





### APPLICABLE CODES AND STANDARDS

STANDARD	TITLE	REVISION DATE
IBC	INTERNATIONAL BUILDING CODE	2012
UFC 1-200-01	GENERAL BUILDING REQUIREMENTS	01 SEPTEMBER 2013
UFC 3-600-01	FIRE PROTECTION ENGINEERING FOR FACILITIES	01 MARCH 2013
UFC 3-600-10N	FIRE PROTECTION ENGINEERING	FINAL DRAFT AUG 2007
UFC 4-010-01	DOD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS	01 OCTOBER 2013
UFC 4-021-01	DESIGN AND O&M: MASS NOTIFICATION SYSTEMS	JANUARY 2010
FM DATA SHEET	HYDRAULICS OF FIRE PROTECTION TABLE 3-26	APRIL 2012
NFPA 1	STANDARD - UNIFORM FIRE CODE	2012
NFPA 13	STANDARD - INSTALLATION OF SPRINKLER SYSTEMS	2013
NFPA 72	STANDARD - NATIONAL FIRE ALARM SIGNALING CODE	2013
NFPA 80	STANDARD - FIRE DOORS AND OTHER OPENINGS PROT	2013
NFPA 90A	STANDARD - AIR CONDITIONING AND VENTILATION	2012
NFPA 101	STANDARD - LIFE SAFETY CODE	2012
NFPA 1963	STANDARD - FIRE HOSE CONNECTIONS	2009

### BUILDING DESCRIPTION

BUILDING DESCRIPTION	H-238
TYPE OF CONSTRUCTION	TYPE V
NUMBER OF STORIES	1
HEIGHT	16

### ALLOWABLE HEIGHT & AREA

ALLOWABLE HEIGHT & AREA	H-238
ALLOWABLE HEIGHT (IBC TABLE 503)	2 STORY/40 FT
PROVIDED HEIGHT	1 STORY/16 FT
ALLOWABLE AREA (IBC TABLE 503)	9,000 SQFT
PROVIDED AREA	1,966 SQFT

### OCCUPANCY CLASSIFICATIONS

USE	OCCUPANCY PER IBC	OCCUPANCY PER NFPA 101
STORAGE ROOMS, SUPPLY CLOSETS	GROUP S-2	NEW STORAGE
OFFICES, LOBBIES, WAITING, RECEPTION	GROUP B	NEW BUSINESS
MECHANICAL, ELECTRICAL, JANITORIAL, KITCHEN	INCIDENTAL USE	
DESIGN BASED ON BUSINESS. THE STORAGE AREAS ARE ACCESSORY IN ACCORDANCE WITH IBC 508.2		

### FIRE RESISTANCE RATINGS

BUILDING ELEMENT OR AREA	RATING (HOURS)		CODE REFERENCE
	REQUIRED	PROVIDED	
STRUCTURAL FRAME	0	0	IBC TABLE 601
EXTERIOR WALLS	0	0	IBC TABLE 601
INTERIOR BEARING WALLS	0	0	IBC TABLE 601
INTERIOR NON-BEARING WALLS	0	0	NFPA 101
ROOF CONSTRUCTION	0	0	IBC TABLE 601
EXIT ACCESS CORRIDORS	0	0	NFPA 101, 38.3.6.1(2)

### INTERIOR FINISHES

	REQUIRED	PROVIDED	CODE REFERENCE
WALL AND CEILING FINISHES			
EXIT ACCESS CORRIDORS	CLASS A OR B	CLASS A OR B	NFPA 101, 38.3.3.2
ALL OTHER AREAS	CLASS A, B OR C	CLASS A, B OR C	NFPA 101, 10.2.8.2
FLOOR FINISHES			
EXIT ACCESS CORRIDORS	NO REQUIREMENTS	*	NFPA 101, 38.3.3.3
ALL OTHER AREAS	NO REQUIREMENTS	*	NFPA 101, 38.3.3.3

### FIRE PROTECTION

	REQUIRED	PROVIDED	CODE REFERENCE
FIRE SPRINKLER SYSTEM, WET PIPE	NO	NO	UFC 3-600-01, 4-2.2
*FIRE ALARM/MASS NOTIFICATION	YES	YES	UFC 3-600-01, UFC 3-600-10N, UFC 4-021-01, NFPA 72
MANUAL FIRE EXTINGUISHERS	YES	YES	NFPA 101, 38.3.5 & 38.7.3
*SEE FIRE PROTECTION DRAWINGS			

### MEANS OF EGRESS

	REQUIRED	PROVIDED	CODE REFERENCE
MINIMUM NUMBER OF EXITS	1	3	NFPA 101, 38.2.4.3
MINIMUM WIDTH, EXIT ACCESS CORRIDORS	36 INCHES	67 INCHES	NFPA 101, 38.2.3
MINIMUM WIDTH, EXIT DOORS	36 INCHES	36 INCHES	NFPA 101, 7.3.4.1(2)
MAXIMUM COMMON PATH OF TRAVEL	75 FT	28 FT	NFPA 101, 38.2.5.3.3
MAXIMUM DEAD END CORRIDORS	20 FT	0 FT	NFPA 101, 38.2.5.2.2
MAXIMUM TRAVEL DISTANCE	200 FT	52 FT	NFPA 101, 38.2.6.2
ILLUMINATION	YES	YES	NFPA 101, 38.2.8
EMERGENCY LIGHTING	NO	NO	NFPA 101, 38.2.9
EXIT SIGNS	YES	YES	NFPA 101, 38.2.10

### OCCUPANT LOAD AND EGRESS CAPACITY

LEVEL	CALCULATED OCCUPANT LOAD	EGRESS CAPACITY PROVIDED
1	39	850

SEE G-101 FOR DETAILED COMPUTATIONS

APPROVED	DATE
FOR COMMANDER NAVFAC	
ACTIVITY	
HERM RAWLINGS	
SATISFACTORY TO DATE MM/DD/YY	
DES ERZ   DRW ERZ   CHK XXX	
FM/DM JTL/APK	
BRANCH MANAGER TLD	
CHIEF ENG/ARCH	
FIRE PROTECTION DPS	
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING COMMAND	
HAMPSON ROADS IPT	
SURFACE COMBAT SYSTEM CENTER	
HOUSING WELCOME CENTER	
LIFE SAFETY CODE SUMMARY	
SCALE: AS SHOWN	
PROJECT NO.: 1366574	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12708175	
SHEET 03 OF 73	
G-003	
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: P:\VA\Wallops Island\Wallops 2016\_1366574\_4238\_1001\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\01\_General\C-003.dwg LAYOUT NAME: C-003 PLOTTED: Wednesday, October 21, 2015 - 9:20am USER: allen@ltd  
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GENERAL SHEET NOTES

- TOTAL OCCUPANCY DOES NOT EXCEED 50 PEOPLE.
- DEAD END CORRIDOR, COMMON PATH OF TRAVEL AND TOTAL TRAVEL DISTANCES COMPLY ARE WITHIN THE LIMITS OF NFPA 101.
- PROVIDE ONE WALL HUNG 2A-10BC TYPE FIRE EXTINGUISHER IN THE MECHANICAL ROOM.

EGRESS CAPACITY

EXIT LABEL	CAPACITY (PERSONS)	ACTUAL (PERSONS)
101	170	14
102	170	12
103	340	1
104	170	14

LEGEND

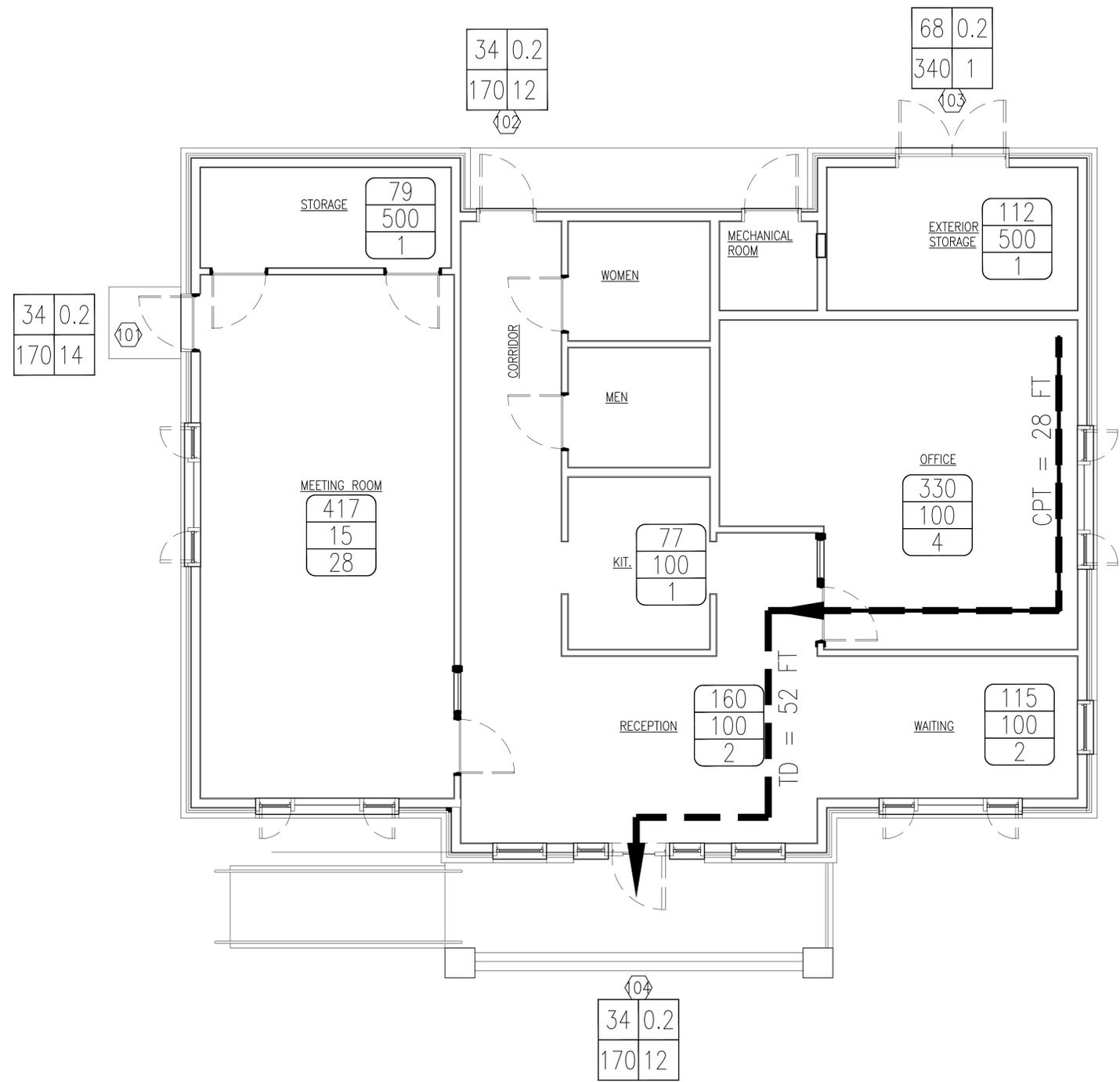
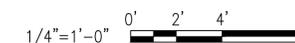
- |     |
|-----|
| A   |
| OLF |
| OL  |

 A: AREA OF ROOM (SQFT)  
OLF: OCCUPANT LOAD FACTOR  
OL: NUMBER OF OCCUPANTS
- |   |   |
|---|---|
| W | P |
| C | A |

 W: NET EXIT WIDTH (INCHES)  
C: CAPACITY (PEOPLE)  
P: EXIT WIDTH PER PERSON  
A: ACTUAL EGRESS (PEOPLE)
- |   |
|---|
| X |
|---|

 EXIT LABEL
- TRAVEL DISTANCE (TD)
- COMMON PATH OF TRAVEL (CPT)

GRAPHIC SCALE



LIFE SAFETY PLAN

SCALE: 1/4" = 1'-0"

DATE	DESCRIPTION	APPR



APPROVED	A/E INFO
FOR COMMANDER NAFAC	
ACTIVITY	
HERM RAWLINGS	
SATISFACTORY TO	DATE MM/DD/YY
DES ERZ	DRW ERZ
CHK XXX	
FM/DM JTL/APK	
BRANCH MANAGER	TLD
CHIEF ENG/ARCH	
FIRE PROTECTION	DPS

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
HAMPSON ROADS IPT

NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK VA  
SURFACE COMBAT SYSTEM CENTER  
WALLOPS ISLAND, VA  
**HOUSING WELCOME CENTER**  
LIFE SAFETY PLAN

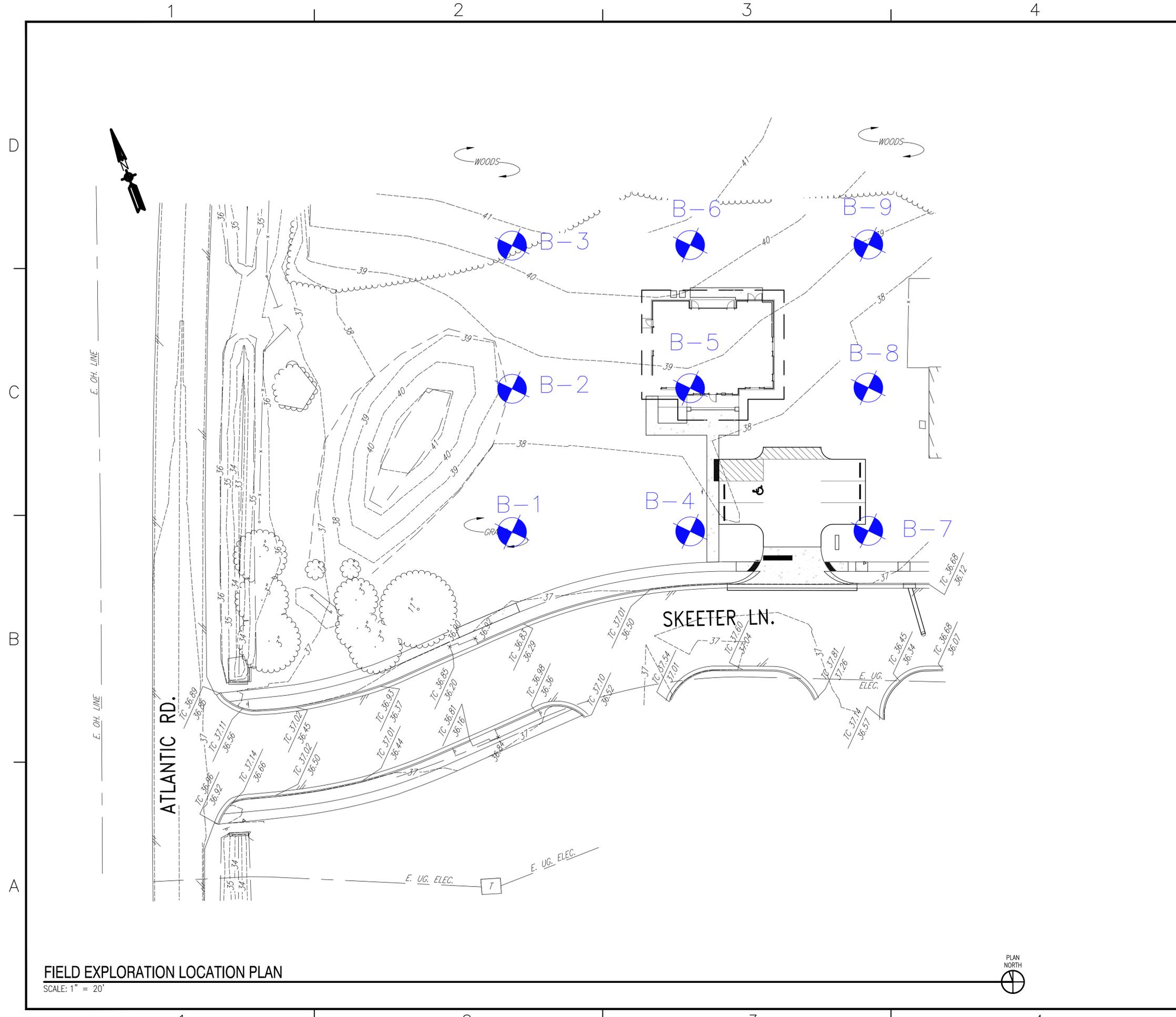
SCALE: AS SHOWN  
PROJECT NO.: 1366574  
CONSTR. CONTR. NO.  
NAFAC DRAWING NO. 12708176  
SHEET 04 OF 73  
**G-101**

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FILE NAME: P:\VA\Wallops Island\WILCON\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\01\_Generals\G-101.dwg LAYOUT NAME: G-101 PLOTTED: Wednesday, October 21, 2015 - 8:30am USER: allen.hline

FILE NAME: R:\VA\Wallops Island\Wallops Island\2016\_1366574\_P238\_DBE\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\04\_Geotech\H238-1366574-H-101.dwg LAYOUT NAME: B-101 PLOTTED: Friday, December 04, 2016 2:13pm USER: david.edinger



**FIELD EXPLORATION LOCATION PLAN**  
SCALE: 1" = 20'



**GENERAL SHEET NOTES**

- ANY INCLUDED SUBSURFACE INFORMATION IS ONLY FOR THE CONTRACTOR'S INFORMATION AND IS NOT GUARANTEED TO FULLY REPRESENT ALL SUBSURFACE CONDITIONS. THE GOVERNMENT SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION BY THE CONTRACTOR DRAWN FROM THE DATA OR INFORMATION.

