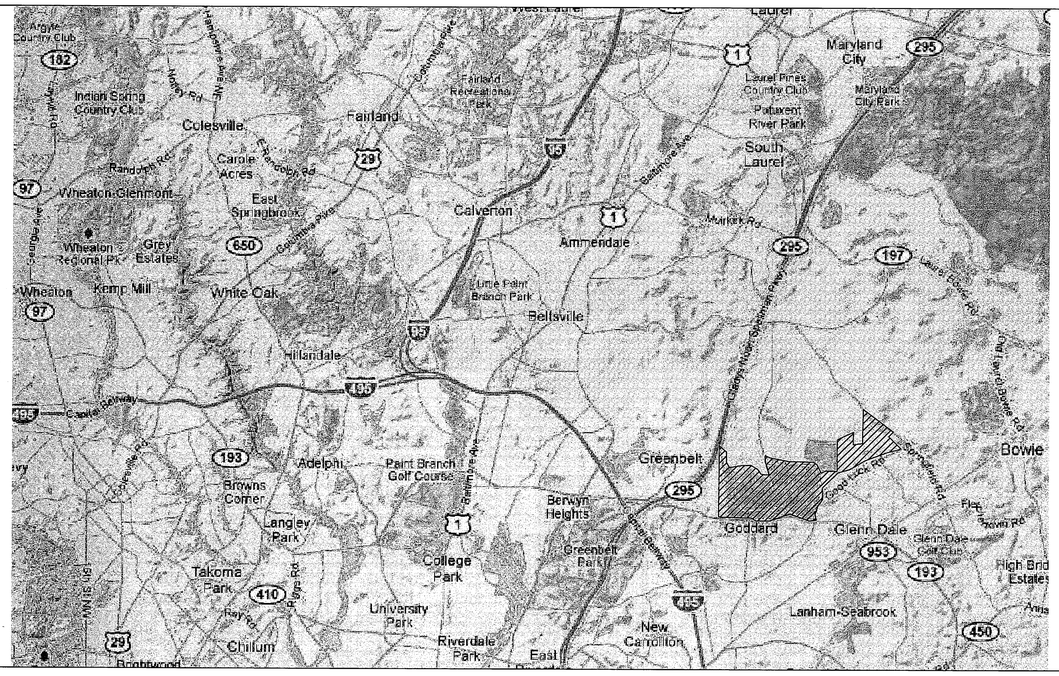
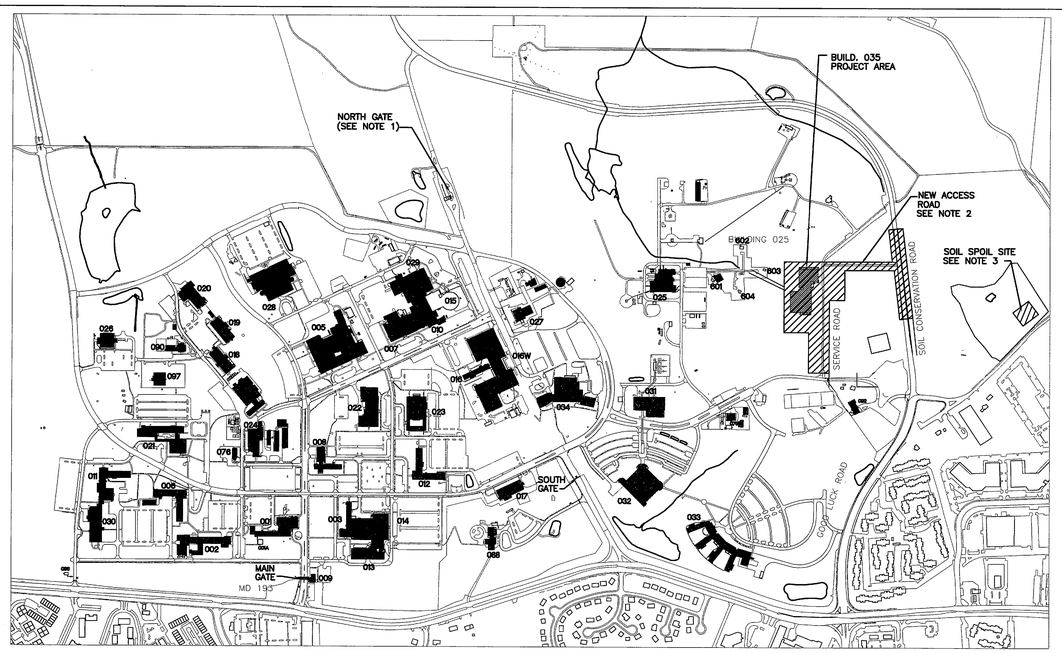
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND

LOGISTICS FACILITY
BUILDING 035
09GXAZ / A6890 / 12042



VICINITY MAP



LOCATION MAP

GENERAL NOTES:

1. ALL CONSTRUCTION ACTIVITIES THAT ARE REQUIRED TO OPERATE WITHIN THE GODDARD SPACE FLIGHT CENTER (GSFC) SECURED PERIMETER SHALL HAVE THE REQUIRED GSFC BADGING AND BE INSPECTED AT AND ENTER THROUGH THIS GATE. THIS SHALL OCCUR UNTIL SUCH TIME THAT THE CONSTRUCTION SITE IS PHYSICALLY SEPARATED FROM THE GSFC SECURED PERIMETER WITH THE INSTALLATION OF THE TEMPORARY SECURITY FENCE.

2. AFTER CONSTRUCTION OF THE TEMPORARY SECURITY FENCE, ALL CONSTRUCTION ACTIVITIES SHALL ENTER THE CONSTRUCTION SITE FROM THIS POINT WITHOUT NEED FOR GSFC BADGING FOR SECURITY INSPECTION. ACCESS WITHIN THE GSFC SECURED PERIMETER SHALL BE ALLOWED ONLY WHEN ABSOLUTELY NECESSARY AND SHALL ENTER USING THE NORTH GATE WITH THE REQUIRED BADGING AND INSPECTION.

3. NASA SOIL SPOIL SITE (LOCATED ON THE LOCATION MAP) TO BE USED FOR STOCKPILING EXCESS MATERIALS FROM THE CONSTRUCTION SITE. SEE CIVIL DRAWING.

4. VICINITY MAP AND LOCATION MAP ARE NOT TO SCALE. THE MAPS ARE FOR REFERENCE ONLY.

DRAWING INDEX

	SHEET COUNT	DRAWING NUMBER	DRAWING DESCRIPTION
GENERAL:			
G001	1 OF 158	GF-035-33989	COVER SHEET, DRAWING INDEX, AND VICINITY MAPS
G002	2 OF 158	GF-035-33990	BID ADDITIVES REFERENCE PLAN AND LEED CRITERIA
CIVIL:			
C001	3 OF 158	GF-035-33991	OVERALL SITE PLAN & NOTES, AND CIVIL LEGEND AND ABBREVIATIONS
C101	4 OF 158	GF-035-33992	SITE – EXISTING CONDITIONS PLAN 1
C102	5 OF 158	GF-035-33993	SITE – EXISTING CONDITIONS PLAN 2
C103	6 OF 158	GF-035-33994	SITE – DEMOLITION PLAN 1
C104	7 OF 158	GF-035-33995	SITE – DEMOLITION PLAN 2
C105	8 OF 158	GF-035-33996	SITE – GEOMETRIC DATA
C106	9 OF 158	GF-035-33997	SITE – LAYOUT AND PAVING PLAN
C107	10 OF 158	GF-035-33998	SITE – UTILITY PLAN
C108	11 OF 158	GF-035-33999	GRADING AND STORM DRAINAGE – PLAN 1
C109	12 OF 158	GF-035-34000	GRADING AND STORM DRAINAGE – PLAN 2
C110	13 OF 158	GF-035-34001	SWM POND – ENLARGED PLAN AND SECTIONS
C111	14 OF 158	GF-035-34002	SWM POND – DETAILS
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A103	54 OF 158	GF-035-34042	WAREHOUSE – 2ND FLOOR PLAN
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FA104	106 OF 158	GF-035-34094	FIRE ALARM PLANS – BID ADDITIVES 4 AND 6
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P103	123 OF 158	GF-035-34111	WAREHOUSE – PLUMBING PLAN – 2ND FLOOR
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E107	142 OF 158	GF-035-34130	WAREHOUSE – LIGHTING PLAN – 1ST FLOOR
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STRUCTURAL, FIRE PROTECTION
MECHANICAL, PLUMBING, ELECTRICAL:
PARSONS INFRASTRUCTURE AND TECHNOLOGY, INC.

CIVIL :
EBA ENGINEERING, INC.
4813 SETON DRIVE
BALTIMORE, MD 21215

ARCHITECT:
LUCAS ASSOCIATES, ARCHITECTS
1505 BERWICK ROAD
RUXTON, MD 21204

Facilities Construction Engineering & Technical Services
PARSONS
PMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	GB	2-24-10
A-E	RB	2-24-10
CHECKED BY	WD	2-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JPM	3/1/10
CUSTOMER	Ave	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

COVER SHEET / DRAWING INDEX

G001

BUILDING #035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

GENERAL	DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
	3-01-10	A6890	1 OF 158	GD-035-33989

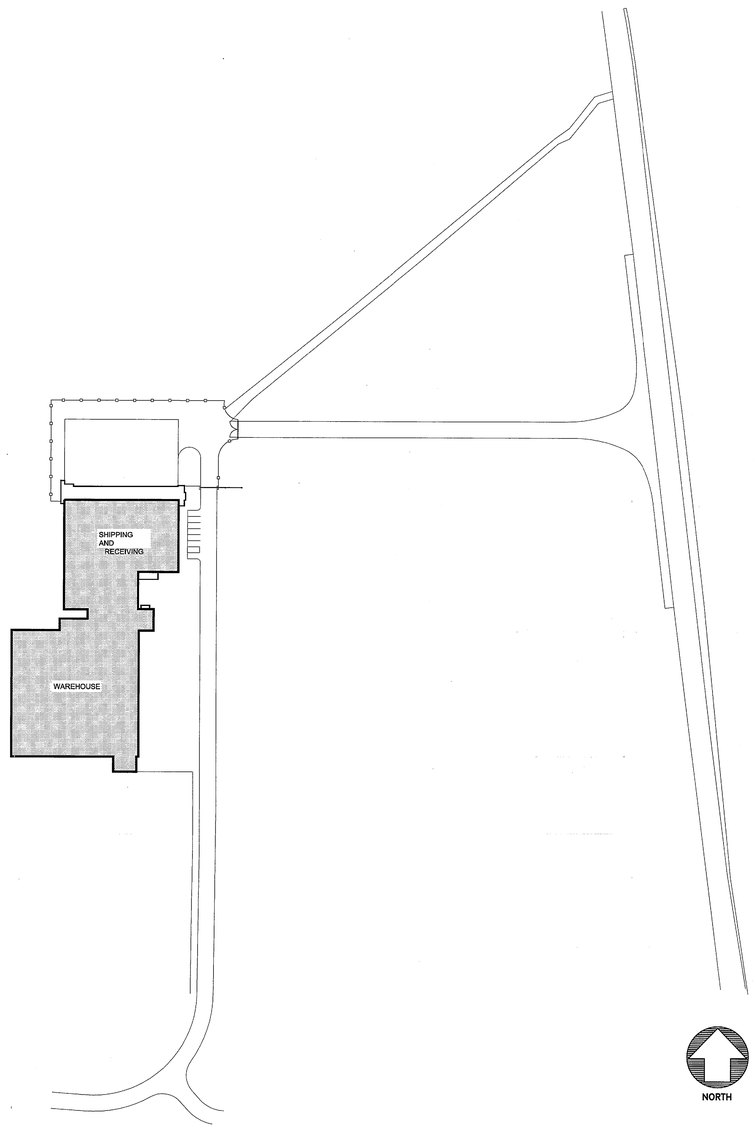
PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

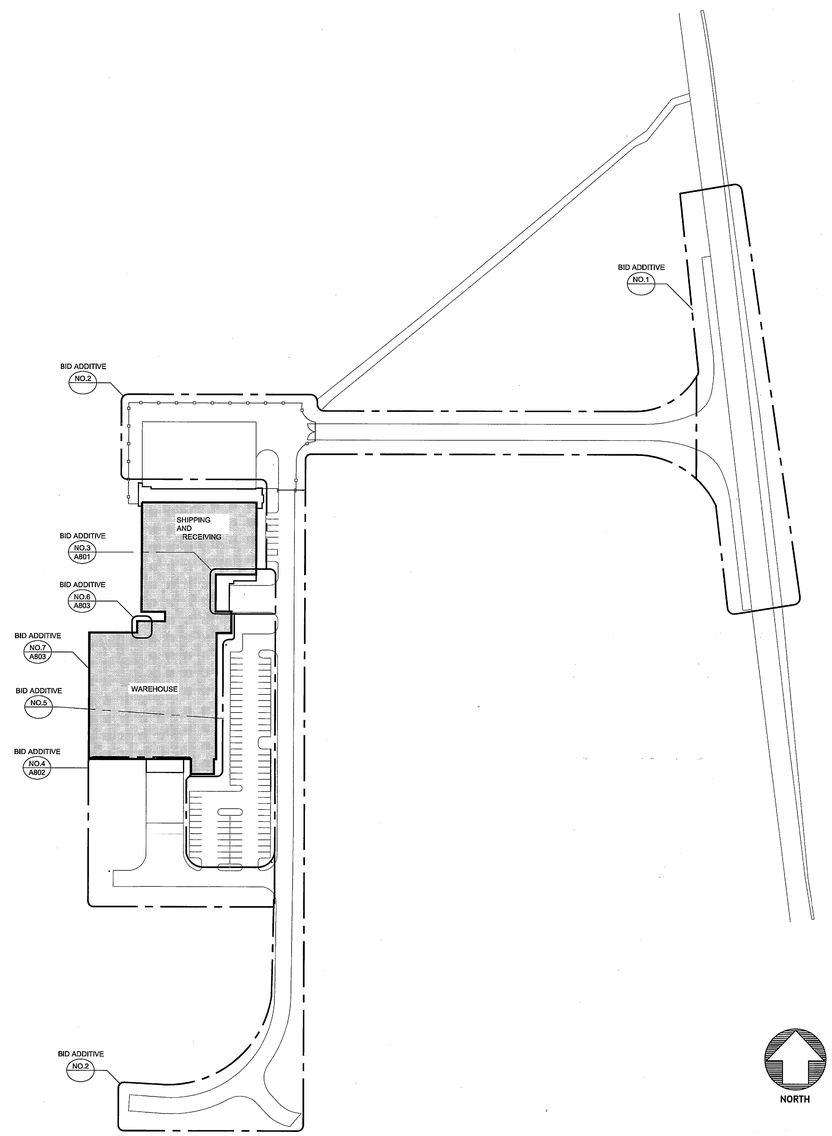
FORM F 03-03-06

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND

LOGISTICS FACILITY
BUILDING 035
09GXAZ / A6890 / 12042



SITE AND SHELL PLAN



BID ADDITIVE REFERENCE PLAN

BID ADDITIVES

BID ADDITIVE GENERAL NOTES:

1. THE GENERAL LOCATION OF THE BID ADDITIVES IS AS SHOWN BELOW ON THE BID ADDITIVE REFERENCE PLAN.
2. FULL REQUIREMENTS OF THE BID ADDITIVES IS AS DESCRIBED BELOW IN THE BID ADDITIVE DESCRIPTIONS.
3. ADDITIONAL INFORMATION REGARDING SPECIFIC EXTENT, DETAIL, OR TIE-IN OF A BID ADDITIVE IS SHOWN IN THE DRAWINGS WHERE REQUIRED FOR CLARITY AND DETAIL.
4. PLAN, SECTION, PROFILE, OR DETAIL EXTENTS OF A BID ADDITIVE MAY NOT BE FURTHER IDENTIFIED IN THE DRAWINGS IF IT IS NOT REQUIRED FOR CLARITY.
5. DETAILS ARE NOT LABELED IN THE DRAWINGS AS BID ADDITIVE IF THE DETAIL ALSO APPLIES TO BASIC REQUIREMENT WORK.
6. DRAWINGS WITH STANDARD OR TYPICAL DETAILS AND/OR INFORMATION ARE NOT IDENTIFIED IN THE BID ADDITIVE DESCRIPTIONS.

BID ADDITIVE DESCRIPTIONS:

BID ADDITIVE 1
THIS ADDITIVE INCLUDES ALL WORK FOR IMPROVEMENTS TO SOIL CONSERVATION ROAD WITHIN THE BID ADDITIVE EXTENT AREA SHOWN ON C001. THE WESTERN EXTENT OF THIS ADDITIVE SHALL BE THE ACCESS ROAD STATION 206+00 AND THE SOUTHERN EXTENT SHALL BE THE SOIL CONSERVATION ROAD STATION 65+00 AND THE NORTHERN EXTENT SHALL BE THE SOIL CONSERVATION ROAD STAION 59+00 AS SHOWN ON C105. THIS ADDITIVE INCLUDES ALL WORK WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- DEMOLITION, SHOWN ON C103, C104
- GEOMETRIC DATA, SHOWN ON C105
- UTILITIES, SHOWN ON C107
- GRADING AND STORM DRAINAGE, SHOWN ON C108, C109
- STORM DRAIN PROFILES, SHOWN ON C120
- EROSION AND SEDIMENT CONTROL, SHOWN ON C201, C202
- PAVING, SHOWN ON C302
- ROAD CROSS SECTIONS, SHOWN ON C303, C304, C305
- INTERSECTION DETAIL, SHOWN ON C309
- TEMPORARY TRAFFIC CONTROL, SHOWN ON C401
- SIGNAGE AND MARKING, SHOWN ON C501

BID ADDITIVE 2
THIS ADDITIVE IS THE 2-INCH TOP COURSE OF HOT-MIX ASPHALT PAVING OVER THE EXTENTS OF THE ACCESS ROAD WEST OF STATION 206+00, SERVICE ROAD, LOADING DOCK APRON, AND 7-SPACE PARKING LOT WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- PAVING EXTENTS, SHOWN ON C108, C109

BID ADDITIVE 3
THIS ADDITIVE IS THE DISTRIBUTION LOADING DOCK FOUNDATION AND DOCK, RETAINING WALLS, DOCK LEVELERS AND BUMPERS, BIKE RACK, STAIRS, HANDRAIL, RAMP, CANOPY, GRADING, PAVING, TRENCH DRAIN AND PIPING, FIRE PROTECTION, PLUMBING, AND LIGHTING WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- UTILITIES, SHOWN ON C107
- GRADING AND STORM DRAINAGE, RETAINING WALLS, CURBS, SHOWN ON C113
- STORM DRAIN PROFILE, SHOWN ON C118
- PAVING SECTION 6, SHOWN ON C302
- FINISHES, SHOWN ON A601
- CANOPY CEILING PLAN, SHOWN ON A701
- DOCK, CANOPY, RAMP, STAIRS, HANDRAIL, BOLLARDS, LEVELERS, BUMPERS, BIKE RACK, SHOWN ON A801
- SLAB AND FOUNDATIONS, SHOWN ON S105, S106
- RETAINING WALL, SHOWN ON S604
- FIRE PROTECTION, SHOWN ON FP104
- PLUMBING, SHOWN ON P801
- LIGHTING, SHOWN ON E115

BID ADDITIVE 4
THIS ADDITIVE IS THE DISPOSAL LOADING DOCK FOUNDATION AND DOCK, RETAINING WALLS, DOCK LEVELERS AND BUMPERS, HANDRAIL, CANOPY, GRADING, PAVING, TRENCH DRAIN AND PIPING, FIRE PROTECTION, PLUMBING, AND LIGHTING WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- UTILITIES, SHOWN ON C107
- GRADING AND STORM DRAINAGE, RETAINING WALLS, CURBS, SHOWN ON C113
- STORM DRAIN PROFILE, SHOWN ON C119
- PAVING SECTION 6, SHOWN ON C302
- FINISHES, SHOWN ON A601
- CANOPY CEILING PLAN, SHOWN ON A702
- DOCK, CANOPY, HANDRAIL, BOLLARDS, LEVELERS, BUMPERS, SHOWN ON A802
- SLAB AND FOUNDATIONS, SHOWN ON S107, S108
- RETAINING WALL, SHOWN ON S604
- FIRE PROTECTION, SHOWN ON FP104
- PLUMBING, SHOWN ON P802
- LIGHTING, SHOWN ON E115

BID ADDITIVE 5
THIS ADDITIVE IS THE 80-SPACE PARKING LOT, CURB, SIDEWALK, GRADING, PAVING, STRIPING, WHEEL STOPS, PARKING SIGNAGE, AND SITE LIGHTING WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- GRADING AND STORM DRAINAGE, CURB, SIDEWALK, PAVING, SHOWN ON C113
- PAVING SECTION 8, SHOWN ON C302
- STRIPING, WHEEL STOPS, PARKING SIGNAGE, SHOWN ON C501
- SITE LIGHTING, SHOWN ON E111

BID ADDITIVE 6
THIS ADDITIVE IS THE 12,000-POUND CAPACITY ELEVATOR SYSTEM, EQUIPMENT, CONTROLS, SUMP PUMP, AND PLUMBING WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- ELEVATOR CAR, PLUNGER, SHOWN ON A803
- FIRE ALARM, SHOWN ON FA104
- HVAC, SHOWN ON M104
- SUMP PUMP SCHEDULE, SHOWN ON P601
- PLUMBING, SHOWN ON P802
- ELEVATOR CONTROL PANEL, SHOWN ON E002
- ELECTRICAL, SHOWN ON E102

BID ADDITIVE 7
THIS ADDITIVE IS THE ADDITIONAL LIGHTING, CONDUITS, WIRING, SWITCHING FOR ROOMS 100, 160, and 260 WITHIN THE BID ADDITIVE EXTENT AREA, INCLUDING APPLICABLE:
- LIGHTING, SHOWN ON E112
- LIGHTING, SHOWN ON E113
- LIGHTING, SHOWN ON E114

LEED CRITERIA

		SITE & SHELL	FUTURE BUILDOUT (IMC)
	ALL PREREQUISITES	Point value	Point value
SSp1	Construction Activity Pollution Prevention	required	
EAp1	Fundamental Commissioning of the Building Energy Systems	required	
EAp2	Minimum Energy Performance		required
EAp3	Fundamental Refrigerant Management		required
EAc1	Optimize Energy Performance		2
MRp1	Storage & Collection of Recyclables	required	
EQp1	Minimum IAQ Performance		required
EQp2	Environmental Tobacco Smoke (ETS) Control	required	
	SUSTAINABLE SITES		
SSc1	Site Selection	1	
SSc3	Brownfield Redevelopment	1	
SSc4.2	Bicycle Storage & Changing Rooms	1	
SSc4.3	Low Emission & Fuel Efficient Vehicles	1	
SSc5.1	Protect or Restore Habitat	1	
SSc5.2	Maximize Open Space	1	
SSc6.1	Stormwater Design – Quantity Control	1	
SSc6.2	Stormwater Design – Quality Control	1	
SSc7.2	Heat Island Effect – Roof	1	
SSc8	Light Pollution Reduction	1	
	WATER EFFICIENCY		
WEc1.1	Water Efficiency, Landscaping – Reduce by 50%	1	
WEc1.2	No Potable Water Use or No Irrigation	1	
WEc2	Innovative Wastewater Technologies		1
WEc3.1	Water Use Reduction – 20% Reduction	1	
	ENERGY & ATMOSPHERE		
EA3	Enhanced Commissioning		1
EA4	Enhanced Refrigerant Management	1	
EAc5	Measurement & Verification	1	
	MATERIALS & RESOURCES		
MRc2.1	Divert 50% From Disposal	1	
MRc2.2	Divert 75% from Disposal	1	
MRc4.1	Recycled Content – 10% (Post-Consumer + ½ Pre-Consumer)	1	
MRc4.2	Recycled Content – 20% (Post-Consumer + ½ Pre-Consumer)	1	
MRc5.1	Regional Materials – 10% Extracted, Processed & Manufactured Regionally	1	
MRc5.2	Regional Materials – 20% Extracted, Processed & Manufactured Regionally	1	
MRc7	Certified Wood	1	
	INDOOR ENVIRONMENTAL QUALITY		
EQc1	Outdoor Air Delivery Monitoring	1	
EQc3.1	Construction IAQ Management Plan - During Construction	1	
EQc3.2	Construction IAQ Management Plan - Before Occupancy	1	
EQc4.1	Low-Emitting Materials - Adhesives & Sealants	1	
EQc4.2	Low-Emitting Materials - Paints & Coatings	1	
EQc4.4	Low-Emitting Materials -Composite Wood & Agrifiber Products	1	
EQc5	Indoor Chemicals & Pollutants Source Control	1	
EQc6.1	Controllability of Systems - Lighting	1	
EQc7.1	Thermal Comfort - Design	1	
EQc7.2	Thermal Comfort - Verification	1	
	INNOVATION IN DESIGN		
IDc1.1-1.4	Innovation and/or exemplary performance		

THIS BUILDING IS SUBMITTING FOR US GREEN BUILDING COUNCIL LEED SILVER CERTIFICATION, WHICH REQUIRES ADMINISTRATIVE DILIGENCE FROM THE CONTRACTOR. THE FOLLOWING LEED CREDITS HAVE BEEN DESIGNED INTO THE BUILDING OR WILL BE ACHIEVED THROUGH THE CONSTRUCTION PROCESS.

PARSONS
Transportation Engineering & Technical Services
IND-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M-27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	GB	2-24-10
A-E	RB	2-24-10
CHECKED BY	WD	2-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	THA	3/1/10
CUSTOMER	AMC	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
BID ADDITIVE REFERENCE PLAN &
LEED CRITERIA

G002

BUILDING #035

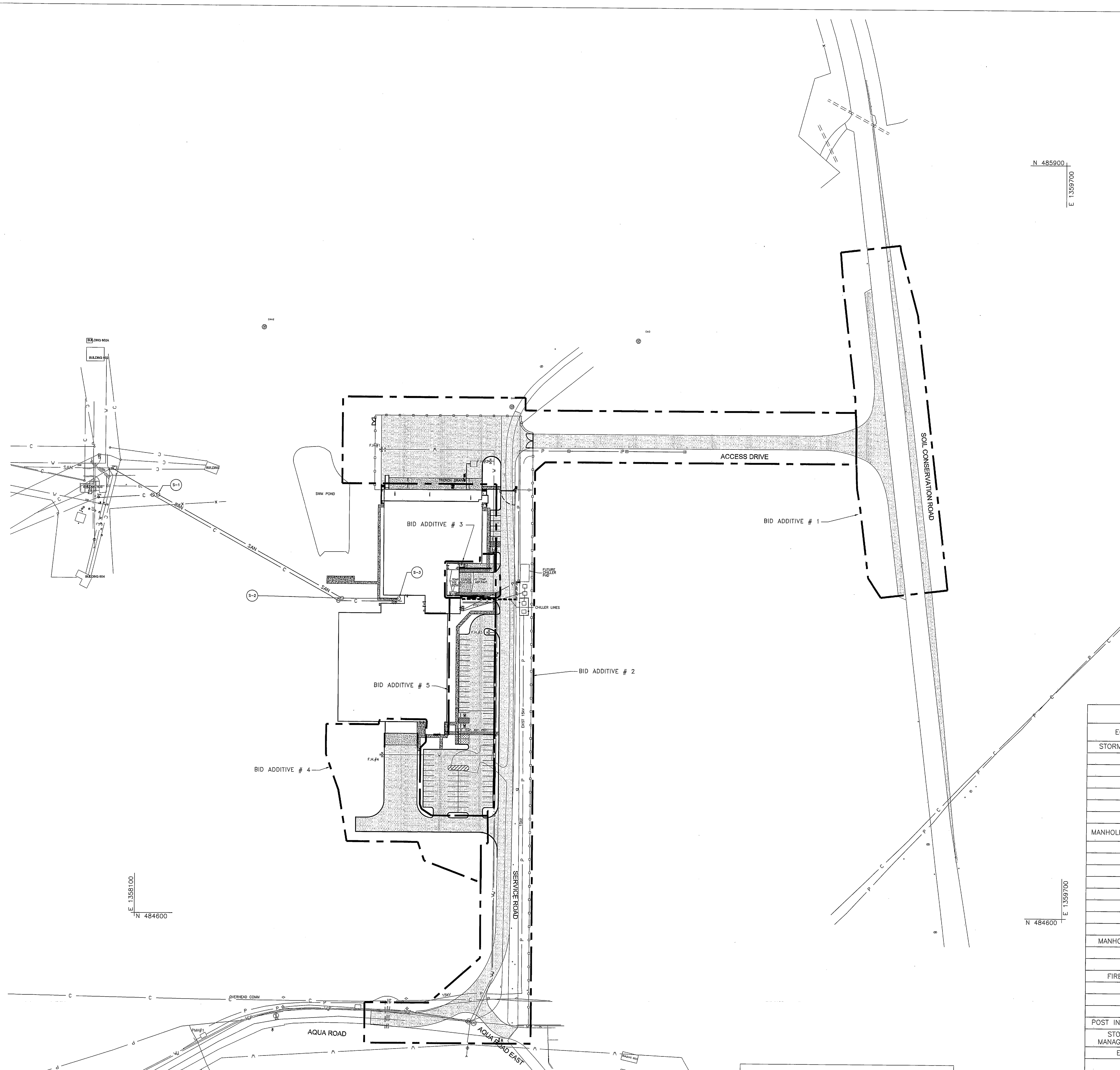
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

GENERAL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 2 OF 158	DRAWING NO. GD-035-33990

FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: G002.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



SITE PLAN
1 / C001 SCALE: 1" = 80'

GENERAL NOTES

1. BEFORE COMMENCING WORK THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CO AND COTR IN WRITING WHEN EXISTING CONDITIONS ARE SUBSTANTIVELY DIFFERENT FROM THOSE AS SHOWN OR DESCRIBED IN THE PLANS AND/OR SPECIFICATIONS.
2. NO PENETRATION OF THE GSFC SECURITY PERIMETER FENCE SHALL OCCUR UNTIL ALL NECESSARY TEMPORARY FENCE AND CONTROLS HAVE BEEN INSTALLED AND APPROVED BY THE COTR AND THE GSFC PROTECTIVE SECURITY DIVISION (PSD). THE CONTRACTOR SHALL BE LIABLE FOR COSTS THAT ARE INCURRED BY THE PSD FOR ANY UNAPPROVED PENETRATION THAT REQUIRES THE PSD TO POST A GUARD UNTIL THE PENETRATION IS REPAIRED. GSFC SECURITY PERIMETER SHALL BE MAINTAINED AT ALL TIMES. THE TEMPORARY SECURITY FENCE PLAN IS SHOWN ON SHEETS C201 THRU C205.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES IS OBTAINED FROM NASA AVAILABLE RECORDS AND ARE APPROXIMATE. PRIOR TO EXCAVATION OF ANY KIND THE CONTRACTOR SHALL SUBMIT AN EXCAVATION PERMIT REQUEST, UTILITIES SHALL BE MARKED IN THE FIELD BY THE NASA MISS UTILITY, AND THE CONTRACTOR SHALL HAVE RECEIVED THE APPROVED EXCAVATION PERMIT BEFORE DIGGING. THE CONTRACTOR SHALL DETERMINE EXACT LOCATION AND ELEVATION OF THE UTILITIES MARKED THAT ARE WITHIN 10-FT OF ANY EXCAVATION BY HAND DIGGING TEST PITS.
4. THE CONTRACTOR SHALL EXECUTE AN NPDES CONSTRUCTION ACTIVITY TRANSFER OF AUTHORIZATION FORM WITH NASA PRIOR TO STARTING CONSTRUCTION OR INSTALLATION ON THE EROSION AND SEDIMENT CONTROL. THIS FORM SHALL BE FILED WITH THE MARYLAND DEPARTMENT OF ENVIRONMENT. AFTER TRANSFER IS EFFECTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE MARYLAND DEPARTMENT OF ENVIRONMENT APPROVED EROSION AND SEDIMENT CONTROL PLANS AND PERMIT, 10-SF-0158. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL REQUIRED LOGS BOOKS, MDE NOTIFICATIONS, FINES, ETC.
5. THE CONTRACTOR SHALL COOPERATE AND COORDINATE THEIR WORK WITH ALL NASA CONTRACTORS WHO ENTER THE SITE FOR THE PURPOSES OF:
   I. MONITORING AND/OR INSPECTING OF THE CONTRACTOR'S WORK FOR COMPLIANCE WITH THE CONTRACT UNDER THE DIRECTION OF THE COTR.
   II. PUBLIC UTILITY CONTRACTORS (WASHINGTON GAS) THAT WILL BE INSTALLING A NATURAL GAS LINE TO THE PROXIMITY OF THE MECHANICAL ROOM.
   III. GSFC TELECOMMUNICATION AND/OR SECURITY CONTRACTORS THAT WILL INSTALL CABLING AND DEVICES WITHIN CONDUITS INSTALLED BY THE CONTRACTOR AND/OR AT TERMINATION POINTS OF END USE, KEYING LOCKSETS, INSTALLATION OF CARD KEY DEVICES, ETC.
6. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES, SURVEY CONTROL POINTS, AND AREAS NOT TO BE DISTURBED. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED TO MEET OR EXCEED THE CONDITION PRIOR TO DAMAGE.
7. THE LOD, TEMPORARY SECURITY FENCE, TREE CANOPY AND TRUNK LINES, AND TREE PROTECTION FENCING LINES ARE APPROXIMATE. THE CONTRACTOR SHALL LAYOUT THE LIMIT OF GRADING AND/OR WORK AND THE LOD LINES PRIOR TO ANY DISTURBANCE. THE ENTIRE SITE PERIMETER SHALL BE WALKED BY THE COTR, THE CONTRACTOR, AND OTHER INTERESTED PARTIES (SUCH AS DNR FIELD INSPECTOR, MDE WMA INSPECTOR, GSFC SECURITY) TO ADJUST THE LOD TO THE MOST SUITABLE POINTS IN ORDER TO INSTALL THE WORK, MAXIMIZE SECURITY, AND PROTECT AND MINIMIZE DAMAGE TO TREES.
8. ALL WORK AREAS WHICH ARE SUBJECT TO PUBLIC TRAFFIC, OR NEAR ENOUGH TO PUBLIC TRAFFIC TO REQUIRE CONSIDERATION OF PUBLIC NEEDS, SHALL BE ADEQUATELY PROTECTED WITH MOT AND OTHER MEANS AS NECESSARY TO ENSURE PUBLIC SAFETY.
9. CONSTRUCTION SHALL BE SEQUENCED TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE DISRUPTION TO GSFC FACILITIES AND OPERATIONS.
10. AT TIE-INS TO EXISTING FACILITIES THE CONTRACTOR SHALL MATCH EXISTING CONDITIONS IN LINES AND GRADES TO PROVIDE A SMOOTH TRANSITION. EXISTING STRUCTURE TOPS AND APPURTENANCES WITHIN LINES OF WORK SHALL BE ADJUSTED TO MEET PROPOSED GRADES.
11. THE CONTRACTOR SHALL MAINTAIN A CURRENT UP TO DATE WORKING COPY OF ALL AS-BUILT CHANGES TO THE WORK WHICH SHALL BE AVAILABLE TO GSFC AT ALL TIMES.

