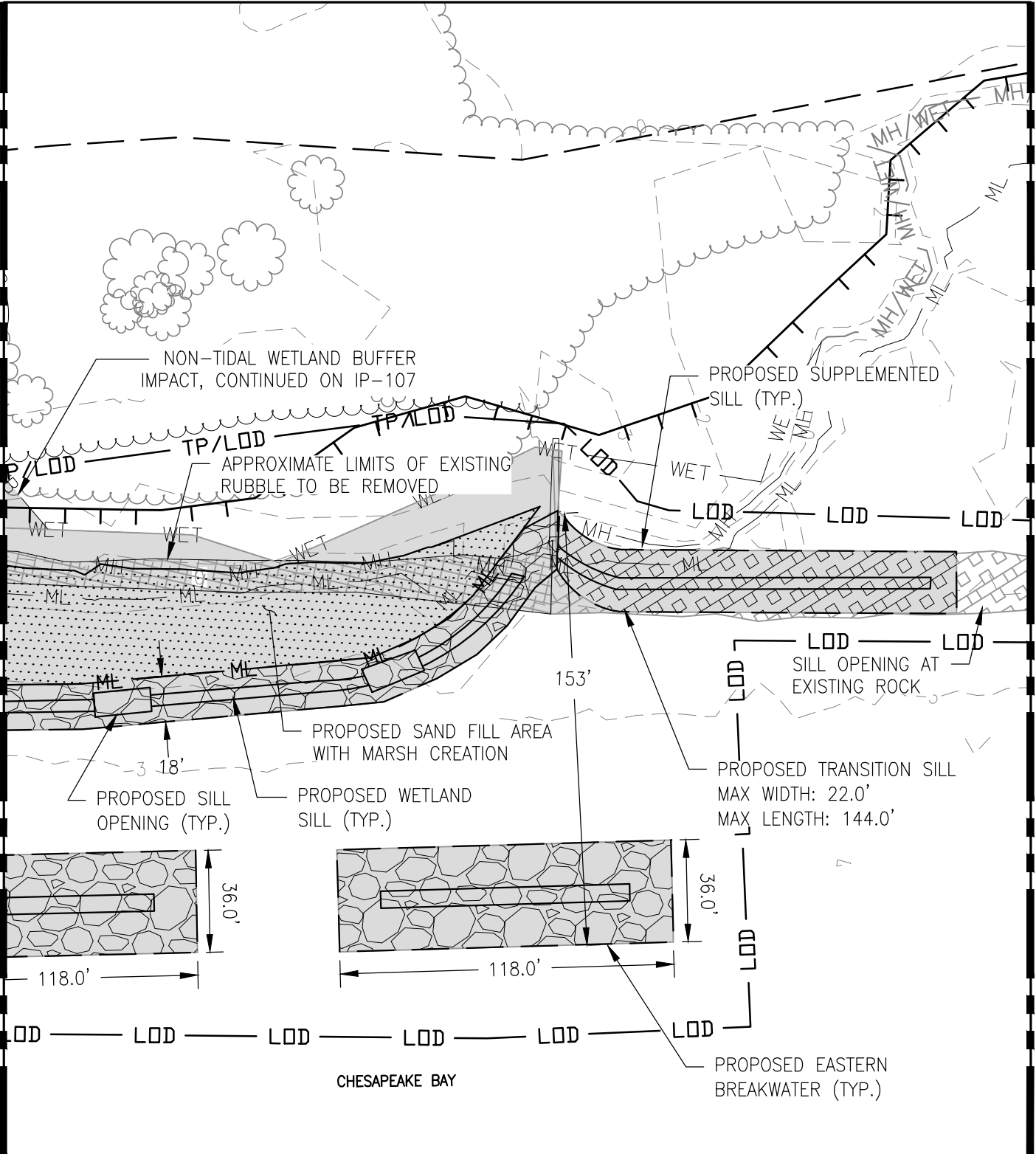


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|  EA Engineering, Science, and Technology, Inc., PBC | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | | IMPACT PLATE VII | | | |
| | DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 9 OF 17 | FIGURE: IP-107 |