SYMBOL	DESCRIPTION	DATE	APPROVED



**FIELD EXPLORATION SUMMARY**

LOCATION	BORING DEPTH (FEET)	NOTES
B-1	7	GROUNDWATER NOT ENCOUNTERED
B-2	7	GROUNDWATER NOT ENCOUNTERED
B-3	7	GROUNDWATER NOT ENCOUNTERED; LOCATION OF FIELD HYDRAULIC CONDUCTIVITY TEST
B-4	10	GROUNDWATER NOT ENCOUNTERED; LOCATION OF DYNAMIC CONE PENETROMETER (DCP-1) TEST
B-5	10	GROUNDWATER NOT ENCOUNTERED; LOCATION OF (DCP-2) TEST
B-6	10	GROUNDWATER NOT ENCOUNTERED
B-7	14	GROUNDWATER NOT ENCOUNTERED; LOCATION OF TEMPORARY PIEZOMETER AND FIELD HYDRAULIC CONDUCTIVITY TEST
B-8	10	GROUNDWATER NOT ENCOUNTERED; LOCATION OF (DCP-3) TEST
B-9	7	GROUNDWATER NOT ENCOUNTERED

APPROVED	A/E: RLW	
FOR COMMANDER NAVFAC		
ACTIVITY	HERM RAWLINGS	
SATISFACTORY TO	DATE MM/DD/YY	
DES: DPR	DRW: KAD	CHK:
FW/DM	JTL/APK	
BRANCH MANAGER	TLD	
CHIEF ENGINEER	RLW	
FIRE PROTECTION	DPS	

**LEGEND**



**GRAPHIC SCALE**



DEPARTMENT OF THE NAVY  
NAVFACILITIES ENGINEERING COMMAND  
HAMPTON ROADS IPT  
NAVAL FACILITIES ENGINEERING COMMAND  
NORFOLK, VA  
SURFACE COMBAT SYSTEM CENTER  
WALLOPS ISLAND, VA  
**HOUSING WELCOME CENTER**  
FIELD EXPLORATION LOCATION PLAN

SCALE:	AS SHOWN
EPROJECT NO.:	1366574
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12708177
SHEET	5 OF 70
<b>B-101</b>	



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-1
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 7 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Brown moist clayey silty fine SAND, Reddish brown moist silty fine sandy CLAY, etc.

BORING TERMINATED AT 7 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring. 2) Unified Soil Classification System (Typ.) 3) Hydrologic Soil Group (Typ.)

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-2
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 7 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Brown moist silty fine SAND, Reddish brown moist silty fine sandy CLAY, etc.

BORING TERMINATED AT 7 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring.

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HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-3
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 7 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Brown moist silty fine SAND, Reddish brown moist silty clayey fine SAND, etc.

BORING TERMINATED AT 7 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring. 2) Two field hydraulic conductivity tests performed adjacent to boring location at 4.0 feet below existing ground surface elevation. See attachments for detailed results of testing.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095

GENERAL SHEET NOTES

- 1. ANY INCLUDED SUBSURFACE INFORMATION IS ONLY FOR THE CONTRACTOR'S INFORMATION AND IS NOT GUARANTEED TO FULLY REPRESENT ALL SUBSURFACE CONDITIONS. THE GOVERNMENT SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION BY THE CONTRACTOR DRAWN FROM THE DATA OR INFORMATION.
2. REFER TO B-101 FOR FIELD EXPLORATION LOCATION PLAN.



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-4
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 10 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Reddish brown moist silty clayey fine SAND, Reddish brown moist silty fine SAND with trace of clay, etc.

BORING TERMINATED AT 10 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring. 2) Dynamic Cone Penetrometer (DCP) test extending approximately 9.8 ft. below the existing ground surface elevation performed adjacent to boring location. See attachments for detailed results of testing.

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HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-5
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 10 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Reddish brown moist silty clayey fine SAND, Reddish brown moist clayey silty fine SAND, etc.

BORING TERMINATED AT 10 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring. 2) Dynamic Cone Penetrometer (DCP) test extending approximately 9.8 ft. below the existing ground surface elevation performed adjacent to boring location. See attachments for detailed results of testing.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-6
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 10 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include Organic Surficial Soil, Brown moist silty fine SAND, Brown moist clayey silty fine SAND, etc.

BORING TERMINATED AT 10 FEET BELOW EXISTING GROUND SURFACE

- Notes: 1) Groundwater not encountered within the depth of boring.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095

FIELD EXPLORATION SUMMARY

Table with 3 columns: LOCATION, BORING DEPTH (FEET), NOTES. Rows B-1 through B-9 detailing groundwater encounters and tests.

FOR COMMANDER NAVFAC: HERM RAWLINGS
Satisfactory to: DATE MM/DD/YY
DES: DPR DRW: KAD CHK:
FM/DM: JTL/APK
BRANCH MANAGER: TLD
CHIEF ENGINEER: RLW
FIRE PROTECTION: DPS

DEPARTMENT OF THE NAVY NAVFACILITIES ENGINEERING COMMAND
NAVFACILITIES ENGINEERING COMMAND
SURFACE COMBAT SYSTEM CENTER WALLOPS ISLAND, VA
HOUSING WELCOME CENTER
HAND AUGER BORING RECORDS

SCALE: AS SHOWN
EPROJCT NO.: 1366574
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12708178
SHEET 6 OF 70
B-102



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-7
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 14 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include soil types like Organic Surficial Soil, Brown moist silty fine SAND, etc.

Notes: 1) Temporary piezometer installed within completed borehole. The groundwater level measured approximately 2 hours after piezometer installation was encountered approximately 13.2 ft. below existing ground surface elevation.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-8
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 10 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include soil types like Organic Surficial Soil, Reddish brown moist silty fine sandy CLAY, etc.

Notes: 1) Groundwater not encountered within the depth of boring. 2) Dynamic Cone Penetrometer (DCP) test extending approximately 9.8 ft. below the existing ground surface elevation performed adjacent to boring location.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095



HAND AUGER BORING RECORD

Project: P238 Housing Welcome Center Boring Number: B-9
Location: Wallops Island, VA Date Drilled: 3/10/15
JON Number: 1366574 Driller: JJS / DPR
Depth (ft.): 7 Elevation (ft.):

Table with 4 columns: Depth (in.), Material Description, USCS / HSG Class., Test Results / Comments. Rows include soil types like Organic Surficial Soil, Brown moist silty fine SAND w/ trace of clay, etc.

Notes: 1) Groundwater not encountered within the depth of boring.

NAVFAC Mid-Atlantic-9742 Maryland Avenue Norfolk, VA 23511-3095

GENERAL SHEET NOTES

- 1. ANY INCLUDED SUBSURFACE INFORMATION IS ONLY FOR THE CONTRACTOR'S INFORMATION AND IS NOT GUARANTEED TO FULLY REPRESENT ALL SUBSURFACE CONDITIONS. THE GOVERNMENT SHALL NOT BE RESPONSIBLE FOR ANY INTERPRETATION OR CONCLUSION BY THE CONTRACTOR DRAWN FROM THE DATA OR INFORMATION.
2. REFER TO B-101 FOR FIELD EXPLORATION LOCATION PLAN.



FIELD EXPLORATION SUMMARY

Table with 3 columns: LOCATION, BORING DEPTH (FEET), NOTES. Rows list borings B-1 through B-9 with their respective depths and findings.

HERM RAWLINGS
Satisfactory to DATE MM/DD/YY
DES: DPR DRW: KAD CHK:
FMJ/DM JTL/APK
BRANCH MANAGER TLD
CHIEF ENGINEER RLV
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVFACILITIES ENGINEERING COMMAND
NAVFACILITIES ENGINEERING COMMAND
SURFACE COMBAT SYSTEM CENTER
HOUSING WELCOME CENTER
HAND AUGER BORING RECORDS

SCALE: AS SHOWN
EPROJECT NO.: 1366574
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12708179
SHEET 7 OF 70
B-103



**SURVEY NOTES:**

- TOPOGRAPHIC SURVEY PREPARED BY C. ALLAN BAMFORTH, JR., ENGINEER- SURVEYOR LTD., DATED JUNE 2015.
- THE EXISTENCE, SIZE AND/OR LOCATION OF UTILITIES ARE NOT GUARANTEED BY THIS SURVEY. UTILITIES SHOWN ARE BASED ON ABOVE GROUND STRUCTURES, AND AVAILABLE UTILITY PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- ELEVATIONS ARE IN FEET AND REFER TO NORTH AMERICAN VERTICAL DATUM (NAVD) 1988 AND WERE ESTABLISHED USING GPS AND LEICA SMARTNET REAL TIME NETWORK, AND CONVENTIONAL EQUIPMENT.
- COORDINATES SHOWN REFER TO VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83/2011) AND WERE ESTABLISHED UTILIZING GPS AND LEICA SMARTNET REAL TIME NETWORK, AND CONVENTIONAL EQUIPMENT.
- TEMPORARY BENCHMARK (TBM) CONTROL PT. #2 ELEV.= 37.23.

**GENERAL NOTES:**

- PRIOR TO EXCAVATION THE CONTRACTOR SHALL LOCATE ANY AND ALL UNDERGROUND UTILITIES THAT MAY EXIST OR CROSS THROUGH THE AREA OF CONSTRUCTION WHETHER OR NOT THEY ARE SHOWN IN THESE PLANS.
- THE CONTRACTOR SHALL USE EXTREME CAUTION DURING DEMOLITION AND EXCAVATION. LOCATION OF THE KNOWN EXISTING UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL PHYSICALLY VERIFY THE LOCATION AND ELEVATION OF ALL INDICATED EXISTING UTILITIES TO THE GREATEST EXTENT POSSIBLE PRIOR TO STARTING THE DEMOLITION AND EXCAVATION PROCESS.
- EXECUTE ALL WORK WITH CARE AS TO PROTECT FROM DAMAGE ADJACENT EXISTING FEATURES TO REMAIN. ANY SUCH DAMAGE SHALL BE REPAIRED OR REPLACED TO MATCH THE ORIGINAL CONDITION AS APPROVED BY THE CONTRACTING OFFICER AT NO ADDITIONAL COST TO THE GOVERNMENT
- THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES. VERIFY ALL FIELD CONDITIONS, QUANTITIES AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES SHALL BE PROMPTLY BROUGHT TO ATTENTION OF THE CONTRACTING OFFICER.
- ALL GRADE TRANSITIONS BETWEEN NEW AND EXISTING GRADE SHALL BE SMOOTH AND GRADUAL WITH NO SHARP OR ABRUPT CHANGES.

**UTILITY NOTES:**

- EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND BASED ON FIELD SURVEYS, AVAILABLE RECORDS, VERBAL INFORMATION AND/OR PHYSICAL FEATURES. PRIOR TO EXCAVATION (AT LEAST 72 HOURS OR THE MORE RESTRICTIVE MINIMUM NOTIFICATION PERIOD), THE CONTRACTOR SHALL CONTACT THE ROIC/OIC, PUBLIC WORKS DIVISION, FEAD AND STATION LOCATING SERVICE SUCH AS "DIGSAFE, MISS UTILITY, ETC." TO ALLOW MARKING OF EXISTING BURIED UTILITIES.
- ALL EXISTING UNDERGROUND UTILITIES IN THE WORK AREA MUST BE POSITIVELY IDENTIFIED BY A THIRD PARTY, INDEPENDENT, PRIVATE UTILITY LOCATING COMPANY, IN ADDITION TO ANY STATION LOCATING SERVICE SUCH AS "DIGSAFE, MISS UTILITY, ETC.", AND COORDINATED WITH THE ROIC/OIC, PUBLIC WORKS DIVISION, AND FEAD. ANY MARKINGS MADE DURING THE UTILITY INVESTIGATION MUST BE MAINTAINED THROUGHOUT THE CONTRACT.
- WHENEVER CONTRACT WORK INVOLVES CHIPPING, SAW CUTTING, OR CORE DRILLING THROUGH CONCRETE, BITUMINOUS ASPHALT OR OTHER IMPERVIOUS SURFACES, THE THIRD PARTY, INDEPENDENT, PRIVATE LOCATING COMPANY SHALL LOCATE UTILITY DEPTH BY USE OF GROUND PENETRATING RADAR (GPR), X-RAY, BORE SCOPE, OR ULTRASOUND PRIOR TO THE START OF DEMOLITION AND CONSTRUCTION. OUTAGES TO ISOLATE UTILITY SYSTEMS MUST BE USED IN CIRCUMSTANCES WHERE UTILITIES ARE UNABLE TO BE POSITIVELY IDENTIFIED. THE USE OF HISTORICAL DRAWINGS DOES NOT ALLEVIATE THE CONTRACTOR FROM MEETING THIS REQUIREMENT.
- THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND ANY DAMAGE TO THE UTILITIES SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL BE REQUIRED AND AGREES TO COMPLY WITH ALL THE PROVISIONS OF THE GOVERNMENT, STATE AND UTILITY FOR UNDERGROUND DAMAGE PREVENTION AND HEREBY AGREES TO HOLD THE GOVERNMENT HARMLESS AGAINST ANY LOSS, DAMAGES AND CLAIMS OF ANY NATURE WHATSOEVER ARISING OUT OF FAILURE TO COMPLY WITH SAID PROVISIONS.

**LIST OF ABBREVIATIONS:**

BLDG	BUILDING	DIP	DUCTILE IRON PIPE	PR	PER RECORD
BW	BOTTOM OF WALL	ELV	ELEVATION	PS	PUMP STATION
BWLK	BRICK WALK	EOI	END OF INFORMATION	PVC	POLYVINYL CHLORIDE PIPE
CBH	CONCRETE BENCH	EOP	EDGE OF PAVEMENT	R	RADIUS
CC	CONCRETE CURB	EX	EXISTING	RCP	REINFORCED CONCRETE PIPE
	(NO GUTTER PAN)	FFE	FINISHED FLOOR ELEVATIONS	SAN	SANITARY SEWER
CLF	CHAIN LINK FENCE	GT	GRATE	SD	STORM DRAIN PIPE
CMP	CORRUGATED METAL PIPE	INV	INVERT	STL	STEEL
CONC	CONCRETE	LF	LINEAR FEET	BLDGTW	TOP OF WALL
CPT	CONCRETE PICNIC TABLE	MEG	MATCH EXISTING GRADE	TYP	TYPICAL
CWLK	CONCRETE WALK	N/A	NOT ACCESSIBLE	W	WATER LINE
DCL	DITCH CENTER LINE				

**LEGEND:**

	EXISTING (E.)	NEW	EXISTING (E.)	NEW
TOP OF CURB OR CONCRETE (TC) ELEVATION				
ELEVATION OF GUTTER, PAVEMENT OR GROUND				
SPOT ELEVATION				
TOP OF WALL (TW) ELEVATION				
BITUMINOUS PAVEMENT				
BUILDING (BLDG.)				
BUSH				
CENTERLINE DITCH/SWALE				
CONCRETE (CONC.)				
CONCRETE (CONC.) PAD W/TRANSFORMER				
CONTOUR				
CURB AND GUTTER				
EDGE OF WOODS				
FLOWER BED (F.B.)				
FENCE				
GATE				
GRAVEL				
SIGN				
TOE OF SLOPE (T.O.S.)				
TOP OF BANK (T.O.B.)				
TREE				
OVERHEAD (OH.) LINE				
SANITARY (SAN.) SEWER				
STORM (S.) SEWER				
UNDERGROUND (UG.) COMMUNICATION (COMM.)				
UNDERGROUND (UG.) FIBER OPTIC (FO.)				
WATER (W.) MAIN				
FIRE HYDRANT (F.H.)				
HEADWALL (HDWL.)				
LIGHT POLE IN CONCRETE				
MANHOLE (MH.)				
TELEPHONE (TEL.) PEDESTAL (PED.)				
UTILITY POLE				
FLARED END SECTION				
GATE VALVE				
45-DEGREE BEND				
TEE				
WATER METER				
SANITARY SEWER CLEANOUT				

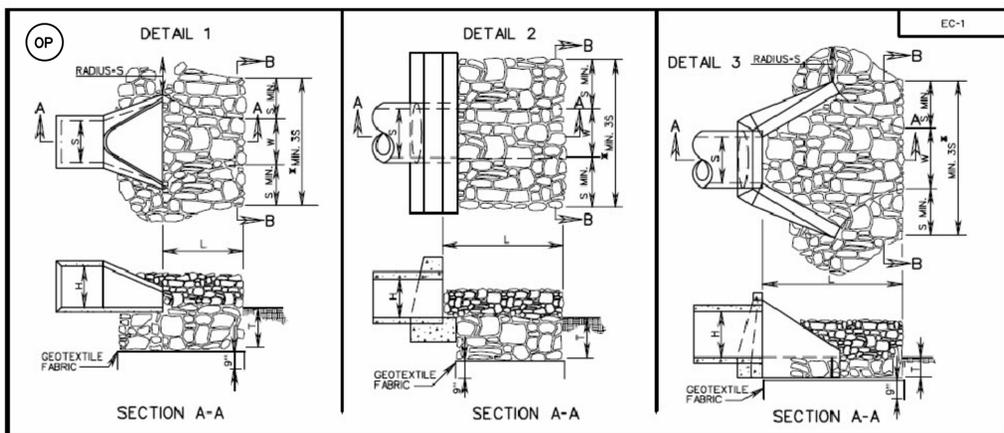
APPR	
DATE	
DESCRIPTION	
SYM	
APPROVED FOR COMMANDER NAVFAC ACTIVITY <b>HERM RAWLINGS</b> SATISFACTORY TO DATE MM/DD/YY DES BSS DRW BSS CHK PM/DM JTL/APK BRANCH MANAGER TLD CHIEF ENG/ARCH RLW FIRE PROTECTION DPS	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVFAC ROADS BFT SURFACE COMBAT SYSTEM CENTER NORFOLK, VA WALLOPS ISLAND, VA <b>HOUSING WELCOME CENTER</b> GENERAL NOTES, LEGEND AND ABBREVIATIONS	
SCALE: AS SHOWN	
PROJECT NO.: 1366574	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12708181	
SHEET 9 OF 70	
<b>C-001</b>	
DRAWING REVISION: 10 MARCH 2009	

FILE NAME: P:\VA\Wallops Island\NAVFAC\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\_B\_Design\Drawings\Sheet Files\05\_Civil\C-001.dwg LAYOUT NAME: C-001 PLOTTED: Wednesday, December 02, 2015 - 2:05pm USER: benjamin.slaughter









**NOTES:**

- FOR MULTIPLE LINE INSTALLATIONS, DIMENSION S IS TO GOVERN THE PROTECTION OUTSIDE THE CHANNEL WIDTH (W).
- ON ANY INSTALLATION REQUIRING CULVERT OUTLET PROTECTION WHERE NO ENDWALL OR ENDSECTION IS SPECIFIED ON THE PLANS, CONSTRUCTION IS TO BE IN ACCORDANCE WITH DETAIL 2 SHOWN ABOVE.
- GEOTEXTILE FABRIC TO BE INSTALLED UNDER CLASS A I, AND II MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- S - DIAMETER OF CIRCULAR CULVERT OR SPAN FOR BOX, ELLIPTICAL OR ARCH CULVERT. H - DIAMETER OF CIRCULAR CULVERT OR RISE/HEIGHT FOR BOX, ELLIPTICAL OR ARCH CULVERT.