GOMAR NUMBERS

EQUIPMENT	STRUCTURE ID	GOMAR #
STORM DRAIN INLET	I-1	977-SDI1798
	I-2	977-SDI1799
	I-3	977-SDI1800
	I-4	977-SDI1801
	I-5	977-SDI1802
	I-6	977-SDI1803
	I-7	977-SDI1804
MANHOLE-STORM DRAIN	M-1	977-SDM796
	M-2	977-SDM797
	M-3	977-SDM798
	M-4	977-SDM799
	M-5	977-SDM800
	M-6	977-SDM801
	M-7	977-SDM802
	M-8	977-SDM803
	M-9	977-SDM804
MANHOLE-SANITARY	S-1	982-SNM135
	S-2	982-SNM136
	S-3	982-SNM137
FIRE HYDRANT	F-1	973-HYD001
	F-2	973-HYD002
	F-3	973-HYD003
	F-4	973-HYD004
POST INDICATOR VALVE	PIV-1	035-PIV001
STORM WATER MANAGEMENT POND	SWM-1	977-SWM022
ENDWALL	EW-1	977-HDW185
	EW-2	977-HDW186
	EW-3	977-HDW187
	EW-4	977-HDW188
	EW-5	977-HDW189
	EW-6	977-HDW190
HEADWALL	HW-1	977-HDW191

LEGEND/ABBREVIATION

NOTE: FOR UTILITIES BELOW, ABANDONED LINES ARE SHOWN WITH AN "A-" PREFIX.
EXAMPLE: A-CON

C	COMMUNICATION DUCTBANK
DWV	DOMESTIC WATER VALVE
DIP	DUCTILE IRON PIPE
EC	ELECTRIC CONDUIT
EL.	ELEVATION
FP	FIRE PROTECTION
HYD	HYDRANT
P	POWER DUCTBANKS
PMH	POWER MANHOLE
RCP	REINFORCED CONCRETE PIPE
SDI	STORM DRAIN INLET
SDM	STORM DRAIN MANHOLE
ST	STORM DRAINAGE
SL	STREET LIGHTING
SWM	SANITARY MANHOLE
T	TELEPHONE
W	WATER
RD	ROOF DRAIN

GRAPHIC SCALE: 1"=80' (80 40 0 80 160)

NORTH

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

INDEX OF DRAWINGS

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5 of 158	C102	SITE EXISTING CONDITIONS PLAN 2
6 of 158	C103	SITE DEMOLITION PLAN 1
7 of 158	C104	SITE DEMOLITION PLAN 2
8 of 158	C105	SITE GEOMETRIC DATA
9 of 158	C106	SITE LAYOUT AND PAVING PLAN
10 of 158	C107	SITE UTILITY PLAN
11 of 158	C108	GRADING AND STORM DRAINAGE PLAN 1
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LEGEND

EXISTING CONTOUR (149)	LIMIT OF DISTURBANCE (L.O.D.)
EXISTING TREE LINE	NEW TREE LINE
EXISTING TREE	PROPOSED GRADE
EXISTING LIGHT POLE	NEW SPOT ELEVATION (179+)
EXISTING UTILITY (UTIL.)	NEW SANITARY (SAN)
EXISTING WATER	NEW WATER (W)
EXISTING FENCE	PIV (POST INDICATOR VALVE)
EXISTING 15kV POWER (15kV)	NEW PERMANENT FENCE
EX. SANITARY CLEANOUT	NEW STORM DRAIN
EXISTING WATER VALVE	PROPOSED MANHOLE
EXISTING TRAFFIC SIGN	BORING LOCATION
EXISTING INLET	NEW SIGN
EXISTING FIRE HYDRANT	NEW INLET
TEMPORARY SECURITY FENCE	NEW CURB
NEW COMMUNICATION LINE (C)	NEW TRENCH DRAIN
TREE PROTECTION FENCE (TPF)	TRAVERSE POINT
TO BE REMOVED	NEW PAVEMENT
END SECTION	NEW RIP RAP
HEADWALL	NEW CONCRETE
ENDWALL	EX. PAVEMENT TO BE REMOVED

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND · HARISH J. PATEL · No. 19533 · PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER		
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	[signature]	3/1/10
CUSTOMER	[signature]	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

OVERALL SITE PLAN & NOTES, AND CIVIL LEGEND AND ABBREVIATIONS

C001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	3 OF 158	GF-035-33991

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1 / C101 EXISTING CONDITION PLAN I

SCALE: 1" = 40'

40 20 0 40 80 FEET

GRAPHIC SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SAK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

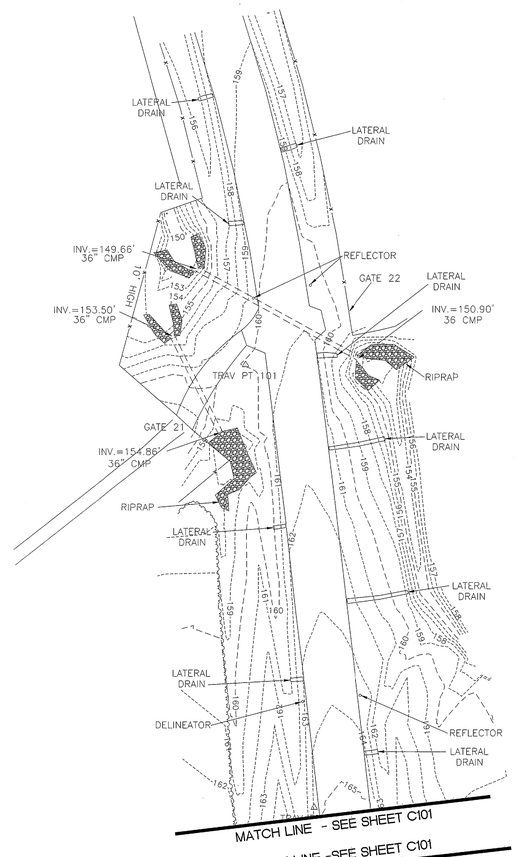
SITE
EXISTING CONDITIONS PLAN 1

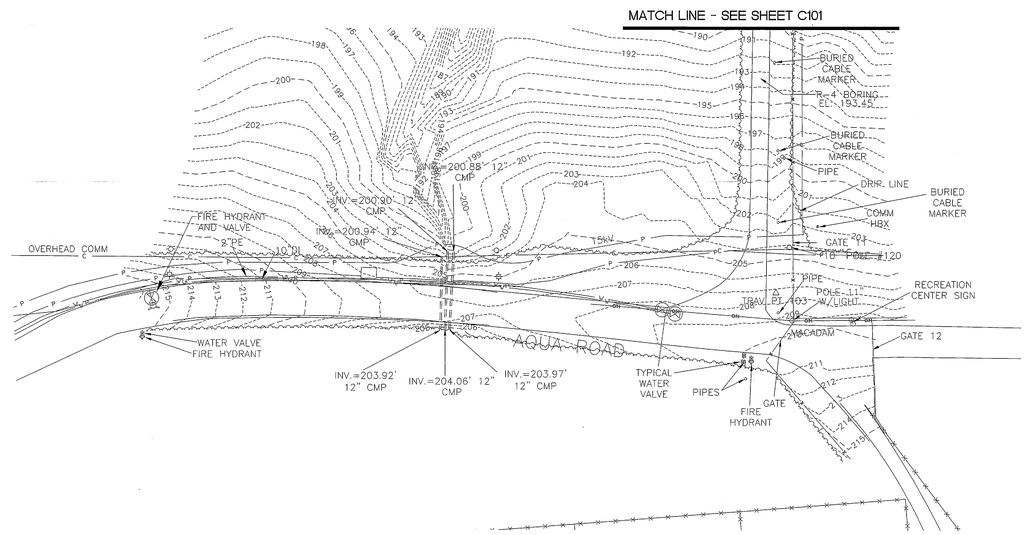
C101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

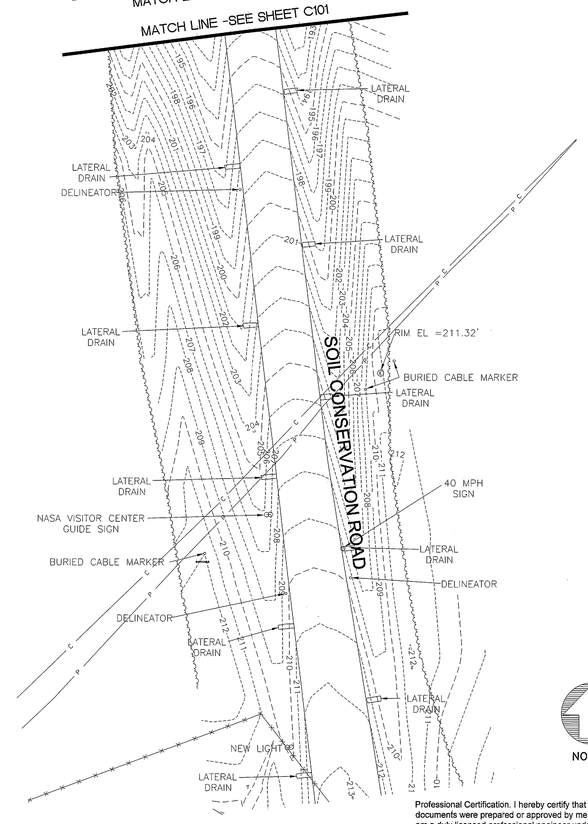
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	4 of 158	GF-035-33992





1 C102 EXISTING CONDITION PLAN II

SCALE: 1" = 40'



NORTH

40 20 0 40 80 FEET

GRAPHIC SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS

Facilities Construction Engineering & Technical Services

FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND

MARSH I. PATEL

No. 19533

PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	–	
PM	FMW	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
SITE
EXISTING CONDITIONS PLAN 2

C102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	5 of 158	GF-035-33993

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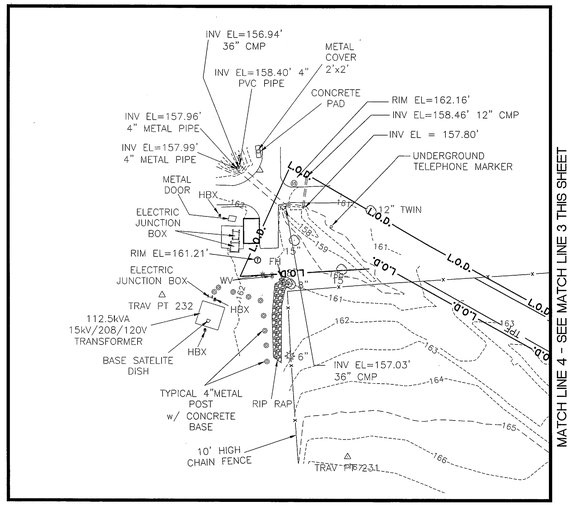
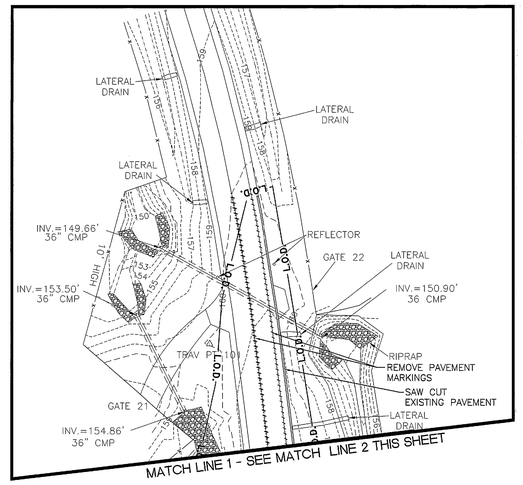
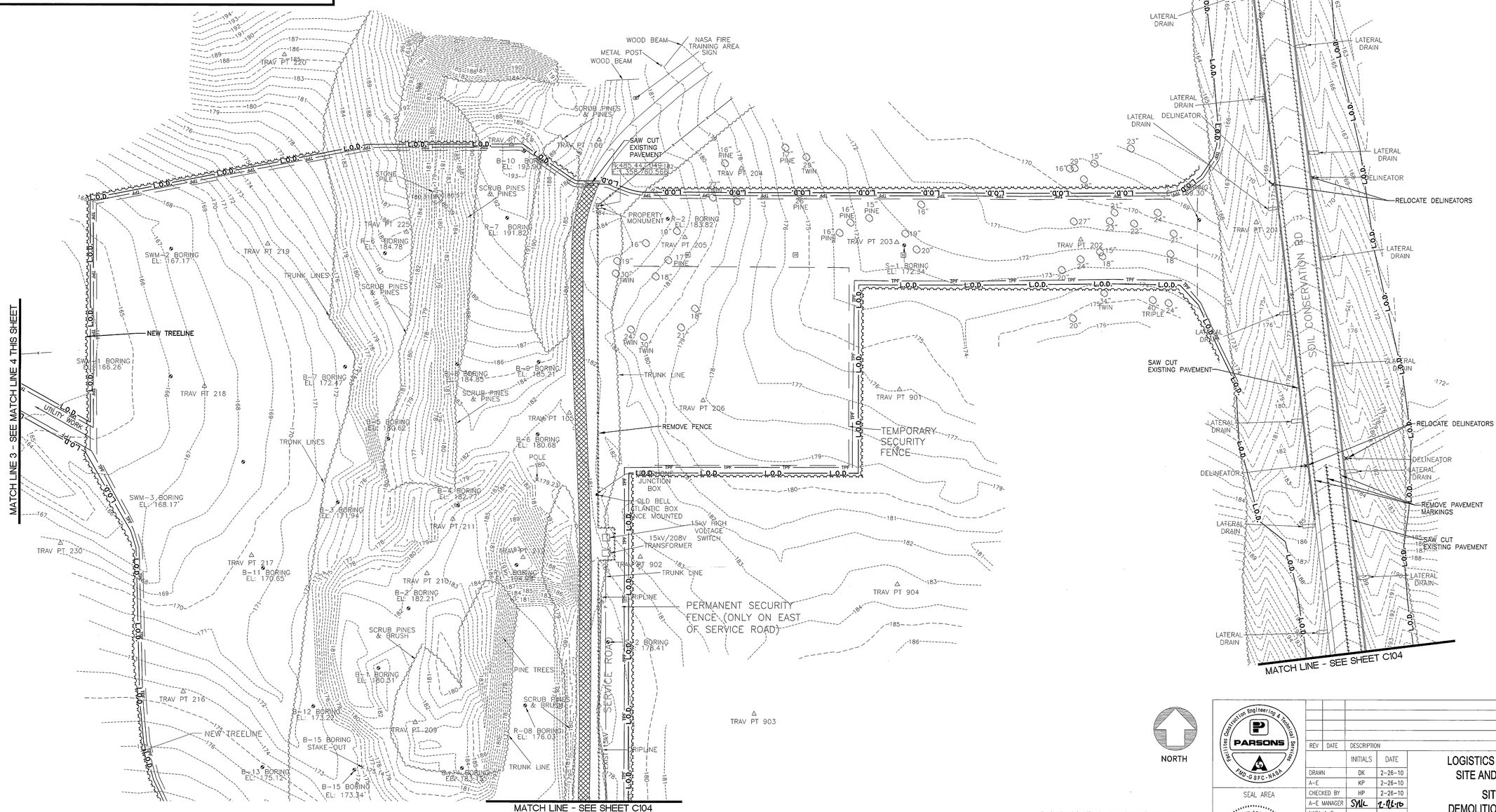
DEMOLITION NOTES

1. REMOVE EXISTING TREES WITHIN LIMIT OF DISTURBANCE, EXCEPT THE NEW UTILITY RUN ON WEST SIDE. ONLY SELECTIVE TREE REMOVAL SHALL OCCUR TO INSTALL UTILITIES.
2. REMOVE EXISTING ROAD PAVEMENT WITHIN LIMIT OF DISTURBANCE. EXCEPT SC ROAD.
3. REMOVE EXISTING FENCE FROM EAST SIDE OF SERVICE ROAD AFTER THE TEMPORARY FENCE IS INSTALLED.







1 C103 DEMOLITION PLAN I

SCALE: 1" = 40'

NORTH

GRAPHIC SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

SEAL AREA

STATE OF MARYLAND — HARISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3/1/10
SECTION HEAD		
CMIL		

LOGISTICS FACILITY
SITE AND SHELL
SITE
DEMOLITION PLAN 1

C103

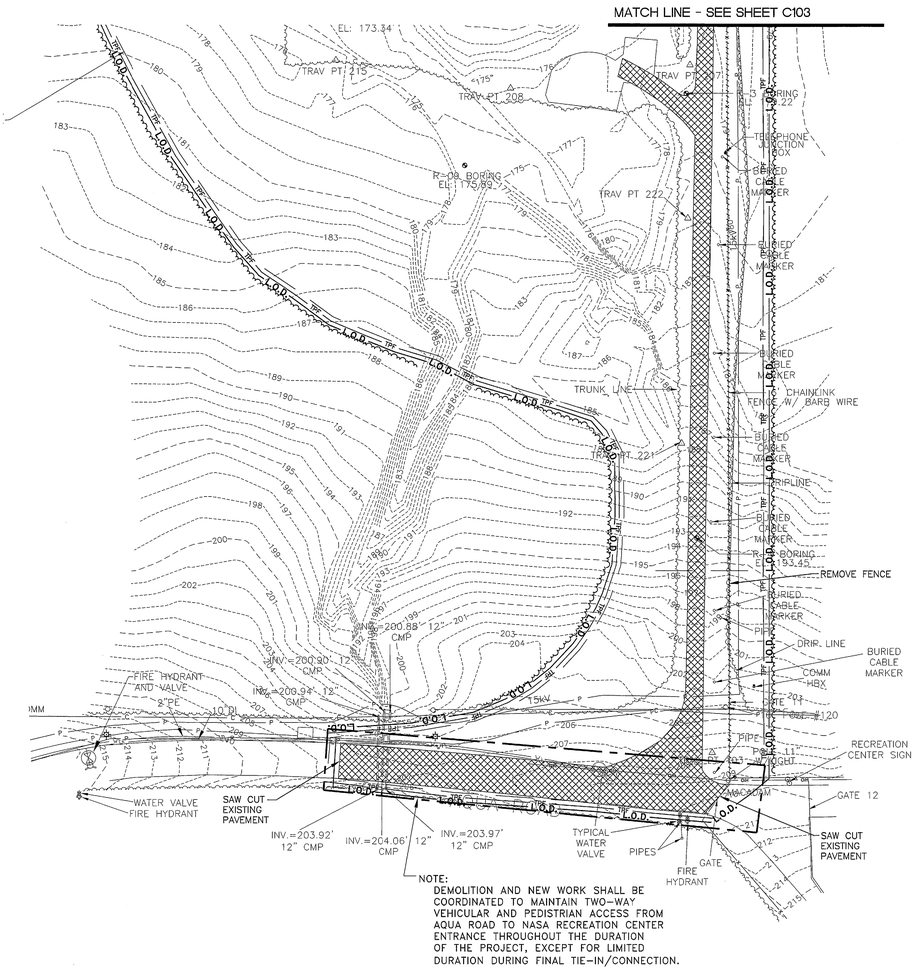
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

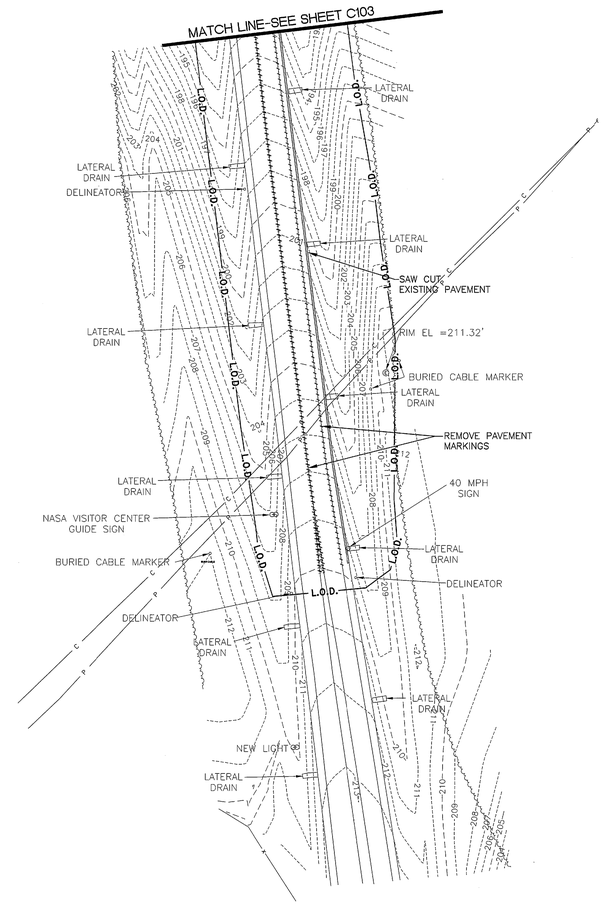
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	6 of 158	GF-035-33994

DEMOLITION NOTES

1. REMOVE EXISTING TREES WITHIN LIMIT OF DISTURBANCE.
2. REMOVE EXISTING ROAD PAVEMENT WITHIN LIMIT OF DISTURBANCE. EXCEPT SC ROAD.
3. REMOVE EXISTING FENCE ON EAST SIDE OF SERVICE ROAD.



NOTE:
DEMOLITION AND NEW WORK SHALL BE COORDINATED TO MAINTAIN TWO-WAY VEHICULAR AND PEDISTRIAN ACCESS FROM AQUA ROAD TO NASA RECREATION CENTER ENTRANCE THROUGHOUT THE DURATION OF THE PROJECT, EXCEPT FOR LIMITED DURATION DURING FINAL TIE-IN/CONNECTION.



1 C104 DEMOLITION PLAN II
SCALE: 1" = 40'

NORTH

40 20 0 40 80 FEET
GRAPHIC SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2.26.10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	IM	3/1/10
CUSTOMER	BW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL
SITE
DEMOLITION PLAN 2

C104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	7 OF 158	GF-035-33995

CONSTRUCTION CONTROL COORDINATES

BASELINE	DESCRIPTION	NORTH	EAST
AQUA RD /SERVICE RD	POT 294+92.24	484,328.812	1,358,161.738
"	PC 296+20.84	484,393.316	1,358,272.990
"	PCC 297+11.49	484,420.254	1,358,358.774
"	PT 298+72.97	484,420.802	1,358,520.085
"	PC 299+11.11	484,417.894	1,358,558.106
"	PT 301+80.60	484,580.136	1,358,735.673
"	PC 303+69.40	484,768.918	1,358,738.279
"	PT 304+52.22	484,851.728	1,358,738.850
AQUA EAST	POT 0+00.00	484,459.159	1,358,680.385
"	PC 0+59.35	484,414.826	1,358,719.842
"	PT 1+02.32	484,396.784	1,358,757.598
"	POT 1+31.03	484,395.405	1,358,786.280
ACCESS RD	POT 200+00.00	485,418.898	1,358,738.850
"	POT 206+72.65	485,418.898	1,359,530.367
SOIL CONSERVATION RD	POT 74+18.23	484,246.680	1,359,530.367
"	PT 72+21.09	484,443.458	1,359,526.857
"	TS 57+51.23	485,903.142	1,359,354.230
"	SC 28+12.19	486,046.836	1,359,333.643
"	PT 33+00.12	486,483.923	1,359,128.219

CURVE DATA

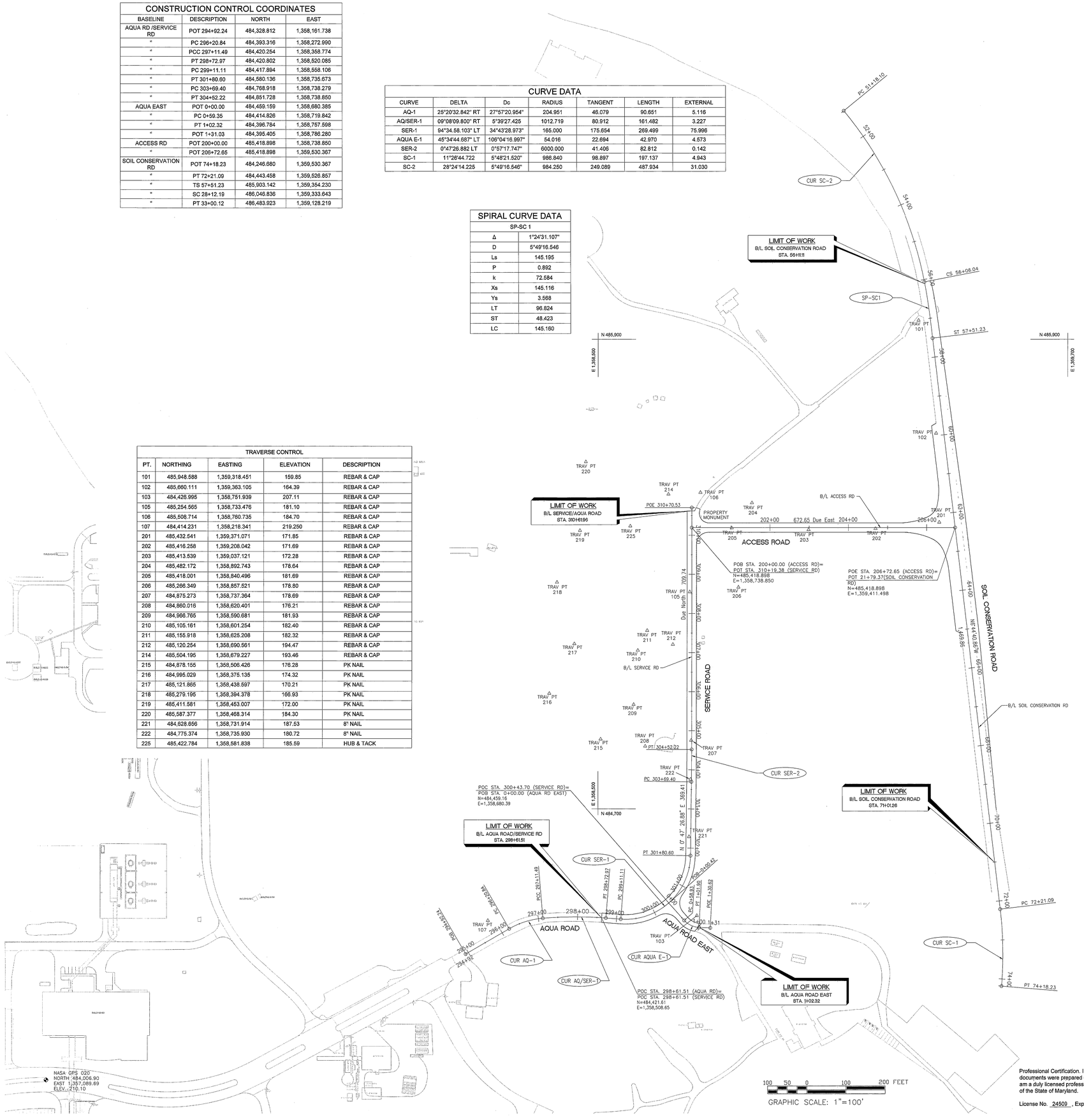
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
AQ-1	25°20'32.842" RT	27°57'20.954"	204.951	46.079	90.651	5.116
AQ/SER-1	09°08'09.800" RT	5°39'27.425	1012.719	80.912	161.482	3.227
SER-1	94°34.58.103" LT	34°43'28.973"	165.000	175.654	269.499	75.996
AQUA E-1	45°34'44.687" LT	106°04'16.997"	54.016	22.694	42.970	4.573
SER-2	0°47'26.882 LT	0°57'17.747"	6000.000	41.406	82.812	0.142
SC-1	11°26'44.722	5°48'21.520"	986.840	98.897	197.137	4.943
SC-2	28°24'14.225	5°49'16.546"	984.250	249.089	487.934	31.030

SPIRAL CURVE DATA

SP-SC 1	
Δ	1°24'31.107"
D	5°49'16.546
Ls	145.195
P	0.892
k	72.584
Xs	145.116
Ys	3.568
LT	96.824
ST	48.423
LC	145.160

TRAVERSE CONTROL

PT.	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	485,948.588	1,359,318.451	159.85	REBAR & CAP
102	485,660.111	1,359,363.105	164.39	REBAR & CAP
103	484,426.995	1,358,751.939	207.11	REBAR & CAP
105	485,254.565	1,358,733.476	181.10	REBAR & CAP
106	485,508.714	1,358,760.735	184.70	REBAR & CAP
107	484,414.231	1,358,218.341	219.250	REBAR & CAP
201	485,432.541	1,359,371.071	171.85	REBAR & CAP
202	485,416.258	1,359,208.042	171.69	REBAR & CAP
203	485,413.539	1,359,037.121	172.28	REBAR & CAP
204	485,482.172	1,358,892.743	178.64	REBAR & CAP
205	485,418.001	1,358,840.496	181.69	REBAR & CAP
206	485,266.349	1,358,857.521	178.80	REBAR & CAP
207	484,875.273	1,358,737.364	178.69	REBAR & CAP
208	484,860.016	1,358,620.401	176.21	REBAR & CAP
209	484,966.765	1,358,590.681	181.93	REBAR & CAP
210	485,105.161	1,358,601.254	182.40	REBAR & CAP
211	485,155.918	1,358,625.208	182.32	REBAR & CAP
212	485,120.254	1,358,690.561	194.47	REBAR & CAP
214	485,504.195	1,358,679.227	193.46	REBAR & CAP
215	484,878.155	1,358,506.426	176.28	PK NAIL
216	484,995.029	1,358,375.135	174.32	PK NAIL
217	485,121.865	1,358,438.597	170.21	PK NAIL
218	485,279.195	1,358,394.378	166.93	PK NAIL
219	485,411.581	1,358,453.007	172.00	PK NAIL
220	485,587.377	1,358,468.314	184.30	PK NAIL
221	484,628.656	1,358,731.914	187.53	8" NAIL
222	484,775.374	1,358,735.930	180.72	8" NAIL
225	485,422.784	1,358,581.838	185.59	HUB & TACK



ABBREVIATIONS:

1. B/L : BASE LINE
2. CUR : CURVE
3. PC : POINT OF CURVATURE
4. PCC : POINT OF CURVATURE OF CURVATURE
5. POB : POINT OF BEGINNING
6. POC : POINT ON CURVE
7. POE : POINT OF END
8. POT : POINT ON TANGENT
9. PT : POINT OF TANGENT
10. SP : SPIRAL

NOTES:

1.) THE MERIDIAN SOURCE OF OF THIS TOPOGRAPHIC SURVEY IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAD83[1991 HARN]). ALL DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET.

2.) ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

3.) SURVEY CONTROL POINTS RECOVERED AND USED TO CONSTRAIN THIS SURVEY ARE:

PT. NASA GPS 020
NORTH 484,006.90
EAST 1,357,089.69
ELEV. 210.10

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
NIRISH V. PATEL
No. 19933
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JMS	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SITE
GEOMETRIC DATA

C105

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 8 OF 158	DRAWING NO. GF-035-33996

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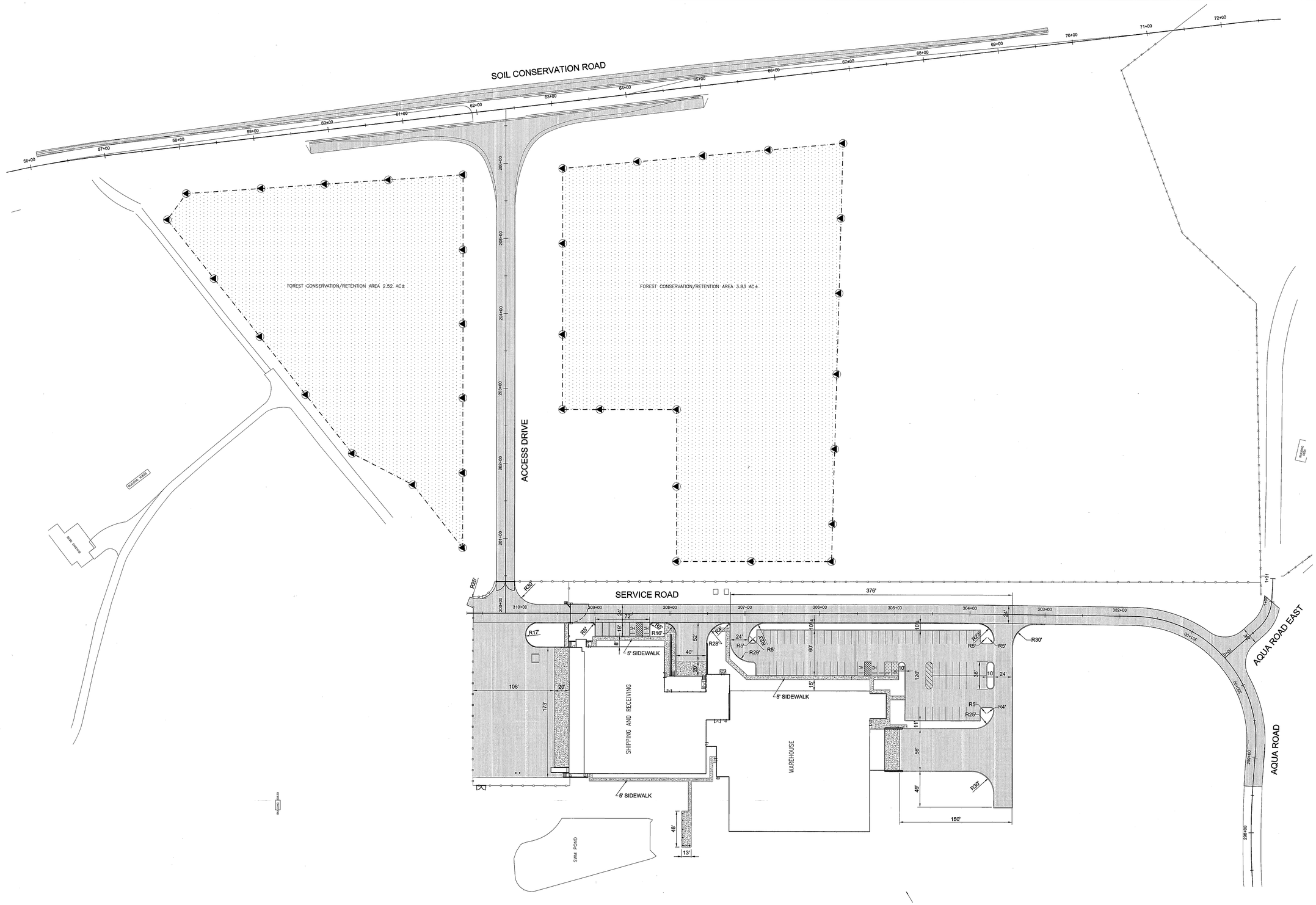

1 / C106 LAYOUT AND PAVING PLAN

SCALE: 1" = 50'

NOTE:
ALL DIMENSIONS ARE MEASURED FROM FACE OF CURB TO FACE OF CURB.