MATCHLINE - SEE SHEET IP-108

MATCHLINE - SEE SHEET IP-110

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TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 19,030
 FLOODPLAIN FILL (CY) = 0
 NON-TIDAL WETLAND BUFFER IMPACTS (SF) = 135
 NON-TIDAL WETLAND BUFFER IMPACT FOR CLEARING/SITE ACCESS

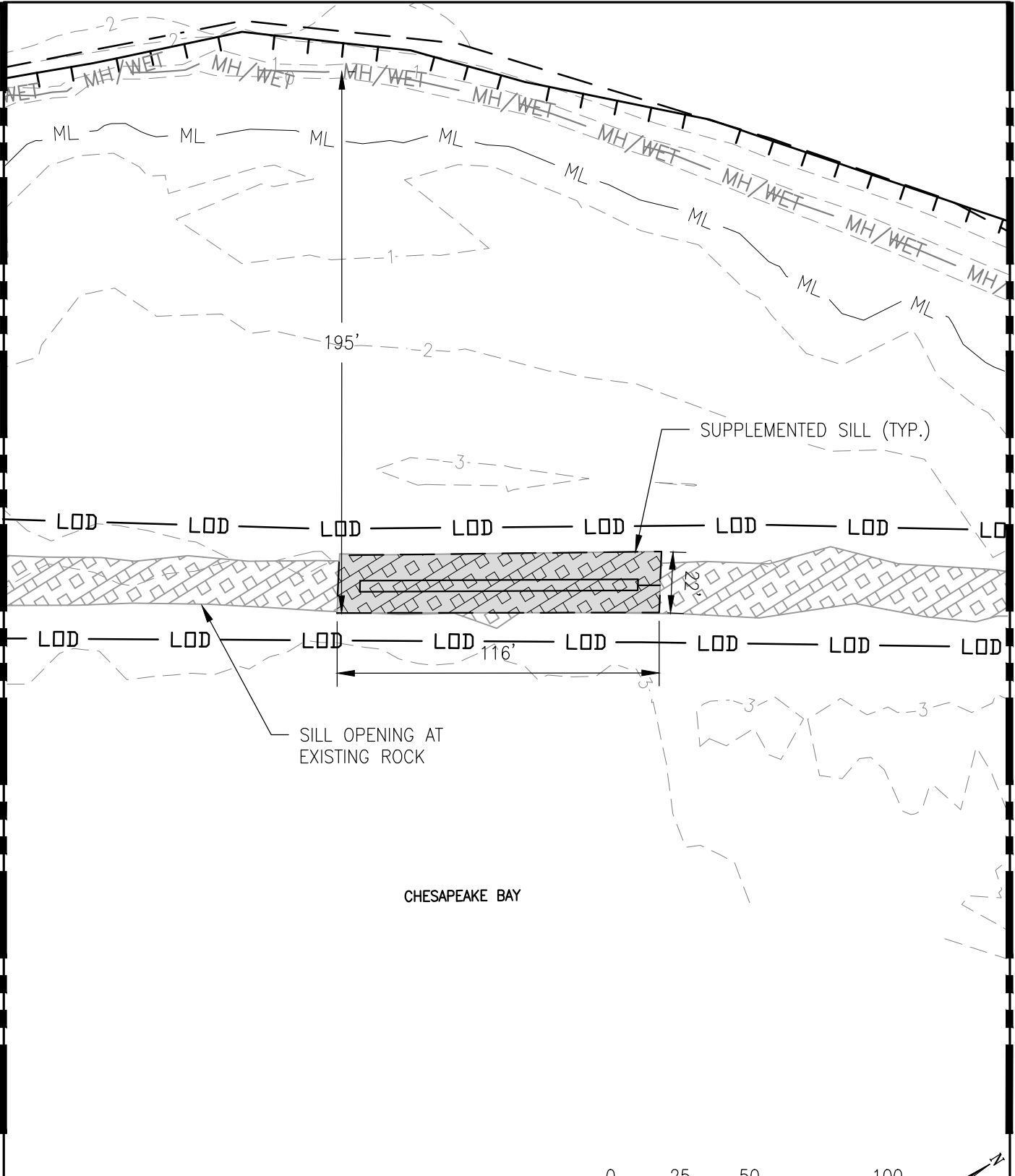


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| | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | | IMPACT PLATE VIII | | |
| | DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 10 OF 17 |