\* USE TYPICAL SECTION SHOWN ON PLANS FOR SIDE SLOPE, BOTTOM WIDTH AND DEPTH OF CHANNEL OR MATCH EXISTING DITCH OR NATURAL GROUND.

TYPE OF OUTLET PROTECTION MATERIAL	MAXIMUM OUTLET VELOCITY (FOR DESIGN STORM)	MINIMUM "T" (INCHES)
CLASS A I CLASS A I DRY RIPRAP	8 fps	18
CLASS I CLASS I DRY RIPRAP	14 fps	24
CLASS II CLASS II DRY RIPRAP	19 fps	36

OUTLET PROTECTION MINIMUM LENGTH (L)	
TYPE A INSTALLATION	3H
TYPE B INSTALLATION	5H

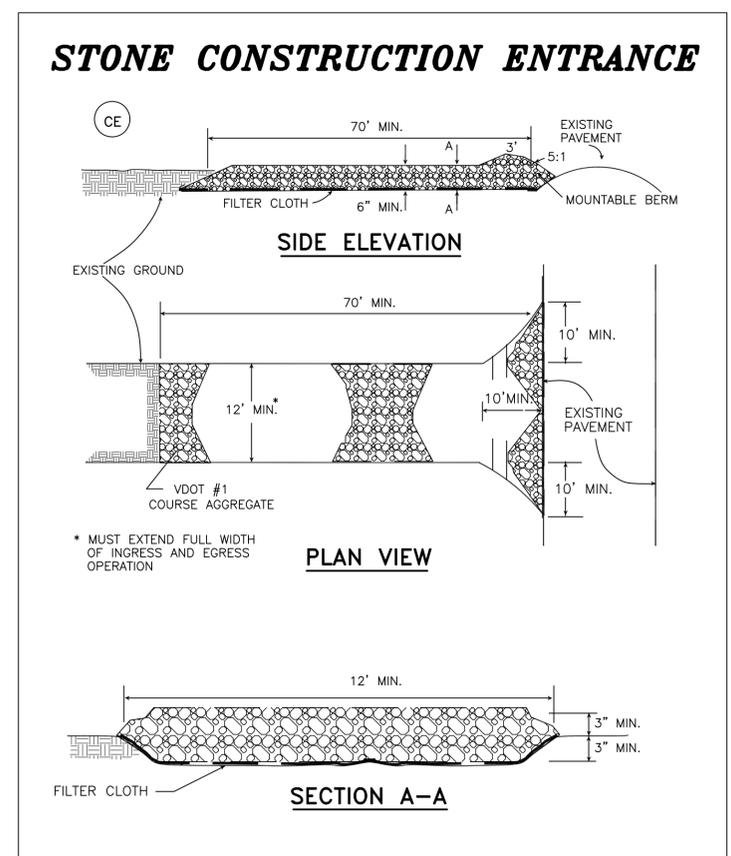
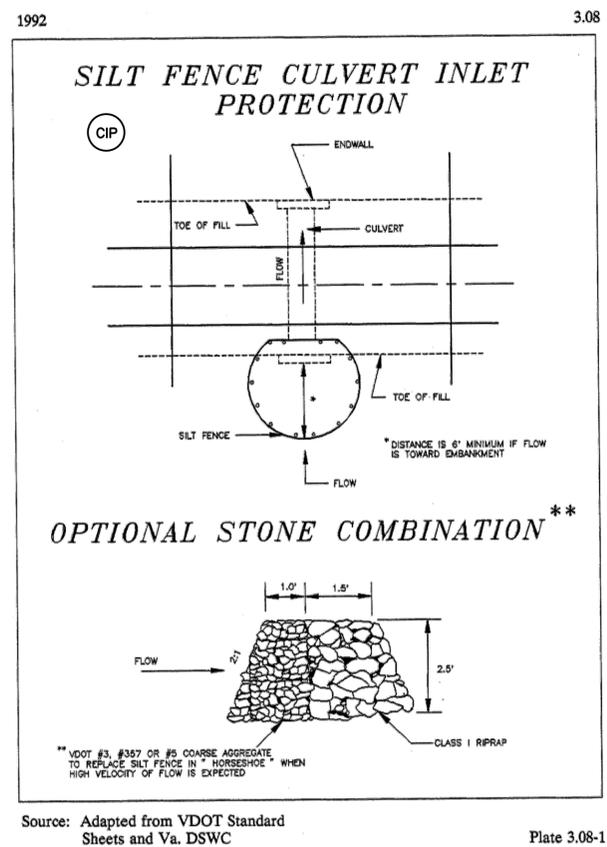
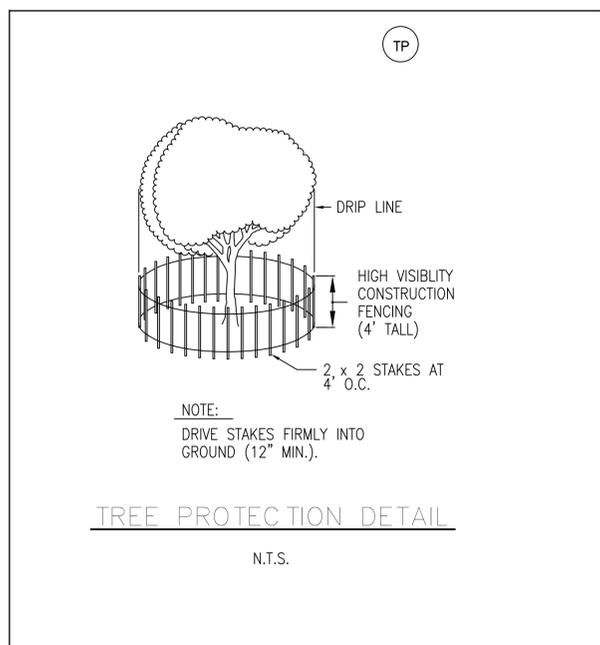
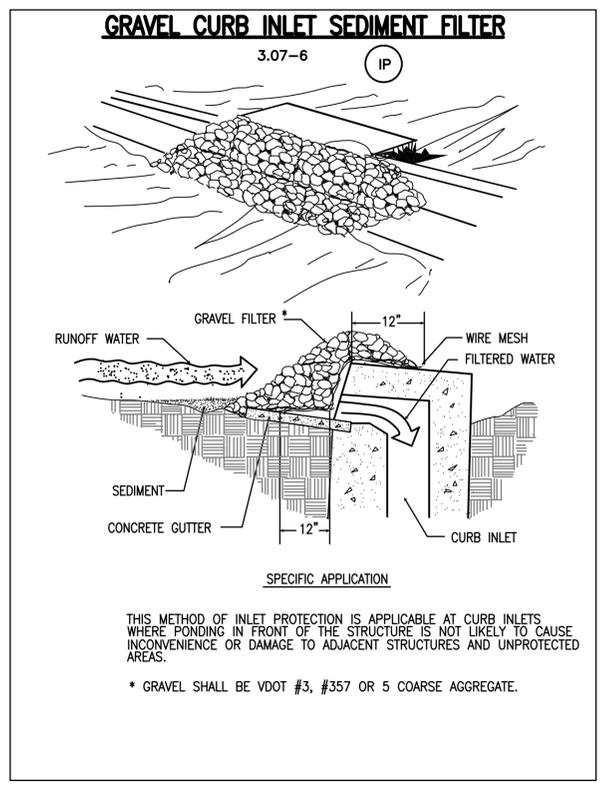
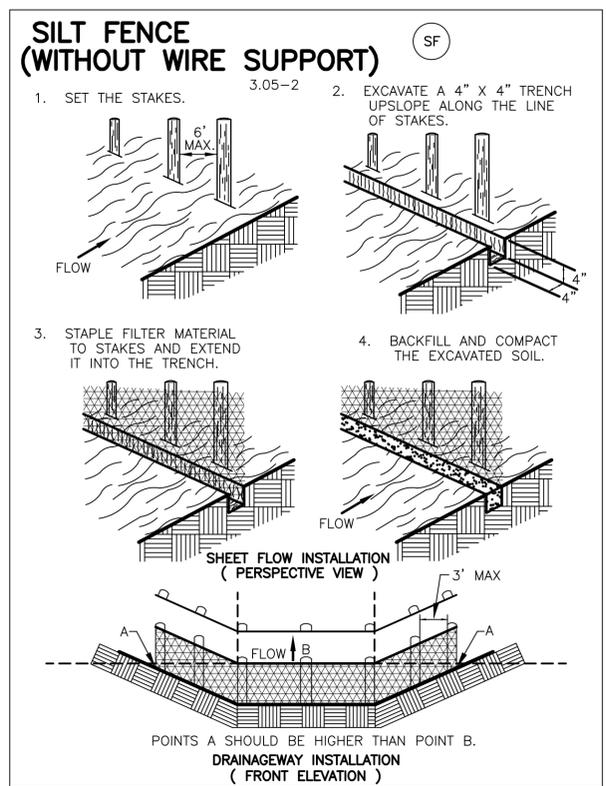
**CULVERT OUTLET PROTECTION**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS

REVISION DATE: SHEET 1 OF 1

113.01



APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

FOR COMMANDER NAIFAC: \_\_\_\_\_

ACTIVITY: \_\_\_\_\_

HERM RAWLINGS

SATISFACTORY TO: DATE: MM/DD/YY

DES: BSS DRAW: BSS CHK: \_\_\_\_\_

PM/DM: JTL/APK

BRANCH MANAGER: TLD

CHEF ENG/ARCH: RLW

FIRE PROTECTION: DPS

DEPARTMENT OF THE NAVY: NAVAL FACILITIES ENGINEERING COMMAND

HAMPTON ROADS IFT: NAVAL FACILITIES ENGINEERING COMMAND

NORFOLK, VA: WALLOPS ISLAND, VA

SURFACE COMBAT SYSTEM CENTER: HOUSING WELCOME CENTER

EROSION & SEDIMENT CONTROL DETAILS

SCALE: AS SHOWN

PROJECT NO.: 1366574

CONSTR. CONTR. NO.: \_\_\_\_\_

NAVFAC DRAWING NO.: 12708185

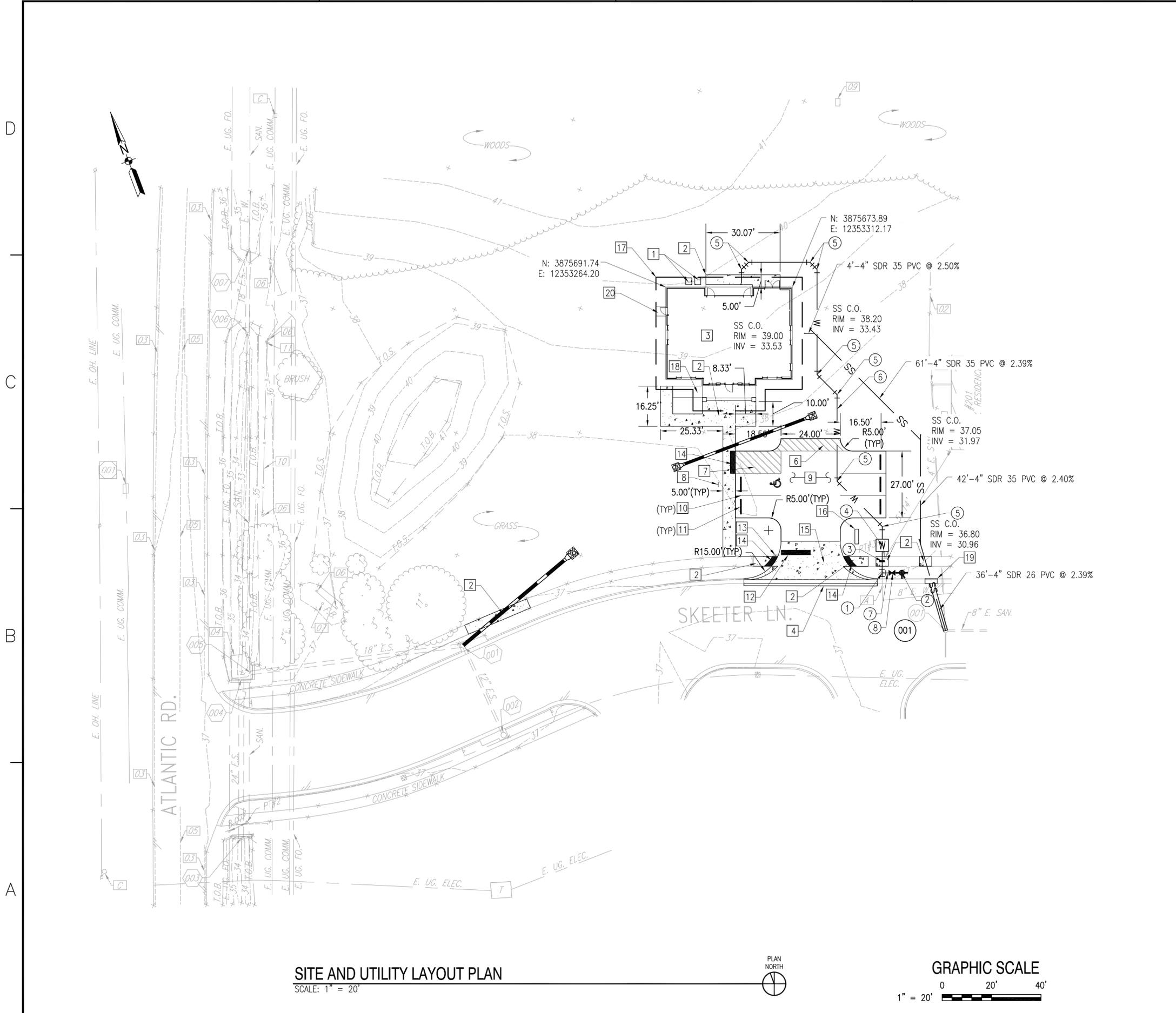
SHEET 13 OF 70

**CE502**

DRAWING REVISION: 10 MARCH 2009

FILE NAME: P:\VA\Wallops Island\MLC\CON\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\_B\_Design\Drawings\Sheet Files\05\_Civil\CE501-CE503.dwg LAYOUT NAME: CE502 PLOTTED: Wednesday, December 02, 2015 - 3:09pm USER: benjamin.slaughter

FILE NAME: P:\NA\Wallops\_Islands\MILCON\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\05\_Civil\238-1366574-CS101.dwg LAYOUT NAME: CS101 PLOTTED: Monday, December 07, 2015 - 10:35am USER: benjamin.slaughter



**SITE AND UTILITY LAYOUT PLAN**  
SCALE: 1" = 20'



**SHEET NOTES**

- SEE SHEET C-001 FOR GENERAL NOTES, SURVEY NOTES, AND LEGEND.
- SEE ELECTRICAL DRAWING SHEETS FOR ELECTRICAL AND TELECOMMUNICATION LAYOUT.