50 25 0 50 100

GRAPHIC SCALE: 1"=50'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
MD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
THOMAS J. PATTI
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	GHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	TPM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

SITE
LAYOUT AND PAVING PLAN

C106

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	9 of 158	GF-035-33997

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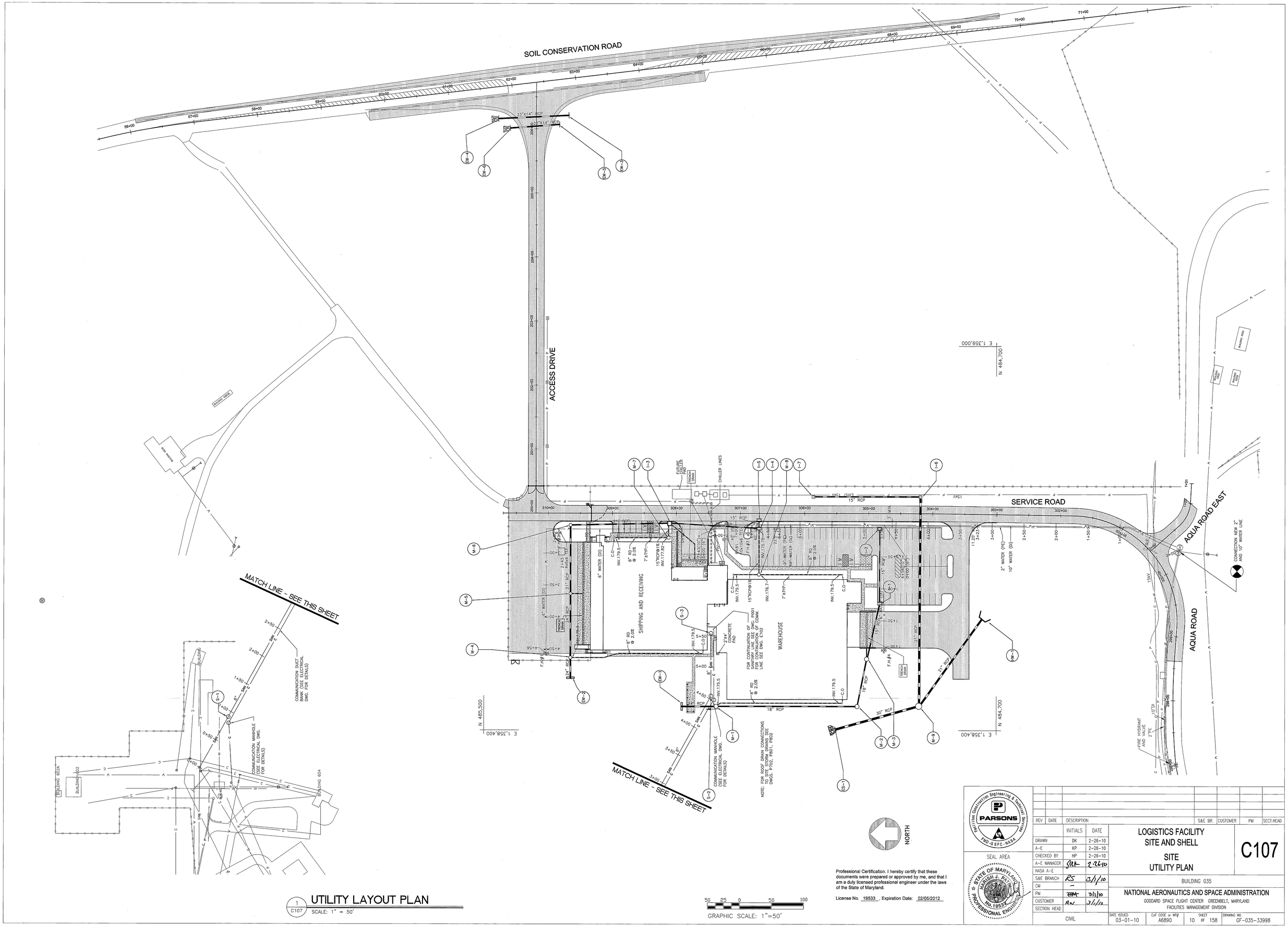


1 C107 UTILITY LAYOUT PLAN
SCALE: 1" = 50'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SLK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

CIVIL

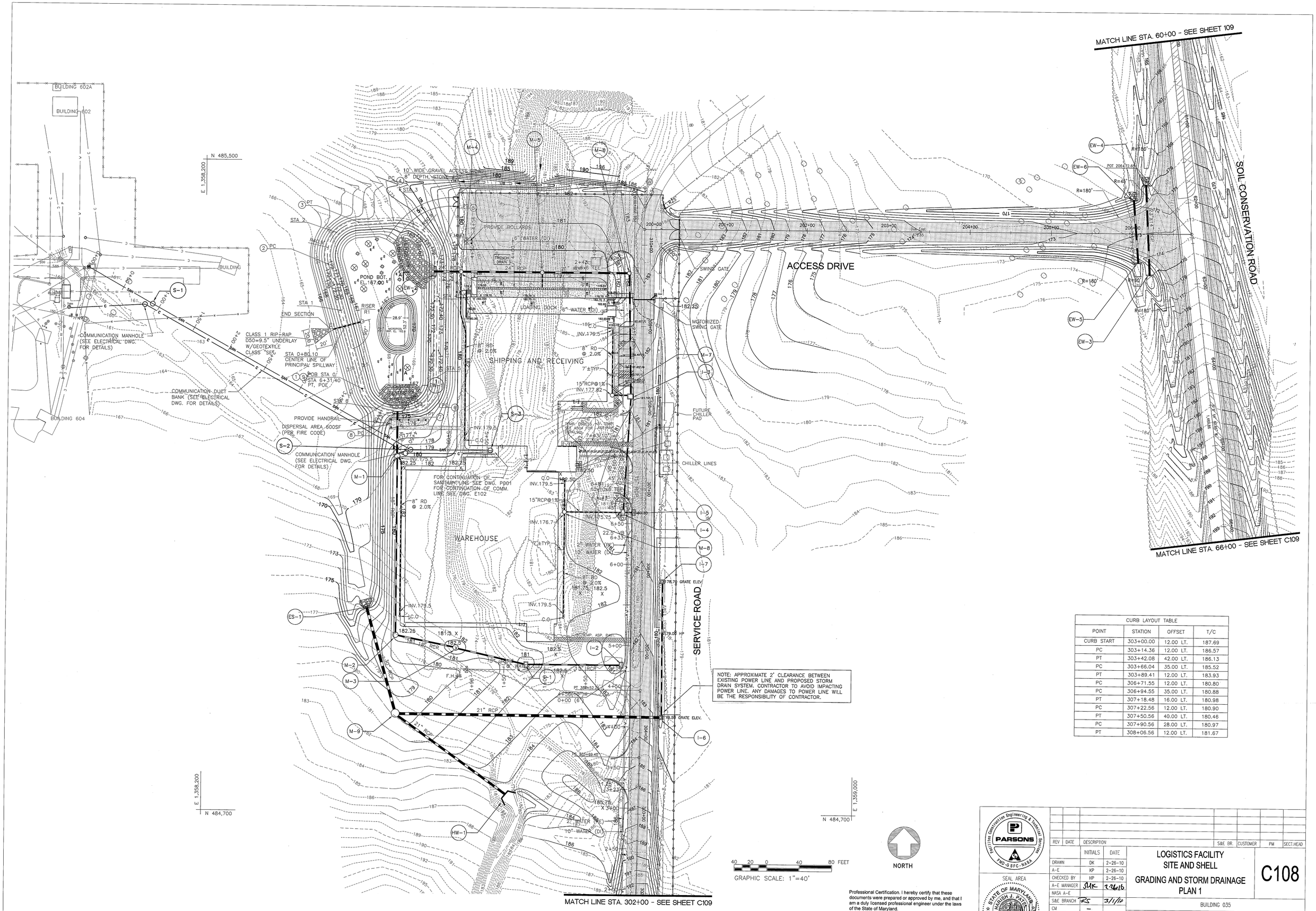
LOGISTICS FACILITY
SITE AND SHELL
SITE
UTILITY PLAN

C107

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	10 OF 158	GF-035-33998



CURB LAYOUT TABLE			
POINT	STATION	OFFSET	T/C
CURB START	303+00.00	12.00 LT.	187.69
PC	303+14.36	12.00 LT.	186.57
PT	303+42.08	42.00 LT.	186.13
PC	303+66.04	35.00 LT.	185.52
PT	303+89.41	12.00 LT.	183.93
PC	306+71.55	12.00 LT.	180.80
PC	306+94.55	35.00 LT.	180.88
PT	307+18.48	16.00 LT.	180.98
PC	307+22.56	12.00 LT.	180.90
PT	307+50.56	40.00 LT.	180.46
PC	307+90.56	28.00 LT.	180.97
PT	308+06.56	12.00 LT.	181.67

1 / C108 GRADING AND STORM DRAINAGE PLAN
SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	FPM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
GRADING AND STORM DRAINAGE PLAN 1

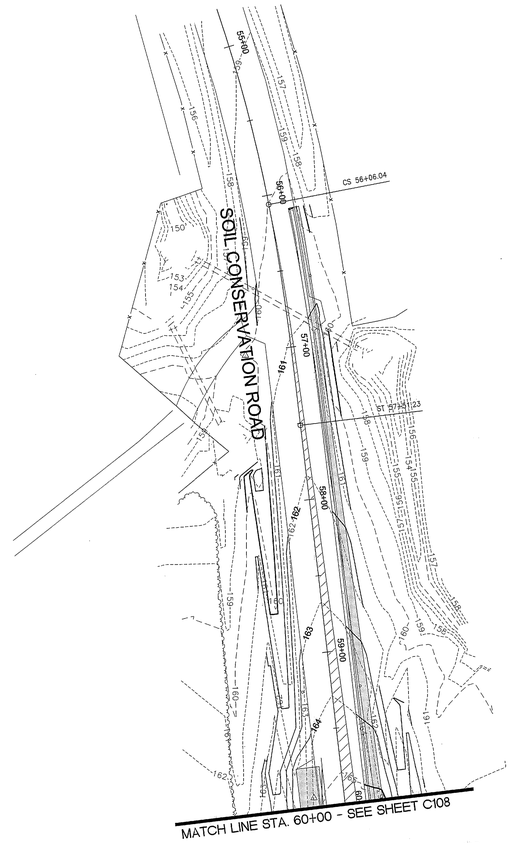
C108

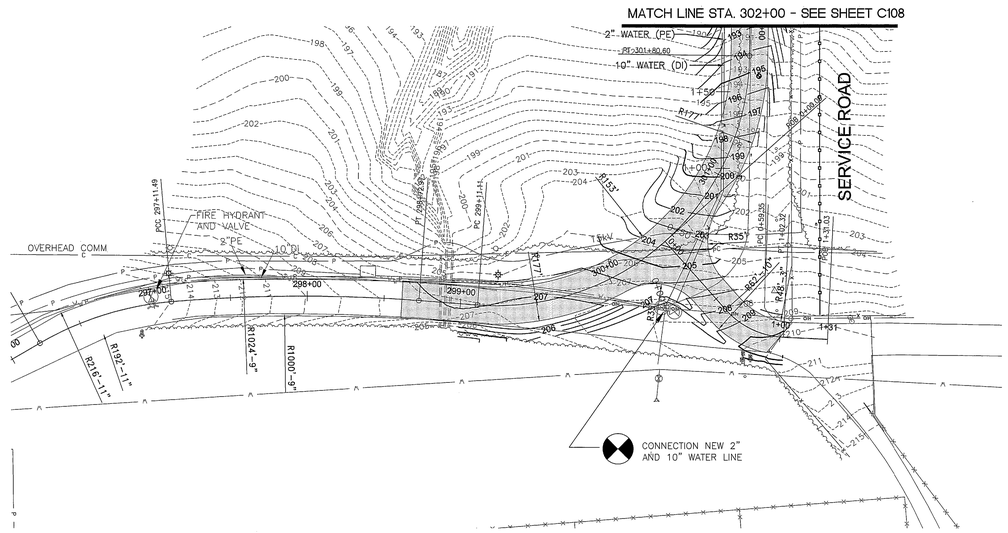
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL

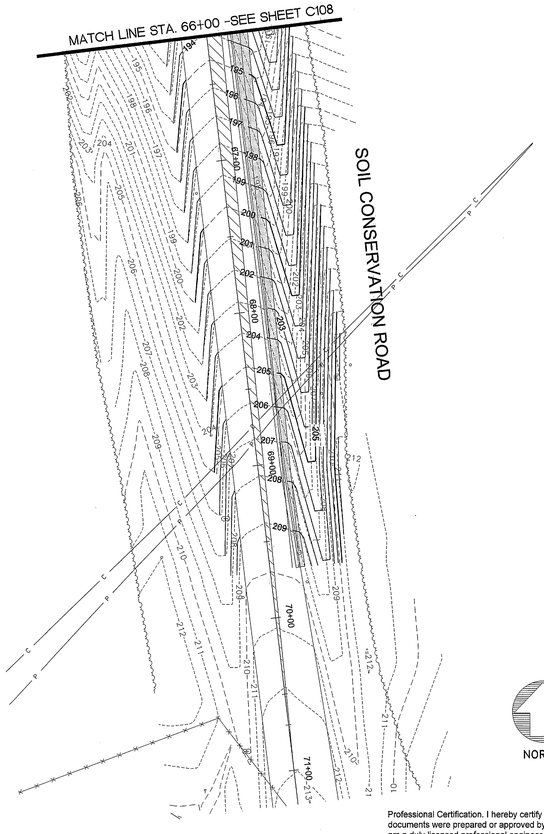
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	11 OF 158	GF-035-33999





1 C109 GRADING AND STORM DRAINAGE PLAN

SCALE: 1"=40'



NORTH

20 10 0 20 40 FEET

GRAPHIC SCALE: 1"=20'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS

Parsons Construction Engineering & Technical Services

EMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — NATHAN J. PATTON — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKH	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	RHK	3/1/10
CUSTOMER	[illegible]	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL

GRADING AND STORM DRAINAGE
PLAN 2

C109

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	12 OF 158	GF-035-34000

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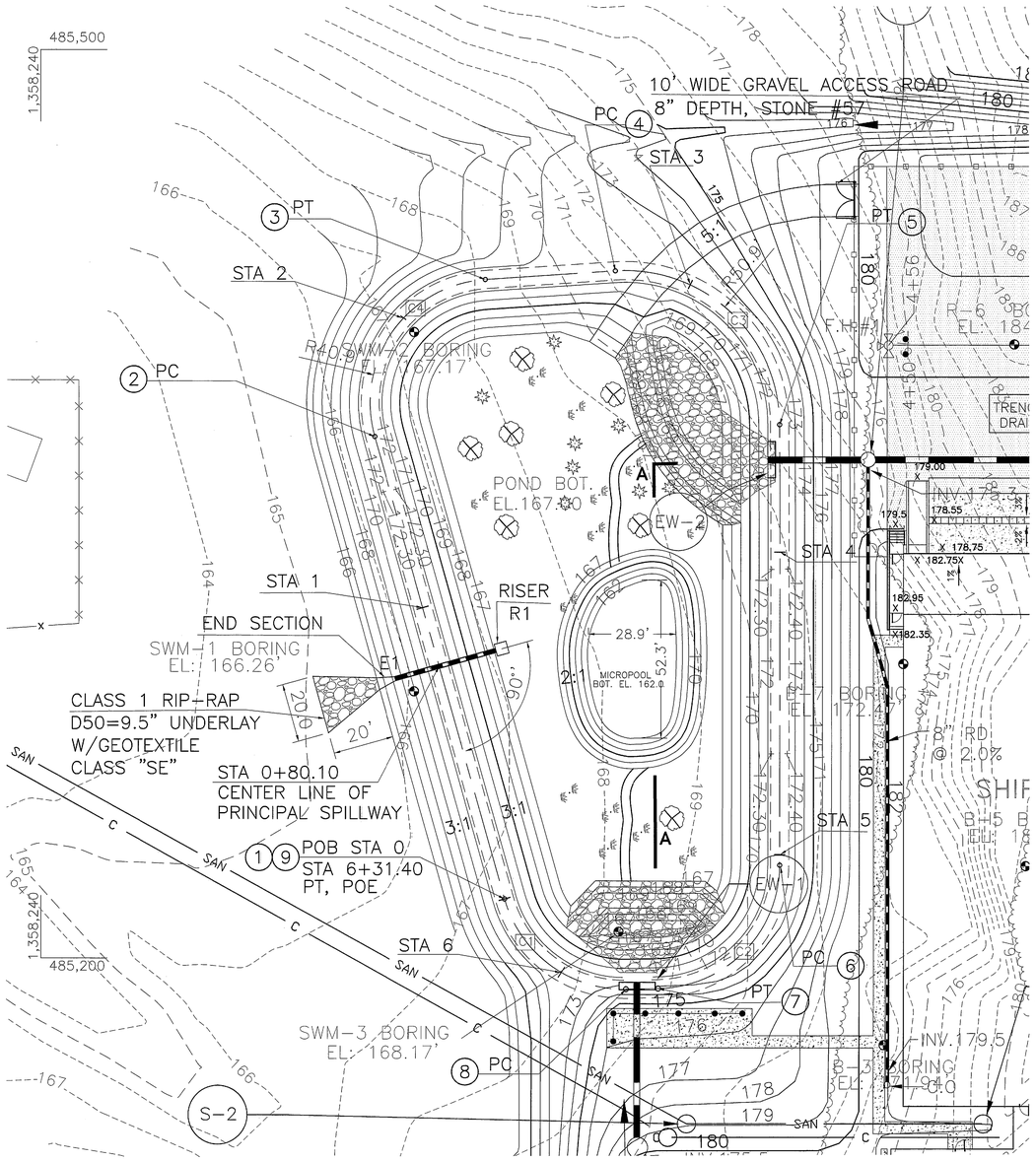


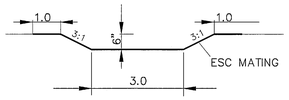
1 C110 **SWM POND PLAN**

SCALE: HOR. 1"=20'

CONSTRUCTION BASE LINES COORDINATES

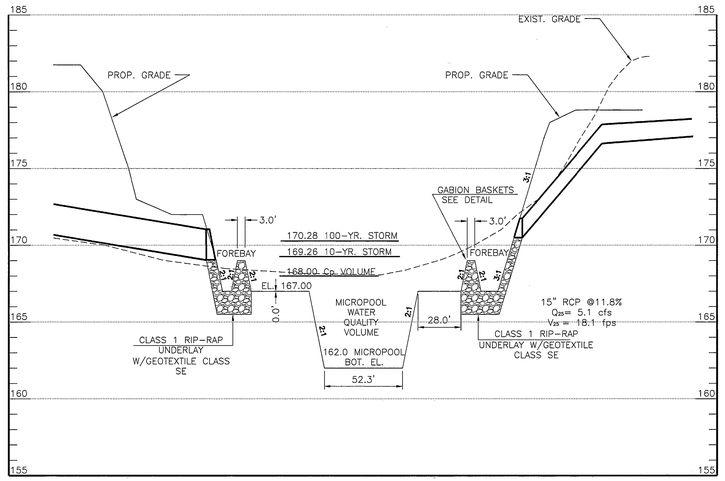
POINT	NORTHING	EASTING
1	485219.5913	1358393.1902
2	485372.4000	1358350.2417
3	485424.2736	1358386.8603
4	485427.1757	1358429.8346
5	485376.3925	1358484.1642
6	485230.7767	1358484.1682
7	485189.9682	1358444.0438
8	485189.7652	1358433.3401
9	485219.5913	1358393.1902

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	53.81'	40.90'	75°23'16"	S 53°23'33" E	50.02'
C2	63.39'	40.90'	88°47'45"	N 44°30'56" E	57.23'
C3	83.38'	50.90'	93°51'44"	N 46°55'57" W	74.37'
C4	72.69'	40.90'	101°50'07"	S 35°13'09" W	63.50'



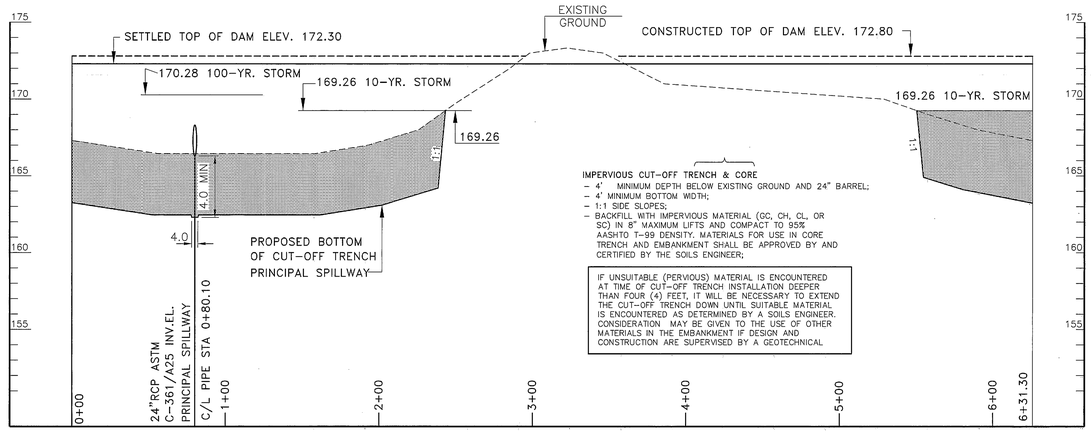
4 C110 **PILOT CHANNEL DETAIL**

SCALE: NTS



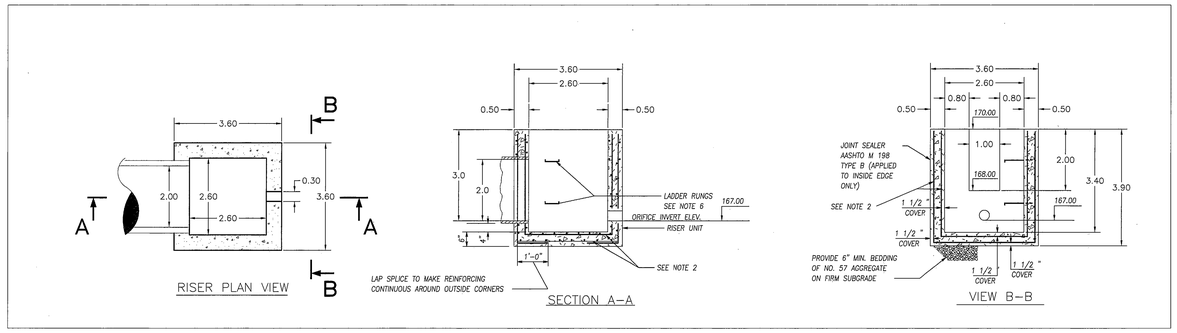
3 C110 **SECTION A-A**

SCALE: HOR. 1"=40'
VERT. 1"=4'



2 C110 **EMBANKMENT PROFILE**

SCALE: HOR. 1"=40'
VERT. 1"=4'



5 C110 **RISER DETAILS**

SCALE: HOR. 1"=2'

GENERAL NOTES

1. CONCRETE TO BE MIX NO. 6 (4500 PSI).
2. REINFORCING-2 LAYERS OF 4x4-W4.0x W4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONCRETE MIX NO. 6.
5. PIPE OPENINGS TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
6. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD-383.91, AND MD-383.92 OR AS DIRECTED BY THE ENGINEER.

NOTE:
1. De-watering of the core trench will be necessary during construction.

NOTE: ALL EXPOSED CONCRETE EDGES ARE TO BE CHAMFERED 1" x 1"

NORTH

40 20 0 40 80 FEET
GRAPHIC SCALE: 1"=40'

20 10 0 20 40
GRAPHIC SCALE: 1"=20'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

MDE No. 10-SF-0158

PARSONS
Facilities Construction Engineering & Technical Services
GMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
JAMES J. PAPPAS
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	PS	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER	Bw	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL
SWM POND
ENLARGED PLAN AND SECTIONS

C110

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
03-01-10	A6890	13 OF 158	GF-035-34001

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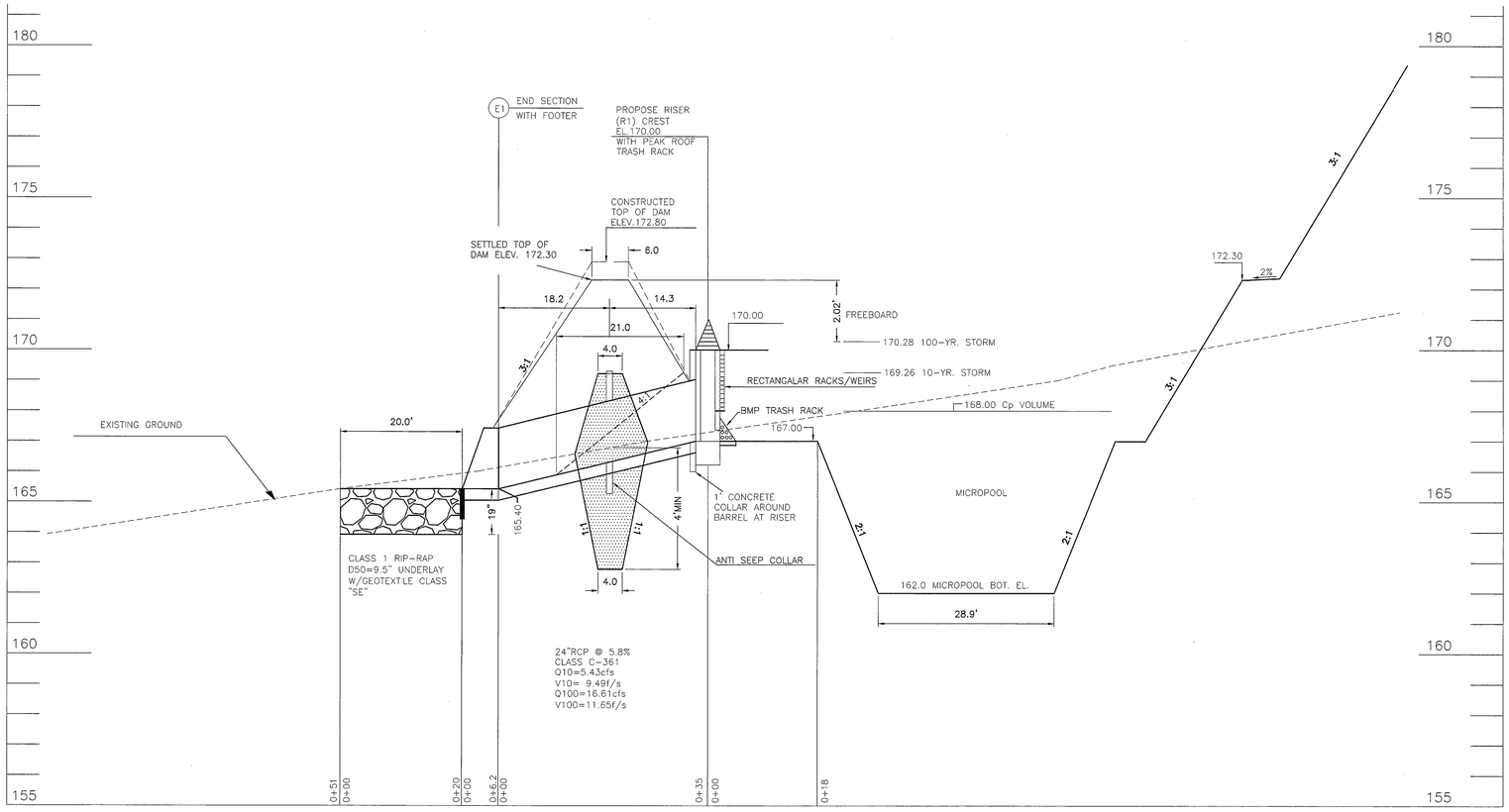
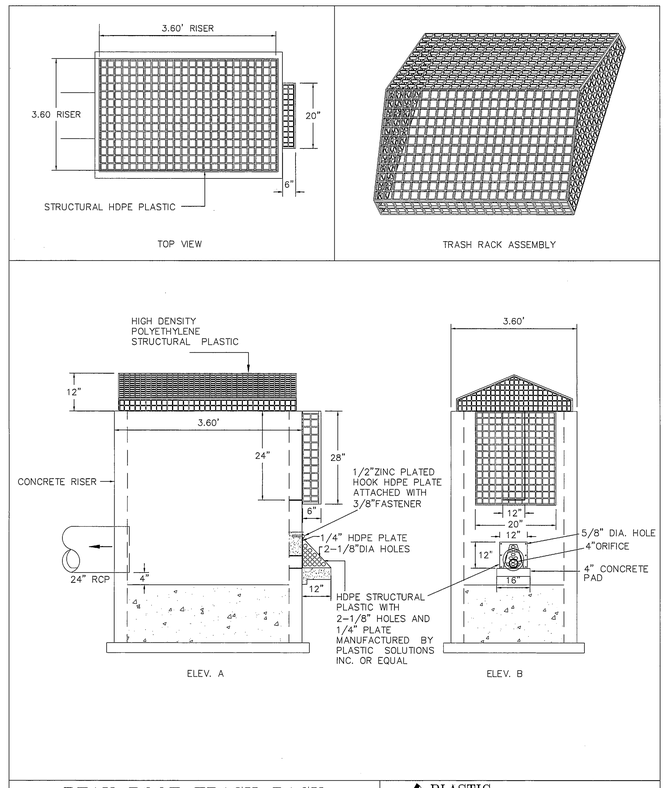


1 C111 **PRINCIPAL SPILLWAY PROFILE**

SCALE: HOR. 1"=10'
VERT. 1"=2'

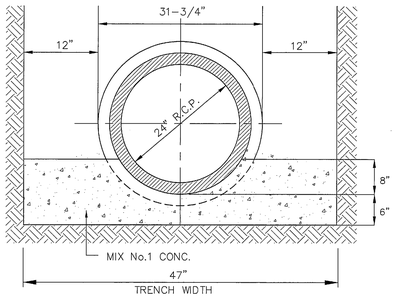


PEAK ROOF TRASH RACK
RECTANGALAR RACKS/WEIRS
BMP TRASH RACK

PLASTIC SOLUTIONS INC.
P.O. Box 4386
Winchester VA 22604
877-877-5727
www.plastic-solution.com

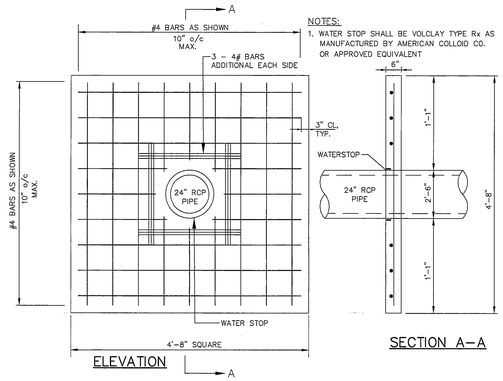
4 C111 **TRASH RACK 1 DETAIL**

SCALE: NTS



2 C111 **CONCRETE BEDDING DETAIL**

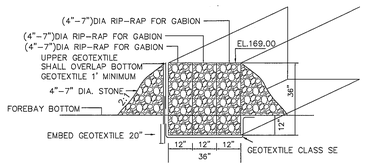
SCALE: NTS



NOTES:
1. WATER STOP SHALL BE VOLCLAY TYPE Rx AS MANUFACTURED BY AMERICAN COLLOID CO. OR APPROVED EQUIVALENT

3 C111 **CONCRETE ANTI-SEEP COLLAR**

SCALE: NTS



5 C111 **GABION BASKET DETAIL**

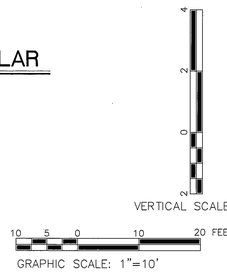
SCALE: NTS

NOTE: ALL EXPOSED CONCRETE EDGES ARE TO BE CHAMFERED 1" x 1"

MDE No. 10-SF-0158

PRINCIPAL SPILLWAY STAKEOUT COORDINATES AND STRUCTURE SCHEDULE						
STRUCTURE NO.	NORTHING	EASTING	TYPE OF STRUCTURE	TOP OF GRATE/ RIM ELEVATION	INV.OUT ELEVATION	REMARKS
R1	485302.27	1358392.23	RISER	170.00	167.00	MODIFIED 4'x 4' CONCRETE TYPE "S" INLET MD-374.73
E1	485292.40	1358357.09	END SECTION		165.40	STD CONCRETE END SECTION WITH FOOTER MD-368.01

NOTE:
1. De-watering of the core trench will be necessary during construction.