MATCHLINE - SEE SHEET IP-109

MATCHLINE - SEE SHEET IP-111

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TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 2,552
 FLOODPLAIN FILL (CY) = 0
 NOTE: ALL CONSTRUCTION ACTIVITY FOR SUPPLEMENTED SILLS WILL BE PERFORMED FROM WATER

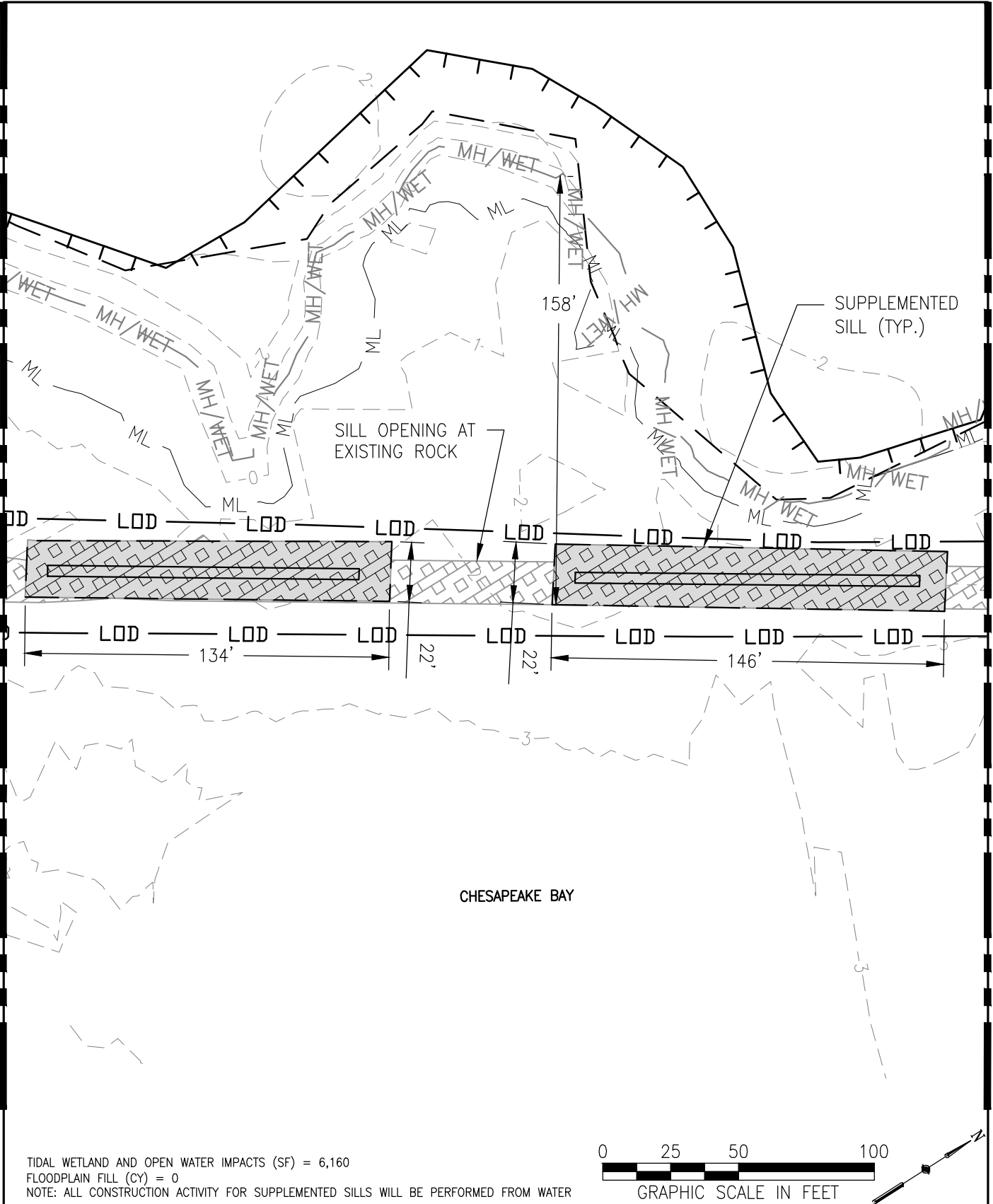


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| | | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | IMPACT PLATE IX | | |
| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 11 OF 17 | FIGURE: IP-109 |