**□ SITE LAYOUT KEYNOTES**

- CONCRETE UTILITY PAD - SEE DETAIL B2, SHEET C-502.
- CONCRETE SIDEWALK, SEE DETAIL B1, SHEET C-502.
- HOUSING WELCOME CENTER - SEE ARCHITECTURAL PLANS.
- 1" MILL AND OVERLAY PAVEMENT SECTION - SEE DETAIL B5, SHEET C-502.
- NOT USED.
- PAINTED ISLAND - YELLOW, SEE DETAIL C2, SHEET C-503.
- PAINTED ISLAND - BLUE, SEE DETAIL C2, SHEET C-503.
- HANDICAP PARKING SIGN - SEE DETAIL C3, SHEET C-503.
- BITUMINOUS PAVEMENT SECTION - SEE DETAIL B3, SHEET C-502.
- 4" SOLID WHITE STRIPE - SEE DETAIL C2, SHEET C-503.
- PRECAST CONCRETE WHEEL STOP - SEE DETAIL C5, SHEET C-503.
- 24" STOP BAR - SEE DETAIL C2, SHEET C-503.
- "STOP" SIGN - SEE DETAIL C4, SHEET C-503.
- DETECTABLE WARNING - SEE VDOT ST'D CG-12 DETAIL, SHEET C-502.
- VDOT ST'D CG-9D ENTRANCE - SEE VDOT ST'D CG-9D DETAIL, SHEET C-502.
- MONUMENT SIGN - SEE LANDSCAPE ARCHITECTURE PLANS.
- ROOF OVERHANG - SEE ARCHITECTURAL PLANS.
- HANDICAP RAMP - SEE ARCHITECTURAL PLANS.
- VDOT ST'D CG-6 CURB AND GUTTER - SEE VDOT ST'D CG-6 DETAIL, SHEET C-504.
- CONCRETE PAD, MATCH CONCRETE SIDEWALK SECTION, SEE DETAIL B1, SHEET C-502.

**○ UTILITY LAYOUT KEYNOTES**

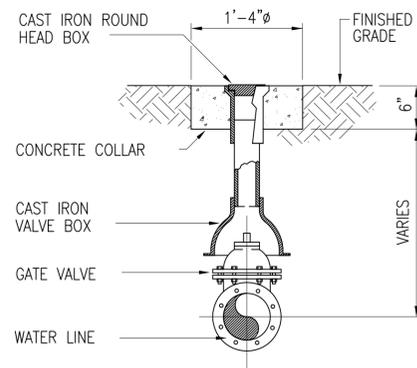
- CONNECT TO EXISTING WATERLINE WITH 6"x6" TEE
- RELOCATE EXISTING FIRE HYDRANT - SEE DETAIL A3, SHEET C-501.
- WATER LINE MATERIAL/SIZE TRANSITION FITTING
- 1" WATER METER IN CAST IRON WATER METER BOX AND COVER - METER PROVIDED BY CONTRACTOR. METER SHALL CONFORM TO AWWA C700. REGISTER SHALL BE STRAIGHT-READING AND SHALL READ IN U.S. GALLON. METER SHALL FEATURE FROST-PROTECTION DESIGN. CONNECTIONS SHALL BE SUITABLE TO THE TYPE OF PIPE AND CONDITIONS ENCOUNTERED. REGISTER TYPE SHALL BE DIRECT READ TYPE. REMOTE READING CAPABILITIES ARE NOT REQUIRED. METER SHALL COMPLY WITH THE ACCURACY AND CAPACITY REQUIREMENTS OF AWWA C700. CAST IRON WATER METER BOX AND COVER - SEE DETAIL A6, SHEET C-501.
- 45° BEND
- 1" WATER SERVICE LINE
- 6" WATER LINE
- 6" GATE VALVE - SEE DETAIL A1, SHEET C-501.

**NEW SANITARY STRUCTURE DATA**

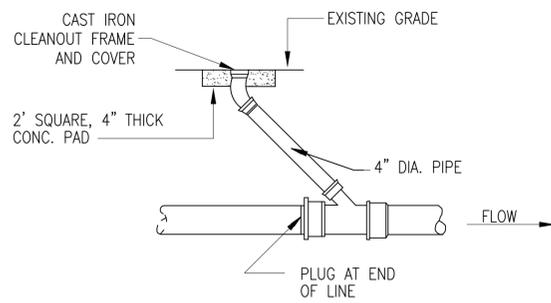
001	EXIST. SANITARY MANHOLE
	RIM = 36.32
	INV. IN (NE) = 29.48
	INV. IN (SW) = 29.44
	INV. IN (NW) = 30.10 (NEW CONNECTION)
	INV. OUT (SE) = 29.15

APPR	
DATE	
SYN	
DESCRIPTION	
APPROVED: _____ FOR COMMANDER NAVFAC ACTIVITY: _____ <b>HERM RAWLINGS</b> SATISFACTORY TO: _____ DATE: MM/DD/YY DES: BSS DRW: BSS CHK: _____ PM/DM: JTL/APK BRANCH MANAGER: _____ TLD CHIEF ENG/ARCH: RLW FIRE PROTECTION: _____ DPS	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND SURFACE COMBAT SYSTEM CENTER NORFOLK, VA WALLEPS ISLAND, VA <b>HOUSING WELCOME CENTER</b> SITE AND UTILITY LAYOUT PLAN	
SCALE: AS SHOWN EPROJCT NO.: 1366574 CONSTR. CONTR. NO.: _____ NAVFAC DRAWING NO.: 12708186 SHEET 14 OF 70 <b>CS101</b> <small>DRAWING REVISION: 10 MARCH 2009</small>	

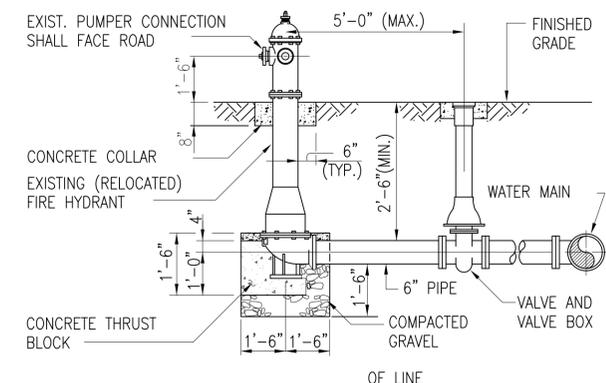




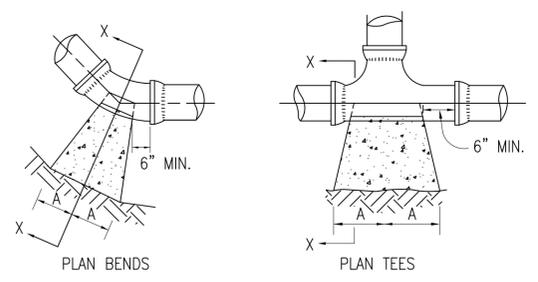
**A1 VALVE WITH VALVE BOX**  
NOT TO SCALE



**A2 CLEANOUT DETAIL**  
NOT TO SCALE

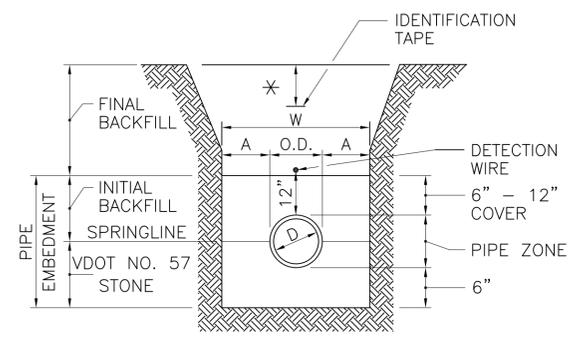


**A3 FIRE HYDRANT ASSEMBLY**  
NOT TO SCALE



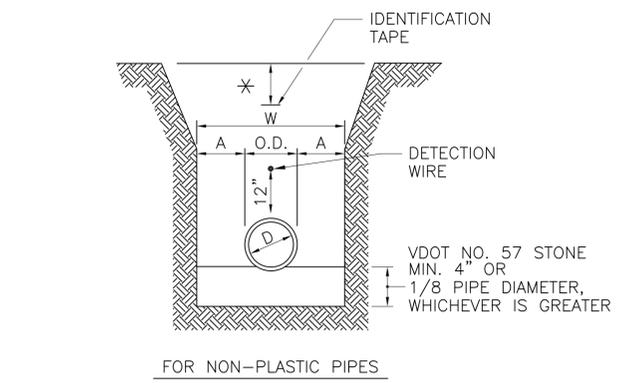
SIZE	1/4 BENDS		1/8 BENDS		1/16 BENDS		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
4" & 6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"

**A4 TYPICAL CONCRETE THRUST BLOCKS**  
NOT TO SCALE

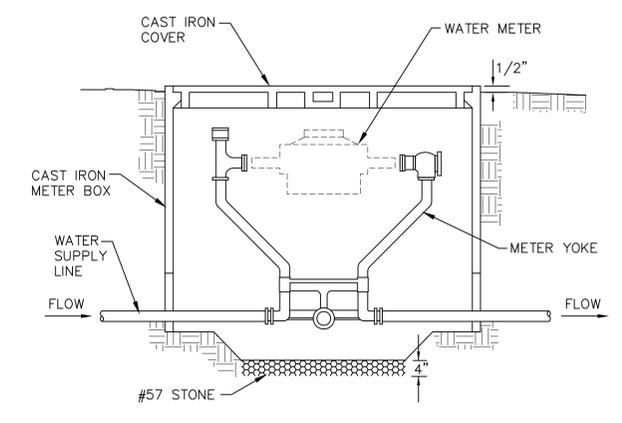


PIPE DIA. "D"	MAXIMUM "A"
SMALLER THAN 6"	8"
6" TO 15"	8"
16" TO 21"	10"

\* 12" BELOW FINISHED GRADE IN UNPAVED AREAS.  
6" BELOW TOP OF SUBGRADE IN PAVED AREAS.



**A5 PIPE TRENCH WIDTH DETAIL**  
NOT TO SCALE



**A6 CAST IRON WATER METER BOX AND COVER**  
NOT TO SCALE

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

FOR COMMANDER NAVFAC: \_\_\_\_\_

ACTIVITY: \_\_\_\_\_

**HERM RAWLINGS**

SATISFACTORY TO: DATE: MM/DD/YY

DES: BSS | DRAW: BSS | CHK: \_\_\_\_\_

PM/DM: JTL/APK

BRANCH MANAGER: TLD

CHEF ENG/ARCH: RLW

FIRE PROTECTION: DPS

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL FACILITIES ENGINEERING COMMAND  
SURFACE COMBAT SYSTEM CENTER  
WALLOPS ISLAND, VA  
HAMPTON ROADS IRT  
HOUSING WELCOME CENTER  
CIVIL DETAILS

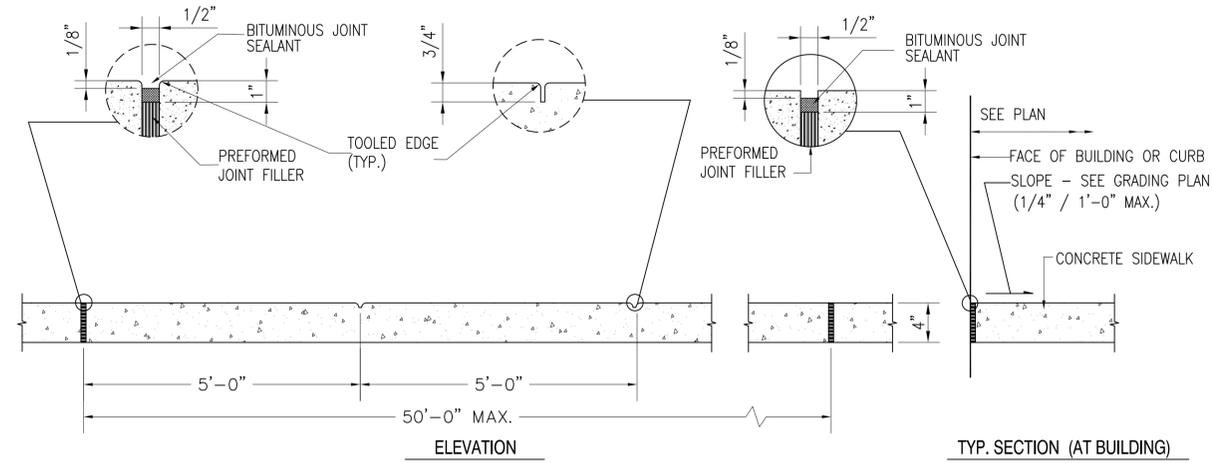
SCALE: AS SHOWN  
PROJECT NO.: 1366574  
CONSTR. CONTR. NO.: \_\_\_\_\_

NAVFAC DRAWING NO.: 12708188  
SHEET 16 OF 70

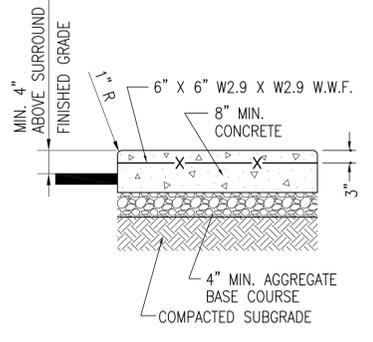
**C-501**

DRAWING REVISION: 10 MARCH 2009

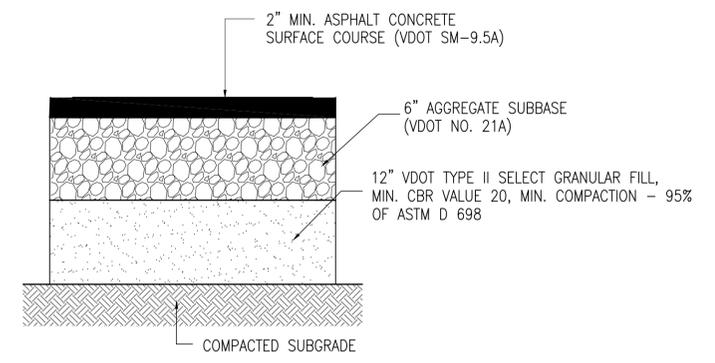
FILE NAME: P:\VA\Wallops Island\MALCON\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\05\_Civil\C-501-C-503.dwg LAYOUT NAME: C-501 PLOTTED: Wednesday, December 02, 2015 8:12pm USER: benjamin.slaughter



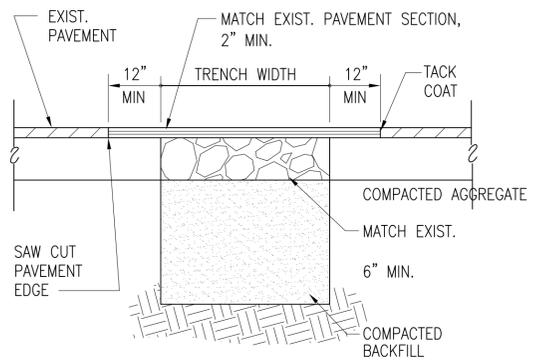
**B1 CONCRETE SIDEWALK DETAILS**  
NOT TO SCALE



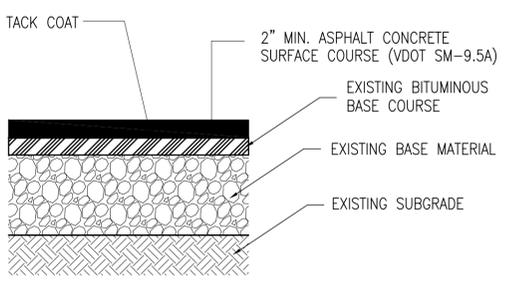
**B2 CONCRETE UTILITY PAD**  
NOT TO SCALE