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services PARSONS FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND WILLIAM J. PATZ No. 19533 PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	RM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SWM POND
DETAILS

C111

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 14 OF 158	DRAWING NO. GF-035-34002

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL -THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER.

MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT -AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWN-STREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCUR-RENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION -THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CON-STRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

CUT OFF TRENCH -THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT CORE -THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COM-PACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUC-TURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE -ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS -(POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

   MATERIALS -(ALUMINUM COATED STEEL PIPE) -THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COM-POUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

   MATERIALS -(ALUMINUM PIPE) -THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMI-NOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CON-TACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS -ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

   ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO AC-COMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE. WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1½ INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE.

   HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

4. BEDDING -THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE -ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS -REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

2. BEDDING -REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING / CRADLE FOR THEIR ENTIRE LENGTH. THIS BED-DING / CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUT-SIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOW-ABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.

3. LAYING PIPE -BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOM-MENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE -THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS -PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" -10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

3. BEDDING -THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

DRAINAGE DIAPHRAGMS -WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CON-STRUCTION INSPECTION.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPO-RARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAIN-TAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PER-FORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE AC-COMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATE-MENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

MAINTENANCE

THE OWNER OF THE PROPERTY, OR ANY OTHER PERSON OR AGENT IN CONTROL OF SUCH PROPERTY, ON WHICH WORK HAS BEEN DONE PURSUANT TO MDE GUIDELINES, SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR AND RESTORE ALL GRADE SURFACES, WALLS, DRAINS, DAMS, AND STRUCTURES, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE DEVICES. SUCH REPAIRS OR RESTORATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH APPROVED PLANS. AT A MINIMUM, MAINTENANCE SHALL BE PERFORMED AS FOLLOWS:

1. OWNER SHALL MAKE A VISUAL INSPECTION ON THE POND, DAM EMBANKMENT AND RISER STRUCTURE AT LEAST TWICE A YEAR, ONCE IN THE SUMMER AFTER MOWING AND ONCE IN THE WINTER WHEN THE VEGETATIVE COVER IS DORMANT. INSPECTIONS SHALL ALSO BE MADE AFTER EXTREME RAINFALL EVENTS.

2. INSPECTIONS SHALL BE CONDUCTED FOR OVERTOPPING FAILURES, PIPING AND SEEPAGE FAILURES, AND STRUCTURAL FAILURES. IF ANY OF THE FOLLOWING CONDITIONS ARE NOTED EMERGENCY PROCEDURES ARE WARRANTED:
   a. MUDDY WATER IS FLOWING FROM THE DOWNSTREAM SLOPE OT TOE;
   b. CRACKS OR DEPRESSIONS ARE FORMING ON THE EMBANKMENT; OR
   c. FLOOD FLOW OVER THE TOP OF THE EMBANKMENT IS IMMINENT.

3. MOWING IS NECESSARY TO CONTROL THE ESTABLISHMENT OF WOODY GROWTH AND TO MAINTAIN VEGETATIVE COVER. MOWING SHALL BE DONE AT LEAST ONCE PER YEAR (MID TO LATE SUMMER) BUT MAY BE DONE MORE OFTEN. TREES AND SHRUBS WILL NOT BE ALLOWED ON THE EMBANKMENT AND SHALL BE REMOVED. VEGETATION SHALL BE INSPECTED IN THE EARLY SPRING AND LATE SUMMER, AND ANY BARE OR ERODED AREAS SHALL BE REPAIRED AND RESEEDED. POTENTIALLY DAMAGING FALLEN TREES, DEBRIS, AND SEDIMENT SHALL BE REMOVED.

4. SPILLWAY CONDUITS AND TRASH RACK SHALL BE INSPECTED ONCE A YEAR FOR IMPROPER ALIGNMENT (SAGGING), ELONGATION, DISPLACEMENT AT JOINTS, CRACKS, LEAKS, SURFACE WEAR, LOSS OF PROTECTIVE COATINGS, CORROSION, AND BLOCKAGE.

5. OUTLETS SHALL BE INSPECTED SEASONALLY, AS WELL AS AFTER STORM EVENTS. DAMAGE TO THE RIP RAP CHANNELS SHALL BE REPAIRED PROMPTLY.

6. IF BASIN OR FOREBAY FILLS WITH SEDIMENT TO WITHIN 1 1/2 FEET OF THE LOW FLOW OR RIP RAP WEIR (i.e., TO EL = 199.5), REMOVE THE SEDIMENT. PUMP THE WATER FROM THE BASIN OR FOREBAY BEFORE REMOVING THE SEDIMENT. WHEN PUMPING WATER OUT OF THE POND, AVOID PUMPING SEDIMENT LADEN WATER INTO THE STREAM BY USING A SUMP PIT AS DETAILED ON SHEET C502. ANY SOIL OR SEDIMENT REMOVED FROM THE POND SHALL BE DISPOSED OF PROPERLY AT A SITE WITH APPROVED SEDIMENT CONTROL MEASURES.

INSPECTION REQUIREMENTS DURING CONSTRUCTION FOR AS-BUILT CERTIFICATION

ALL INSPECTIONS SHALL BE ATTENDED BY THE APPROPRIATE NASA PERSONNEL (i.e. NASA's CONTRACTING OFFICER AND QUALITY ASSURANCE MANAGER). IN ADDITION, ALL SHOP DRAWINGS WILL BE REVIEWED AND APPROVED BY NASA PERSONNEL PRIOR TO THE CONTRACTOR ORDERING AND/OR INSTALLING PRODUCTS WHICH REQUIRE SHOP DRAWINGS.

AT A MINIMUM, REGULAR INSPECTIONS SHALL BE MADE AND DOCUMENTED AT THE FOLLOWING SPECIFIED STAGES OF CONSTRUCTION:

1. PONDS:
   (A) UPON COMPLETION OF EXCAVATION TO SUB-FOUNDATION AND WHEN REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO:
      (i) CORE TRENCHES FOR STRUCTURAL EMBANKMENTS;
      (ii) INLET AND OUTLET STRUCTURES, ANTI-SEEP COLLARS, OR DIAPHRAGMS, AND WATERTIGHT CONNECTORS ON PIPES; AND
      (iii) TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.
   (B) DURING PLACEMENT OF STRUCTURAL FILL, CONCRETE, AND INSTALLATION OF PIPING AND CATCHBASINS.
   (C) DURING BACKFILL OF FOUNDATIONS AND TRENCHES.
   (D) DURING EMBANKMENT CONSTRUCTION.
   (E) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

2. FILTERING SYSTEMS:
   (A) DURING EXCAVATION TO SUBGRADE;
   (B) DURING PLACEMENT OF GEOTEXTILES AND ALL FILTER MEDIA;
   (C) DURING CONSTRUCTION OF APPURTENANT CONVEYANCE SYSTEMS SUCH AS FLOW DIVERSION STRUCTURES, PREFILTERS, INLETS, OUTLETS, ORIFICES, FLOW DISTRIBUTIONS STRUCTURES; AND
   (D) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

3. OPEN CHANNEL SYSTEMS:
   (A) DURING EXCAVATION TO SUBGRADE;
   (B) DURING INSTALLATION OF DIAPHRAGMS, CHECK DAMS, OR WEIRS; AND
   (B) UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

ONCE CONSTRUCTION IS COMPLETE, AS-BUILT PLAN CERTIFICATION SHALL BE SUBMITTED TO THE ADMINISTRATION BY EITHER A PROFESSIONAL ENGINEER OR PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MARYLAND TO ENSURE THAT CONSTRUCTED STORMWATER MANAGEMENT PRACTICES AND CONVEYANCE SYSTEMS COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE APPROVED PLANS. AT A MINIMUM, AS-BUILT CERTIFICATION SHALL INCLUDE A SET OF DRAWINGS COMPARING THE PPROVED STORMWATER MANAGEMENT PLAN WITH WHAT WAS CONSTRUCTED. THE ADMINISTRATION MAY REQUIRE ADDITIONAL INFORMATION.

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19533, EXPIRATION DATE: 02-05-2010

P.E., R.L.S., RLA, or R.A. HARISH J. PATEL
07-24-2008

DEVELOPER'S/LANDOWNER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) AND ON THE APPROVED SEDIMENT CONTROL DRAWING(S) WILL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER WITHIN THIRTY(30) DAYS OF COMPLETION OF WORK ON THE STORMWATER MANAGEMENT FACILITY/FACILITIES.

SIGNATURE: DATE

PRINT NAME:

PROJECT NAME: MDE NO: 10-SF-0158

AS - BUILT DATA FOR PONDS / WETLANDS
* TO BE COMPLETED BY THE CERTIFYING ENGINEER

TYPE OF FACILITY:	DESIGN	*AS-BUILT
WQ STORAGE VOLUME	12,780 CU.FT.	
CPv STORAGE VOLUME	17,125 CU.FT.	
2 YR STORAGE VOLUME	N/A	
10 YR STORAGE VOLUME	39,200 CU.FT.	
100 YR STORAGE VOLUME	57,930 CU.FT.	
WQ STORAGE ELEVATION	167.00	
CPv STORAGE ELEVATION	168.00	
2 YR STORAGE ELEVATION	N/A	
10 YR STORAGE ELEVATION	169.26	
100 YR STORAGE ELEVATION	170.28	
CPv DISCHARGE	0.2cfs	
2 YR DISCHARGE (CFS)	N/A	
10 YR DISCHARGE (CFS)	5.43 CFS	
100 YR DISCHARGE (CFS)	15.61 CFS	
CPv CONTROL OPENING/ELEVATION	167.00	
2 YR CONTROL OPENING/ELEVATION	N/A	
10 YR CONTROL OPENING/ELEVATION	168.00	
PRINCIPAL SPILLWAY: ELEV CUT / DIAM / GRADE	167.00/24"	
EMERGENCY SPILLWAY: WIDTH / LENGTH / ELEV	N/A	
OUTLET PROTECTION: LENGTH/WIDTH/STONE SIZE	20'/20'/CL1,D50=9.5"	
TOP OF CONSTRUCTED EMBANKMANT	172.80	
TOP OF SETTLED EMBANKMANT	172.30	
ED ORIFICE DIAMETER	4"	

DATE AS-BUILT ACCEPTED BY MDE: ______________________

1. FACILITY TYPE: SWM POND
2. LOCATION: GREENBELT, MARYLAND
3. STRUCTURE CLASSIFICATION: EMBANKMENT SWM POND, CLASS "a" 4. STORAGE-HEIGHT PRODUCT: 1.4 AC-SQ.FT.
5. WATERSHED AREA TO FACILITY: 7.0 ACRES
6. LEVEL OF MANAGEMENT PROVIDED BY FACILITY: 10yr STORM
7. FREEBOARD: 2.02 FT.
8. WQ STORAGE REQUIRED = 9,595 CF
9. WQ STORAGE PROVIDED = 12,780 CF
10. WATERSHED NAME: 02-14-02 "WASHINGTON METROPOLITAN AREA"
11. RECEIVING STREAM CLASSIFICATION: USE 1-P.
12. COORDINATES OF FACILITY AT CENTROID:
NORTHING = 485298.27
EASTING = 1358434.14
13. FACILITY OWNERSHIP AND MAINTENANCE RESPONSIBILITY: NASA GODDARD SPACE FLIGHT CENTER

"AS-BUILT" CERTIFICATION REQUIREMENTS

AS-BUILT PLANS & CERTIFICATION ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.

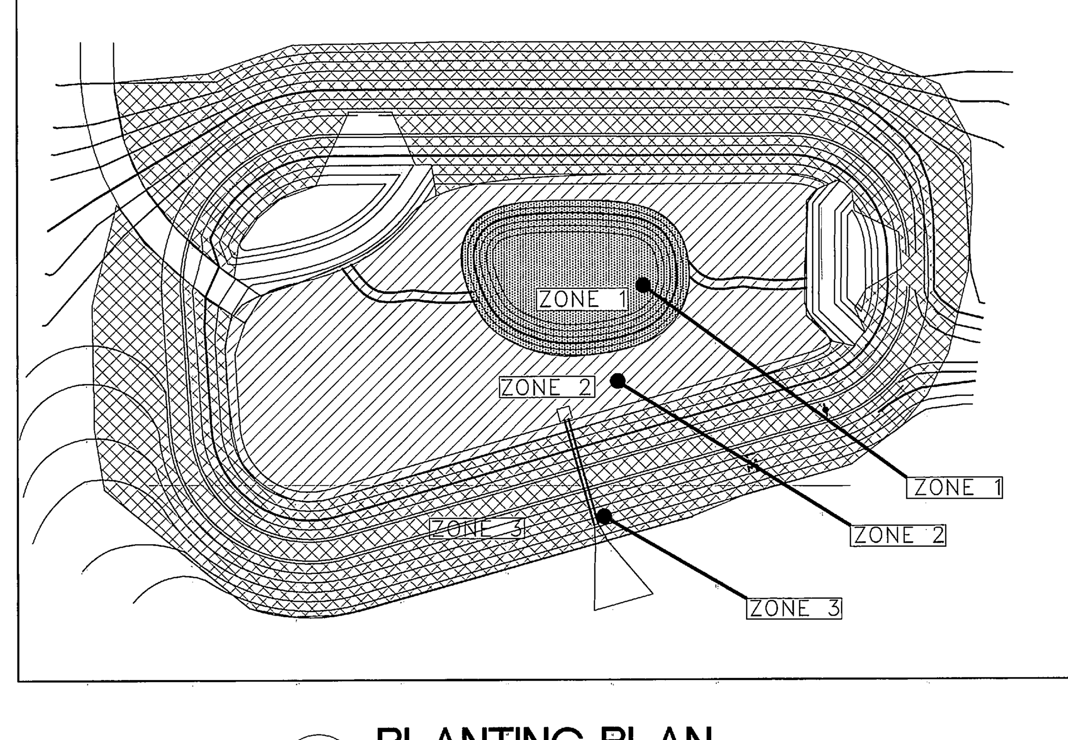
IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS & CERTIFICATION, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY CURRENT MARYLAND STORMWATER MANAGEMENT ORDINANCE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

"AS-BUILT" CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITIY SHOWN ON THESE PLANS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH PLANS APPROVED BY MDE, EXCEPT AS NOTED IN RED ON THE "AS BUILT" DRAWINGS.

SIGNATURE: DATE

PRINT NAME: MD. LICENSE NO.



1
C112
PLANTING PLAN
SCALE: 1" = 40'

PLANTS WITHIN SWM POND

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE/ROOT	SPACING
(1)	ZONE 1			
	POT.PC. 780	POTAMOGETON PECTINATUS/SAGO POND WEED	B.R.	PLANT AT 2' O
	MIXED	AREA 2,940 SQ. FT.		
	V.AM. 778	VALLISNERIA AMERICANA/WILD CELERY	TUBER/2" PLUG	PLANT AT 2' O.C
(2)	ZONE 2			
	SEED MIXES			
	TOTAL AREA 10,720 SQ. FT.			
		BIDENS CERNUA 10%		
		CAREX VULPINOIDEA 10%		
		ECHINOIDEA CRUSGALLI FRUMENTACEA 20%		
		ELYMUS VIRGINICUS 10%		
		PANICUM AMARUM 10%		
		PANICUM VIRGATUM 10%		
		POA PALUSTRIS 15%		
		POLYGONUM PENSYLVANICUM 15%		
(3)	ZONE 3			
	TOTAL AREA 24,580 SQ. FT.			
	MEADOW MIX (DRY) -50%			
	RED TOP, PENSTEMON, ASTER, SOLIDAGO, DAUCUS, RUDBECKIA - 50%			

DESIGN SUMMARY

Step	Category	CU.FT VOLUME REQUIRED	CU.FT VOLUME PROVIDED	NOTES
1	WATER QUALITY VOLUME (WQV)	9,595 CF	12,780 CF	WSE = 167.0 (PERMANENT POOL)
2	RECHARGE VOLUME (REV)	3,371 CF	3,371 CF	
3	CHANNEL PROTECTION VOLUME (CPV)	17,105 CF	17,125 CF	WSE = 168.00
4	OVERBANK FLOOD PROTECTION (QP)	N/A	39,200 CF	WSE =169.26 Q=5.43 cfs
5	EXTREME FLOOD VOLUME (QF)	N/A	57,930 CF	WSE = 170.28 Q=15.61 cfs

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

MDE No. 10-SF-0158

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	THA	3/1/10
CUSTOMER	JW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
SWM POND
MD-378 SPECIFICATIONS & PLANTS

C112

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	15 OF 158	GF-035-34003

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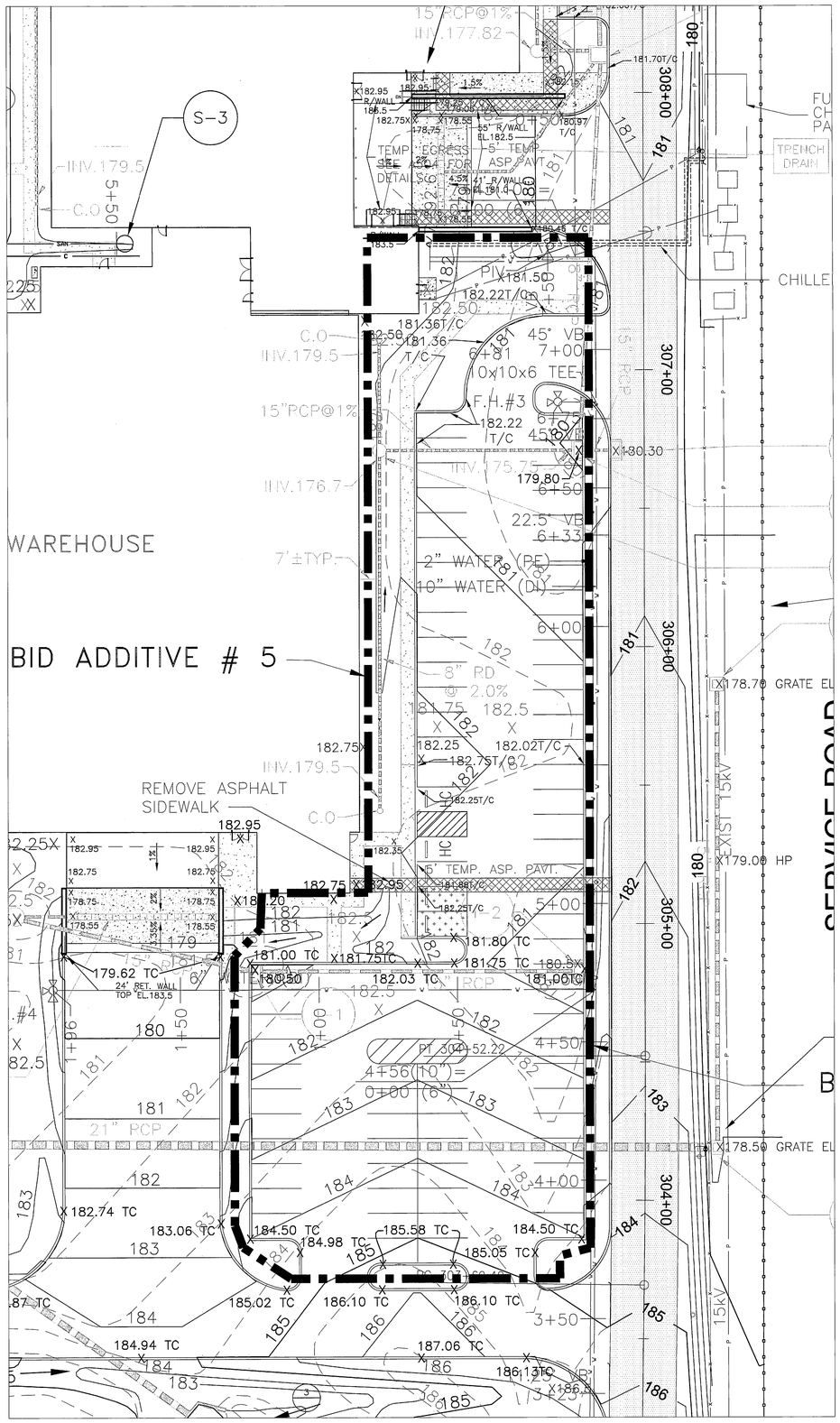
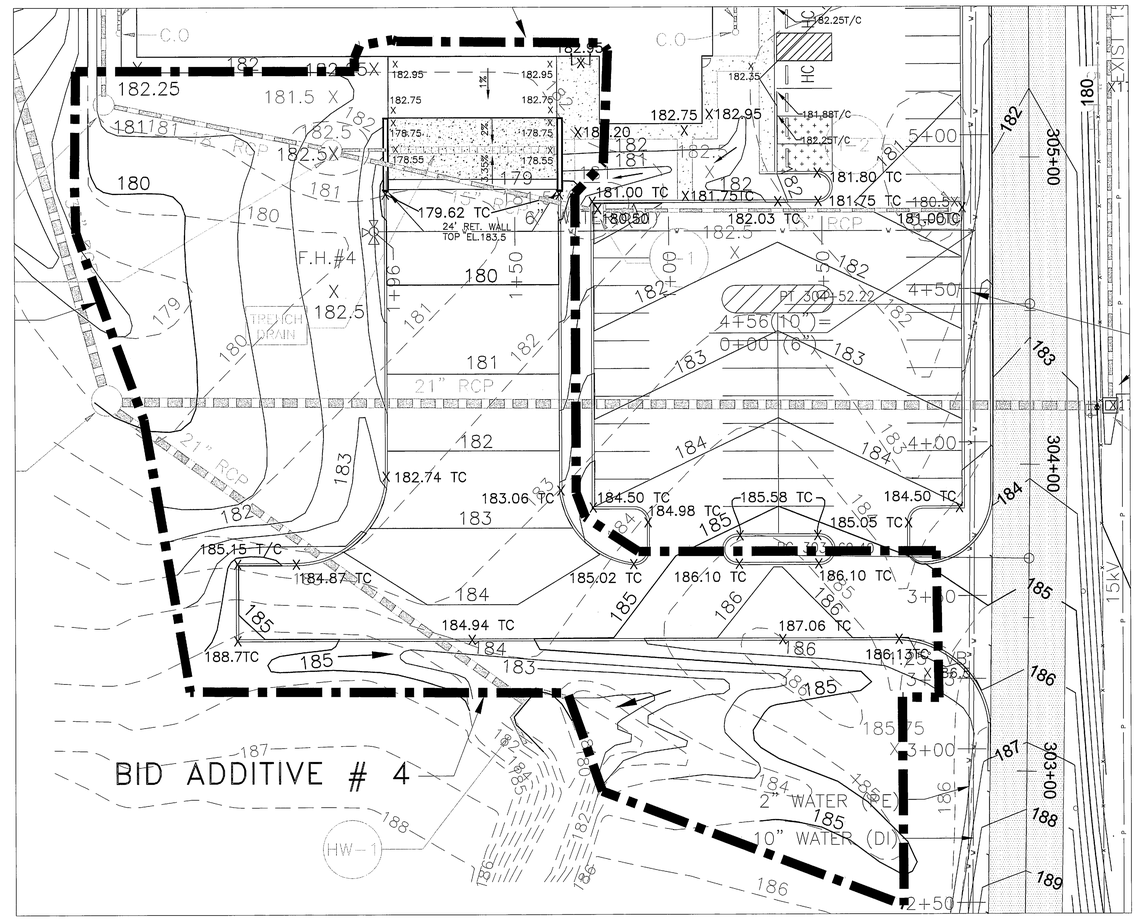


1 C113 BID ADDITIVE #5

SCALE: 1"=20'

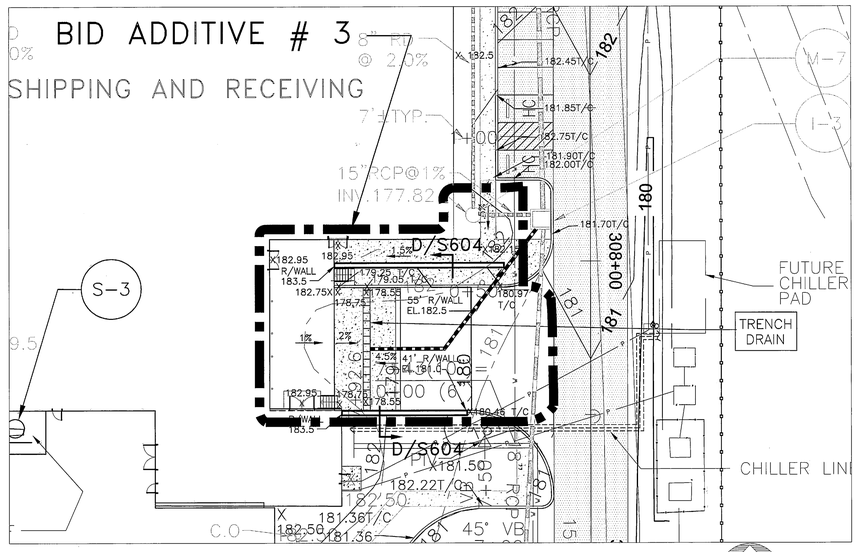
NOTE: IF BID ADDITIVE 4 IS NOT AWARDED, THEN RUNOUT CONTOURS TO EXISTING CONTOURS AT 3:1 SLOPE.



2 C113 BID ADDITIVE #4

SCALE: 1"=20'

NOTE: IF BID ADDITIVE 5 IS NOT AWARDED, THEN RUNOUT CONTOURS TO EXISTING CONTOURS AT 3:1 SLOPE.



3 C113 BID ADDITIVE #3

SCALE: 1"=20'

NORTH

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

20 10 0 20 40 FEET

GRAPHIC SCALE: 1"=20'

PARSONS

Facilities Construction Engineering & Technical Services

FMD-9 SFC-NASA

SEAL AREA

STATE OF MARYLAND HARISH J. PATEL NO. 19533 PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMR	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	—	
PM	TBK	3/1/10
CUSTOMER	BM	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

GRADING AND STORM DRAINAGE
BID ADDITIVES 3, 4, AND 5

C113

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	16 OF 158	GF-035-34004

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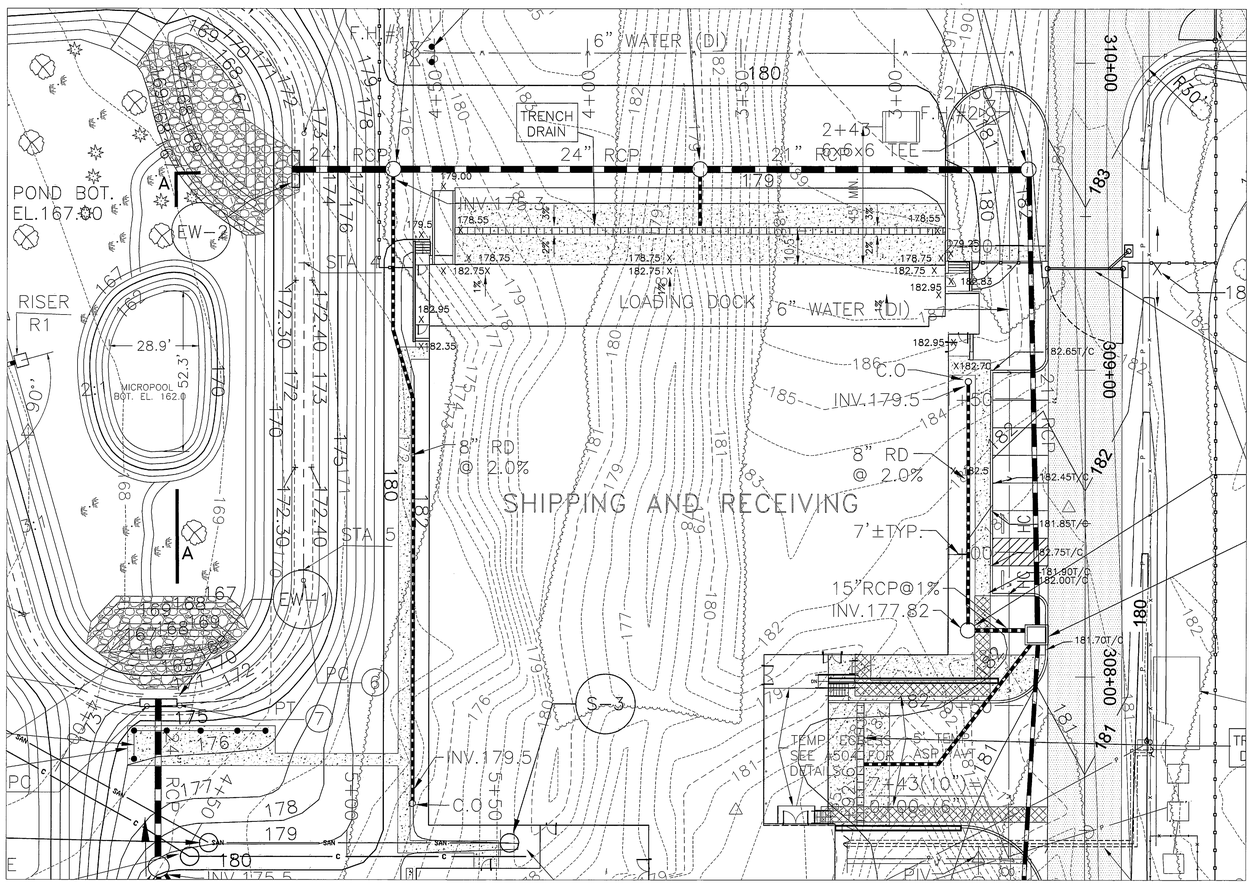


1 C114 **LOADING DOCK-NORTH**

SCALE: 1"=20'

NORTH

20 10 0 20 40 FEET

GRAPHIC SCALE: 1"=20'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services — PARSONS — FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — WARREN J. PAYNE — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHP	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JPA	3/1/10
CUSTOMER	AN	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL
GRADING AND STORM DRAINAGE
ENLARGED LOADING DOCK PLAN

C114

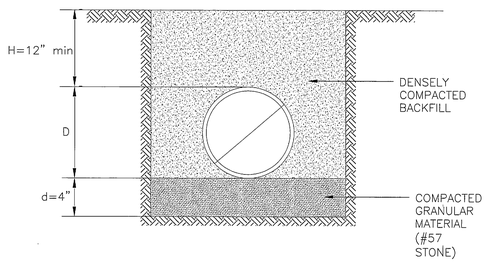
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	17 OF 158	GF-035-34005

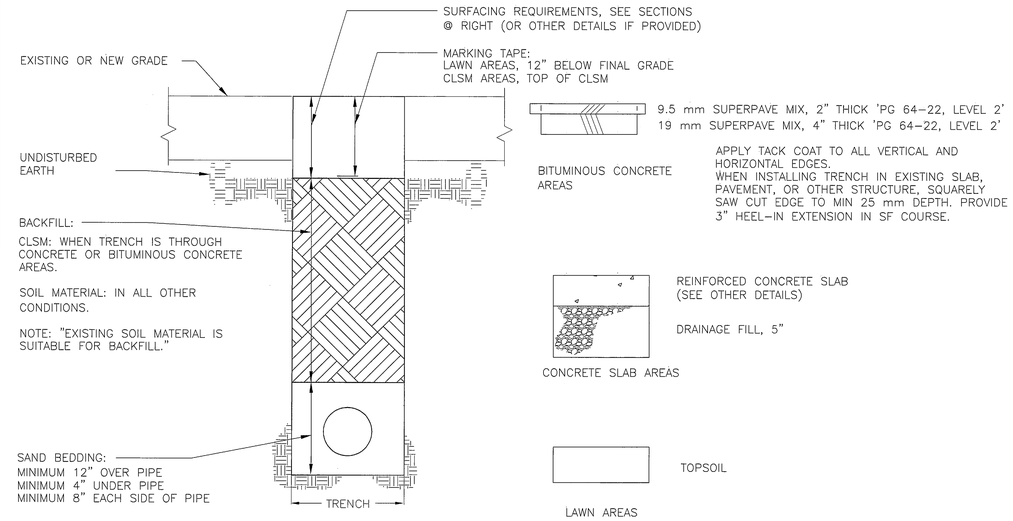
N:\EADGN\DWG\25SSA&2GWO\Grdwrk\C\105\113.1\4_Site-Plan.dwg, 2/26/2010 7:25:21 AM, 1:1

B_c = Outside diameter
H = Backfill cover above top of pipe
D = Inside diameter
d = Depth of bedding material below pipe



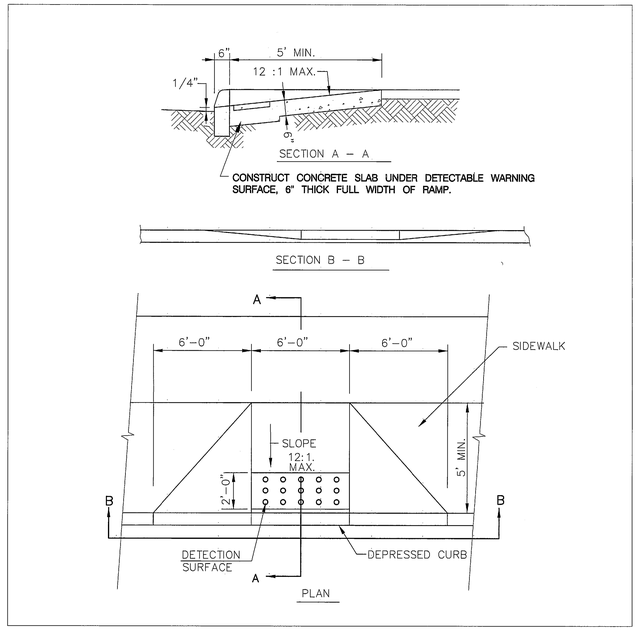
1 / C115 BEDDING DETAIL FOR RCP STORM DRAIN

SCALE: NTS



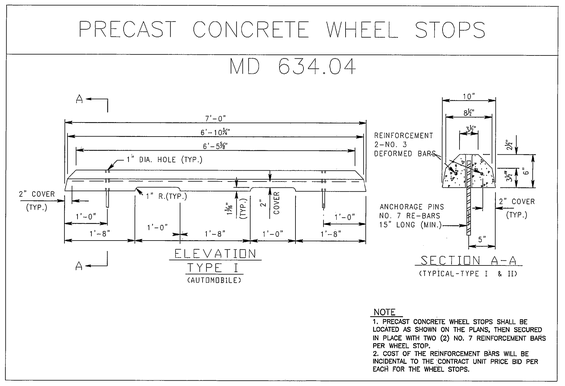
2 / C115 SANITARY, WATER, AND ROOF LEADER TRENCH DETAIL

SCALE: NTS



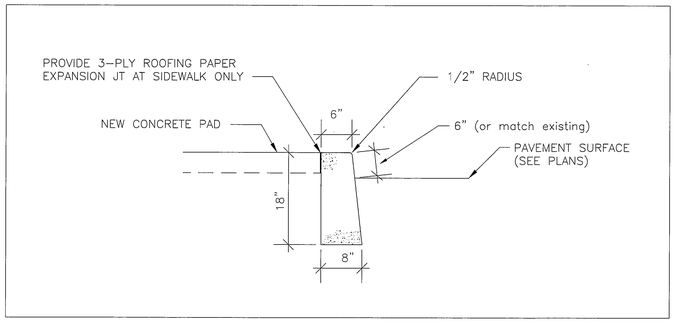
3 / C115 ACCESSIBLE RAMP DETAIL

SCALE: NTS



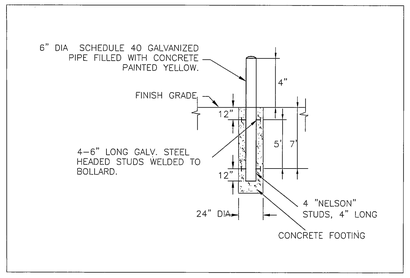
4 / C115 DETAIL

SCALE: NTS



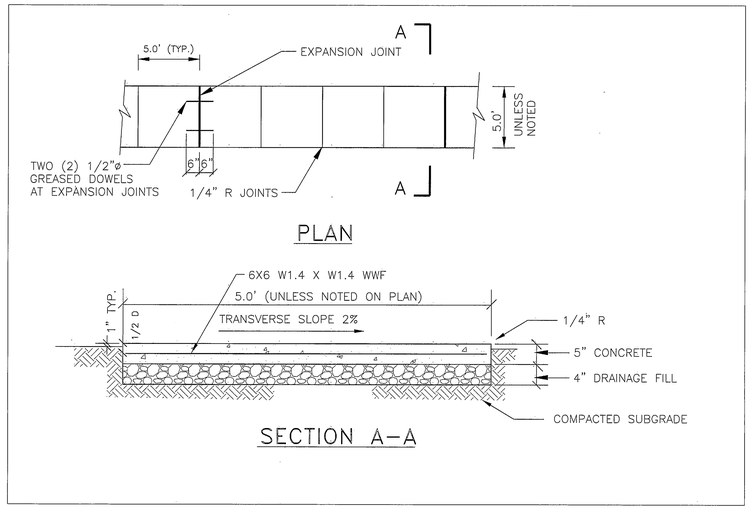
5 / C115 BARRIER CURB DETAIL

SCALE: NTS



7 / C115 BOLLARD DETAIL

SCALE: NTS



6 / C115 CONCRETE SIDEWALK/WALKWAY DETAIL

SCALE: NTS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-G SFC-NASA

SEAL AREA

STATE OF MARYLAND
HARISH J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	PJS	3/1/10
CM	–	
PM	JAH	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

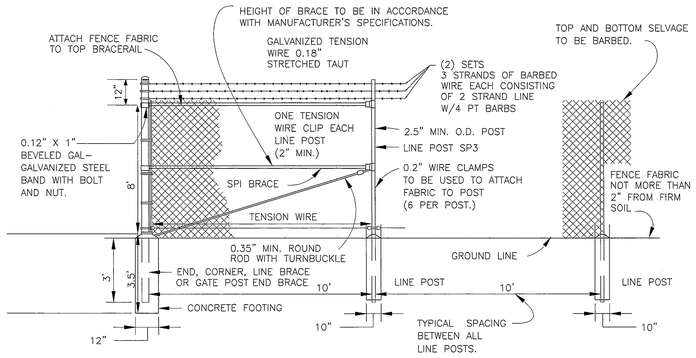
SITE AND GRADING DETAILS

C115

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	18 of 158	GF-035-34006



TYPICAL FENCE WITH BARBED WIRE

FENCE HEIGHT	UPRIGHT END & CORNER POSTS		LINE POSTS		CORNER POSTS WITH CORNER ARM	
NOM HT INCLUDING BARBED WIRE	BAR LENGTH	HEIGHT ABOVE GRADE	BAR LENGTH	HEIGHT ABOVE GRADE	BAR LENGTH	HEIGHT ABOVE GRADE
9'-0"	12'-0"	9'-0 5/8"	10'-8"	7'-8 7/8"	11'-0"	8'-0 5/8"

NOTE: FENCE HEIGHT SHALL BE 9' INCLUDING 12" BARBED WIRE, UNLESS OTHERWISE NOTED.