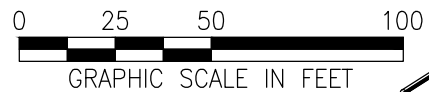
MATCHLINE - SEE SHEET IP-110

MATCHLINE - SEE SHEET IP-112

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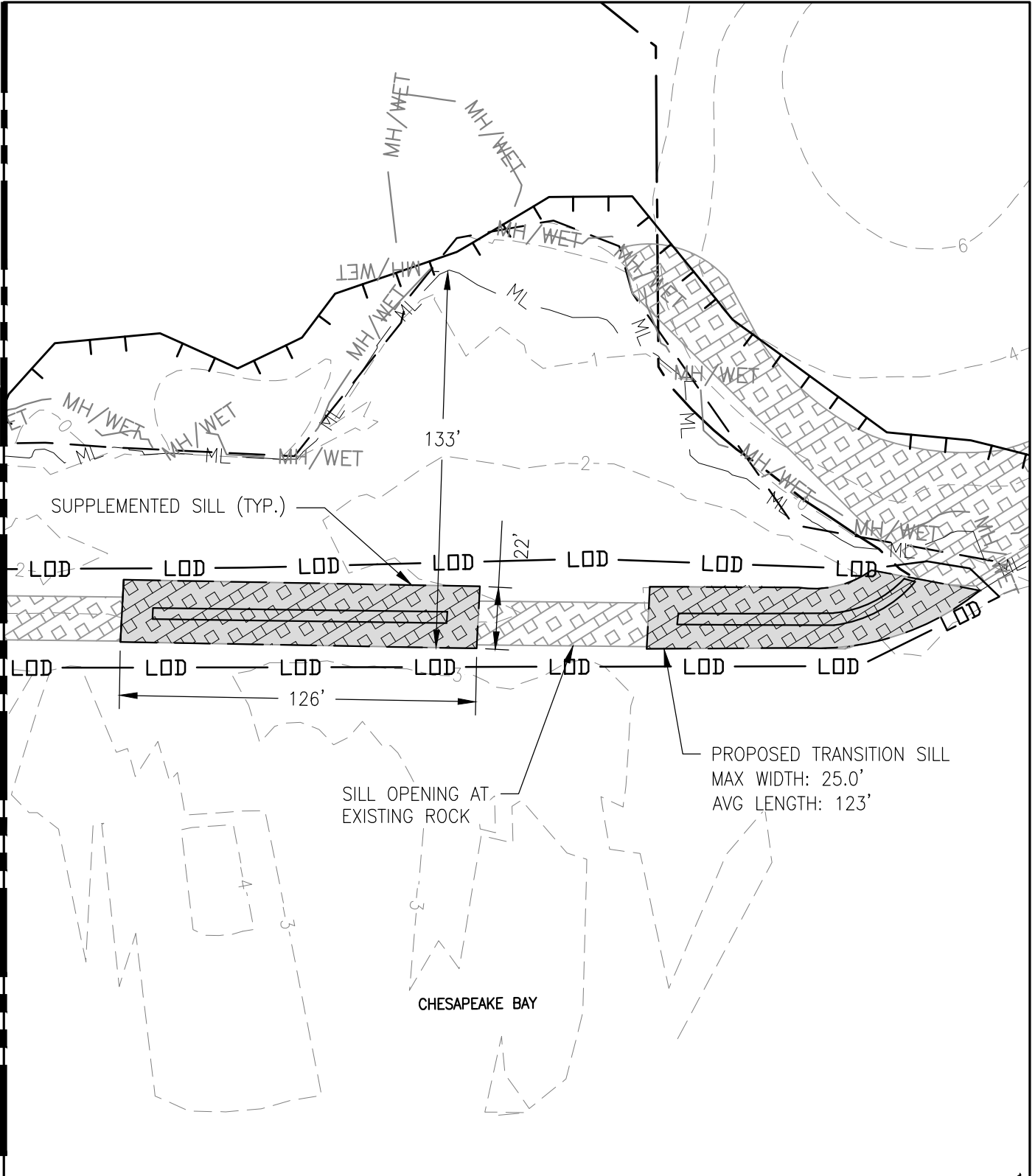
TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 6,160
 FLOODPLAIN FILL (CY) = 0
 NOTE: ALL CONSTRUCTION ACTIVITY FOR SUPPLEMENTED SILLS WILL BE PERFORMED FROM WATER