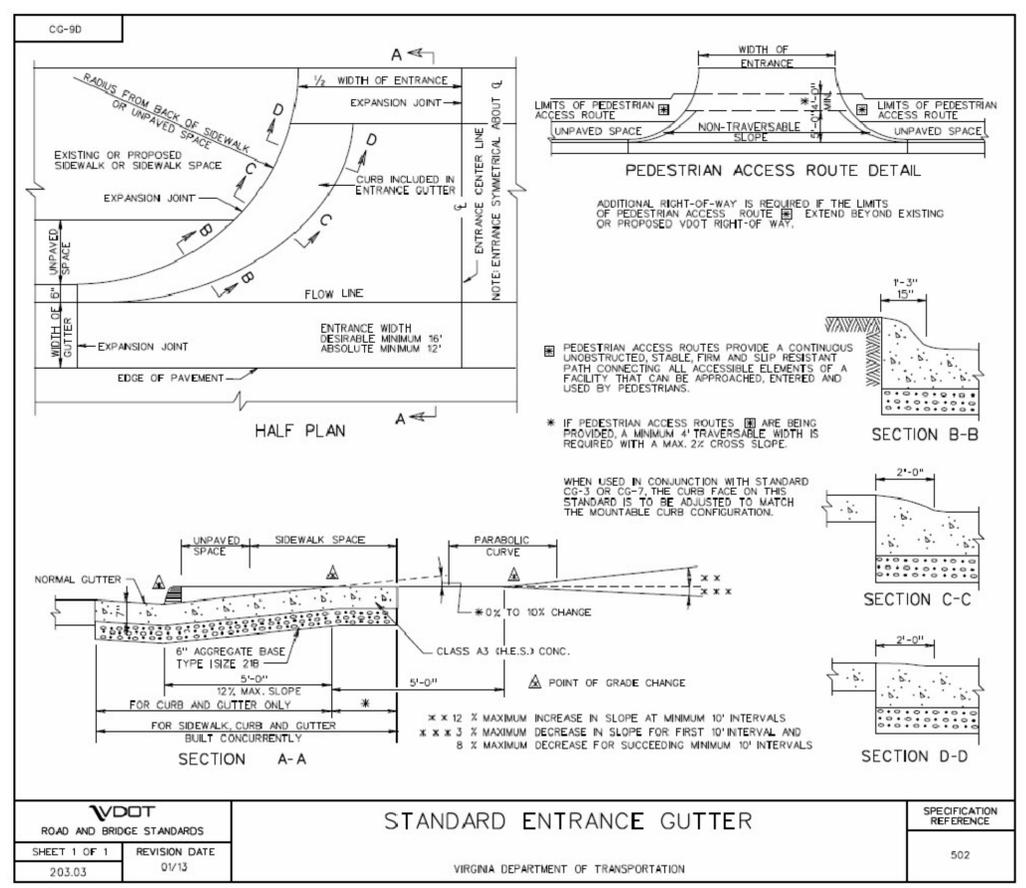
**B3 BITUMINOUS PAVEMENT SECTION**  
NOT TO SCALE



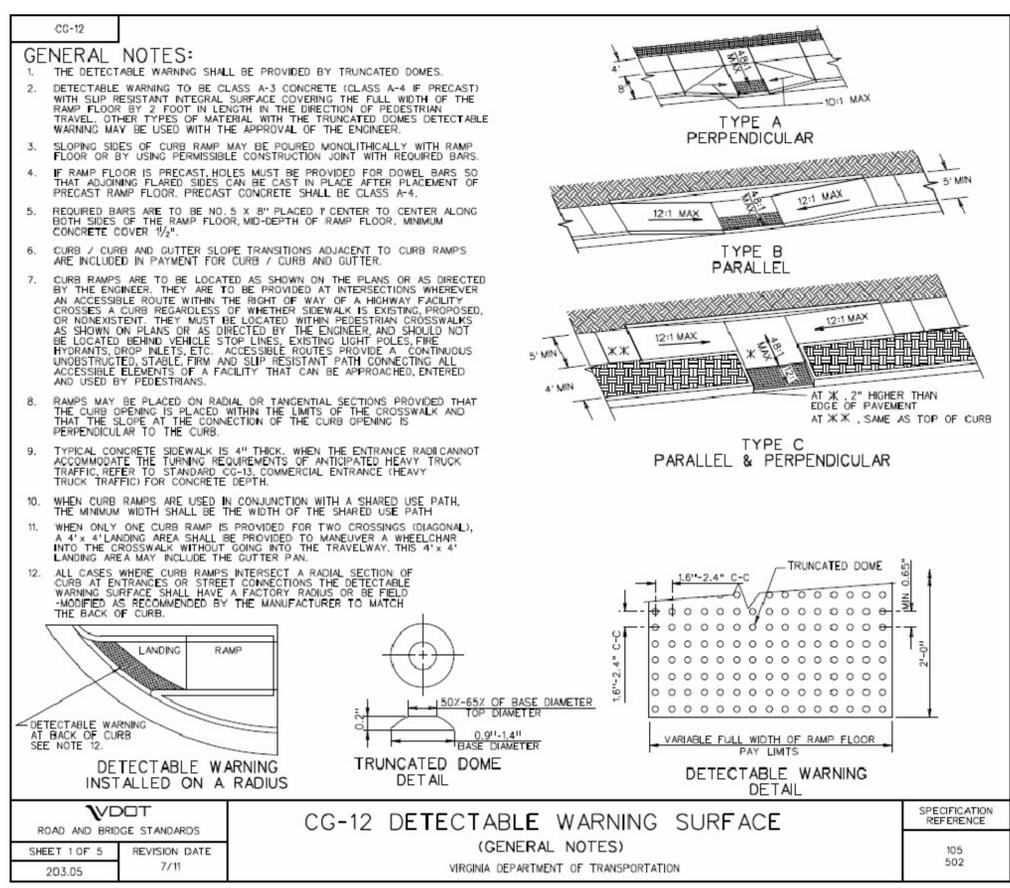
**B4 UTILITY BITUMINOUS PAVEMENT PATCH**  
NOT TO SCALE



**B5 MILL & OVERLAY PAVEMENT SECTION**  
NOT TO SCALE



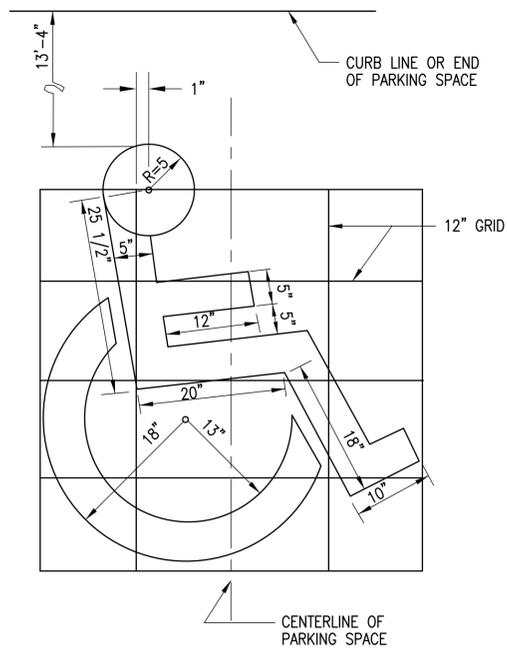
**CG-9D STANDARD ENTRANCE GUTTER**  
SPECIFICATION REFERENCE: 502  
VIRGINIA DEPARTMENT OF TRANSPORTATION



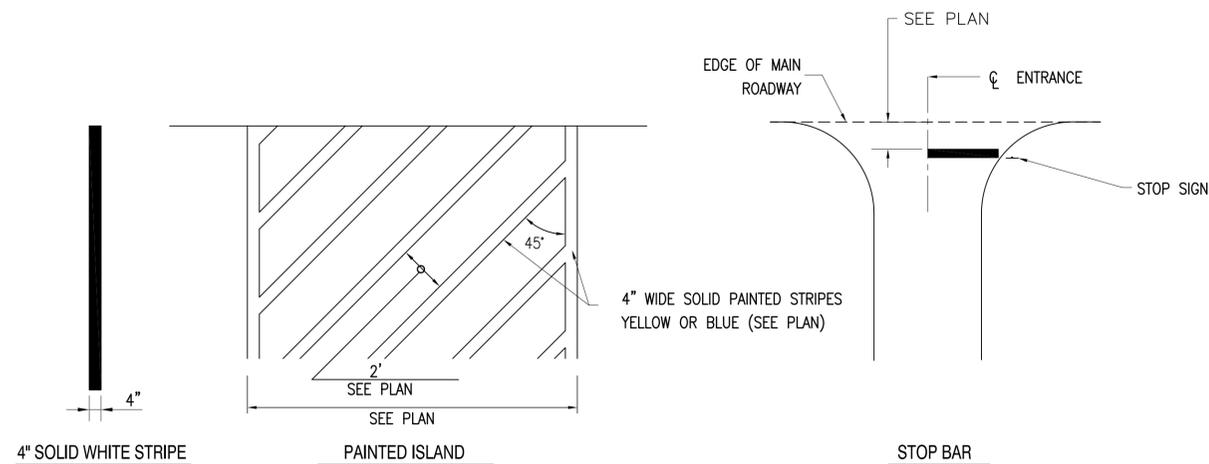
**CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES)**  
SPECIFICATION REFERENCE: 105, 502  
VIRGINIA DEPARTMENT OF TRANSPORTATION

APPROVED	DATE	APPR
FOR COMMANDER NAVFAC		
ACTIVITY		
<b>HERM RAWLINGS</b>		
SATISFACTORY TO: DATE MM/DD/YY		
DES: BSS DRW: BSS CHK: CHK		
PM/DM: JTL/APK		
BRANCH MANAGER: TLD		
CHEF ENG/ARCH: RLW		
FIRE PROTECTION: DPS		
NAVY FACILITIES ENGINEERING COMMAND	NORFOLK, VA	
NAVY FACILITIES ENGINEERING COMMAND	WALLOPS ISLAND, VA	
SURFACE COMBAT SYSTEM CENTER	<b>HOUSING WELCOME CENTER</b>	
	CIVIL DETAILS	
SCALE: AS SHOWN	PROJECT NO.: 1366574	
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO. 12708189		
SHEET 16 OF 70		
<b>C-502</b>		
DRAWN/REVISION: 10 MARCH 2009		

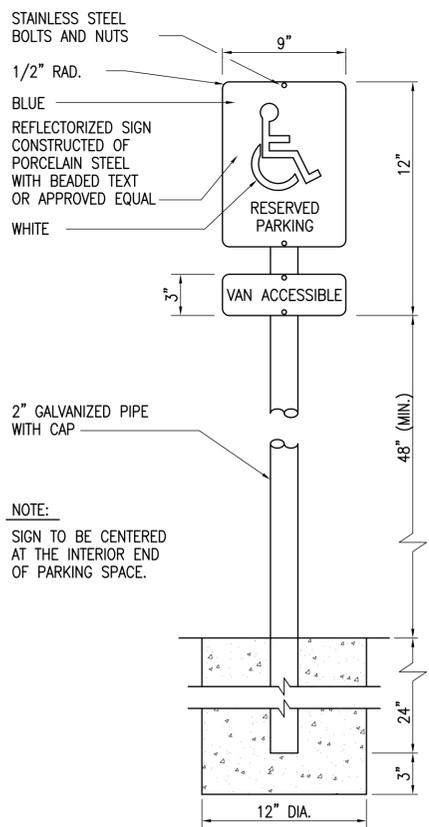
FILE NAME: P:\VA\Wallops\_Islands\MILCON\2016\_1366574\_P236\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\05\_Civil\C-501-C-503.dwg LAYOUT NAME: C-502 PLOTTED: Wednesday, December 02, 2015 3:33pm USER: benjamin.slaughter



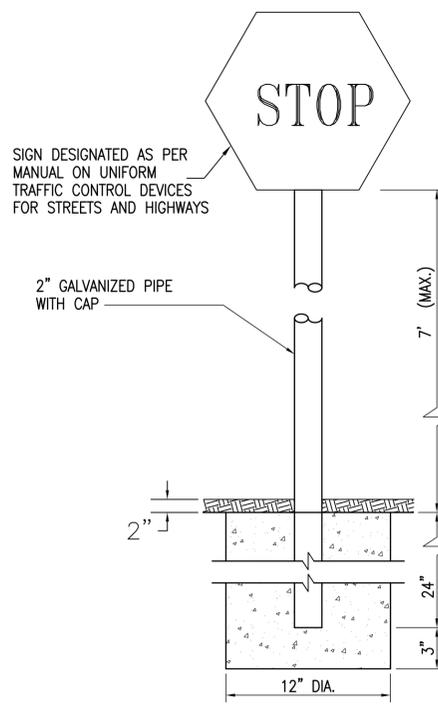
**C1 HANDICAP PARKING SYMBOL**  
NOT TO SCALE



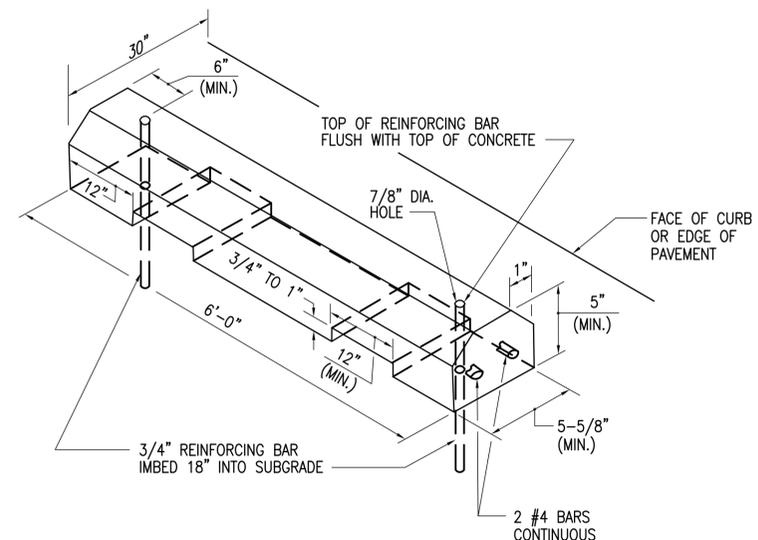
**C2 PAVEMENT MARKING**  
NOT TO SCALE



**C3 HANDICAP PARKING SIGN**  
NOT TO SCALE



**C4 STOP SIGN**  
NOT TO SCALE



**C5 PRECAST CONCRETE WHEEL STOP**  
NOT TO SCALE

APPROVED	DATE	APPR
FOR COMMANDER NAVFAC		
ACTIVITY		
<b>HERM RAWLINGS</b>		
SATISFACTORY TO	DATE	MM/DD/YY
DES: <b>BSS</b>	DRW: <b>BSS</b>	CHK:
PM/DM: <b>JTL/APK</b>		
BRANCH MANAGER		<b>TLD</b>
CHIEF ENG/ARCH		<b>RLW</b>
FIRE PROTECTION		<b>DPS</b>
NAVY FACILITIES ENGINEERING COMMAND	NORFOLK, VA	
NAVY FACILITIES ENGINEERING COMMAND	WALLOPS ISLAND, VA	
SURFACE COMBAT SYSTEM CENTER	<b>HOUSING WELCOME CENTER</b>	
	CIVIL DETAILS	
SCALE:	<b>AS SHOWN</b>	
PROJECT NO.:	<b>1366574</b>	
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	<b>12708190</b>	
SHEET	<b>18</b>	OF <b>70</b>
<b>C-503</b>		
DRAWING REVISION: 10 MARCH 2009		

FILE NAME: P:\VA\Wallops Island\MALCON\2016\_1366574\_P238\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\05\_Civil\C-501-C-503.dwg LAYOUT NAME: C-503 PLOTTED: Wednesday, December 02, 2015 3:14pm USER: benjamin.slaughter

D

C

B

A

**END-SECTION 12" - 60" PIPE**

HUB END ON OUTLET END-SECTIONS  
SPIGOT END ON INLET END-SECTION

CONCRETE TO BE 4000 PSI MINIMUM

SECTION X-X      END VIEW

END SECTION DIMENSIONS					
PIPE DIAMETER	A	B	C	D	E
12"	4"	2'-0"	2'-0"	4'-0"	2'-0"
15"	6"	2'-3"	1'-8"	4'-0"	2'-6"
18"	9"	2'-3"	1'-8"	4'-0"	3'-0"
21"	9 1/4"	2'-11"	2'-1"	5'-0"	3'-6"
24"	9 1/4"	3'-7"	2'-6"	6'-1"	4'-0"
27"	10 1/4"	4'-0"	2'-1"	6'-1"	4'-6"
30"	1'-0"	4'-6"	1'-7 1/4"	6'-1 1/2"	5'-0"
33"	1'-1/8"	4'-10 1/4"	2'-3 1/4"	7'-1 1/2"	5'-6"
36"	1'-3"	5'-3"	2'-10 1/4"	8'-1 1/4"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2'-3"	5'-5"	2'-9 1/4"	8'-2 1/4"	7'-6"
60"	2'-11"	5'-0"	3'-3"	8'-3"	8'-0"

**ALTERNATE END-SECTION 12" - 60" PIPE**      ES-1

HUB END ON OUTLET END-SECTIONS  
SPIGOT END ON INLET END-SECTION

CONCRETE TO BE 4000 PSI MINIMUM

SECTION X-X      END VIEW

END SECTION DIMENSIONS					
PIPE DIAMETER	A	B	C	D	E
12"	4"	2'-0"	4'-1"	6'-1"	2'-0"
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"
21"	9"	2'-11"	3'-2"	6'-1"	3'-6"
24"	10"	3'-7"	2'-8"	6'-3"	4'-0"
27"	10 1/4"	4'-0"	2'-1/2"	6'-1/2"	4'-6"
30"	1'-0"	4'-6"	1'-7 1/4"	6'-1 1/2"	5'-0"
33"	1'-1/8"	4'-10 1/4"	3'-3/4"	8'-1 1/4"	5'-6"
36"	1'-3"	5'-3"	2'-10 1/4"	8'-1 1/4"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"
60"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"

**SLOPE DETAIL**

**NOTES:**  
PIPE LENGTHS SHOWN ON PLANS ARE BASED ON END-SECTION DESIGN SHOWN ON THE LEFT. IF THE CONTRACTOR ELECTS TO USE THE ALTERNATE DESIGN SHOWN ON THE RIGHT, LENGTHS WILL BE REDUCED BY THE DIFFERENCE IN DIMENSION "D".

SPECIFICATION REFERENCE
302

**FLARED END SECTION**  
**12" - 60" CONCRETE PIPE CULVERTS**  
VIRGINIA DEPARTMENT OF TRANSPORTATION

<b>VDOT</b> ROAD AND BRIDGE STANDARDS
REVISION DATE      SHEET 1 OF 1
102.01

THIS AREA MAY BE CONCRETE AT THE OPTION OF THE CONTRACTOR

**COMBINATION 6" CURB AND GUTTER**      CG-6

**NOTES:**

- THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- CONCRETE TO BE CLASS AS IF CAST IN PLACE, 4000 PSI IF PRECAST.
- COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
- FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
- ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL IN THE SECTION ON GS URBAN STANDARDS.