NOTES:

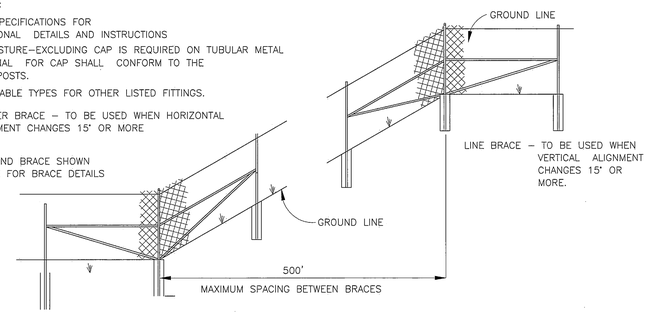
SEE SPECIFICATIONS FOR ADDITIONAL DETAILS AND INSTRUCTIONS

A MOISTURE-EXCLUDING CAP IS REQUIRED ON TUBULAR METAL MATERIAL FOR CAP SHALL CONFORM TO THE LINE POSTS.

ALLOWABLE TYPES FOR OTHER LISTED FITTINGS.

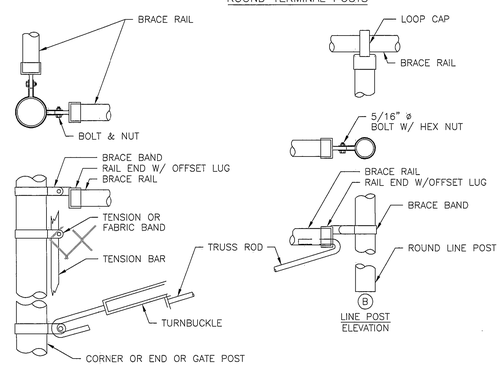
CORNER BRACE - TO BE USED WHEN HORIZONTAL ALIGNMENT CHANGES 15° OR MORE

SEE END BRACE SHOWN ABOVE FOR BRACE DETAILS



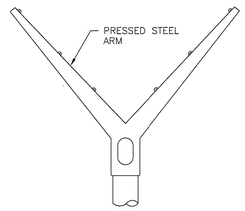
TYPICAL FENCE PLACEMENT DETAIL

ROUND TERMINAL POSTS

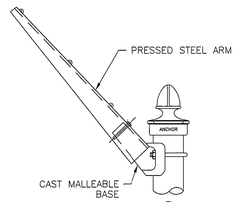


(A) END, CORNER, OR GATE POST ELEVATION

(B) LINE POST ELEVATION



(C) BARBED WIRE 45° ARM TYP - LINE POST



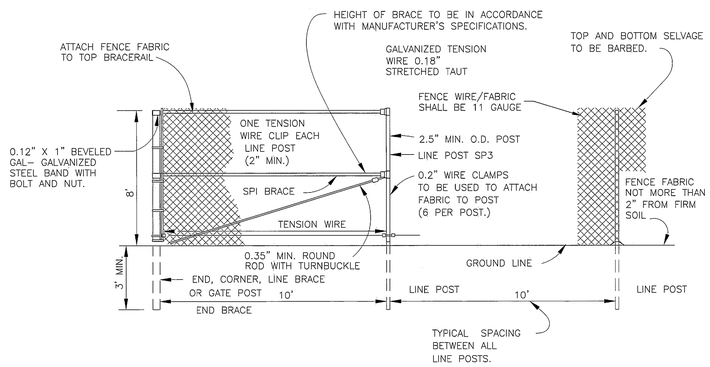
(D) BARBED WIRE CORNER ARM TYP - CORNER POST

NOTES:
1. ALL MATERIAL TO CONFORM TO FEDERAL SPEC RR-F-191G (1-25-74).
2. ALL GALVANIZED FITTINGS TO CONFORM TO ASTM-A153.

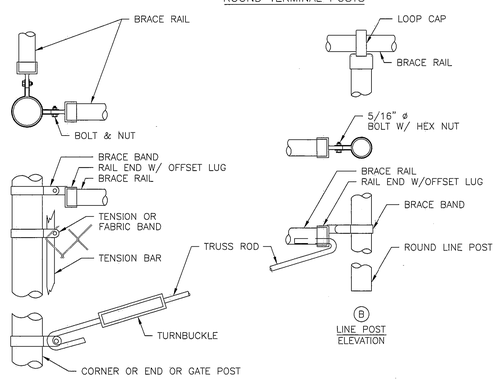
TYPICAL ROUND POST DETAILS

(1/C116) PERMANENT SECURITY FENCE DETAIL

SCALE: NTS



ROUND TERMINAL POSTS



(A) END, CORNER, OR GATE POST ELEVATION

(B) LINE POST ELEVATION

FENCE HEIGHT	UPRIGHT END & CORNER POSTS		LINE POSTS		CORNER POSTS WITH CORNER ARM	
NOM HT INCLUDING BARBED WIRE	BAR LENGTH	HEIGHT ABOVE GRADE	BAR LENGTH	HEIGHT ABOVE GRADE	BAR LENGTH	HEIGHT ABOVE GRADE
9'-0"	12'-0"	9'-0 5/8"	10'-8"	7'-8 7/8"	11'-0"	8'-0 5/8"

TYPICAL 8' HIGH FENCE WITHOUT BARBED WIRE DIMENSIONS

(2/C116) TEMPORARY SECURITY FENCE DETAIL

SCALE: NTS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — WILLIAM J. PATTON — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JBH	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

FENCE DETAILS

C116

BUILDING 035

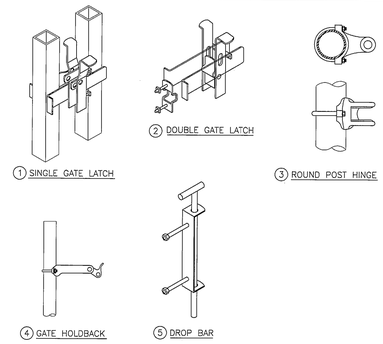
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL | DATE ISSUED 03-01-10 | CoF CODE or WBS A6890 | SHEET 19 OF 158 | DRAWING NO. GF-035-34007

N:\EMADON\GF035\AS2D\DWG\Sheets\C115-C117_Site Details.dwg, 2/26/2010 8:06:01 AM, 1:1

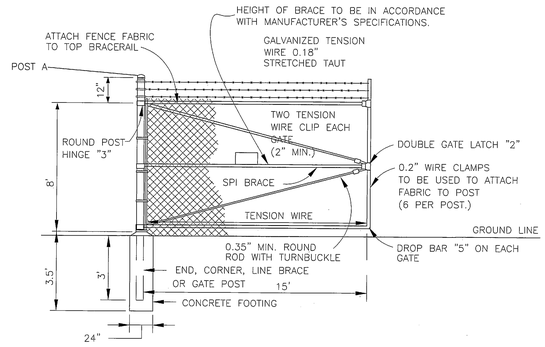
NOTE:

1. PROVIDE EACH GATE (SINGLE OR DOUBLE) WITH A 15" X 15" 0.080 ALUMINUM SIGN WITH GATE NUMBER (NUMBER TO BE PROVIDED BY GOVERNMENT) MOUNTED ON EACH FACE OF THE GATE.



TYPICAL SWING GATE DETAILS

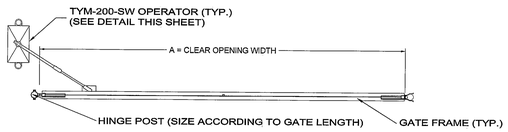
NTS



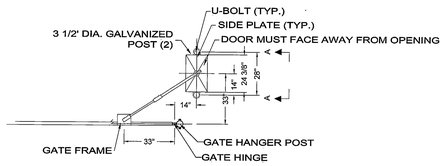
NEW SWING GATE

1 / C117 SWING GATE DETAIL

SCALE: NTS

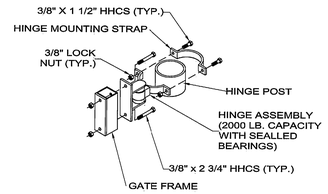


PLAN VIEW



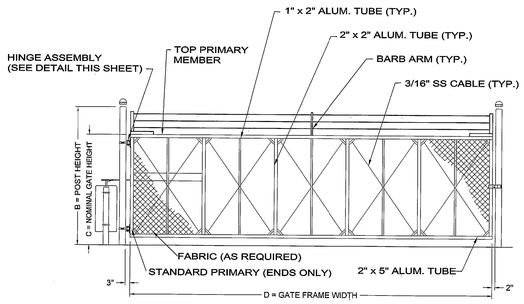
TYM-200-SW OPERATOR

Scale: None

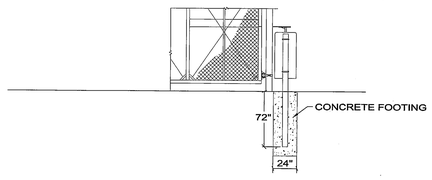


HINGE ASSEMBLY

Scale: None

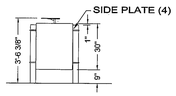


ELEVATION



ELEVATION

Scale: None



VIEW A-A

Scale: None

NOTES:

1. HANGER POST SIZE WILL VARY DEPENDING ON THE CLEAR OPENING WIDTH.
2. ALL FITTINGS PROVIDED FOR 6 5/8" O.D. POSTS. OTHER SIZES AVAILABLE UPON REQUEST.
3. PROVIDE BARB ARMS WITH 12" BARB WIRE.
4. GATE ELEVATION IS VIEWED FROM THE OUTSIDE OF THE SECURE AREA LOOKING IN.

NOMINAL GATE SIZE	24'w x 8'+1'h	
CRITICAL DIMENSION CHART		
A	CLEAR OPENING	24' 0"
B	POST HEIGHT	9' 6"
C	NOMINAL GATE HEIGHT	8' 0"
D	GATE FRAME WIDTH	23' 7"

NOTES:

1. THE CONTRACTOR IS TO CHECK THE ADEQUACY OF THE PROPOSED FENCE, INCLUDING GATES FOR ALL LOADS TO WHICH THESE ARE EXPOSED. THE FOOTINGS SHALL BE DESIGNED CONSISTENT WITH SOIL CONDITIONS AT THE SITE AND LOADING. SHOP DRAWINGS SHALL BE SUBMITTED TO THE A/E FOR REVIEW AND APPROVAL. SUBMIT DRAWINGS AND CALCULATIONS, STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF MARYLAND.
2. SEE OPERATOR INSTALLATION GUIDE FOR COMPLETE INSTALLATION INSTRUCTIONS.

2 / C117 MOTORIZED SWING GATE DETAIL

SCALE: NTS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC-NASA

SEAL AREA — STATE OF MARYLAND — HARISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SRK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER	RMW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

FENCE
GATES

C117

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	20 of 158	GF-035-34008

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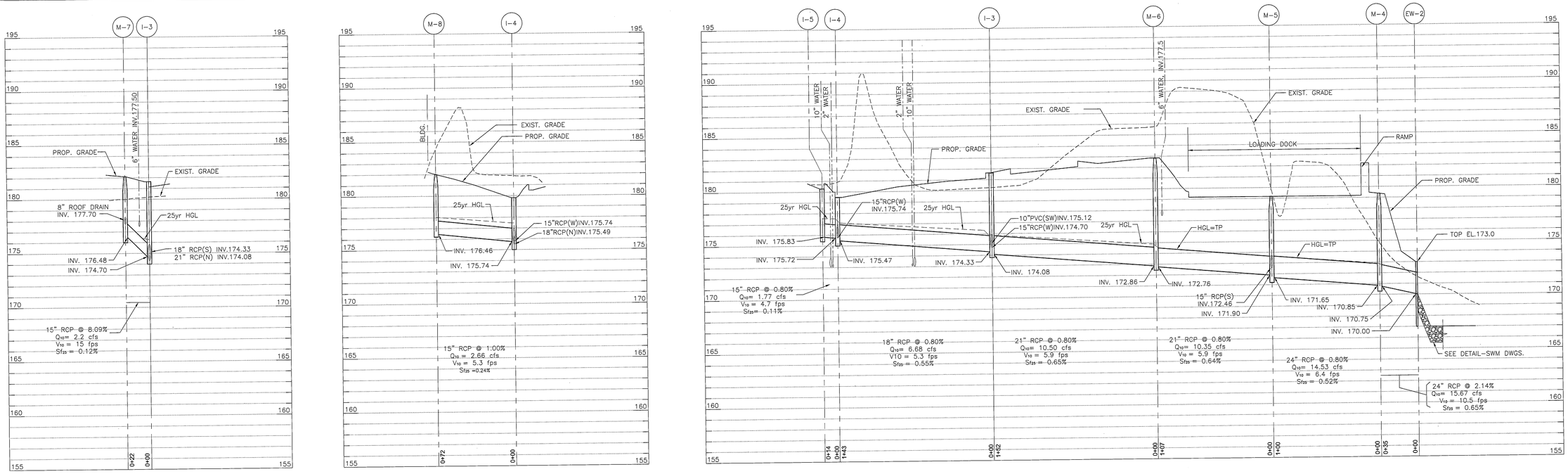
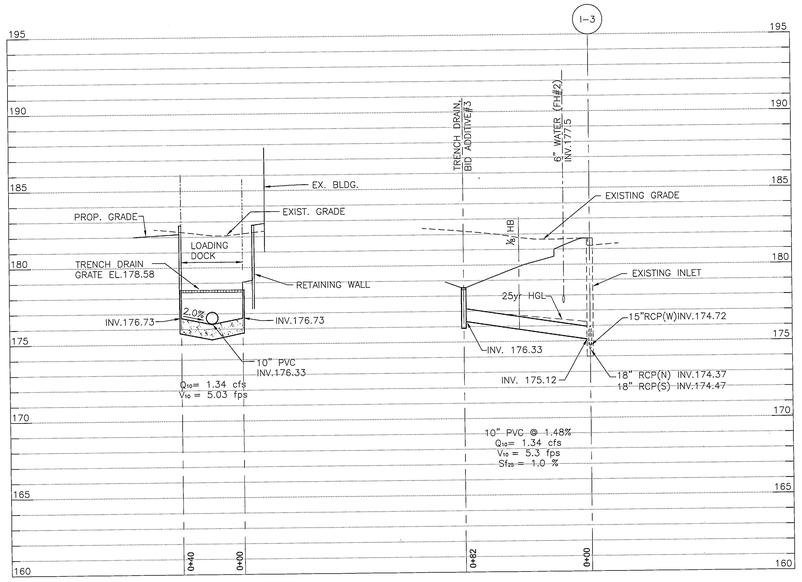


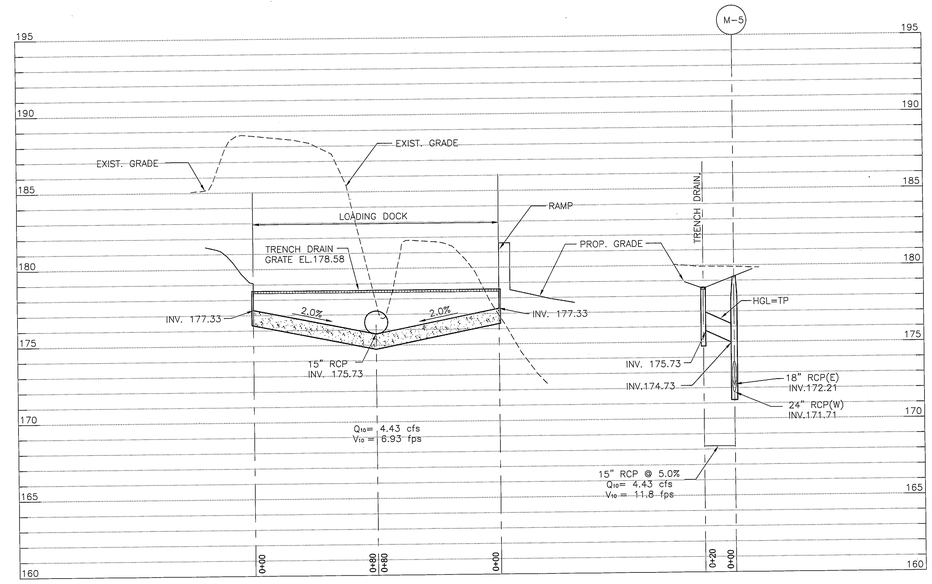
1 / C118 STORM DRAIN PROFILE

SCALE: AS NOTED



2 / C118 TRENCH DRAIN-BID ADDITIVE NO.3

SCALE: AS NOTED



3 / C118 TRENCH DRAIN

SCALE: AS NOTED

HORIZONTAL SCALE: 1"=40'

VERTICAL SCALE 1"=4'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — HARISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	TPM	3/1/10
CUSTOMER	BW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL

STORM DRAINAGE
PROFILES 1

C118

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
03-01-10	A6890	21 of 158	GF-035-34009

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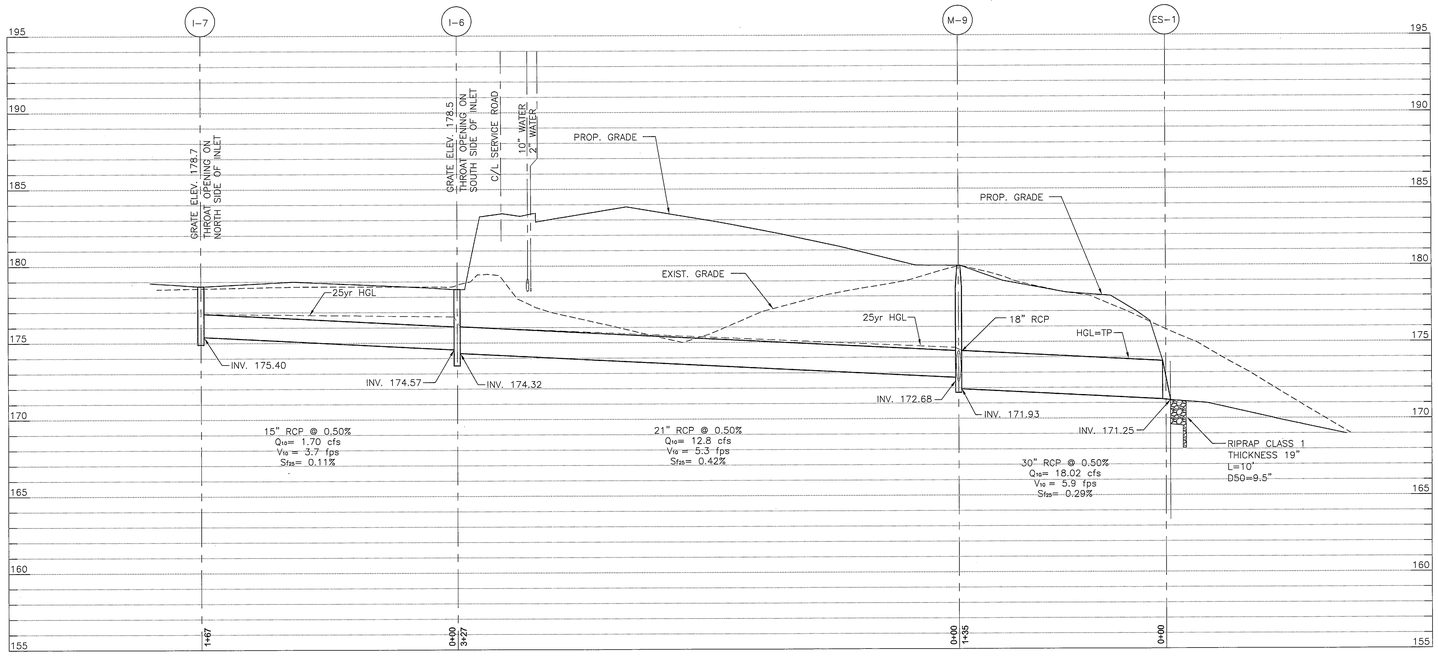
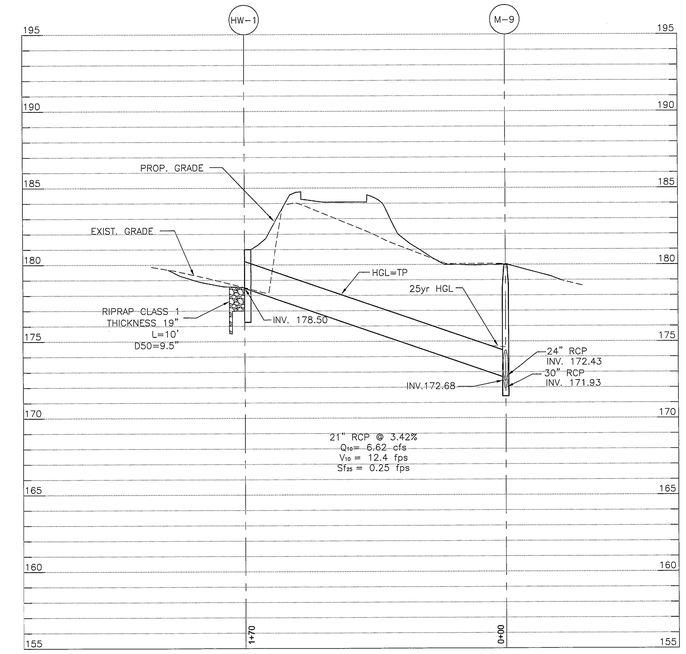


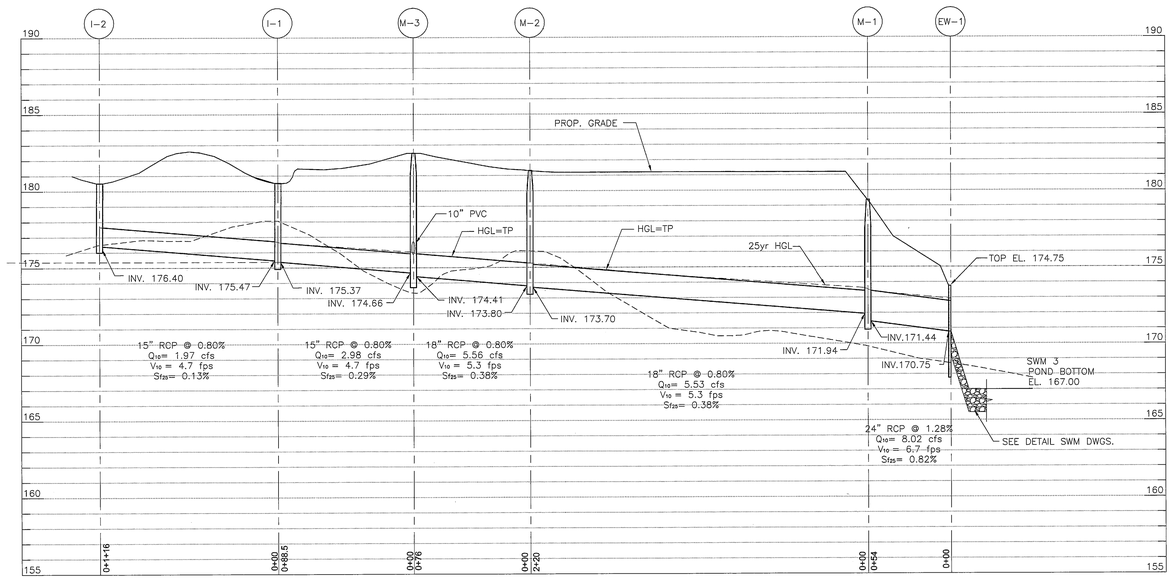
1 C119 STORM DRAIN PROFILE

SCALE: AS NOTED



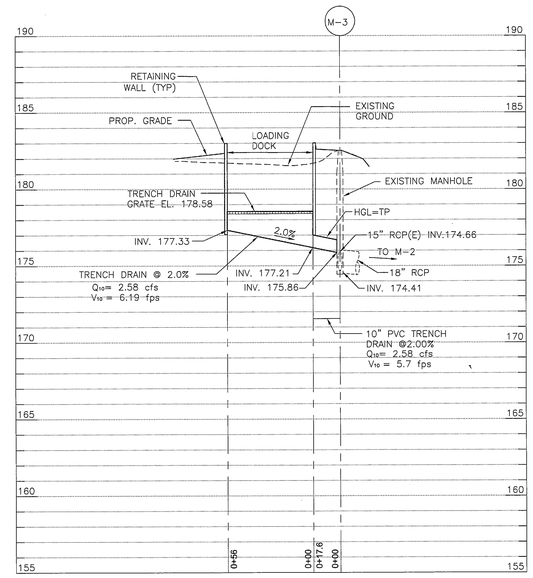
2 C119 STORM DRAIN PROFILE

SCALE: AS NOTED



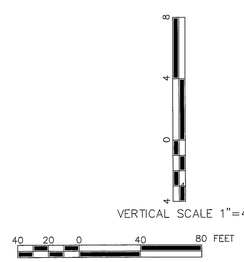
3 C119 STORM DRAIN PROFILE

SCALE: AS NOTED



4 C119 TRENCH DRAIN-BID ADDITIVE NO.4

SCALE: AS NOTED



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License No. 19533 , Expiration Date: 02/05/2012

PARSONS

Facilities Construction Engineering & Technical Services

FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — WRIGHT, PATRICK — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL

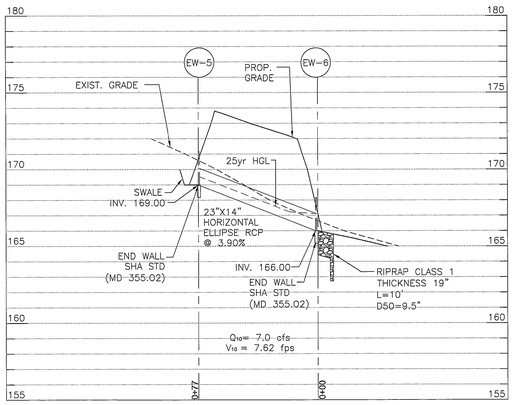
STORM DRAINAGE
PROFILES 2

C119

BUILDING 035

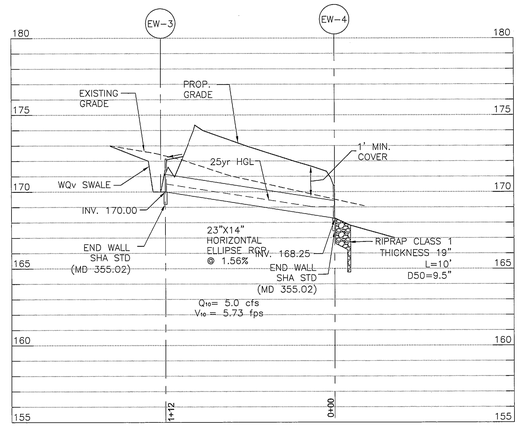
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	22 OF 158	GF-035-34010



1 C120 **STORM DRAIN PROFILE**

SCALE: AS NOTED



2 C120 **STORM DRAIN PROFILE**

SCALE: AS NOTED

STORM DRAIN STRUCTURE SCHEDULE

No	Type	Northing	Easting	Inv.In	Inv.Out	Elev. if Bid Additive 1 & 2 are not awarded	Top Elev. (Finish Grade)	Standard Detail No.
I-1	STANDARD TYPE "S" INLET	484882.49	1358598.22	175.47	175.37	180.37 GRATE	180.50 GRATE	SHA STD No. MD 374.71
I-2	STANDARD TYPE "S" INLET	484882.46	1358714.97	–	176.40	180.37 GRATE	180.50 GRATE	SHA STD No. MD 374.71
I-3	STANDARD TYPE A-2 INLET	485213.22	1358723.14	174.33	174.08	–	181.90 T/C	BALTIMORE CO. STD No. D-2.01B
I-4	STANDARD TYPE "S" INLET	485070.50	1358715.350	175.72	175.47	179.67 GRATE	179.80 GRATE	SHA STD No. MD 374.71
I-5	STANDARD TYPE "S" INLET	485069.75	1358728.28		175.83	180.13 GRATE	180.30 GRATE	SHA STD No. MD 374.71
I-6	"K" INLET	484818.64	1358764.79	174.57	174.32	–	178.50 GRATE	SHA STD No. MD 378.03, MD 378.06
I-7	"K" INLET	484985.89	1358764.79	–	175.40	–	178.70 GRATE	SHA STD No. MD 378.03, MD 378.06
M-1	48" PRECAST MANHOLE	485137.40	1358437.27	171.94	171.44	–	179.75	SHA STD No. MD 384.01
M-2	48" PRECAST MANHOLE	484917.32	1358437.27	173.80	173.70	–	181.25	SHA STD No. MD 384.01
M-3	48" PRECAST MANHOLE	484902.37	1358511.47	174.66	174.41	–	182.50	SHA STD No. MD 384.01
M-4	48" PRECAST MANHOLE	485364.82	1358513.33	170.85	170.75	–	179.50	SHA STD No. MD 384.01
M-5	48" PRECAST MANHOLE	485364.82	1358613.33	171.90	171.65	–	179.18	SHA STD No. MD 384.01
M-6	48" PRECAST MANHOLE	485364.82	1358720.33	172.86	172.76	–	182.85	SHA STD No. MD 384.01
M-7	48" PRECAST MANHOLE	485211.68	1358700.77	–	176.48	–	182.15	SHA STD No. MD 384.01
M-8	48" PRECAST MANHOLE	485070.49	1358643.28	–	176.46	–	182.25	SHA STD No. MD 384.01
M-9	60" PRECAST MANHOLE	484820.93	1358437.94	172.68	171.93	–	180.25	SHA STD No. MD 384.03
EW-1	24" ENDWALL	485192.08	1358437.06	–	170.75	–	173.50	SHA STD No. MD 354.01
EW-2	24" ENDWALL	485364.82	1358480.24	–	170.00	–	172.75	SHA STD No. MD 354.01
EW-3	14"X23" ENDWALL CULVERT	485367.61	1359359.93	170.00	–	–	172.17	SHA STD No. MD 355.02
EW-4	14"X23" ENDWALL CULVERT	485494.50	1359353.95	–	168.25	–	170.42	SHA STD No. MD 355.02
EW-5	14"X23" ENDWALL CULVERT	485382.37	1359345.82	169.00	–	–	171.17	SHA STD No. MD 355.02
EW-6	14"X23" ENDWALL CULVERT	485460.37	1359339.90	–	166.00	–	168.17	SHA STD No. MD 355.02
ES-1	STANDARD END SECTION	484950.85	1358401.36	–	171.25	–	–	SHA STD No. MD 368.01
HW-1	HEADWALL	484722.53	1358573.93	178.50	–	–	181.00	BALTIMORE CO. STD No. D-1.01A

NOTE: WHERE CURB INLET REQUIRES CURB HEIGHT GREATER THAN ADJACENT CURB, PROVIDE 5' TRANSITION CURB.