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| | FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND | | | | IMPACT PLATE X | | |
| | DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 12 OF 17 |

MATCHLINE - SEE SHEET IP-111

FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-111 - IMPACT PLATE XI.BARTON, ALISON 7/22/2016 8:55 AM



TIDAL WETLAND AND OPEN WATER IMPACTS (SF) = 5,051
 FLOODPLAIN FILL (CY) = 0
 NOTE: ALL CONSTRUCTION ACTIVITY FOR SUPPLEMENTED SILLS WILL BE PERFORMED FROM WATER



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| <p>EA Engineering, Science, and Technology, Inc., PBC</p> | <p>FORT HOWARD SHORELINE ENHANCEMENT FORT HOWARD PARK BALTIMORE COUNTY, MARYLAND</p> | | | | <p>IMPACT PLATE XI</p> | | |
| | DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 13 OF 17 |

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
 - USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
 - USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
 - USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

FILE PATH: Q:\PROJECTS\1520101 - FORT HOWARD PARK\IMPACT PLATES\1520101-IP-101.DWG [IP-112 - BMP] BARTON, ALISON 7/22/2016 8:55 AM



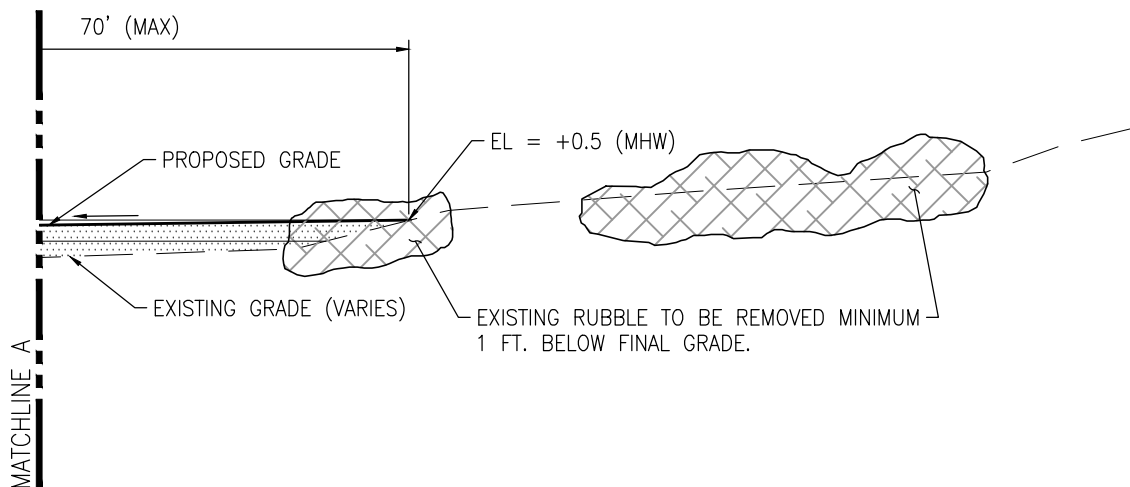
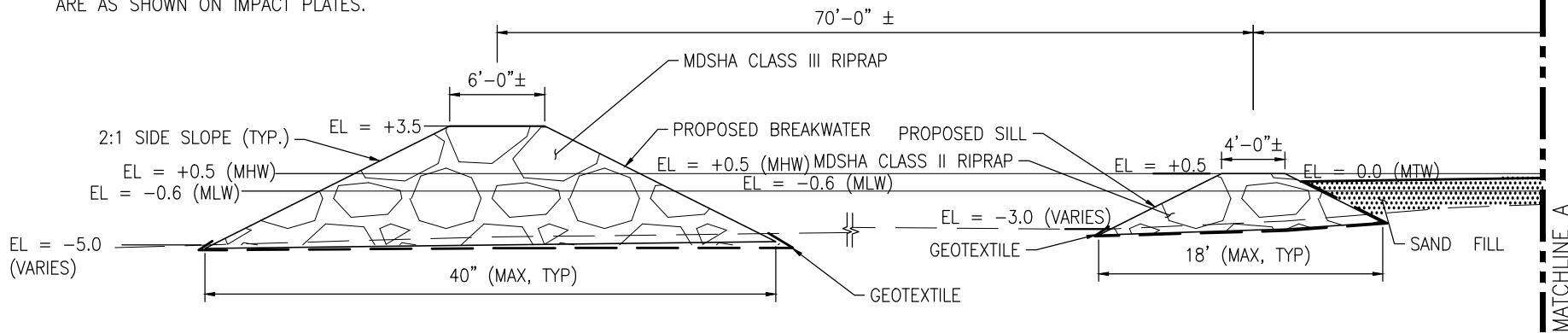
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FORT HOWARD PARK
BALTIMORE, COUNTY