SPECIFICATION REFERENCE
105 502

**COMBINATION 6" CURB AND GUTTER**  
VIRGINIA DEPARTMENT OF TRANSPORTATION

<b>VDOT</b> ROAD AND BRIDGE STANDARDS
REVISION DATE      SHEET 1 OF 1
201.03

	APPR
	DATE
	SYM DESCRIPTION
	SCALE
	A/E INFO
<p>APPROVED</p> <p>FOR COMMANDER NAVFAC</p> <p>ACTIVITY</p> <p style="text-align: center;"><b>HERM RAWLINGS</b></p> <p>SATISFACTORY TO      DATE      MM/DD/YY</p> <p>DES      BSS      DRW      BSS      CHK</p> <p>PM/DM      JTL/APK</p> <p>BRANCH MANAGER      TLD</p> <p>CHEF ENG/ARCH      RLW</p> <p>FIRE PROTECTION      DPS</p>	
<p>DEPARTMENT OF THE NAVY      NAVAL FACILITIES ENGINEERING COMMAND      NORFOLK, VA</p> <p>NAVAL FACILITIES ENGINEERING COMMAND      WALLOPS ISLAND, VA</p> <p>HAMPTON ROADS IPT      SURFACE COMBAT SYSTEM CENTER      HOUSING WELCOME CENTER</p> <p style="text-align: center;">CIVIL DETAILS</p>	
<p>SCALE:      AS SHOWN</p> <p>PROJECT NO.:      1366574</p> <p>CONSTR. CONTR. NO.</p> <p>NAVFAC DRAWING NO.      12708191</p> <p>SHEET      19      OF      70</p> <p style="font-size: 1.2em; font-weight: bold;">C-504</p> <p style="font-size: 0.8em;">DRAWING REVISION: 10 MARCH 2009</p>	

D

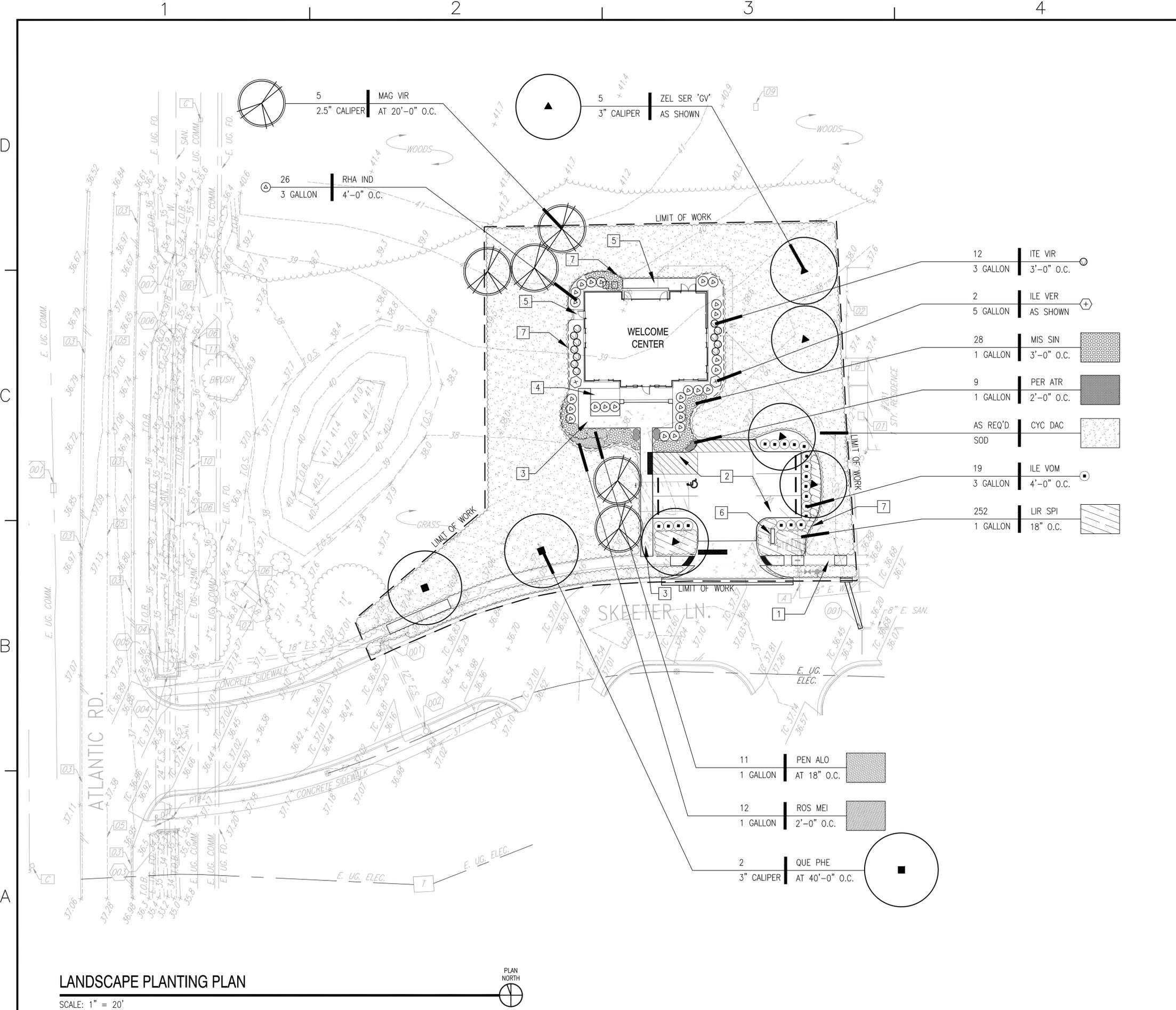
C

B

A

FILE NAME: P:\VA\Wallops Island\MILCON\2016\_1366574\_P236\_DBB\_HousingWelcomeCenter\B\_Design\Drawings\Sheet Files\05\_Civil\C-504-C-503.dwg LAYOUT NAME: C-504 PLOTTED: Wednesday, December 02, 2015 - 3:14pm USER: benjamin.slaughter

FILE NAME: P:\VA\Wallops Island\Wallops Center\B\_Design\Drawings\Sheet Files\06\_Landscape\H238-1366574-LP-100.dwg LAYOUT NAME: LP-101 PLOTTED: Friday, December 04, 2015 - 1:58pm USER: taylor.gould



**LANDSCAPE PLANTING PLAN**

SCALE: 1" = 20'



**GENERAL SHEET NOTES**

1. COORDINATE LANDSCAPE SITE WORK WITH CIVIL, STRUCTURAL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
2. VERIFY ALL EXISTING SITE IMPROVEMENTS FOR REMOVAL/SALVAGED, STORED DURING CONSTRUCTION, REINSTALLED/OR PROTECTED IN PLACE WITH CONTRACTING OFFICER PRIOR TO CONSTRUCTION
3. ALL PLANTING BEDS TO HAVE 3" OF LOCAL RIVER STONE FOR MULCH.

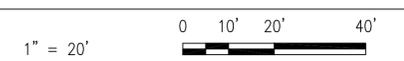
- 12 ITE VIR  
3 GALLON | 3'-0" O.C.
- 2 ILE VER  
5 GALLON | AS SHOWN
- 28 MIS SIN  
1 GALLON | 3'-0" O.C.
- 9 PER ATR  
1 GALLON | 2'-0" O.C.
- AS REQ'D CYC DAC
- SOD
- 19 ILE VOM  
3 GALLON | 4'-0" O.C.
- 252 LIR SPI  
1 GALLON | 18" O.C.

- 11 PEN ALO  
1 GALLON | AT 18" O.C.
- 12 ROS MEI  
1 GALLON | 2'-0" O.C.
- 2 QUE PHE  
3" CALIPER | AT 40'-0" O.C.

**NEW WORK LEGEND AND KEYNOTES**

- 1 EXISTING SIDEWALK ALONG SKEETER LANE TO REMAIN (PROTECT IN PLACE)(SEE CIVIL DRAWINGS)
- 2 PARKING LOT TO SERVE WELCOME CENTER (SEE CIVIL DRAWINGS)
- 3 CONCRETE SIDEWALK TYPICAL (SEE CIVIL DRAWINGS)
- 4 ABA RAMP (SEE ARCHITECTURAL AND CIVIL DRAWINGS)
- 5 CONCRETE PAD. SEE ARCHITECTURAL AND CIVIL DRAWINGS EXISTING ASPHALT PAVEMENT TO REMAIN AS SHOWN (SEE CIVIL DRAWINGS)
- 6 BUILDING SIGN TO MATCH WALLOPS ISLAND SIGN STANDARDS WITH SIZE, MATERIALS, COLORS AND FONT. LETTERING FOR TENANT DESCRIPTION SHALL BE VERIFIED FOR TEXT AND LAYOUT WITH USER AND CONTRACTING OFFICER PRIOR TO MANUFACTURE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INCLUDING FOOTING INFORMATION TO CONTRACTING OFFICER FOR APPROVAL BEFORE CONSTRUCTION.
- 7 STEEL LANDSCAPE EDGING BETWEEN PLANT BEDS AND TURF AREAS TYPICAL (SEE DETAIL A2/LP501)

**GRAPHICAL SCALE**



APPR	
DATE	
DESCRIPTION	
SYM	
<small>FOR COMMANDER NAVFAC</small> <b>HERM RAWLINGS</b> <small>SATISFACTORY TO DATE MM/DD/YY</small> <small>DES BTG DRN BTG CHK</small> <small>PM/DM JTL/APK</small> <small>BRANCH MANAGER TLD</small> <small>CHIEF ENG/ARCH RLW</small> <small>FIRE PROTECTION DPS</small>	
<small>DEPARTMENT OF THE NAVY</small> <small>NAVAL FACILITIES ENGINEERING COMMAND</small> <small>NAVAL FACILITIES ENGINEERING COMMAND</small> <small>HAMPSON ROADS BFT</small> <b>HOUSING WELCOME CENTER</b> <small>WALLOPS ISLAND, VA</small> <small>SURFACE COMBAT SYSTEM CENTER</small> <b>LANDSCAPE PLANTING PLAN</b>	
<small>SCALE: 1"=25'-0"</small> <small>PROJECT NO.: 1366574</small> <small>CONSTR. CONTR. NO.</small> <small>NAVFAC DRAWING NO. 12708193</small> <small>SHEET 21 OF 70</small> <b>LP100</b> <small>DRAWING REVISION: 10 MARCH 2009</small>	





1 CONCRETE MASONRY UNIT NOTES

1. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND BE MADE WITH LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY, EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, SHALL BE 1500 PSI AT 28 DAYS.

2 CONCRETE MASONRY UNIT NOTES, CONT'D

15. TAKE THE FOLLOWING STEPS TO PROTECT MASONRY WHEN THE AMBIENT AIR TEMPERATURE FALLS BELOW THE LISTED VALUE:

3 CONCRETE MASONRY UNIT NOTES, CONT'D

23. MASONRY SHALL CONFORM TO THE FOLLOWING TOLERANCE REQUIREMENTS:

4 REINFORCING STEEL NOTES

1. REINFORCING GRADES FOR CONCRETE: A. ALL BARS, NON-WELDED..... ASTM A615, GRADE 60 B. TIES AND STIRRUPS..... ASTM A615, GRADE 40 C. STAINLESS STEEL BARS (UNLESS NOTED OTHERWISE)..... ASTM A995, GRADE 60 D. WELDED WIRE FABRIC..... ASTM A185 E. BARS REQUIRING WELDING: a. ASTM A706, GRADE 60, OR: b. ASTM A615, GRADE 60 IF THE CARBON EQUIVALENT FOR #7 BARS AND LARGER SHALL NOT BE GREATER THAN 0.45 PERCENT, AND FOR #6 BARS AND SMALLER SHALL NOT BE GREATER THAN 0.55 PERCENT, OR: c. ASTM A615, GRADE 60 IF THE CARBON EQUIVALENT FOR ALL BARS BE LESS THAN 0.75 PERCENT, AND SPECIAL PRE-HEAT, WELDER CERTIFICATION AND CONTINUOUS INSPECTION BY A QUALIFIED LABORATORY BE PERFORMED PER AWS REQUIREMENTS.

ROUGH CARPENTRY NOTES CONT'D

6. STEEL PLATE CONNECTORS SHALL COMPLY WITH ASTM A36 SPECIFICATIONS (Fy=36 KSI). BOLTS CONNECTING WOOD MEMBERS SHALL COMPLY WITH ASTM A307 COMMON STEEL BOLTS AND SHALL BE 3/4" DIAMETER UNLESS OTHERWISE NOTED.

ROOF FRAMING NOTES

1. PRE-ENGINEERED METAL CONNECTED WOOD TRUSSES: REFERENCE SHEET S-501. 2. PLYWOOD ROOF SHEATHING SHALL BE MIN. 19/32" THICK APA RATED STRUCTURAL 1 SHEATHING, SPAN RATING 32/16, EXPOSURE 1. INSTALL WITH FACE GRAIN PERPENDICULAR TO TRUSSES AND RAFTERS.

ROUGH CARPENTRY NOTES

1. PROVIDE WOOD FRAMING MEMBERS IN ACCORDANCE WITH DEPARTMENT OF COMMERCE (DOC) AMERICAN SOFTWOOD LUMBER STANDARD PS20-05 AND FOLLOWING MINIMUM REQUIREMENTS: A. MOISTURE CONTENT: 19 PERCENT MAXIMUM B. GRADE: NO. 2 C. SPECIES: SOUTHERN PINE

SPECIAL INSPECTION NOTES

1. PROVIDE ALL SPECIAL INSPECTION AND TESTS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) 2012, CHAPTER 17.

Vertical sidebar containing project information: APPROVED, FOR COMMANDER NAVFAC, ACTIVITY, HERM RAWLINGS, SATISFACTORY TO DATE, MM/DD/YY, DEPARTMENT OF THE NAVY, NAVAL FACILITIES ENGINEERING COMMAND, SURFACE COMBAT SYSTEM CENTER, HOUSING WELCOME CENTER, GENERAL NOTES AND ABBREVIATIONS, SCALE: AS NOTED, PROJECT NO.: 1366574, NAVFAC DRAWING NO. 12708196, SHEET 24 OF 70, S-002, DRAWING REVISION: 10 MARCH 2009.

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ATFP CRITERIA

- 1. THE APPLICABLE DESIGN CRITERIA FOR ATFP IS AS FOLLOWS:
  - UNIFIED FACILITIES CRITERIA (UFC) 4-010-01, DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, WITH CHANGE 1 OCTOBER 2013
- 2. CLASSIFICATION:
  - THIS FACILITY IS CLASSIFIED AS "EXEMPT" PURSUANT TO UFC 4-010-01, CHAPTER 1-9.4 AS A "TOWN CENTER."

STRUCTURAL ABBREVIATIONS

NOTE: ABBREVIATIONS LISTED BELOW MAY OR MAY NOT BE USED IN THE PROJECT

AFF	ABOVE FINISHED FLOOR
ADDL	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
AND	AND
ARCH	ARCHITECT, -URAL
ASSOC	ASSOCIATION
@	AT
BLDG	BUILDING
BRDG	BRIDGING
BRG	BEARING
BTWN	BETWEEN
BS	BOTH SIDES
BW	BOTH WAYS
BOT	BOTTOM
BOS	BOTTOM OF STEEL
BRGC	BRACING
BRDG	BRIDGING
CTR	CENTER
C	CHANNEL
CL (OR) $\varnothing$	CENTER LINE
CG	CENTER OF GRAVITY
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CJ	CONSTRUCTION JOINT
CCJ	CRACK CONTROL JOINT
DCJ	DOWELED CONSTRUCTION JOINT
CLR	CLEAR
CY	CUBIC YARD
DEMO	DEMOLITION
DIA (OR) $\varnothing$	DIAMETER
DIR	DIRECTION
DOC'S	DOCUMENTS
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
EOS	EDGE OF SLAB
EL	ELEVATION
EMBED	EMBEDMENT
EOR	ENGINEER OF RECORD
EQ	EQUAL
EQ SPA	EQUAL SPACING
EW	EACH WAY
EXP	EXPANSION
EJ	EXPANSION JOINT
EXTN	EXTENSION
EXT	EXTERIOR
EXIST (OR) (E)	EXISTING
f'c	COMPRESSIVE STRENGTH OF CONCRETE
f'm	COMPRESSIVE STRENGTH OF MASONRY
FB	FLAT BAR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FLR	FLOOR
FOB	FACE OF BRICK
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF SLAB
FS	FAR SIDE
FTG	FOOTING
Fy	YIELD STRENGTH OF STEEL
GALV	GALVANIZED
GB	GRADE BEAM
GOV'T	GOVERNMENT
>	GREATER THAN
HDG	HOT DIP GALVANIZED
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SHAPES
IAW	IN ACCORDANCE WITH
INFO	INFORMATION
INSTR	INSTRUCTION
JST	JOIST
KCJ	KEYED CONSTR JOINT
KSI	KILOPOUNDS (KIPS) PER SQ INCH
KTR	CONTRACTOR
L	ANGLE
LATL	LATERAL
LB	POUND
<	LESS THAN
LOC	LOCATION
MAS	MASONRY
MD	METAL DECK
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL

STRUCTURAL ABBREVIATIONS, CONT'D

MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MC	MOMENT CONNECTION
MPH	MILES PER HOUR
NO. (OR) #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
OPR	OPERABLE
OPP	OPPOSITE
OH	OPPOSITE HAND
%	PERCENT
PDF	POWER-DRIVEN FASTENER
PEJ	PREFORMED EXPANSION JOINT
PERIM	PERIMETER
PERP	PERPENDICULAR
PL (OR) $\varnothing$	PLATE
$\pm$	PLUS OR MINUS
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	RADIUS
REF:	REFER TO
REF	REFERENCE
REINF, REINF'T	REINFORCE, -MENT
REQ'D, REQ'T	REQUIRED, -MENT
SC	SAWCUT
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SIM	SIMILAR
SMS	SHEET METAL SCREW
SOG	SLAB ON GRADE
SPA	SPACED AT, SPACING
SP'S	SETTLEMENT PLATES
SPECS	SPECIFICATIONS
STD	STANDARD
STL	STEEL
STIF	STIFFENER
STIR	STIRRUP
STR	STRINGER
TANDB	TOP AND BOTTOM
THK	THICKNESS
THRU	THROUGH
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TP	TEST PILE
TS	THICKENED SLAB
TYP	TYPICAL
UFC	UNIFIED FACILITIES CRITERIA
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT	VERTICAL
W/	WITH
W/IN	WITHIN
W/OUT	WITHOUT
W/C	WATER/CEMENT RATIO
WF	WALL FOOTING
WP	WORKING POINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