8 FEET
4
0
2
4

VERTICAL SCALE: 1"=4'

40 20 0 40 80 FEET

HORIZONTAL SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-9 SFC-NASA

SEAL AREA

STATE OF MARYLAND
HENRY J. PATEL
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JTM	3/1/10
CUSTOMER	BW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

STORM DRAINAGE
PROFILES 3

C120

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	23 OF 158	GF-035-34011

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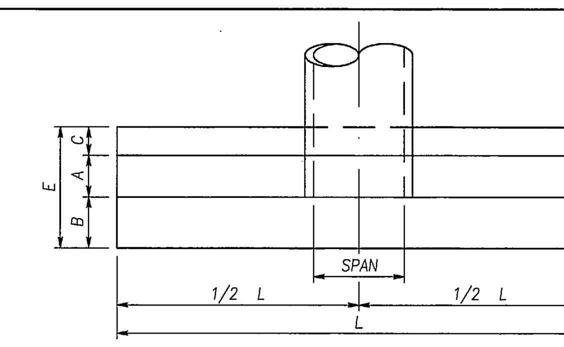
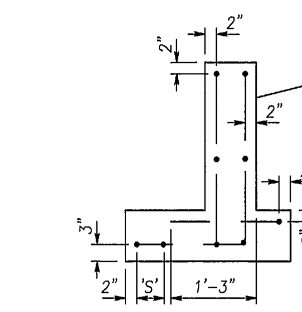
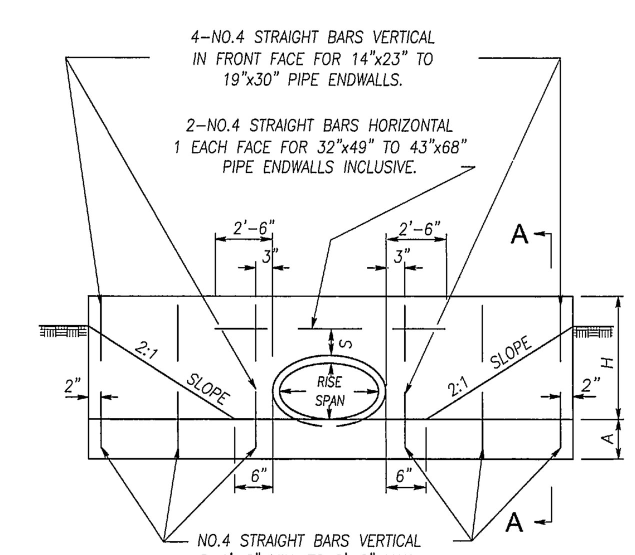


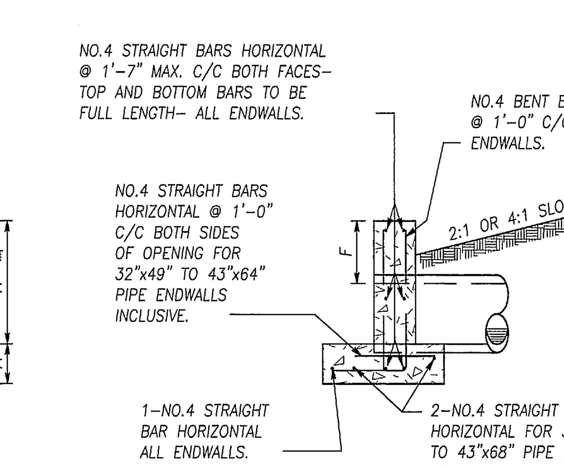
PLAN



DISPOSITION OF BARS DETAIL



ELEVATION



SECTION A-A

QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING		DIMENSIONS							QUANTITIES	
D RISE x SPAN INCHES	AREA SQ.FT.	A	B	C	E	F	H	L	CONC. C.Y.	STEEL LBS.
14X23	1.8	9"	8"	6"	1'-11"	12"	2'-2"	8'-7"	0.88	56
19X30	3.3	9"	8"	6"	1'-11"	12"	2'-6"	10'-6"	1.15	63
22X34	4.1	9"	14"	6"	2'-5"	13"	2'-11"	12'-6"	1.74	100
24X38	5.1	9"	14"	6"	2'-5"	13"	3'-1"	13'-6"	1.92	116
27X42	6.3	9"	14"	6"	2'-5"	13"	3'-4"	14'-10"	2.19	124
29X45	7.4	9"	14"	10"	2'-9"	14"	3'-7"	16'-0"	2.61	141
32X49	8.8	12"	16"	10"	3'-2"	14"	3'-10"	17'-0"	4.08	202
34X53	10.2	12"	16"	10"	3'-2"	14"	4'-0"	18'-0"	4.40	210
38X60	12.9	12"	16"	10"	3'-2"	15"	4'-5"	20'-4"	5.23	266
43X68	16.6	12"	20"	12"	3'-8"	15"	4'-10"	22'-8"	6.52	307

'S' DISTANCES

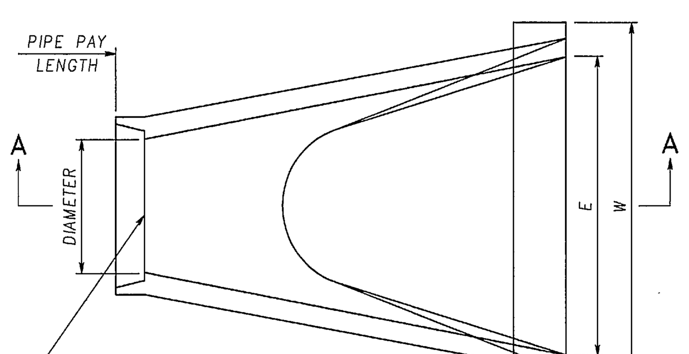
6" FOR 14" x 23" TO 27" x 42" INCLUSIVE.
8" FOR 29" x 45" TO 43" x 68" INCLUSIVE.

GENERAL NOTES

SPECIFICATIONS: LATEST S.H.A.
CONCRETE: SEE S.H.A. SPECIFICATIONS
REINFORCEMENT: DEFORMED STEEL BARS NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED.

STANDARD TYPE C ENDWALL HORIZONTAL ELLIPTICAL CONCRETE PIPE

STANDARD NO. MD 355.02

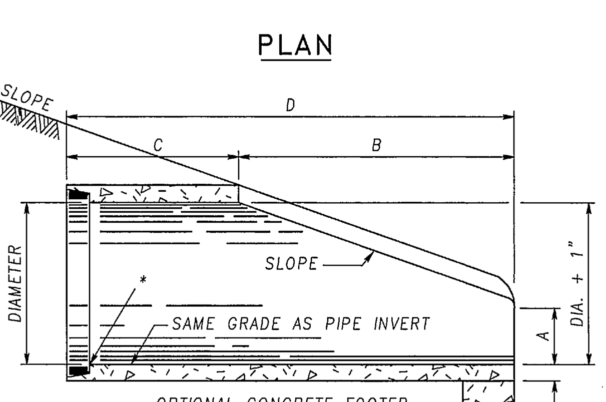


PLAN

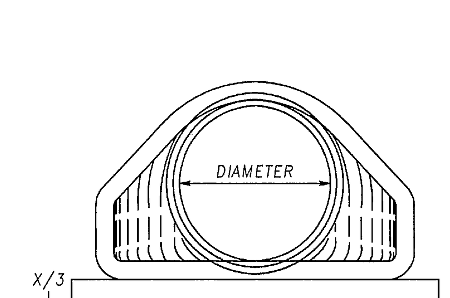
NOTES

1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD MD 368.02.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO CLASS III PIPE.
3. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2. REINFORCEMENT TO BE NO.3 BARS.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



SECTION A-A

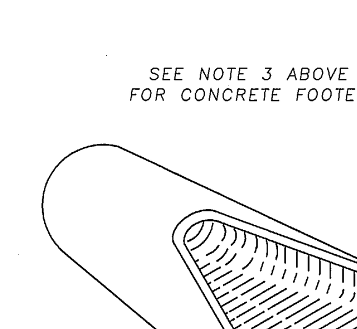


END VIEW

QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS										QUANTITIES	
CONCRETE END SECTION							CONCRETE FOOTER				
DIA.	SLOPE	A	B	C	D	E	W	X	Y	CONC. C.Y.	STEEL LBS.
12"	3:1	4"	2'-0"	4'-0⅞"	6'-0⅞"	2'-0"	3'-0"	12"	9"	0.08	24.00
15"	3:1	6½"	2'-4"	3'-10"	6'-2"	2'-6"	3'-6"	12"	9"	0.10	28.50
18"	3:1	10¼"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	9"	0.11	33.00
21"	3:1	9"	3'-0"	3'-1½"	6'-1½"	3'-6"	4'-6"	12"	9"	0.13	37.50
24"	3:1	11"	3'-7"	2'-8"	6'-3"	4'-0"	5'-0"	15"	9"	0.17	42.00
27"	3:1	10½"	4'-1½"	2'-0"	6'-1½"	4'-6"	5'-6"	15"	9"	0.19	46.50
30"	3:1	1'-1"	4'-5"	1'-10"	6'-3"	5'-0"	6'-0"	15"	9"	0.21	51.00
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	9"	0.23	55.50
36"	3:1	1'-3½"	5'-3"	3'-1"	8'-1½"	6'-0"	7'-3"	15"	9"	0.25	62.25
42"	3:1	1'-9¼"	5'-5"	2'-10"	8'-3"	6'-6"	7'-9"	15"	9"	0.27	66.75
48"	3:1	2'-1"	6'-0"	2'-2"	8'-2"	7'-0"	8'-6"	18"	12"	0.47	73.50
54"	2.4:1	2'-5"	5'-2"	2'-10"	8'-0"	7'-6"	9'-0"	18"	12"	0.50	78.00
60"	2:1	2'-7"	4'-11"	3'-8½"	8'-7½"	8'-0"	9'-6"	18"	12"	0.53	82.50
66"	2:1	2'-4"	6'-6"	1'-9"	8'-3"	8'-6"	10'-0"	18"	12"	0.56	87.00
72"	2:1	2'-10"	6'-6"	1'-9"	8'-3"	9'-0"	10'-9"	18"	12"	0.60	93.75

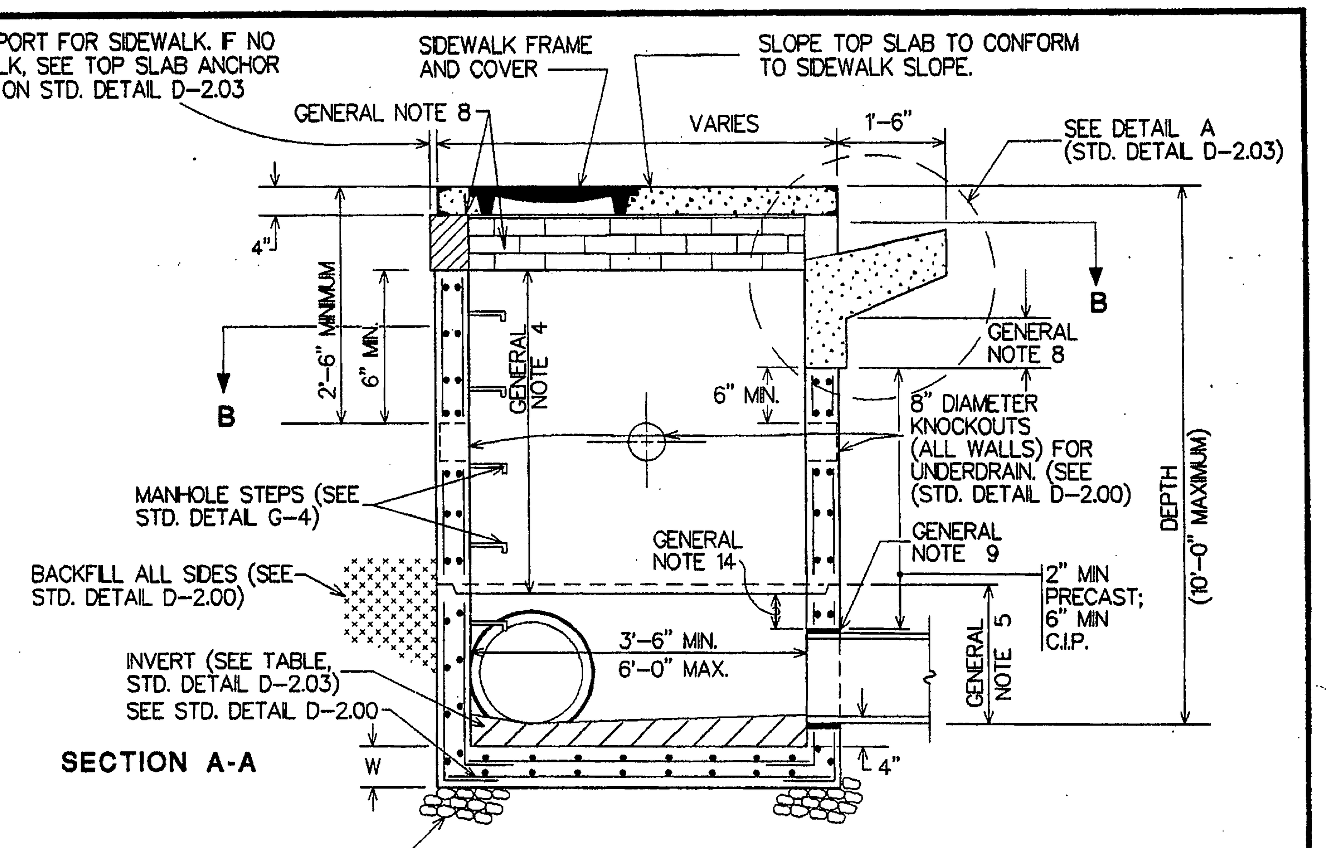
SEE NOTE 3 ABOVE FOR CONCRETE FOOTER



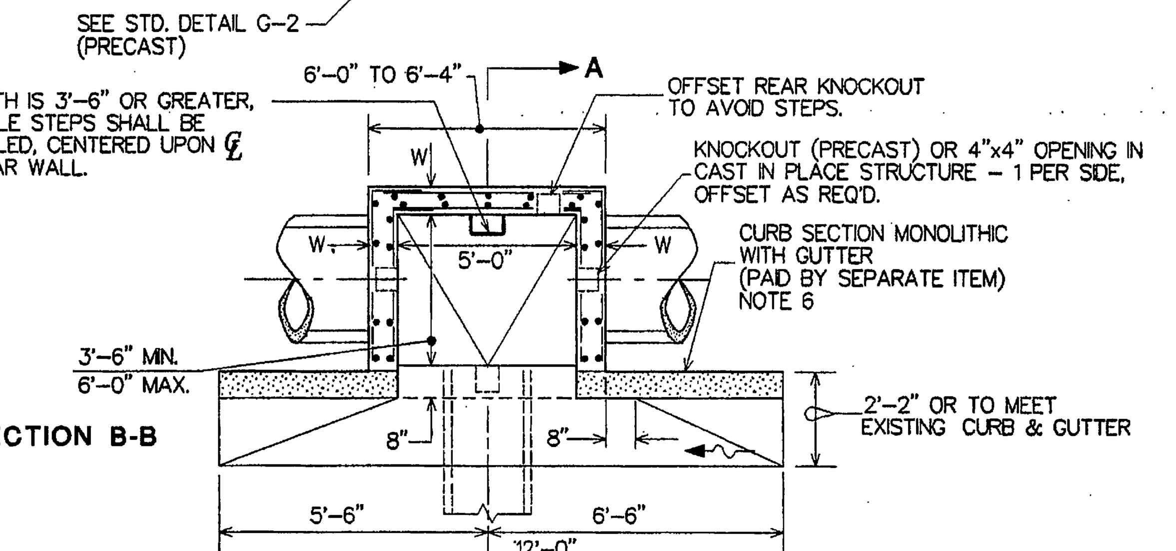
ISOMETRIC VIEW

STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE

STANDARD NO. MD 368.01



SECTION A-A

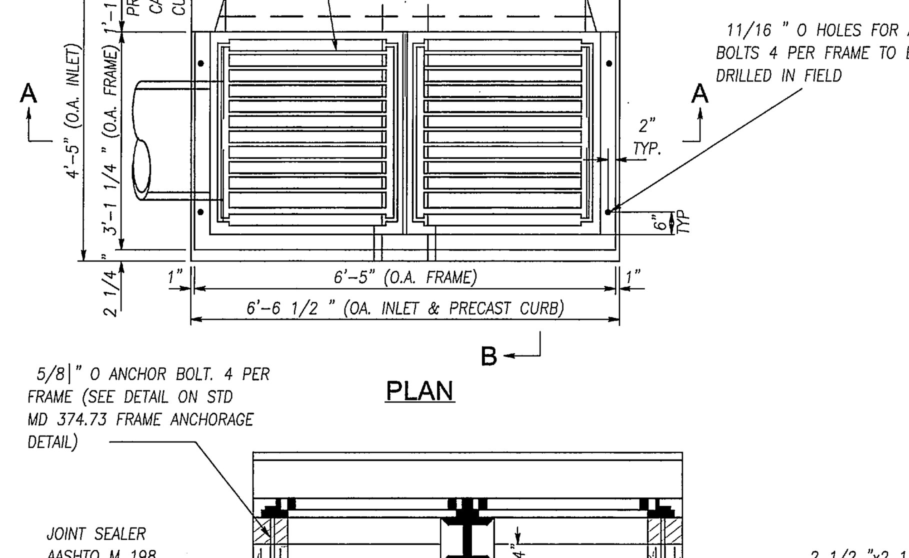


SECTION B-B

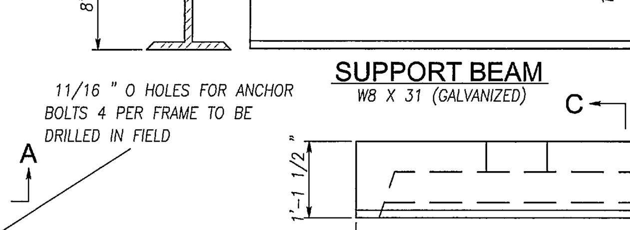
NOTES

1. SEE STD. DETAIL D-2.00 FOR GENERAL NOTES.
2. SEE STD. DETAIL D-2.05 FOR PRECAST TOP SLAB.
3. DRAWING SHOWS PRECAST INLET. CAST-IN-PLACE INLET PER TABLE, STD. DETAIL D-2.03.
4. PREVIOUSLY STD. DETAIL D-2.01.
5. INLETS SHALL NOT BE USED IN LOCATIONS WHERE THE TOP SLAB MAY REASONABLY BE EXPECTED TO EXPERIENCE TRAFFIC LOADS.
6. DEVELOPMENT PROJECTS: CURB SECTION PAID FOR BY THE HIGHWAY CONTRACT.

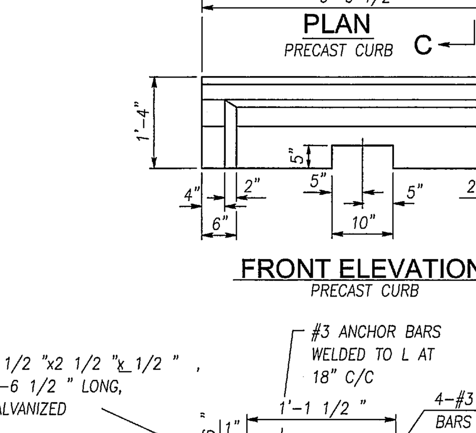
BALTIMORE COUNTY MARYLAND	APPROVAL DIRECTOR BUR. OF ENGINEERING/CONSTRUCTION 3/18/02 DATE	DEPARTMENT OF PUBLIC WORKS STORM DRAINAGE DETAILS **TYPE A-2 INLET**	ISSUED: OCTOBER 1977 REVISED: AUGUST, 1997 REVISED: JANUARY 2002 PLATE **D-2.01B**



PLAN

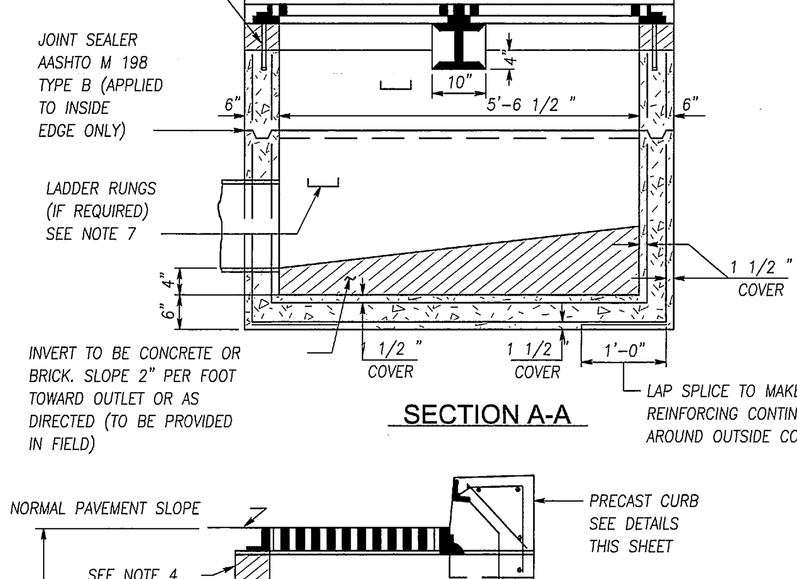


SUPPORT BEAM
W8 X 31 (GALVANIZED)

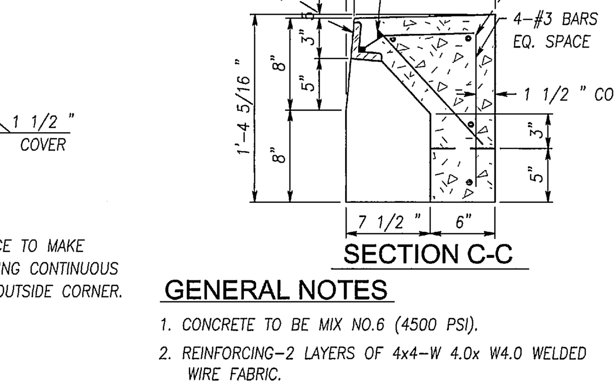


PLAN
PRECAST CURB

FRONT ELEVATION
PRECAST CURB



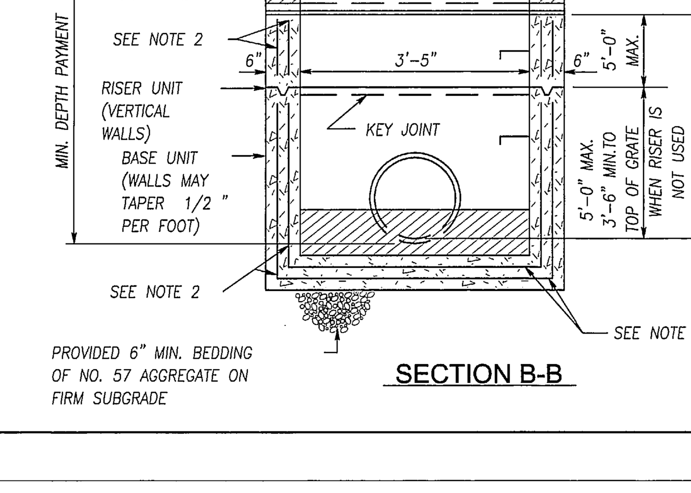
SECTION A-A



SECTION C-C

GENERAL NOTES

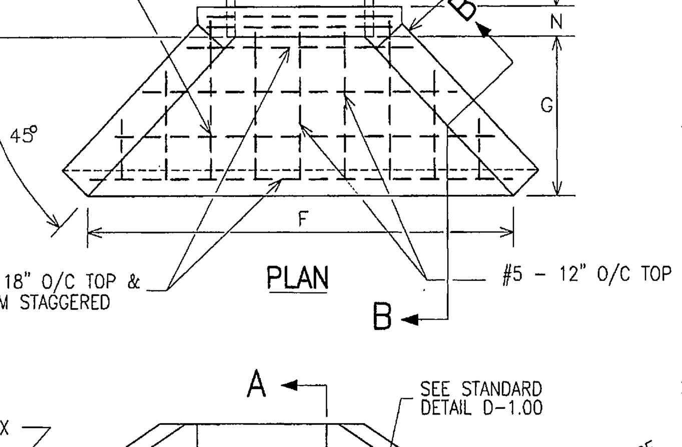
1. CONCRETE TO BE MIX NO.6 (4500 PSI).
2. REINFORCING-2 LAYERS OF 4x4-W 4.0x W4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONCRETE MIX NO.6.
5. PIPE OPENING TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 & MD 383.92 OR AS DIRECTED BY THE ENGINEER.
8. MINIMUM DEPTH PAYMENT PER "EACH" INCLUDES DEPTHS UP TO 3'-6". VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".



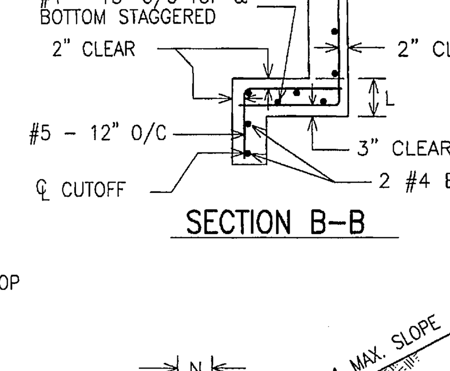
SECTION B-B

PRECAST STANDARD TYPE S COMBINATION INLET DOUBLE GRATE TANDEM

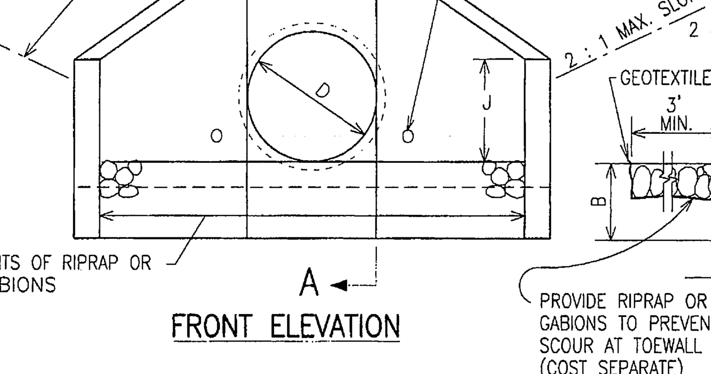
STANDARD NO. MD 374.71



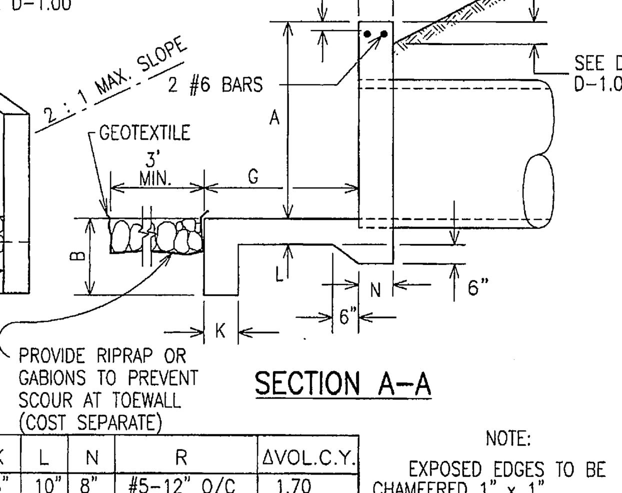
PLAN



SECTION B-B



FRONT ELEVATION



SECTION A-A

D	A	B	E	F	G	J	K	L	N	R	ΔVOL.C.Y.
15",18"	3'-0"	2'-0"	3'-0"	7'-6"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.70
21'	3'-3"	2'-0"	3'-4"	7'-9"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.80
24"	3'-6"	2'-0"	3'-8"	8'-0"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	1.90
27"	3'-9"	2'-6"	3'-11"	8'-3"	3'-0"	2'-0"	8"	10"	8"	#5-12" O/C	2.1
30"	4'-0"	2'-6"	4'-2"	8'-6"	3'-0"	2'-0"	8"	10"	10"	#5-12" O/C	3.15
36"	4'-6"	3'-0"	4'-8"	10"-0"	3'-6"	2'-3"	9"	10"	10"	#5-12" O/C	3.43
42"	5'-0"	3'-0"	5'-3"	11'-6"	4'-0"	2'-9"	9"	10"	10"	#5-12" O/C	4.19
48"	5'-6"	3'-0"	5'-10"	13'-0"	4'-6"	3'-0"	9"	10"	12"	#5-12" O/C	5.44
54"	6'-0"	3'-0"	6'-5"	14'-6"	5'-0"	3'-3"	9"	12"	12"	#5-12" O/C	6.90
60"	6'-6"	3'-0"	7'-0"	16'-0"	5'-6"	3'-6"	9"	12"	12"	#5-12" O/C	8.42
66"	7'-0"	3'-0"	7'-7"	17'-6"	6'-0"	3'-9"	9"	12"	14"	#5-12" O/C	9.58
72"	7'-6"	3'-0"	8'-2"	19'-0"	6'-6"	4'-3"	9"	12"	14"	#5-12" O/C	11.63

Δ BASED ON 2:1 CHANNEL SIDE SLOPES.

NOTE:

EXPOSED EDGES TO BE CHAMFERED 1" x 1".

HEADWALL TO BE PARALLEL TO ℄ OF ROADWAY UNLESS OTHERWISE NOTED IN THE CONTRACT DRAWINGS.

CONCRETE VOLUME BASED ON 2:1 SIDE SLOPES. TO BE USED FOR ESTIMATING ONLY.

CONCRETE: MIX #3

USE OF METAL PIPE SHALL BE RESTRICTED TO REPAIR AND REPLACEMENT ONLY, EXCEPT WITH APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS. ADJACENT METAL PIPE SHALL BE INSPECTED FOR REPLACEMENT PRIOR TO REPLACING HEADWALL.

PRECASTING THIS ENDWALL: SEE NOTE 5, DETAIL D-1.01B.