BEST MANAGEMENT PRACTICES

| | | | | | | | |
|---------------------|------------------|-------------------|----------------------|--------------------|-------------------------------|---------------------------|-------------------|
| DESIGNED BY: BRB | DRAWN BY: WJV | CHECKED BY: TK | PROJECT MGR.: MJG | DATE: JULY 2016 | EA PROJECT NUMBER: 1520101 | SHEET NUMBER: 14 OF 17 | FIGURE: IP-112 |
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NOTE

1. BOTTOM ELEVATION VARIES ALONG STRUCTURE'S CENTERLINES.
2. ELEVATIONS AND BOTTOM WIDTHS SHOWN ARE BASED ON THE MAXIMUM TYPICAL VALUE. DIMENSIONS OF TRANSITION STRUCTURE ARE AS SHOWN ON IMPACT PLATES.



EASTERN BREAKWATER AND SILL SECTION

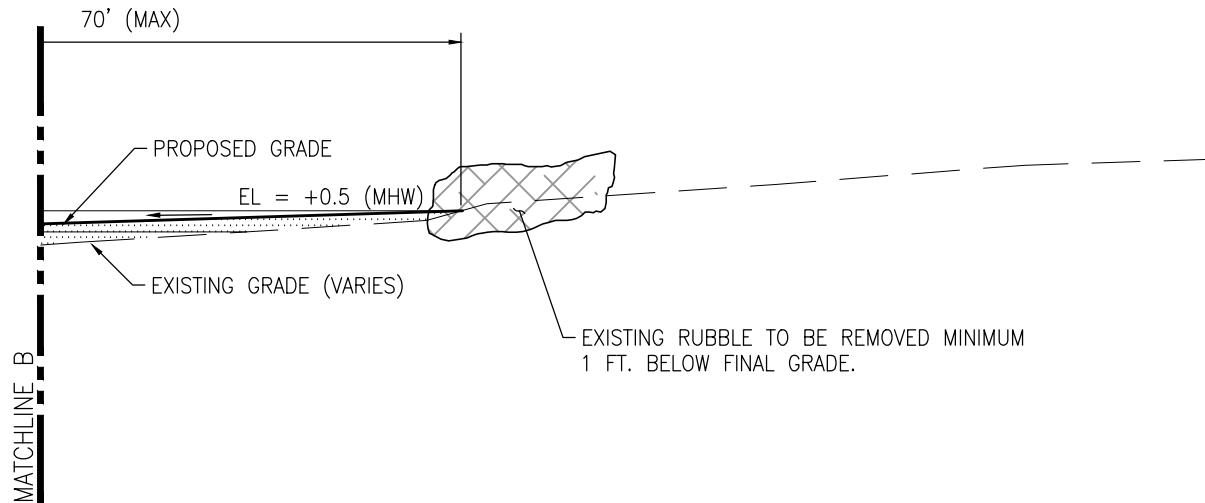
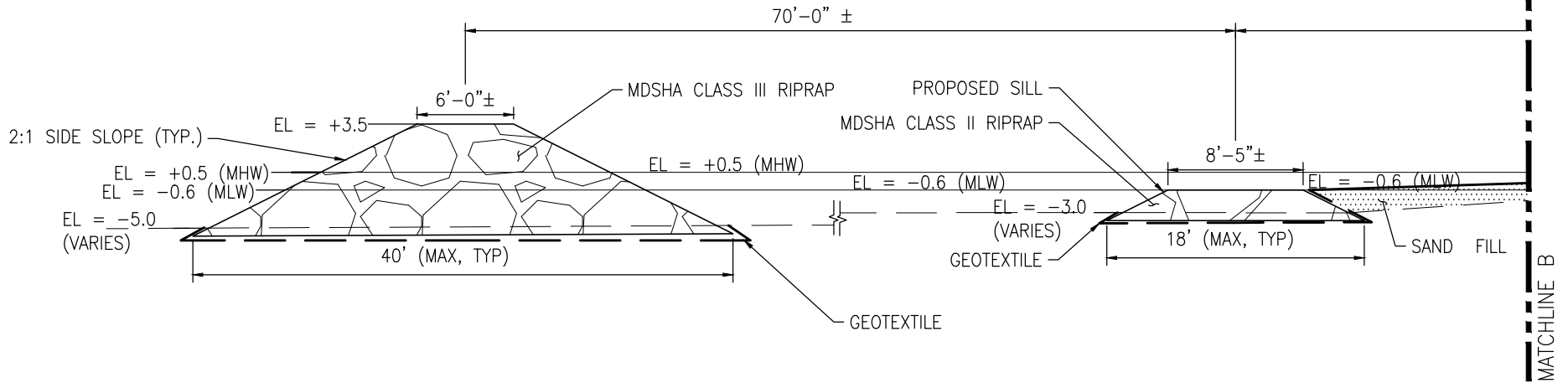
NOT TO SCALE