STRUCTURAL SYMBOLS

	COMPACTED SUBGRADE/FILL
	CRUSHED STONE
	MASONRY GROUT
	CAST-IN-PLACE CONCRETE
	CONCRETE MASONRY UNIT
	BRICK VENEER
	WORKING POINT

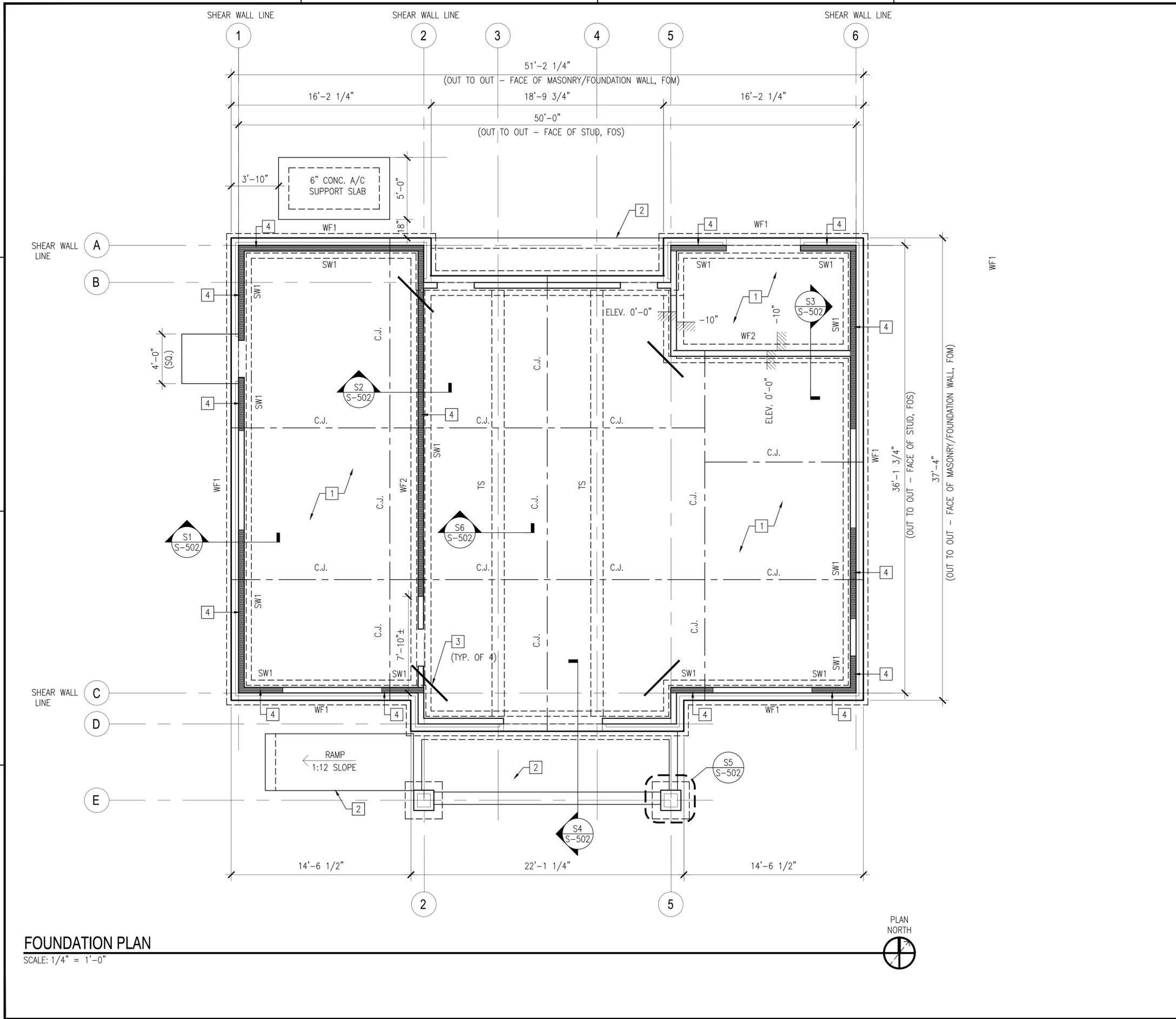
APPR	
DATE	
SYMBOL DESCRIPTION	
SEAL	
A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	HERM RAWLINGS
SATISFACTORY TO DATE	MM/DD/YY
DES	VAA
DRW	VAA
CHK	NBJ
FM/DM	JTL/APK
BRANCH MANAGER	TLD
CHEF ENG/ARCH	RLW
FIRE PROTECTION	DPS
NAVY FACILITIES ENGINEERING COMMAND	NORFOLK, VA
NAVAL FACILITIES ENGINEERING COMMAND	WALLOPS ISLAND, VA
DEPARTMENT OF THE NAVY	SURFACE COMBAT SYSTEM CENTER
NAVY FACILITIES ENGINEERING COMMAND	HOUSING WELCOME CENTER
GENERAL NOTES AND ABBREVIATIONS	
SCALE:	AS NOTED
PROJECT NO.:	1366574
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12708197
SHEET	25 OF 70
<b>S-003</b>	
DRAWING REVISION: 10 MARCH 2009	

FILE NAME: P:\VA\Wallops Island\WILCON\2016\_1366574\_P238\_DWG\_DWG\_HousingWelcomeCenter\B\_Design\Drawings\Sheet\_Files\07\_Structural\1366574-S-003\_GENERAL\_NOTES\_ABBREV\_ASYM.dwg LAYOUT NAME: S-003 PLOTTED: Wednesday, December 09, 2015 - 5:21pm USER: veronikaanderso2

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FILE NAME: P:\VA\Wallops Island\Wallops Center\B. Design\Drawings\Sheet Files\07\_Structural\1366574-1366574-S-101 FOUNDATION PLAN.dwg LAYOUT NAME: S-101 PLOTTED: Wednesday, December 09, 2015 - 5:27pm USER: vromano\andersn2  
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**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

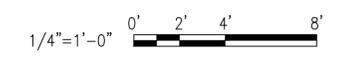
**GENERAL SHEET NOTES**

- REFER TO SHEETS S-001, S-002 AND S-003 FOR STRUCTURAL NOTES, ABBREVIATIONS AND LEGEND.
- DIMENSIONS HAVE BEEN PROVIDED TO THE EXTERIOR FACE OF MASONRY/FOUNDATION (FOM), OR EXT. STUDS (FOS) UNLESS OTHERWISE NOTED.
- TOP OF SLAB-ON-GRADE ELEVATION SHALL BE REFERENCE ELEVATION [0'-0"] UNLESS OTHERWISE NOTED.
- TOP OF FOOTING ELEVATION SHALL BE [-2'-0"] UNLESS OTHERWISE NOTED. REFERENCE TYPICAL FOOTING DETAILS AND TYPICAL CONTINUOUS FOOTING DETAILS ON SHEET S-502 FOR SIZE AND REINFORCING.
- CONSTRUCTION JOINTS AND SAWCUT JOINTS IN FLOOR SLABS SHALL OCCUR WHERE INDICATED ON PLANS AND DETAILS. CONSTRUCTION JOINTS IN WALLS AND FOOTINGS NEED NOT OCCUR AT THE SAME LOCATION.
- FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL DRAWINGS FOR SLAB FINISH REQUIREMENTS.
- CONCRETE FOOTINGS UNDER PERIMETER WALLS SHALL BE CONTINUOUS 2'-0" WIDE WALL FOUNDATIONS (WF1). REFER TO SHEET S-502 FOR REINFORCEMENT LAYOUT AND ADDITIONAL INFORMATION.
- CONCRETE FOOTINGS UNDER INTERIOR SHEAR WALLS AND WHERE SHOWN SHALL BE CONTINUOUS 1'-6" WIDE WALL FOUNDATIONS (WF2). REFER TO SHEET S-502 FOR REINFORCEMENT AND ADDITIONAL DETAILS.
- PERIMETER WALLS (ALL): 2X6 WOOD STUD MEMBERS SPACED @ 16" ON-CENTER, WITH 2X6 DOUBLE JACK STUD COLUMNS, OR AS NOTED OTHERWISE, AT CORNER AND SELECT SUPPORT LOCATIONS.
- PERIMETER WALLS SHALL INCLUDE A 4" NOMINAL BRICK WAINSCOT VENEER FACE. REFER TO THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.
- REFER TO THE CIVIL DRAWINGS FOR THE EXTENT OF SIDEWALKS AND CONCRETE SLABS.
- COORDINATE ALL EXISTING AND NEW UNDERGROUND UTILITY LINES WITH CIVIL AND MEP DRAWINGS.
- COORDINATE SIZE AND LOCATIONS OF ALL OPENINGS, SLEEVES FLOOR DEPRESSIONS, DRAINS, TRENCHES, CURBS, PADS, LEDGES, ETC. WITH THE ARCH., CIVIL AND MEP DRAWINGS.

**KEYNOTES**

- FLOOR CONSTRUCTION: 4" THICK CONCRETE SLAB-ON-GRADE WITH 6x6-W1.4x1.4 WELDED WIRE FABRIC SHEETS OVER A VAPOR RETARDER ON A 4" THICK GRANULAR BASE WHERE INDICATED.
- EXTERIOR SLABS, PATIOS AND RAMP: 6" THICK CONCRETE SLAB WITH 6x6-W2.9x2.9 WELDED WIRE FABRIC SHEETS ON 6" THICK GRANULAR BASE WHERE INDICATED.
- REENTRANT BARS: TWO (2) #4 X 48" LONG, SPACED 1" APART, DIAGONAL BAR AT MID DEPTH OF REENTRANT CORNERS IN SLABS.
- SHEAR WALL (SW1): WHERE SHOWN, "UNBLOCKED" SHEATHING, INDIVIDUAL WALL SEGMENTS. REFERENCE ARCHITECTURAL SHEET A-101 FOR LOCATIONS OF WINDOW AND DOOR OPENINGS AND SHEET S-103 FOR SHEAR WALL SCHEDULE AND DESCRIPTION.

**GRAPHIC SCALE**



APPR	
DATE	
DESCRIPTION	
SM	
SEAL	
A/E: NFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	HERM RAWLINGS
SATISFACTORY TO DATE	MM/DD/YY
DES	VAA
DRW	VAA
CHK	NBJ
FM/DM	JTL/APK
BRANCH MANAGER	TLD
CHIEF ENG/ARCH	RLW
FIRE PROTECTION	DPS
NAV FACILITIES ENGINEERING COMMAND	NORFOLK, VA
NAV FACILITIES ENGINEERING COMMAND	WALLOPS ISLAND, VA
DEPARTMENT OF THE NAVY	COMBAT SYSTEM CENTER
HAMPTON ROADS IPT	HOUSING WELCOME CENTER
	FOUNDATION/SLAB PLAN
SCALE:	AS NOTED
PROJECT NO.:	1366574
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12708198
SHEET	26 OF 70
<b>S-101</b>	
DRAWING REVISION: 10 MARCH 2009	

### GENERAL SHEET NOTES

1. TRUSSES SPACED EVENLY UNLESS OTHERWISE NOTED. SPACING 2'-0" O.C.
2. TRUSS BEARING ELEVATION AND TOP OF WALL SHALL BE [+10'-0"] UON
3. TOP OF BEAMS SHALL BE [+10'-0"] UON
4. DIMENSIONS HAVE BEEN PROVIDED TO THE FACE OF STUD, UON.

NO.	DATE	DESCRIPTION



### KEYNOTES

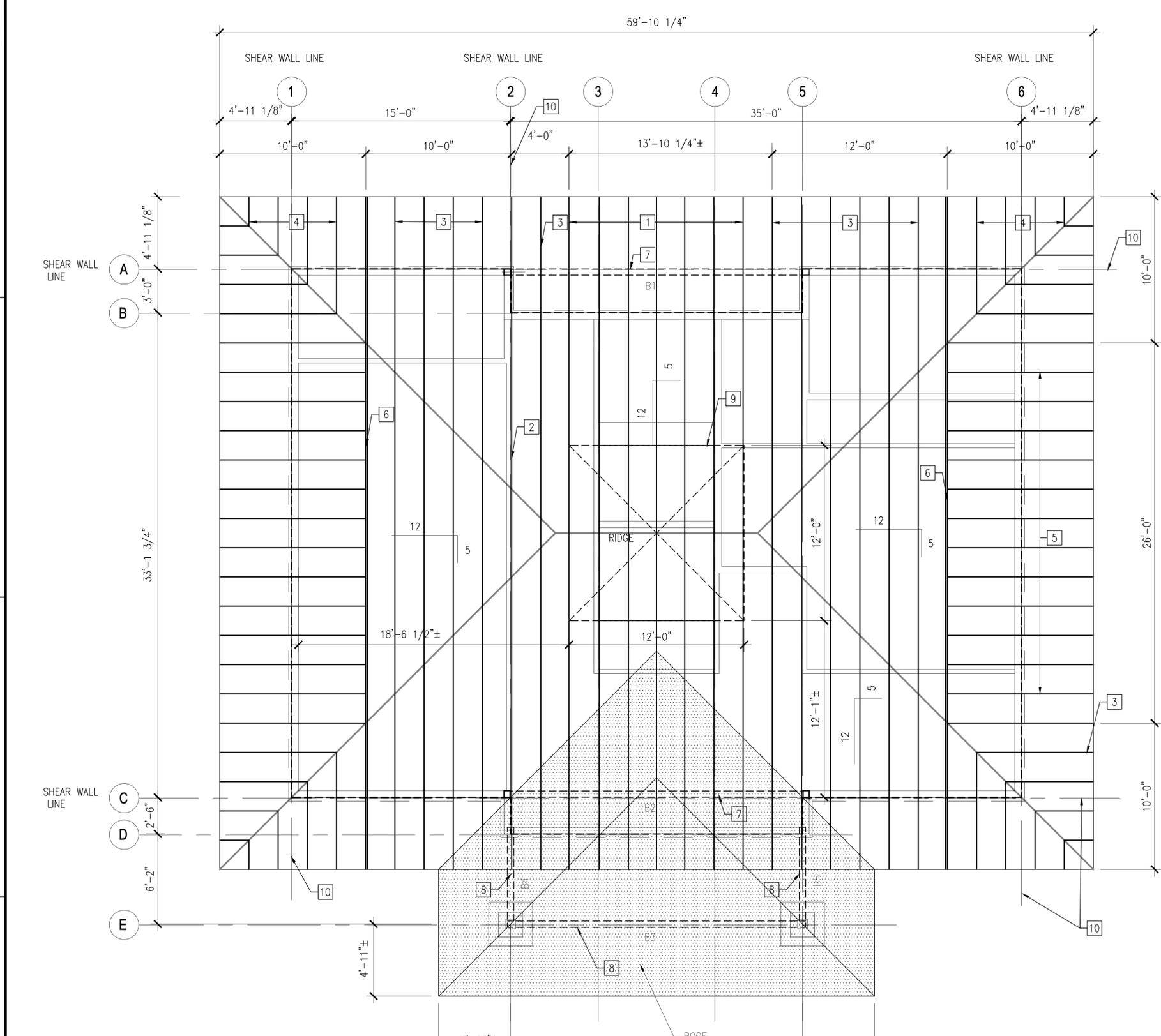
1. COMMON TRUSSES, TYPE T1 (TYP.), 2'-0" O.C. UON
2. SHEAR TRANSFER TRUSS, TYPE T2, WHERE SHOWN. PROVIDE DOUBLE TRUSS IF REQUIRED TO MATCH SHEAR WALL ALIGNMENT.
3. STEP DOWN HIP TRUSSES, (TYP.), 2'-0" O.C.
4. CORNER JACK TRUSSES, (TYP.), 2'-0" O.C.
5. END JACK TRUSSES, (TYP.) 2'-0" O.C.
6. HIP GIRDER TRUSSES, (TYP.), WHERE SHOWN
7. GLUE LAMINATED BEAMS, B1 AND B2: SIZE 5 1/8" WIDE X 20 5/8" DEEP X 20'-9" LONG, INDUSTRIAL GRADE, SERIES 24F-E4, SOUTHERN PINE OUTER/INNER CORE LAMINATES, Fbx = 2,400 PSI. BEAMS ARE SUPPORTED BY 6 x 6 SP NO. 2 POSTS AT EACH END.
8. GLUE LAMINATED BEAMS, B3, B4, B5: SIZE 5 1/8" WIDE X 12 3/8" DEEP, INDUSTRIAL GRADE, SERIES 24F-E4, SOUTHERN PINE OUTER/INNER CORE LAMINATES, Fbx = 2,400 PSI.
9. MECHANICAL EQUIPMENT PLATFORM, 12'X12'X3/4" PLYWOOD, APA RATED STURDI-I-FLOOR, EXPOSURE 1, TOUCH SANDED. REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS.
10. PLYWOOD DIAPHRAGM BOUNDARY EDGE BLOCKING LINE: "UNBLOCKED." PROVIDE 2X4 CONTINUOUS BLOCKING AT ALL PERIMETER EDGES. REFERENCE SHEET S-103 FOR PLYWOOD DIAPHRAGM SCHEDULE AND DESCRIPTION.