11/22/2006 5:35 PM
D-01_01A.DWG

BALTIMORE COUNTY MARYLAND	APPROVAL DIRECTOR BUR. OF ENGINEERING / CONSTRUCTION 1-2-07 DATE	DEPARTMENT OF PUBLIC WORKS STORM DRAINAGE DETAILS **TYPE "A" HEADWALL** CIRCULAR PIPE	ISSUED: OCTOBER, 1977 REVISED: FEBRUARY, 1981 REVISED: NOVEMBER, 2006 PLATE **D-1.01A**

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND HARISH J. PATEL No. 19533 PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		
CIVIL		

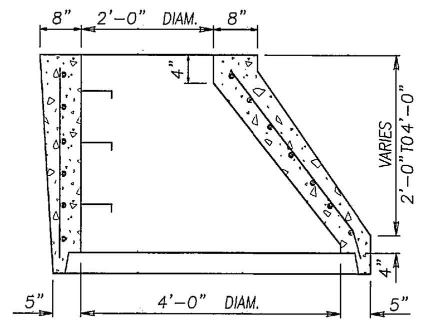
LOGISTICS FACILITY
SITE AND SHELL
STORM DRAINAGE
DETAILS 1

C121

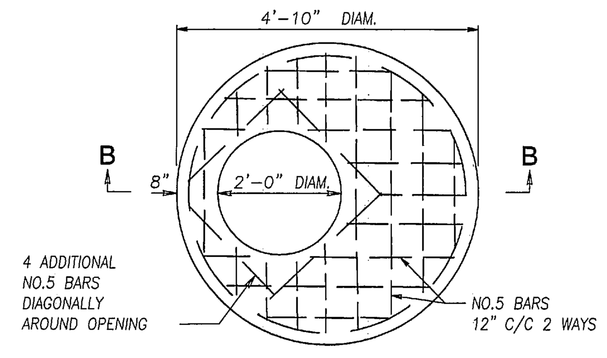
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

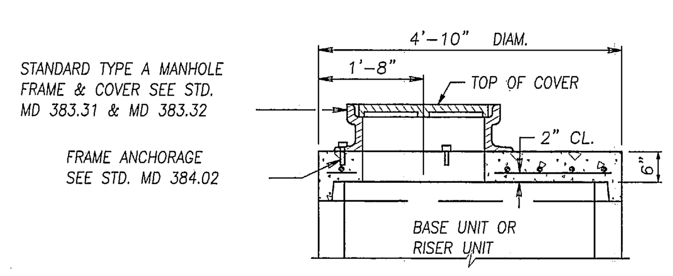
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	24 OF 158	GF-035-34012



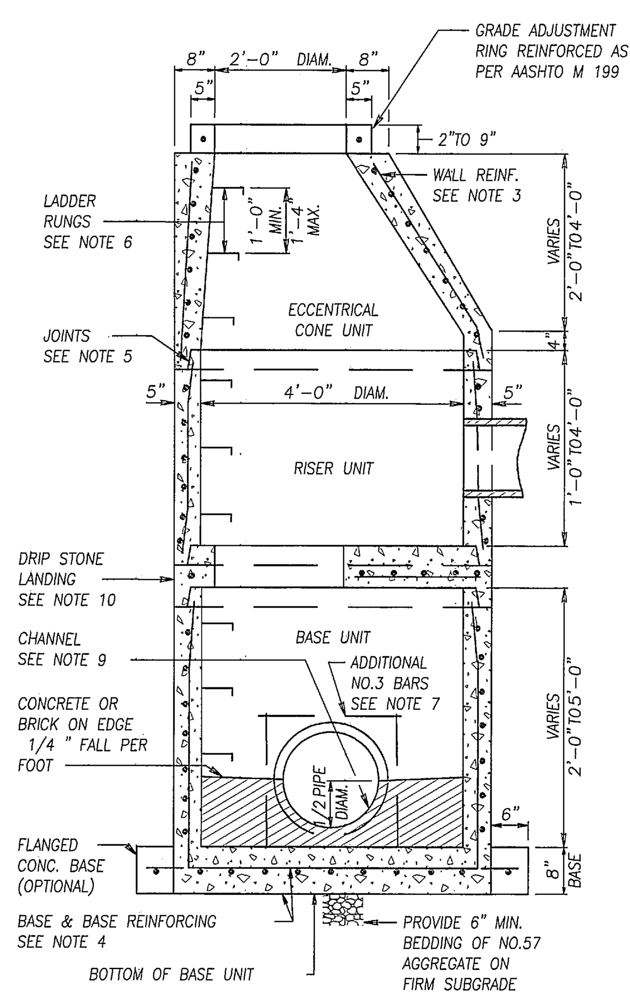
ALTERNATE ECCENTRICAL CONE UNIT



FLAT SLAB TOP
(SHOWN WITHOUT FRAME & COVER)



SECTION B-B



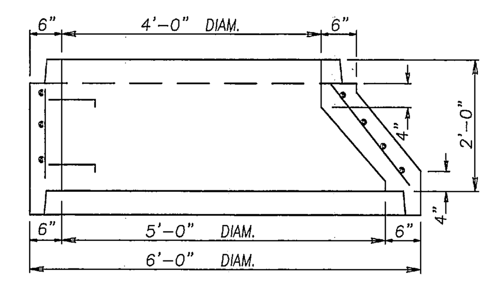
SECTION VIEW
(SHOWN WITHOUT FRAME & COVER)

NOTES

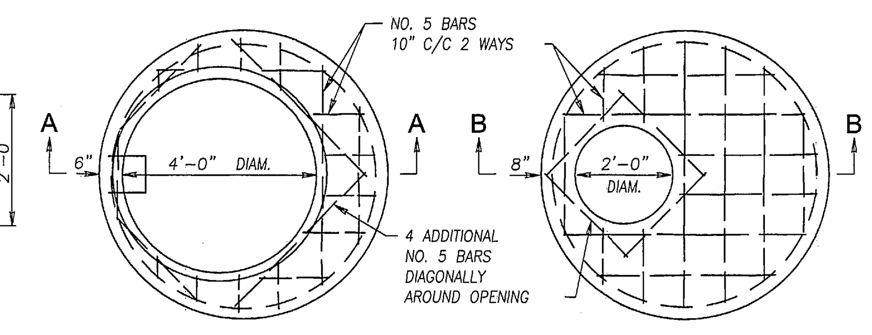
1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
3. WALL REINFORCEMENT FOR BASE UNITS. RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BASE OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN. 2 FT. FOR THE 48" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT BARS SHALL MEET ASTM A 615.GRADE 60.
4. BASE REINFORCEMENT SHAll BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.14 IN. 2 FT. THE BASE MAY BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THIER DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTER, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92 LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MULTIPLE OPENINGS IN THE BASE UNIT OR ANY RISOR UNIT IS LESS THAN 6" ADDITIONAL NO. 3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO. 2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING. NO. 57 AGGREGATE GROUT. SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.

48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES

STANDARD NO. MD 384.01

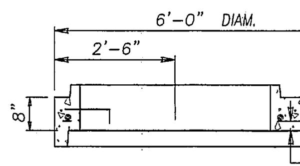


ECCENTRICAL CONE REDUCER
(ALTERNATE FOR FLATTOP REDUCER)

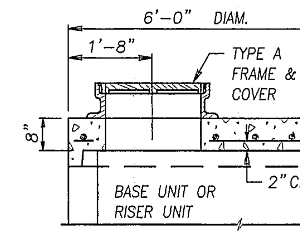


FLATTOP REDUCER

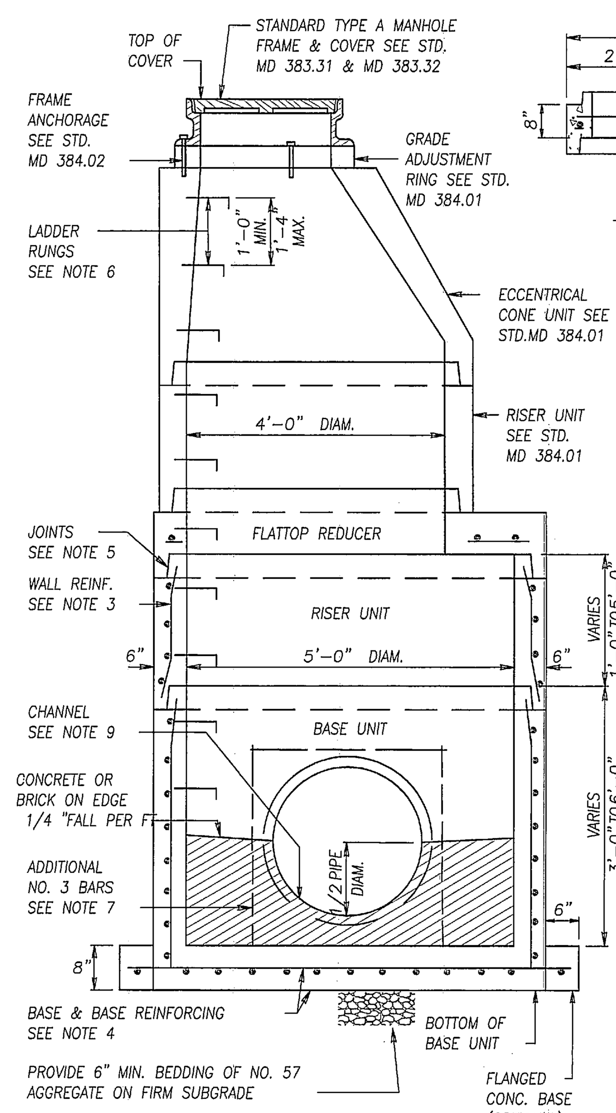
FLAT SLAB TOP
(SHOWN WITHOUT FRAME & COVER)



SECTION A-A



SECTION B-B



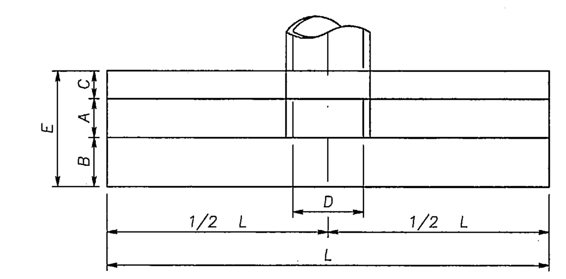
SECTION VIEW

NOTES

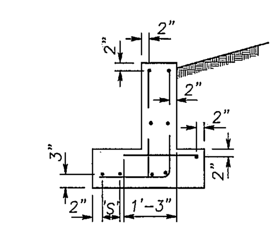
1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO.6 (4500PSI).
3. WALL REINFORCMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.15 IN. /FT FOR THE 60" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT BARS SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT TO BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.17 IN. /FT. THE BASE SHALL BE CAST MONOLITHIC WITH THE BASE UNIT OR JOINTED PER MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 AND C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MUTIPLE OPENINGS IN THE BASE UNIT OR ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.

60" DIAMETER PRECAST MANHOLE FOR 27" TO 36" PIPES

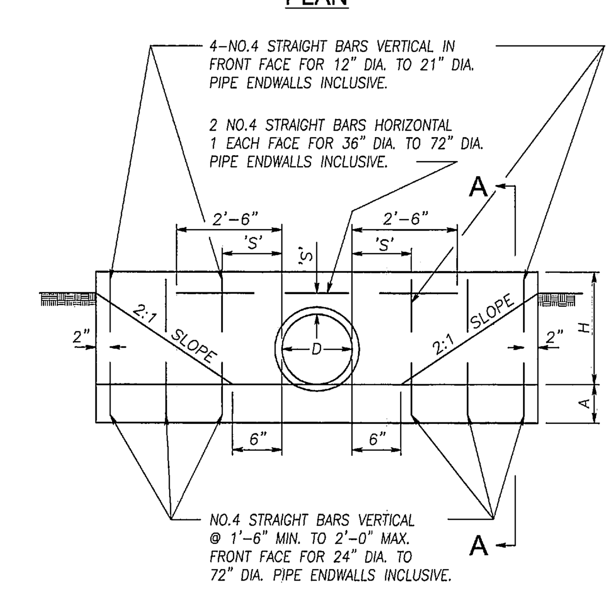
STANDARD NO. MD 384.03



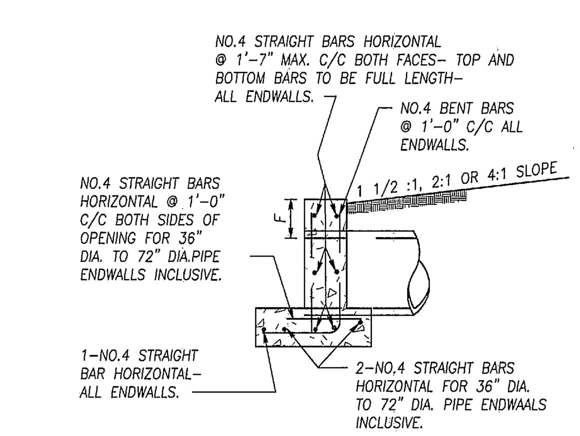
PLAN



DISPOSITION OF BARS DETAIL



ELEVATION



SECTION A-A

QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING		DIMENSIONS							QUANTITIES	
D INCHES	AREA SQ.FT.	A	B	C	E	F	H	L	CONC. C.Y.	STEEL LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	41
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-9"	0.77	47
18	1.77	9"	6"	6"	1'-9"	9"	2'-3"	9'-0"	0.95	54
21	2.40	9"	6"	6"	1'-9"	9"	2'-6"	10'-3"	1.14	70
24	3.14	9"	14"	6"	2'-5"	9"	2'-9"	11'-6"	1.56	80
27	3.98	9"	14"	6"	2'-5"	9"	3'-0"	12'-10"	1.82	88
30	4.91	9"	14"	6"	2'-5"	12"	3'-6"	14'-2"	2.22	98
33	5.94	9"	14"	6"	2'-5"	12"	3'-9"	15'-5"	2.48	105
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.16	182
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-2"	5.07	206
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-8"	6.09	244
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'-2"	7.62	275
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-8"	8.82	304
72	28.27	12"	20"	12"	3'-8"	12"	7'-0"	31'-8"	11.46	377

'S' DISTANCES

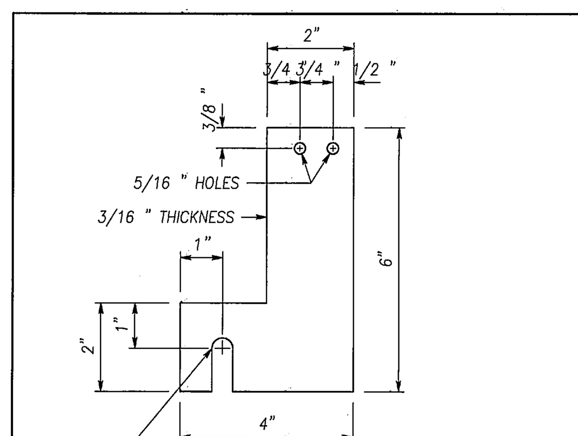
4" FOR 12" DIA. TO 21" DIA. PIPES INCLUSIVE.
6" FOR 24" DIA. TO 36" DIA. PIPES INCUSIVE.
8" FOR 42" DIA. TO 72" DIA. PIPES INCLUSIVE.

GENERAL NOTES

SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO.2
REINFORCING: DEFORMED STEEL BARS-NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED

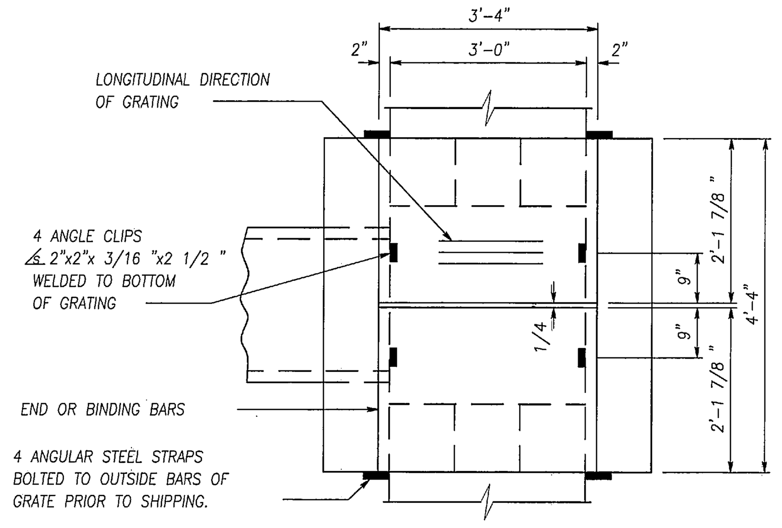
STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE

STANDARD NO. MD 354.01

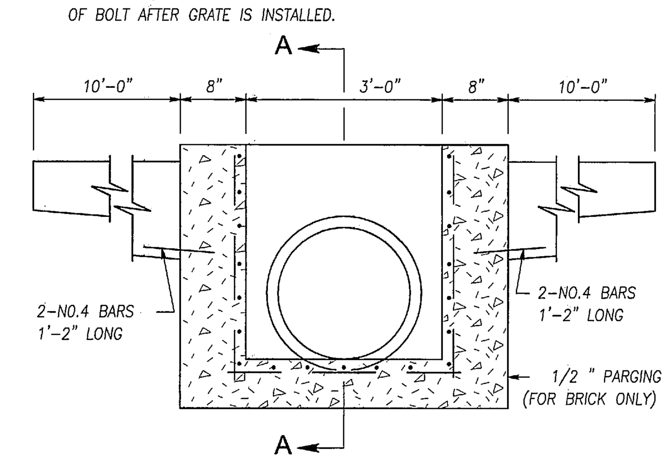


END STRAP DETAIL

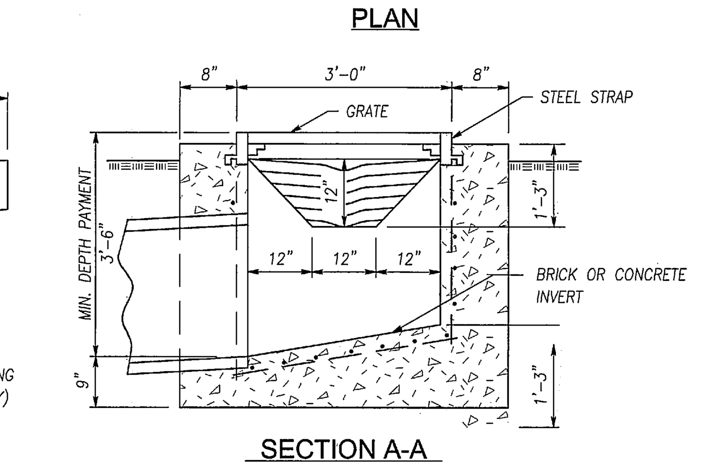
9/16 " SLOTTED HOLE TO RECEIVE 1/2 "x4" MACHINE BOLT (GALV.) IMBEDDED 3" IN CONC. WALL. NUT TO BE PLACED ON END OF BOLT AFTER GRATE IS INSTALLED.



PLAN

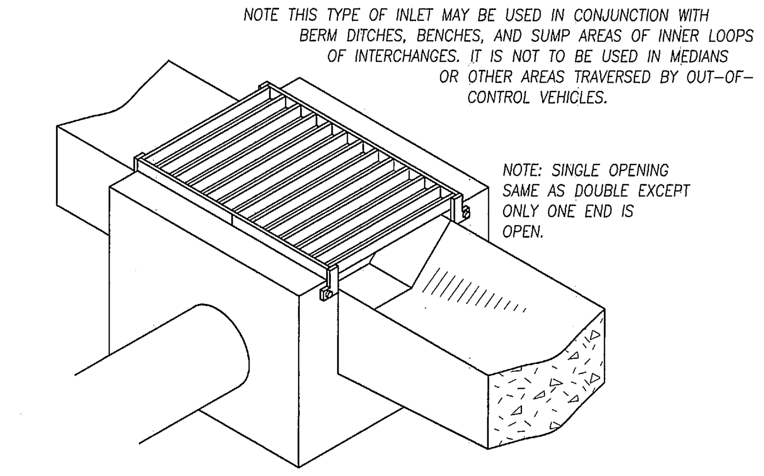


ELEVATION



SECTION A-A

NOTE THIS TYPE OF INLET MAY BE USED IN CONJUNCTION WITH BERM DITCHES, BENCHES, AND SUMP AREAS OF INNER LOOPS OF INTERCHANGES. IT IS NOT TO BE USED IN MEDIANS OR OTHER AREAS TRAVERSED BY OUT-OF-CONTROL VEHICLES.



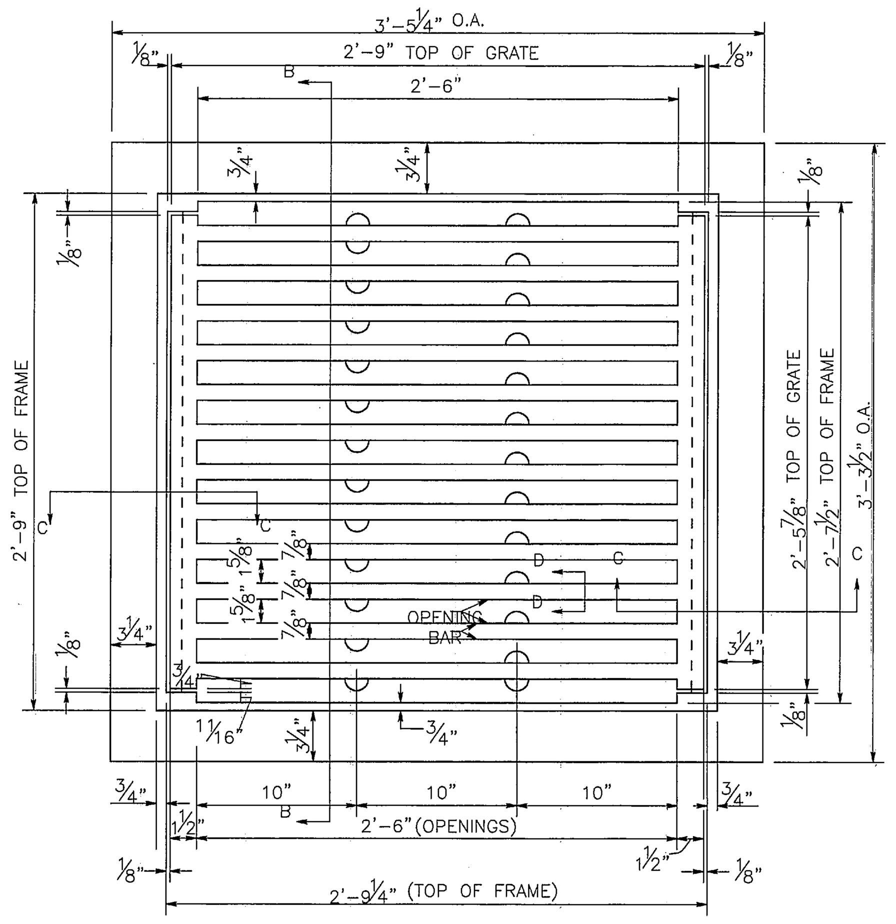
ISOMETRIC VIEW
(DOUBLE OPENING SHOWN)

NOTES

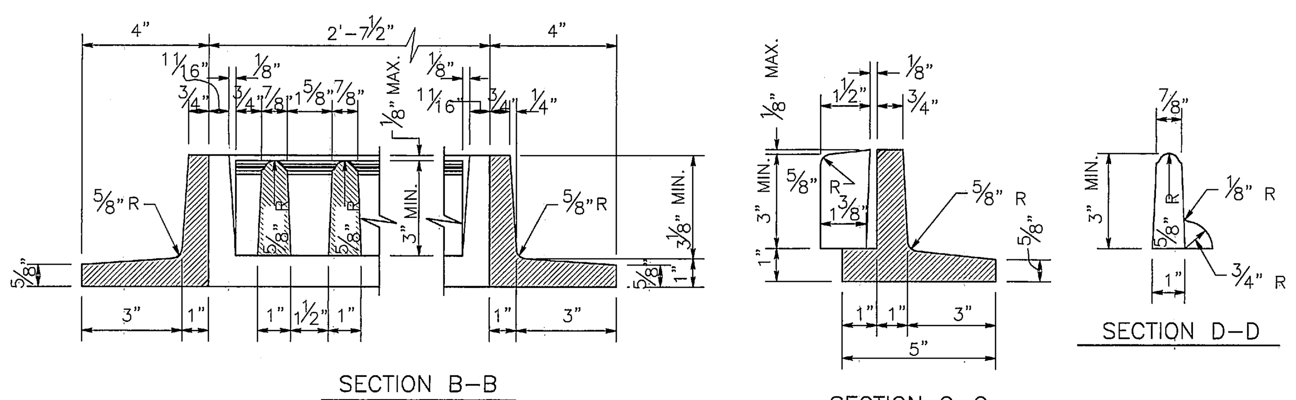
1. THE CONCRETE VALLEY GUTTER TO BE USED IN CONNECTION WITH THIS INLET, WILL BE WARPED FROM THE STANDARD SECTION TO MEET THE SECTION AT THE END OF THE INLET. THIS TRANSITION WILL TAKE PLACE WITH A DISTANCE OF TEN (10) FEET FROM THE INLET. GUTTER TO BE PAID FOR SEPARATELY.
2. PIPE OUTLETS AND GUTTER APPROACHES CAN BE REVISED TO MEET EXISTING CONDITIONS.
3. INLET MAY BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO.2) OR BRICK. CHAMFER INSIDE CORNER 3/4 "x 3/4 ". REINFORCEMENT NO.4 BARS @ 6" C/C, 2" COVER.
4. GRATINGS ARE SUBJECT TO APPROVAL FOR EACH JOB. ANY TYPE OF SUBSTANTIAL TRANSVERSE BARS MAY BE USED WHICH WILL SUPPORT A MINIMUM UNIFORM LOAD OF 50 LBS./SQ.FT. THE TRANSVERSE BARS SHALL BE HELD RIGID BY SPACER BARS.
5. AREA TO BE MADE UP OF TWO EQUAL PANELED WIDTHS, ARRANGED FOR BOLTING TOGETHER IN THE FIELD.
6. ALL MATERIAL TO BE HOT DIPPED GALVANIZED.

STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE NON-TRAFFIC AREAS

STANDARD NO. MD 378.03



PLAN



SECTION B-B

SECTION C-C

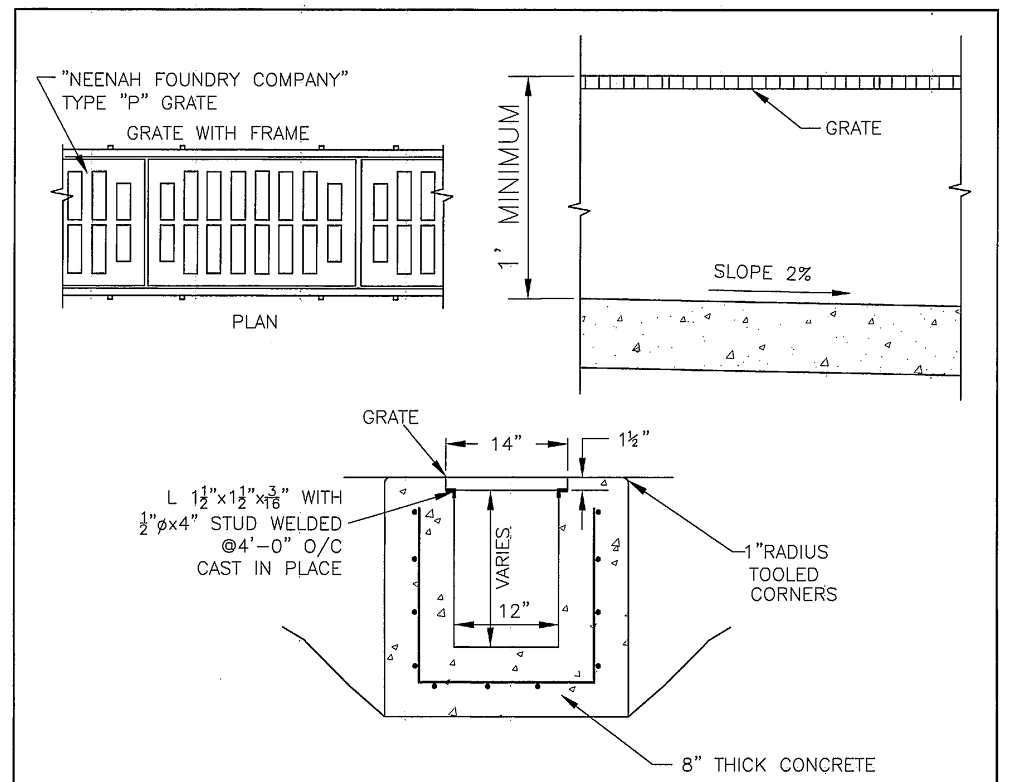
SECTION D-D

MATERIAL: CAST IRON (SEE LATEST S.H.A. SPECIFICATIONS).

AVERAGE WEIGHTS: FRAME-270 LBS. ± GRATE-340 LBS. ±

STANDARD TYPE K INLET SINGLE FRAME AND GRATE

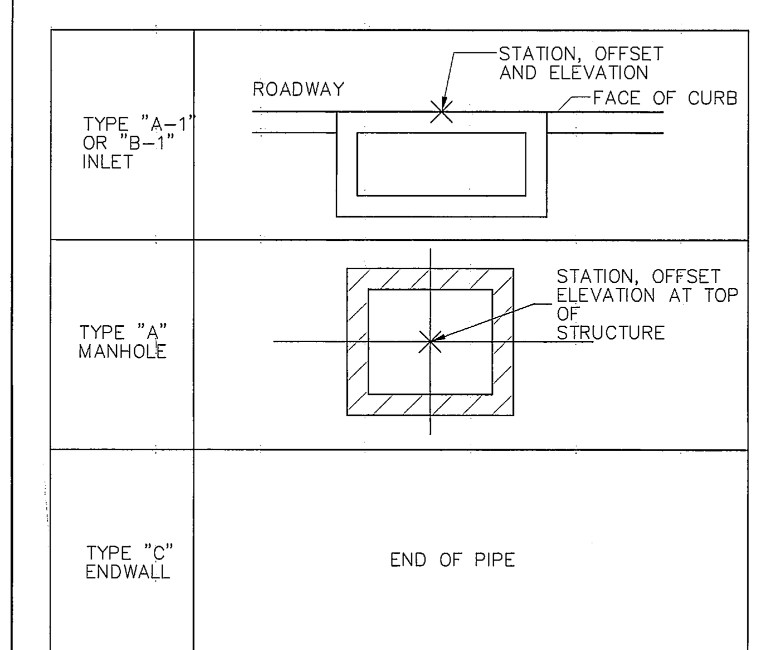
STANDARD NO. MD 378.06



TYPICAL SECTION

1 / C122 TRENCH DRAIN
SCALE: NTS

STORM DRAIN STAKE OUT INFORMATION



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND HARISH J. PATEL No. 19533 PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JJM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
STORM DRAINAGE
DETAILS 2

C122

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	25 OF 158	GF-035-34013

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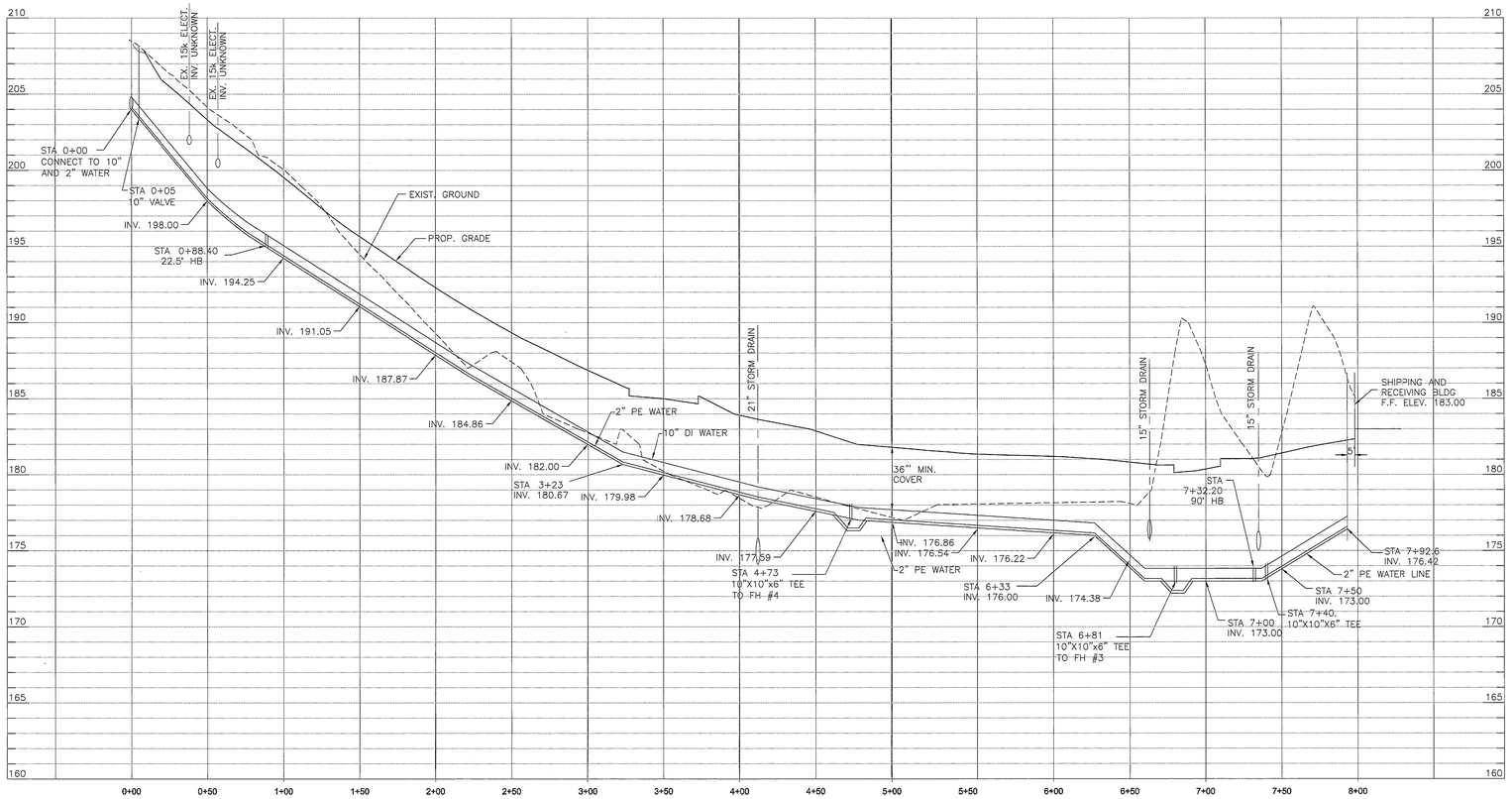
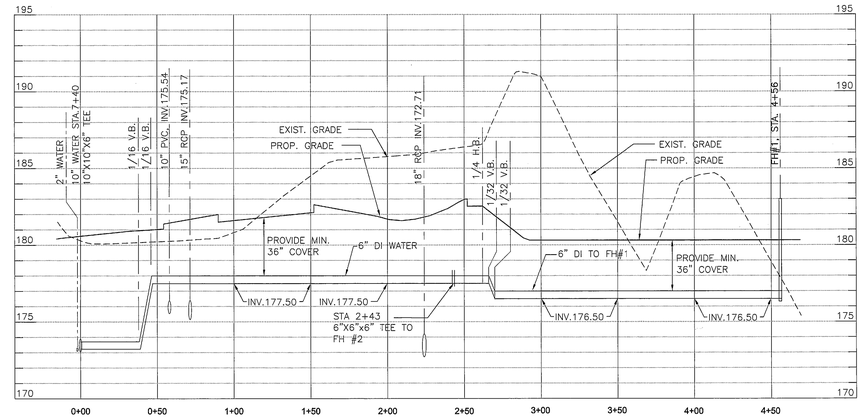


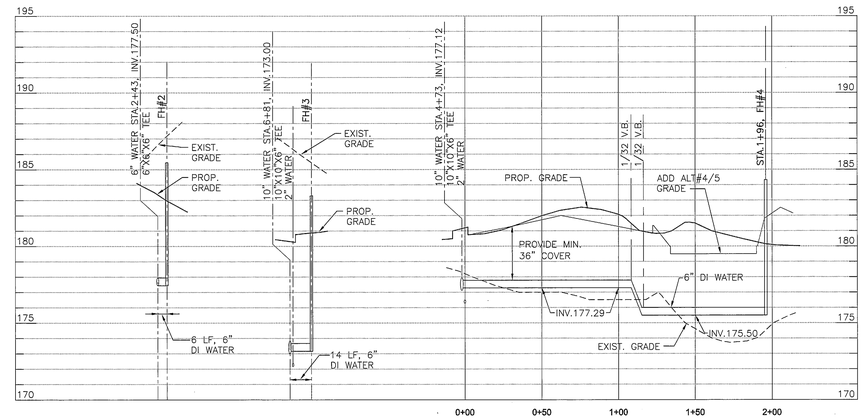
1 C123 **10" AND 2" WATER LINE PROFILE**

SCALE: HOR. 1"=40'
VERT. 1"=4'



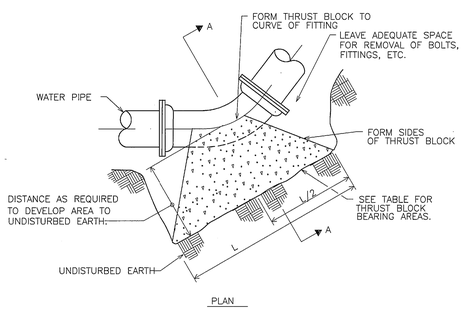
2 C123 **6" WATER LINE PROFILE TO FH # 1**

SCALE: HOR. 1"=40'
VERT. 1"=4'

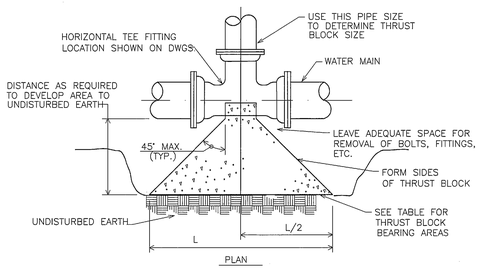


3 C123 **6" WATER LINE PROFILE FOR FH # 2, 3 AND 4**

SCALE: HOR. 1"=40'
VERT. 1"=4'

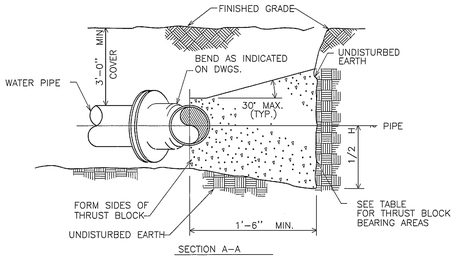


PLAN



PLAN

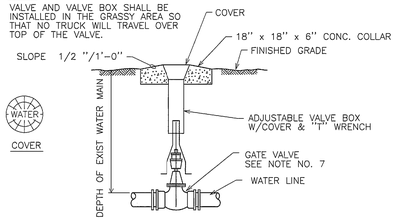
BEARING THRUST BLOCK AT TEE



SECTION A–A

BEARING THRUST BLOCKS AT HORIZONTAL AND VERTICAL BENDS

NOTE:
VALVE AND VALVE BOX SHALL BE INSTALLED IN THE GRASSY AREA SO THAT NO TRUCK WILL TRAVEL OVER TOP OF THE VALVE.