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IMPACT PLATES DETAILS I

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| PROJECT NUMBER: 1520101 | DESIGNED BY: BRB | DRAWN BY: AJB | FIGURE: IP-501 |
| DATE: JULY 2016 | CHECKED BY: TK | PROJECT MGR.: MJG | SHEET NUMBER: 15 OF 17 |



NOTE

1. BOTTOM ELEVATION VARIES ALONG STRUCTURE'S CENTERLINES.
2. ELEVATIONS AND BOTTOM WIDTHS SHOWN ARE BASED ON THE MAXIMUM TYPICAL VALUE. DIMENSIONS OF TRANSITION STRUCTURE ARE AS SHOWN ON IMPACT PLATES.

EASTERN BREAKWATER AND SILL NOTCH SECTION

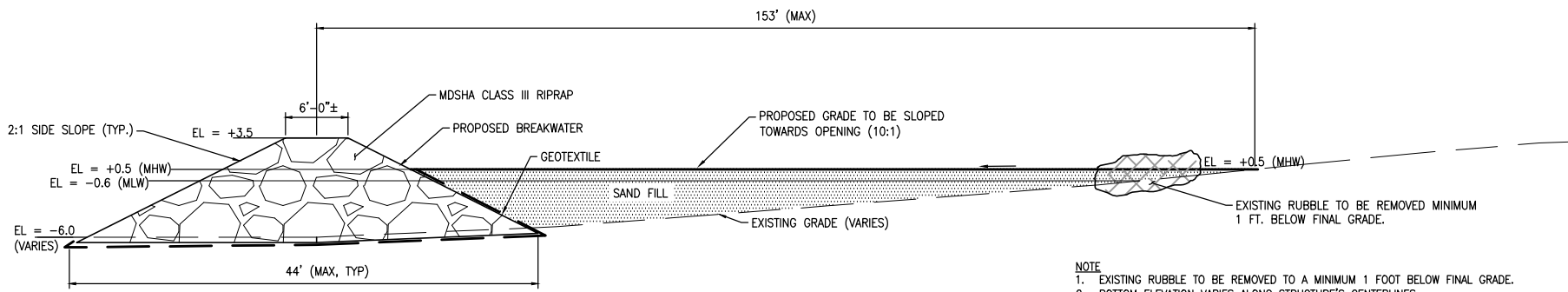
NOT TO SCALE



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IMPACT PLATES DETAILS II

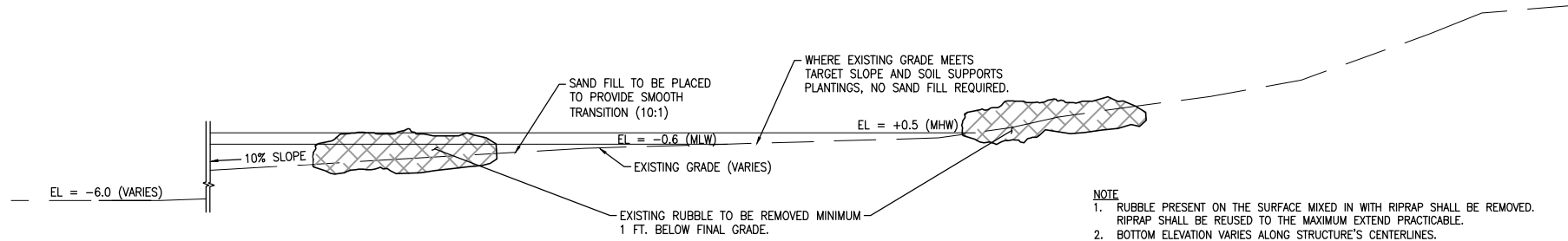
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| PROJECT NUMBER: 1520101 | DESIGNED BY: BRB | DRAWN BY: AJB | FIGURE: IP-502 |
| DATE: JULY 2016 | CHECKED BY: TK | PROJECT MGR.: MJG | SHEET NUMBER: 16 OF 17 |



SOUTHERN BREAKWATER SECTION

NOT TO SCALE

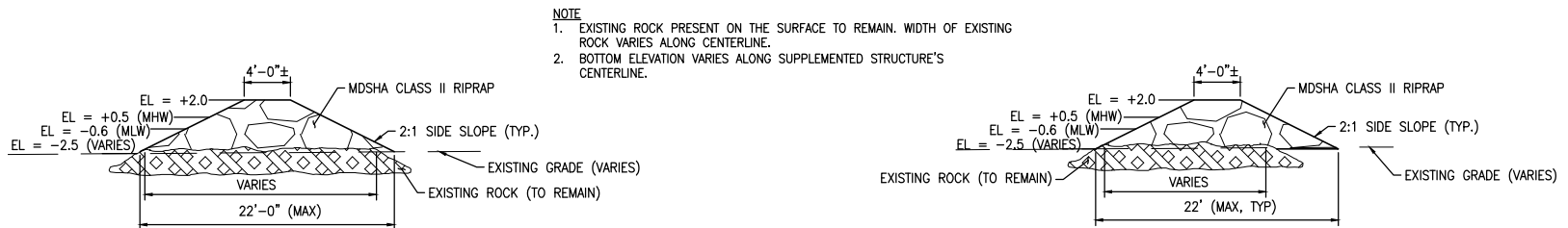
- NOTE**