APPROVED	A/E: NFO
FOR COMMANDER NAVAC:	
ACTIVITY	HERM RAWLINGS
SATISFACTORY TO	DATE
DES: VAA	DRW: VAA
CHK: NBJ	
FM/DM: JTL/APK	
BRANCH MANAGER	TLD
CHEF ENG/ARCH: RLW	
FIRE PROTECTION:	DPS

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NORFOLK, VA
NAVAL FACILITIES ENGINEERING COMMAND	WALLOPS ISLAND, VA	
HAMPTON ROADS IPT	SURFACE COMBAT SYSTEM CENTER	
	HOUSING WELCOME CENTER	
	ROOF FRAMING PLAN	

SCALE:	AS NOTED
PROJECT NO.:	1366574
CONSTR. CONTR. NO.	
NAVAC DRAWING NO.	12708199
SHEET	27 OF 70
<b>S-102</b>	

### GRAPHIC SCALE



### ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"



ROOF OVERBUILD  
NOTE: ROOF TRUSSES REMOVED FOR CLARITY

FILE NAME: P:\VA\Wallops Island\1366574\_P238\_DBG\_HousingWelcomeCenter\B\_Design\Drawings\Sheet\Drawings\Sheet\_Files\07\_Structural\1366574-S-102 ROOF FRAMING PLAN\_B.dwg LAYOUT NAME: S-102 PLOTTED: Wednesday, December 09, 2015 - 5:30am USER: vernon.andersz

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GENERAL SHEET NOTES

1. COMPONENT AND CLADDING WIND PRESSURES WERE CALCULATED USING ASCE 7-10, CHAPTER 30.
2. WIND LOADS SHOWN ARE NORMAL TO THE SURFACE.

NO.	DATE	DESCRIPTION

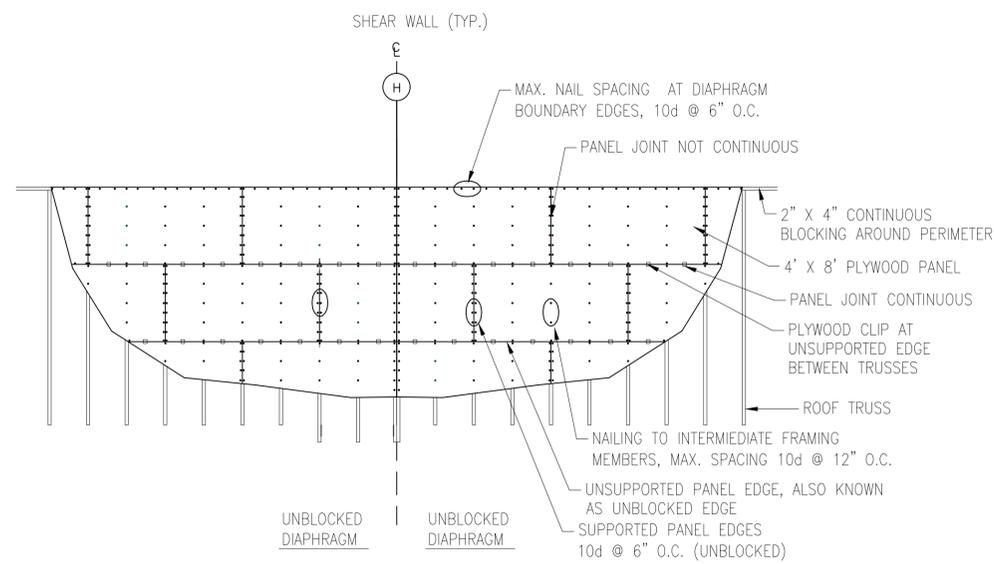
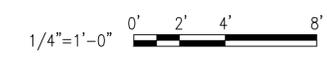


APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
HERM RAWLINGS
SATISFACTORY TO DATE MM/DD/YY
DES VAA   DRW VAA   CHK NBJ
FM/DM JTL/APK
BRANCH MANAGER TLD
CHEF ENG/ARCH RLW
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
HAMPTON ROADS IPT
NORFOLK, VA
WALLOPS ISLAND, VA
SURFACE COMBAT SYSTEM CENTER
HOUSING WELCOME CENTER
COMPONENT & CLADDING WIND LOADING PRESSURES

SCALE: AS NOTED
PROJECT NO.: 1366574
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12708200
SHEET 28 OF 70
<b>S-103</b>
<small>DRAWING REVISION: 10 MARCH 2009</small>

GRAPHIC SCALE



**PLYWOOD ROOF DIAPHRAGM SCHEDULE**  
 SCALE: 3/4"=1'-0"

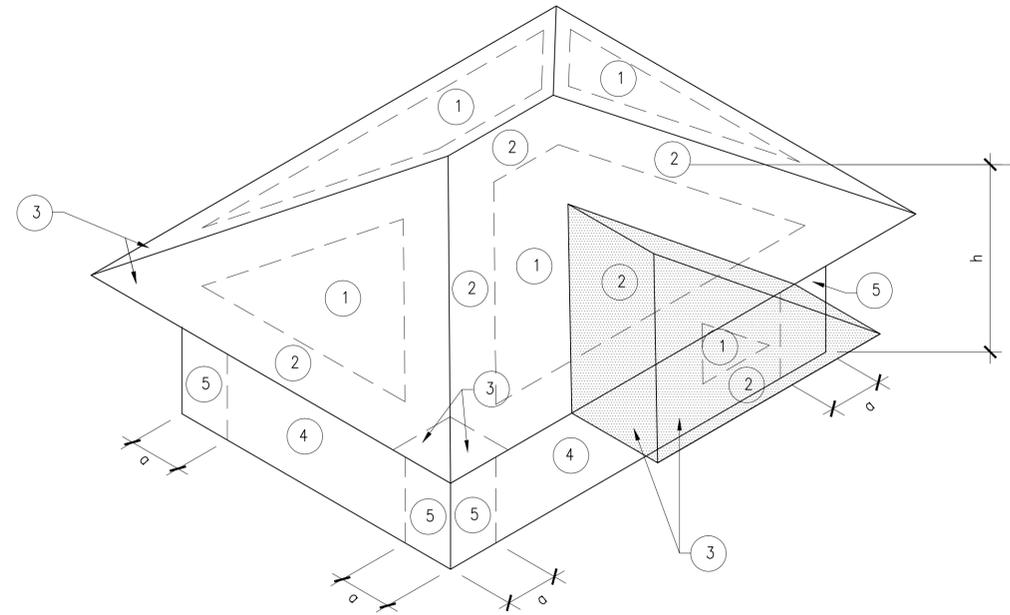
NOTES:  
 CASE 1 LOADING PLYWOOD DIAPHRAGM NAILING:  
 FASTENERS: 10d COMMON NAILS (3" X 0.148" DIAMETER)

**UNBLOCKED DIAPHRAGM**  
 BOUNDARY EDGES: 10d's @ 6" O.C.  
 SUPPORTED PANEL EDGES: 10d's @ 6" O.C. (PARALLEL)  
 UNSUPPORTED PANEL EDGES: PLYCLIP (PERPENDICULAR)  
 INTERMEDIATE FRAMING EDGES: 10d's @ 12" O.C.

**SHEAR WALL SCHEDULE**

MARK	SIZE	TYPE
SW1	2'-8" WIDE (MIN.) X 10' HIGH	AF&PA, SDPWS -2008 "INDIVIDUAL FULL HEIGHT WALL SEGMENTS"

- NOTES:
1. FULL 4 X 8 APA RATED SHEATHING PANELS (EXCLUDING BOUNDARIES) WITHOUT OPENINGS, MOUNTED PARALLEL TO STUDS, ONE SIDE ONLY.
  2. FASTENERS: 10d COMMON NAILS (3" X 0.148")  
 PANEL EDGE SPACING - 6" O.C.  
 FIELD SPACING - 12" O.C.  
 TOP AND SILL PLATE SPACING - 4" O.C.
  3. DOUBLE TOP PLATES: MOUNTED WITH STAGGERED ENDS.
  4. END CHORD UPLIFT ANCHORAGE: PREFABRICATED "TENSION-TIE" ANCHOR BRACKET RATED FOR AN ALLOWABLE TENSION LOAD OF 3,800 LBS, MOUNTED TO DOUBLE JACK STUD END CHORDS WITH NAIL OR SCREW FASTENERS. MOUNT TO SILL PLATE WITH 5/8" DIAMETER ANCHOR BOLT X 7" MINIMUM EMBEDMENT (AT EACH END).
  5. SILL PLATE SHEAR ANCHORAGE: 5/8" DIAMETER ANCHOR BOLTS WITH CUT WASHERS X 7" MINIMUM EMBEDMENT @ 4'-0" O.C. SPACING.



**COMPONENT AND CLADDING LOADING PLAN**  
 SCALE: NTS

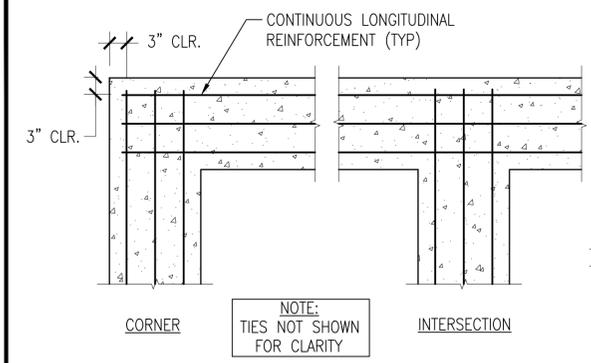
**COMPONENT & CLADDING (C&C) WIND PRESSURES**

TRIBUTARY AREA (SF)	ROOF ZONE (PSF)			WALL ZONE (PSF)	
	1	2	3	4	5
10	+4/-32	+24/-54	+42/-106	+24/-27	+24/-35
25	+6/-32	+24/-54	NA	+21/-27	+21/-32
50	+6/-32	+24/-54	NA	+19/-24	+19/-47
100	+4/-32	+24/-54		+18.5/-32	+18.5/-27
200					
500					

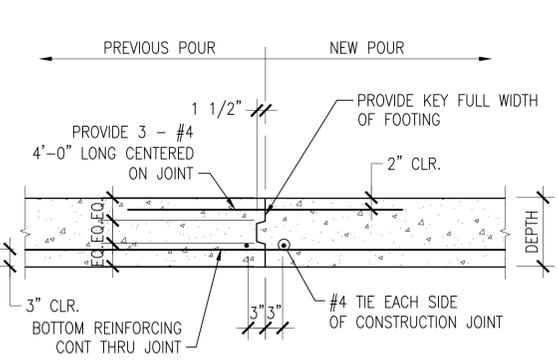
- NOTES:
1. ALL LOADS ARE IN POUNDS PER SQUARE FOOT (PSF)
  2. (+) DENOTES PRESSURE, (-) DENOTES SUCTION
  3. "a" SHALL BE 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h WHICHEVER IS SMALLER, NOT LESS THAN 4% OF LEAST HORIZONTAL DIMENSION OR 4.4 FT.
  4. "h" = MEAN ROOF HEIGHT, 15 FT.

FILE NAME: P:\VA\Wallops Island\WILCON\2016\_1366574\_P238\_DBS\_HousingWelcomeCenter\B\_Design\Drawings\Shear\_Finish\07\_Structural\12238-1366574-S-103 COMPONENT & CLADDING WIND LOADING PRESSURES\_B.dwg LAYOUT NAME: S-103 (2) PLOTTED: Wednesday, December 09, 2015 - 5:33am USER: vernon.anderson2

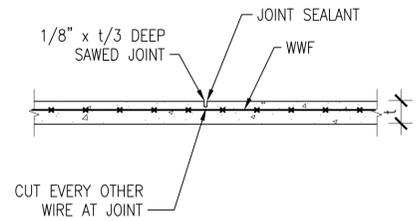
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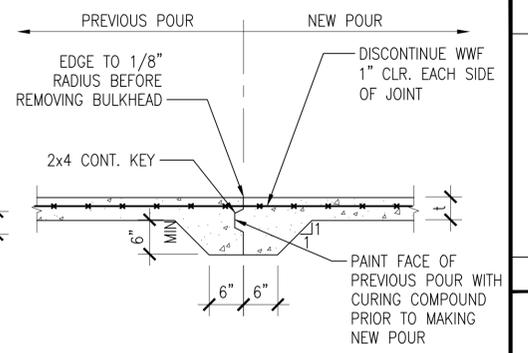
**TYPICAL DETAIL AT CORNERS AND INTERSECTIONS OF CONTINUOUS FOOTINGS**  
SCALE: NTS



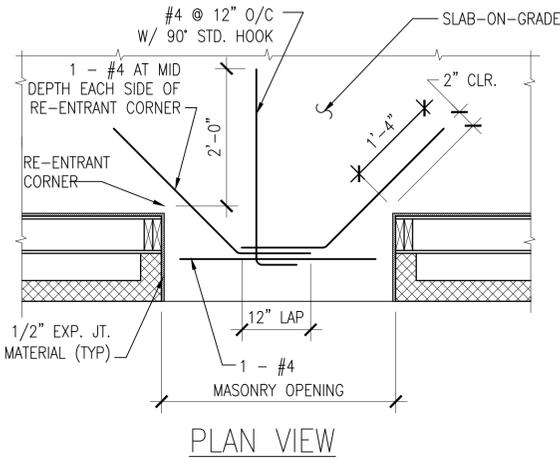
**TYPICAL FOOTING CONSTRUCTION JOINT DETAIL**  
SCALE: NTS



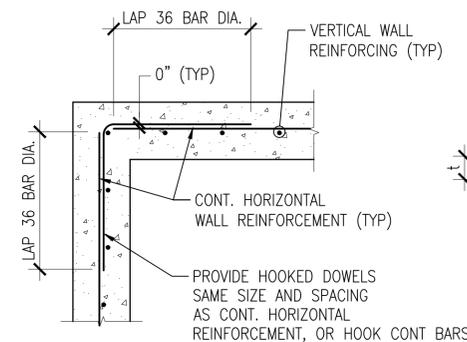
**TYPICAL SAWED JOINT DETAIL**  
SCALE: NTS DENOTED SJ ON PLAN



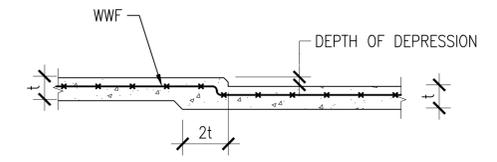
**TYPICAL KEYED CONSTRUCTION JOINT DETAIL**  
SCALE: NTS DENOTED KCJ ON PLAN



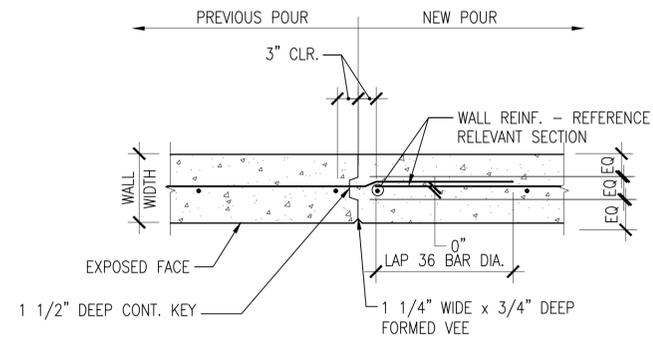
**TYPICAL SLAB REINFORCING AT EXTERIOR DOORS DETAIL**  
SCALE: NTS



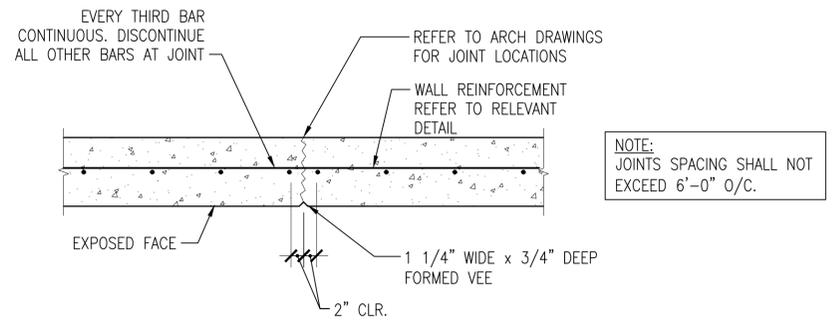
**TYPICAL DETAIL AT CORNERS OF CONCRETE WALLS**  
SCALE: NTS



**TYPICAL DEPRESSED CONCRETE SLAB DETAIL**  
SCALE: NTS DENOTED ON PLAN

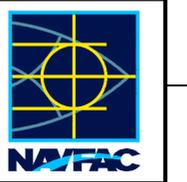


**TYPICAL VERTICAL CONSTRUCTION JOINT DETAIL**  
SCALE: NTS



**TYPICAL VERTICAL CRACK CONTROL JOINT DETAIL**  
SCALE: NTS

APPROVED
DATE
DESCRIPTION
SW



APPROVED
PER COMMANDER NAVFAC
ACTIVITY
HERM RAWLINGS
SATISFACTORY TO DATE MM/DD/YY
DES VAA   DRW VAA   CHK NBJ
PA/DM JTL/APK
BRANCH MANAGER TLD
CHIEF ENG/ARCH RLV
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
HAMPSON ROADS IPT
SURFACE COMBAT SYSTEM CENTER
NORFOLK VA
WALLOPS ISLAND, VA
HOUSING WELCOME CENTER
TYPICAL DETAILS

SCALE: AS NOTED
PROJECT NO.: 1366574
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12708201
SHEET 29 OF 70
S-301

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