- EXISTING RUBBLE TO BE REMOVED TO A MINIMUM 1 FOOT BELOW FINAL GRADE.
 - BOTTOM ELEVATION VARIES ALONG STRUCTURE'S CENTERLINES.
 - ELEVATIONS AND BOTTOM WIDTHS SHOWN ARE BASED ON THE MAXIMUM TYPICAL VALUE. DIMENSIONS OF TRANSITION STRUCTURE ARE AS SHOWN ON IMPACT PLATES.



SOUTHERN BREAKWATER GAP SECTION

NOT TO SCALE

- NOTE**
- RUBBLE PRESENT ON THE SURFACE MIXED IN WITH RIPRAP SHALL BE REMOVED. RIPRAP SHALL BE REUSED TO THE MAXIMUM EXTENT PRACTICABLE.
 - BOTTOM ELEVATION VARIES ALONG STRUCTURE'S CENTERLINES.



SUPPLEMENTED SILL SECTIONS

NOT TO SCALE

- NOTE**
- EXISTING ROCK PRESENT ON THE SURFACE TO REMAIN. WIDTH OF EXISTING ROCK VARIES ALONG CENTERLINE.
 - BOTTOM ELEVATION VARIES ALONG SUPPLEMENTED STRUCTURE'S CENTERLINE.



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IMPACT PLATES DETAILS III

| | | | |
|----------------------------|---------------------|----------------------|---------------------------|
| PROJECT NUMBER: 1520101 | DESIGNED BY: BRB | DRAWN BY: AJB | FIGURE: IP-503 |
| DATE: JULY 2016 | CHECKED BY: TK | PROJECT MGR.: MJG | SHEET NUMBER: 17 OF 17 |