COVER

TYPICAL BURIED GATE VALVE INSTALLATION

4 C123 **THRUST BLOCK DETAIL**

SCALE: NTS

THRUST BLOCK SCHEDULE

PIPE DIAMETER (IN.)	HORIZONTAL & VERTICAL BEARING THRUST BLOCK DIMENSIONS (IN.)									
	90° BEND		PLUG, TEE & 60° BEND		45° BEND		22.5° BEND		11.25° BEND	
	H	L	H	L	H	L	H	L	H	L
4	20	36	20	24	20	20	18	21	18	18
6	24	56	24	44	24	30	18	21	18	18
8	36	72	44	48	24	54	18	21	18	18
10	36	96	68	96	24	84	31	44	31	21

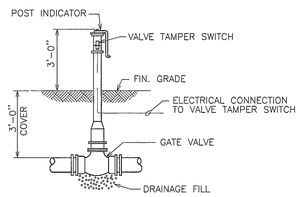
NOTES:

1. CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR EACH THRUST BLOCK FOR APPROVAL PRIOR TO INSTALLATION.

2. THE CONCRETE FOR THRUST BLOCKS SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

3. CONCRETE SHALL NOT BE POURED ON THE JOINTS AND SHALL BE LOCATED IN SUCH A WAY THAT THE PIPE AND FITTING JOINTS WILL BE ACCESSIBLE FOR MAINTENANCE.

4. AFTER INSTALLATION, RODS, NUTS, METAL, BOLTS, WASHERS, CLAMPS, AND OTHER RESTRAINING DEVICES SHALL BE PROTECTED FROM CONCRETE.



5 C123 **POST INDICATOR VALVE**

SCALE: NTS

NOTES:

1. NEW HYDRANTS SHALL BE KENNEDY VALVE MODEL NO. K–81D (OR APPROVED EQUAL), EQUIPPED WITH 5 1/4" MAIN VALVE OPENING, ONE 4 1/2" END AND TWO 2 1/2" CONNECTIONS WITH AMERICAN NATIONAL FIRE HOSE CONNECTION SCREW THREADS. OPERATING NUT SHALL BE FIVE–SIDED, COUNTERCLOCKWISE OPENING, 1 1/2" POINT TO FLAT. EXTENSIONS FOR EXISTING HYDRANTS SHALL BE COMPATIBLE WITH THE HYDRANT.

2. ALL HYDRANTS SHALL BE INSTALLED PER PLAN WITH A MINIMUM 3' DEPTH OF BURY. INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH NFPA 24,291,NASA STD 8719.11A SPECIFICATIONS AND ANY SPECIFIC INSTRUCTIONS FURNISHED BY THE MANUFACTURER.

3. CARE SHALL BE TAKEN TO LOCATE AND AVOID EXISTING UTILITIES; RESOLVE ALL CONFLICTS PRIOR TO CONSTRUCTION.

4. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF WORK. DAMAGED TREES AND SHRUBS SHALL BE REPLACED IN KIND.

5. EROSION PROTECTION SHALL BE PROVIDED AT ALL OPEN SITES AS NECESSARY DURING WET WEATHER.

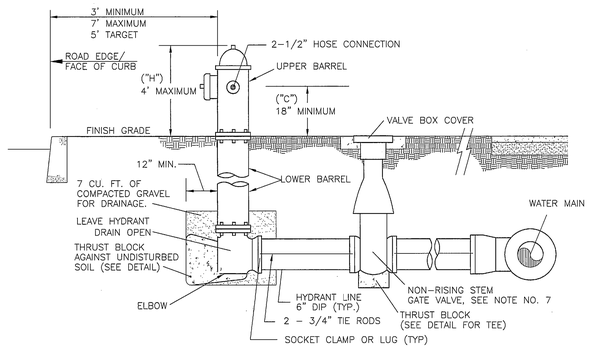
6. GATE VALVE SHALL BE, IRON–BODY, BRASS–MOUNTED, RESILIENT–SEATED, CONFORMING TO AWWA C509, WITH EPOXY COATING INSIDE AND OUTSIDE, CONFORMING TO AWWA C550, SUCH AS "METROSEAL 250 RESILIENT SEATED GATE VALVE" OR APPROVED EQUAL.

7. ALL NUTS, BOLTS WASHERS, AND RODS USED IN THE VALVES SHALL BE 316 STAINLESS STEEL.

8. USE RESTRAINED JOINTS.

9. IF ROD LENGTH EXCEEDS 10', USE MEGALUG.

10. HYDRANT SHALL BE A MINIMUM OF 7' TO ANY SURFACE OBSTRUCTION.



6 C123 **HYDRANT DETAIL**

SCALE: NTS

40 20 0 40 80 FEET

GRAPHIC SCALE: 1"=40'

8 4 0 4 8

VERTICAL SCALE 1"=4'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

SEAL AREA

STATE OF MARYLAND — WARREN J. PARKER — No. 19533 — PROFESSIONAL ENGINEER

PARSONS — Facilities Construction Engineering & Industrial Services — FMD-G SFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

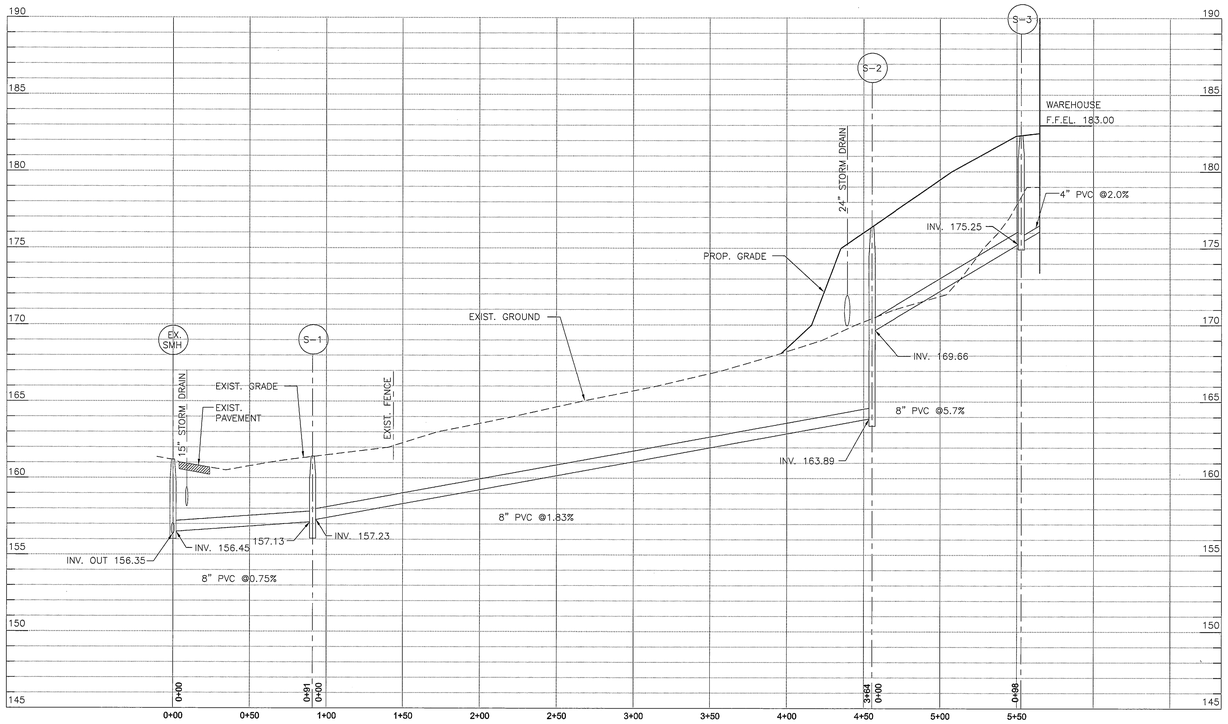
WATER LINE
PROFILE AND DETAILS

C123

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	26 OF 158	GF-035-34014



1 C124 SANITARY LINE PROFILE

SCALE: AS NOTED

NOTES: TYPICAL MANHOLE STEPS

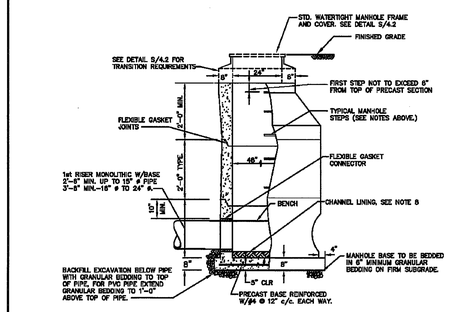
A. MANHOLE STEPS SHALL BE MINIMUM 12" WIDE AND SPACED 12" WITH ± 1" TOLERANCE, CENTER TO CENTER, IN VERTICAL ALIGNMENT AND ALIGNED WITH BENCH.

B. EMBED STEPS MINIMUM 3" WITH A MINIMUM PROJECTION OF 5".

C. INSTALL BOTTOM STEP MINIMUM 5" AND MAXIMUM 16-1/2" ABOVE BENCH.

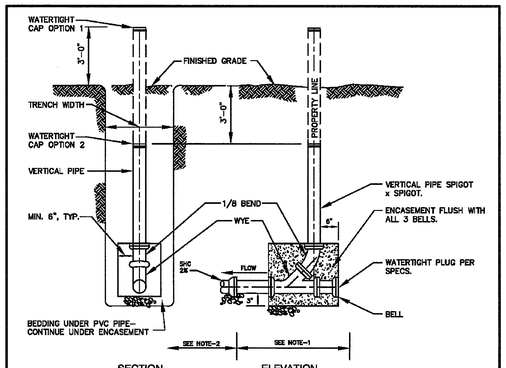
NOTES: MANHOLES

1. PROVIDE LIFTING HOLES OR DEVICES FOR ALL PRECAST SECTIONS. HOLES COMPLETELY THRU WALLS SHALL BE PLUGGED W/NEOPRENE OR RUBBER PLUG INSERTS, MORTARED FLUSH ON EACH SIDE OF WALL WITH NON-SHRINK GROUT. HOLES NOT COMPLETELY THRU WALL SHALL BE FILLED FLUSH WITH WALL WITH NON-SHRINK GROUT.
2. UNLESS OTHERWISE NOTED, MAXIMUM DEPTH OF MANHOLE SHALL BE 20'-0". PROVIDE 5'-0" MANHOLE WITH FALL PREVENTION SYSTEM FOR DEPTH OVER 20'.
3. PROVIDE FLEXIBLE GASKET CONNECTOR BETWEEN PIPE AND MANHOLE.
4. MINIMUM HEIGHT OF RISERS = 1'-0". NO MORE THAN ONE 1'-0" RISER IS PERMITTED ON EACH MANHOLE.
5. WHEN MANHOLE DEPTH IS 16'-0" AND GREATER, SEE DETAIL S/3.02 FOR PIPE TO MANHOLE CONNECTION.
6. WHEN PIPE GRADE IS 10% OR GREATER, SEE DETAIL S/3.03 FOR PIPE TO MANHOLE CONNECTION.
7. SEE DETAIL S/3.7 FOR 15" AND LARGER SEWER PIPE TO MANHOLE CONNECTION.
8. CHANNEL LINING MINIMUM 4" FOR BRICK CHANNELS AND MINIMUM 2" FOR PRECAST CONCRETE CHANNELS.
9. MINIMUM SPACING BETWEEN O.D. OF ADJACENT PIPE SHALL BE 9". SEE DETAILS S/6.4. WHEN PIPE DIAMETER OF SMALLER ADJACENT PIPE IS 12" OR GREATER CONTACT MANHOLE MANUFACTURER.



WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL 48" DIAMETER PRECAST CONCRETE MANHOLE	S / 1.0

S10

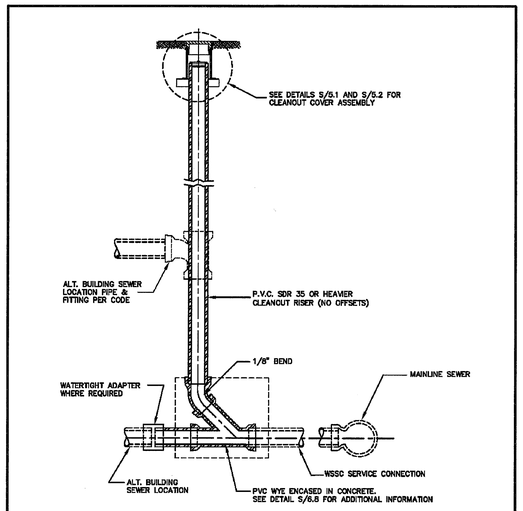


NOTES:

1. PROVIDE THIS CONNECTION ON ALL SHC'S. UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. FOR CONTINUATION, SEE DETAILS, S/6.0, S/6.1 S/6.2, S/6.3, S/6.4, S/6.5 AND S/6.7.
3. VERTICAL RISER AND 1/8 BEND SHALL BE SAME DIAMETER AS HORIZONTAL SHC PIPE.
4. CONCRETE ENCASEMENT NOT REQUIRED FOR DUCTILE IRON WYE AMD BEND.
5. CONCRETE ENCASEMENT SHALL BE PRECAST WITH MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
   A) JOB SITE PRECAST SHALL BE CURED AT LEAST 7 DAYS BEFORE INSTALLATION.
   B) APPROVED MANUFACTURER'S PRECAST SHALL BE CURED AT LEAST 80% OF REQUIRED STRENGTH BEFORE DELIVERY.
6. FOR OPTION 2 INSTALLATION PROVIDE 2"x4" SHC MARKER BOARD PER SPECIFICATIONS. SOIL FROM CAP TO 12" ABOVE CAP SHALL BE HAND TAMPRED ONLY.
7. ALL HOUSE CONNECTION RENEWALS WILL BE TERMINATED IN ACCORDANCE WITH DETAIL S/5.0.

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL SEWER HOUSE CONNECTION TERMINATING AT THE PROPERTY LINE	S / 6.8

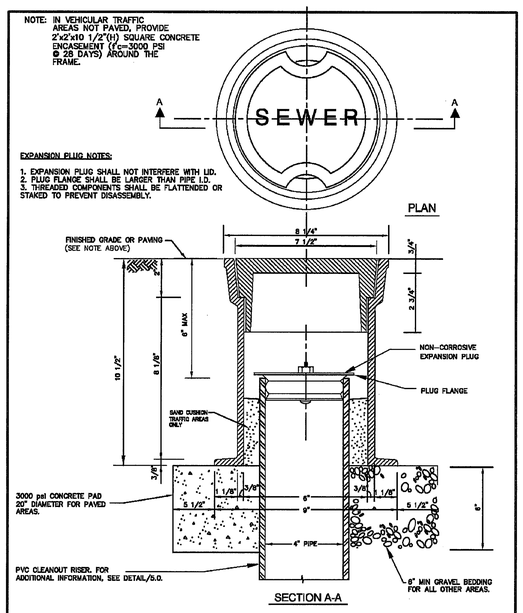
S68



WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL STANDARD CLEANOUT INSTALLATION	S / 5.0

S50

NOTE: IN VEHICULAR TRAFFIC AREAS NOT PAVED, PROVIDE 2'x2'x10 1/2"(H) SQUARE CONCRETE ENCASEMENT (f'c=3000 PSI @ 28 DAYS) AROUND THE FRAME.



EXPANSION PLUG NOTES:

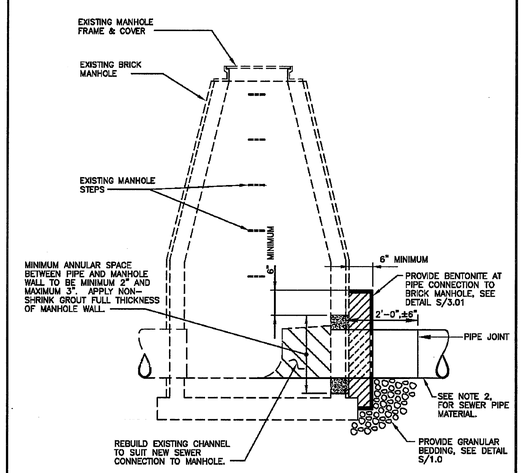
1. EXPANSION PLUG SHALL NOT INTERFERE WITH LID.
2. PLUG FLANGE SHALL BE LARGER THAN PIPE I.D.
3. THREADED COMPONENTS SHALL BE FLATTENDED OR STAKED TO PREVENT DISASSEMBLY.

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL CLEANOUT COVER ASSEMBLY FOR 4" CLEANOUTS	S / 5.1

S51

NOTE FOR PIPE CONNECTION TO BRICK MANHOLE

1. DO NOT PROVIDE FLEXIBLE GASKET CONNECTORS.
2. USE ONLY DUCTILE IRON PIPE WITH SPECIAL INTERIOR LINING, SEE SPECIFICATIONS OR REINFORCED CONCRETE PIPE, UNLESS OTHER NOTED ON THE DRAWINGS.

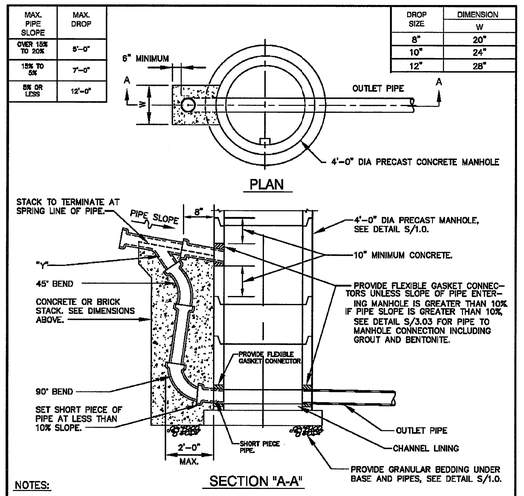


WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL PIPE TO EXISTING BRICK MANHOLE CONNECTION	S / 3.0a

S30a

MAX. PIPE SLOPE	MAX. DROP
OVER 15% TO 20%	5'-0"
15% TO 5%	7'-0"
5% OR LESS	12'-0"

DROP SIZE	DIMENSION W
8"	20"
10"	24"
12"	28"



NOTES:

1. USE THIS DETAIL WHEN INVERTS OF PIPE AND MANHOLE ARE GREATER THAN 3'-9". SEE DETAIL S/3.1 FOR VERTICAL DROPS LESS THAN 3'-9".
2. TABLE FOR MAXIMUM PIPE SLOPE AND DROP IS APPLICABLE FOR 12" AND SMALLER DIAMETER PIPE. PIPE LARGER THAN 12" DIAMETER AND/OR GREATER SLOPE THAN SHOWN REQUIRE SPECIAL DESIGN.
3. IN LIEU OF CAST-IN-PLACE CONCRETE OR BRICK STACK, PRECAST STACK MAY BE USED IN ACCORDANCE WITH MANHOLE MANUFACTURER'S PRE-APPROVED DRAWINGS BUT ONLY WITHIN THE SLOPE, DIAMETER, AND HEIGHT LIMITATIONS INDICATED IN PRE-APPROVED DRAWINGS.
4. SEE NOTES (1) THRU (9) ON DETAIL S/1.0.

WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL DROP MANHOLE TYPE "B" DROP PIPES 12" AND SMALLER	S / 3.1a

S31a

SANITARY SEWER STRUCTURE SCHEDULE

No	Type	Northing	Easting	Width/Diam.	Inv.In	Inv.Out	Top Elev.	Standard Detail No.
S1	STANDARD PRECAST CONCRETE MANHOLE	485321.6672	1358135.0944	4'-0"	157.23	157.13	161.50	WSSC STD No. S/1.0
S2	STANDARD PRECAST CONCRETE MANHOLE WITH DROP CONNECTION	485145.2553	1358453.4784	4'-0"	169.66	163.89	176.40	WSSC STD No. S/3.1a
S3	STANDARD PRECAST CONCRETE MANHOLE	485145.2665	1358551.4784	4'-0"	–	177.25	182.3±	WSSC STD No. S/1.0
EX. SMH	EXISTING CONCRETE MANHOLE	–	–	4'-0"	156.45	156.35	161.2±	WSSC STD No. S/3.0a

VERTICAL SCALE 1"=4'

8 4 0 4

40 20 0 40 80 FEET

HORIZONTAL SCALE: 1"=40'

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License No. 19533 , Expiration Date: 02/05/2012

SEAL AREA

STATE OF MARYLAND NAMISH J. PATEL No. 19533 PROFESSIONAL ENGINEER

PARSONS Facilities Construction Engineering & Technical Services FMD-GSFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

SANITARY LINE PROFILE AND DETAILS

C124

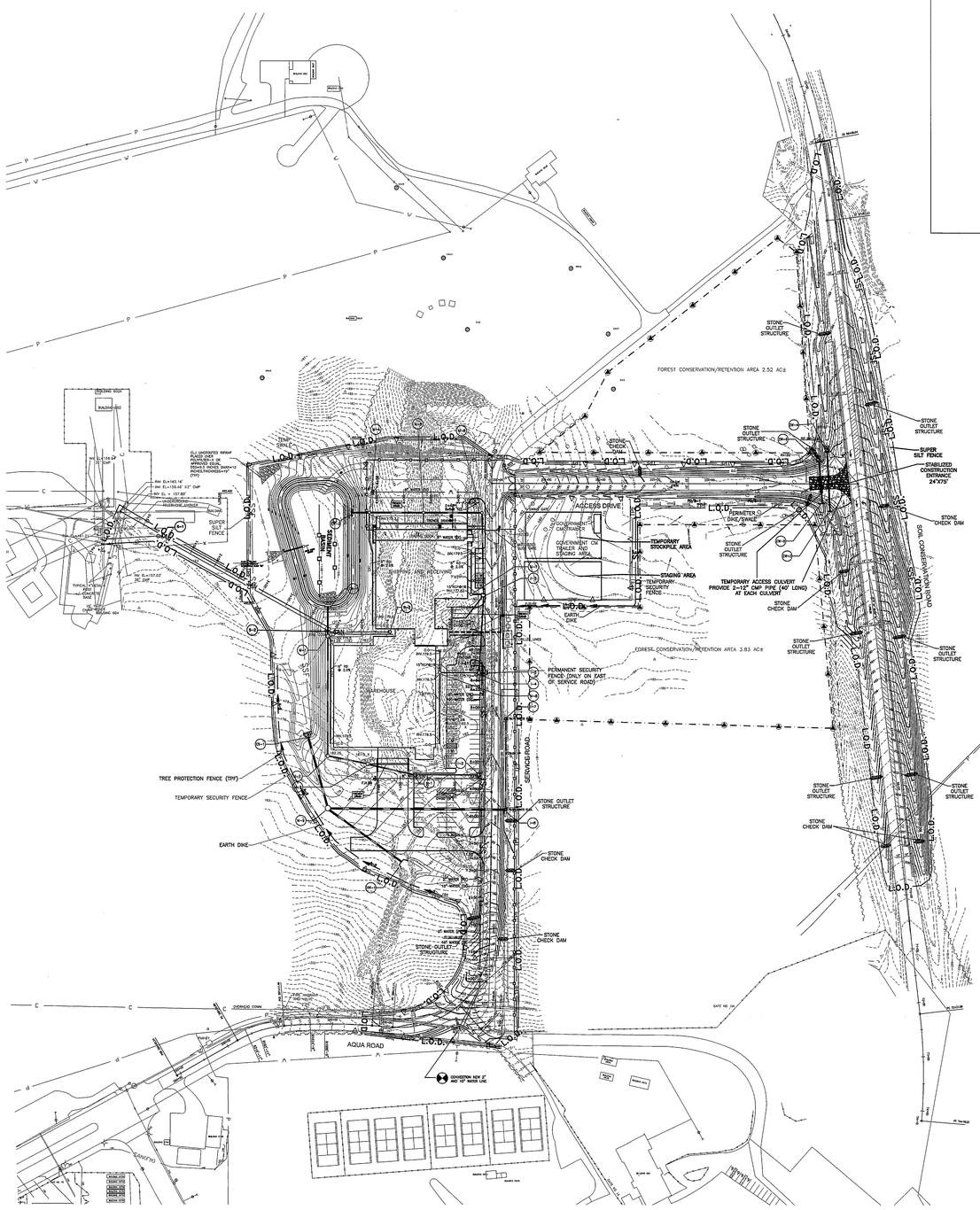
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

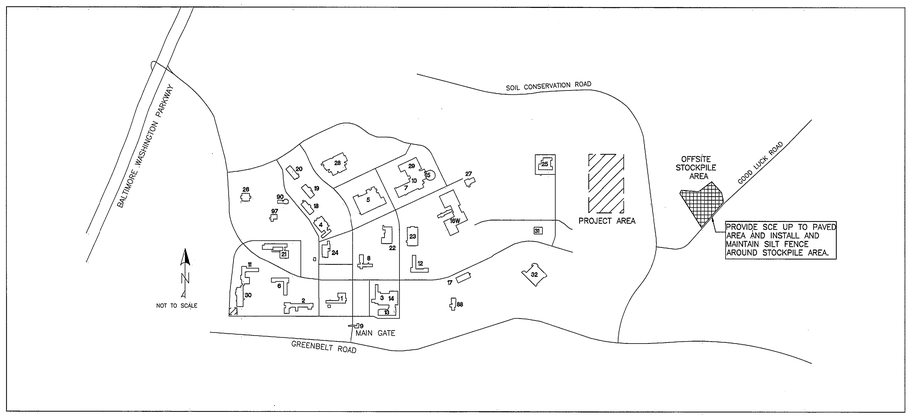
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WBS A6890	SHEET 27 of 158	DRAWING NO. GF-035-34015



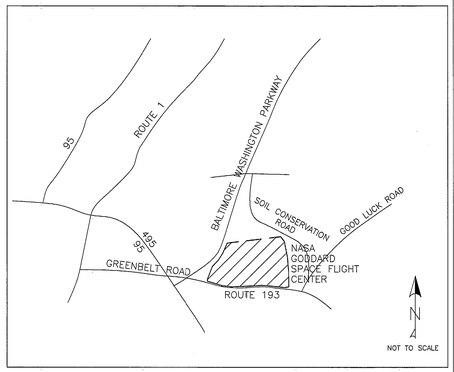
1 C201 OVERALL EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=100'



LOCATION MAP

N.T.S.



VICINITY MAP

N.T.S.

NOTE:

THE CONTRACTOR MAY USE THE EXISTING NASA SOILS STOCKPILE AREA TO WASTE EXCESS SITE SOILS, TEMPORARILY STOCKPILE TOPSOIL FOR REUSE ON THE SITE, OR BORROW SOILS AS MAY BE NEEDED TO PERFORM SITE FILL. IF WASTING SOIL, THE MATERIAL SHALL BE CLEAN (NO STUMPS, TREES, ORGANIC MATERIAL, CONSTRUCTION MATERIAL, ETC.). IF BORROWING SOIL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAMPLING AND TESTING BORROW SOILS FOR SUITABILITY AS FILL MATERIAL. THE STOCKPILE AREA IS NASA PROPERTY LOCATED ALONG A PRINCE GEORGES COUNTY ROAD (GOOD LUCK ROAD). THE CONTRACTOR SHALL COORDINATE AND OBTAIN IF NEEDED A PRINCE GEORGES COUNTY HAUL PERMIT TO TRANSPORT MATERIAL ALONG COUNTY ROADWAYS FROM THE PROJECT SITE TO THE STOCKPILE AREA. THE STOCKPILE AREA IS UNDER NASA LOCK AND KEY – SUITABLE COORDINATION SHALL BE REQUIRED WITH NASA SECURITY TO UTILIZE THE STOCKPILE AREA.

LEGEND/ABBREVIATION

NOTE:: FOR UTILITIES BELOW, ABANDONED LINES ARE SHOWN WITH AN "A–" PREFIX.
EXAMPLE:: A–CON

C	COMMUNICATION DUCTBANK
DWV	DOMESTIC WATER VALVE
DIP	DUCTILE IRON PIPE
EC	ELECTRIC CONDUIT
EL.	ELEVATION
FP	FIRE PROTECTION
HYD	HYDRANT
P	POWER DUCTBANKS
PMH	POWER MANHOLE
RCP	REINFORCED CONCRETE PIPE
SDI	STORM DRAIN INLET
SDM	STORM DRAIN MANHOLE
ST	STORM DRAINAGE
SL	STREET LIGHTING
SWM	SANITARY MANHOLE
T	TELEPHONE
W	WATER
RD	ROOF DRAIN

E&S LEGEND

SCE	STABILIZED CONSTRUCTION ENTRANCE
SSF	SUPER SILT FENCE
L.O.D.	LIMIT OF DISTURBANCE
	TEMPORARY SWALE
A–2	EARTH DIKE
	PERIMETER DIKE/SWALE
CD	STONE CHECK DAM
TSOS	STONE OUTLET STRUCTURE
CIP	CURB INLET PROTECTION
SIP	STANDARD INLET PROTECTION
A	PROTECTIVE SIGNAGE

LEGEND

149	EXISTING CONTOUR	L.O.D.	LIMIT OF DISTURBANCE
	EXISTING TREE LINE		NEW TREE LINE
	EXISTING TREE		PROPOSED GRADE
	EXISTING LIGHT POLE	179	NEW SPOT ELEVATION
UTIL.	EXISTING UTILITY	SAN	NEW SANITARY
W	EXISTING WATER	W	NEW WATER
	EXISTING FENCE		PIV (POST INDICATOR VALVE)
15kV	EXISTING 15kV POWER		NEW PERMANENT FENCE
	EX. SANITARY CLEANOUT		NEW STORM DRAIN
	EXISTING WATER VALVE		PROPOSED MANHOLE
	EXISTING TRAFFIC SIGN		BORING LOCATION
	EXISTING INLET		NEW SIGN
	EXISTING FIRE HYDRANT		NEW INLET
	TEMPORARY SECURITY FENCE		NEW CURB
C	NEW COMMUNICATION LINE		NEW TRENCH DRAIN
TPF	TREE PROTECTION FENCE		TRAVERSE POINT
	TO BE REMOVED		NEW PAVEMENT
	END SECTION		NEW RIP RAP
	HEADWALL		NEW CONCRETE
	ENDWALL		EX. PAVEMENT TO BE REMOVED

NOTES

1. TEMPORARY SECURITY FENCE SHALL BE 8–FT CHAIN LINK AND SHALL HAVE NO GREATER THAN 2–IN CLEARANCE BETWEEN THE BOTTOM OF THE FABRIC AND GRADE. FABRIC SHALL BE MINIMUM 11–GAUGE, 2–INCH MESH, BARBED AND TWISTED SELVAGE TOP AND BOTTOM. LINE POSTS SHALL BE DRIVEN INTO SOIL A MINIMUM OF 3–FT SO AS TO BE STABLE – NO CONCRETING IS REQUIRED IF THE DRIVEN POST FENCING IS STABLE. PROVIDE TENSION WIRE ON THE BOTTOM. THE FENCE SHALL BE CONCURRENT WITH THE LOD AND PLACED AT THE LOD WHERE SHOWN ON THE PLAN. WHERE TREE PROTECTION FENCE SYMBOL IS SHOWN ALONG WITH THE TEMPORARY SECURITY FENCE, THE TEMPORARY SECURITY FENCE SHALL DOUBLE AS THE TREE PROTECTION FENCE PROVIDED IT IS MARKED AS REQUIRED FOR TREE PROTECTION FENCE.

100 50 0 100 200 FEET

GRAPHIC SCALE: 1"=100'

NORTH

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License No. 19533 , Expiration Date: 02/05/2012

SEAL AREA

STATE OF MARYLAND – HARISH J. PATEL – No. 19533 – PROFESSIONAL ENGINEER

Facilities Construction Engineering & Technical Services – PARSONS – FMS-G SFC-NASA

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	INITIALS	DATE
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A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	HJP	3/1/10
CUSTOMER	HW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

EROSION AND SEDIMENT CONTROL
OVERALL PLAN

C201

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WRF A6890	SHEET 28 OF 158	DRAWING NO. GF-035-34016

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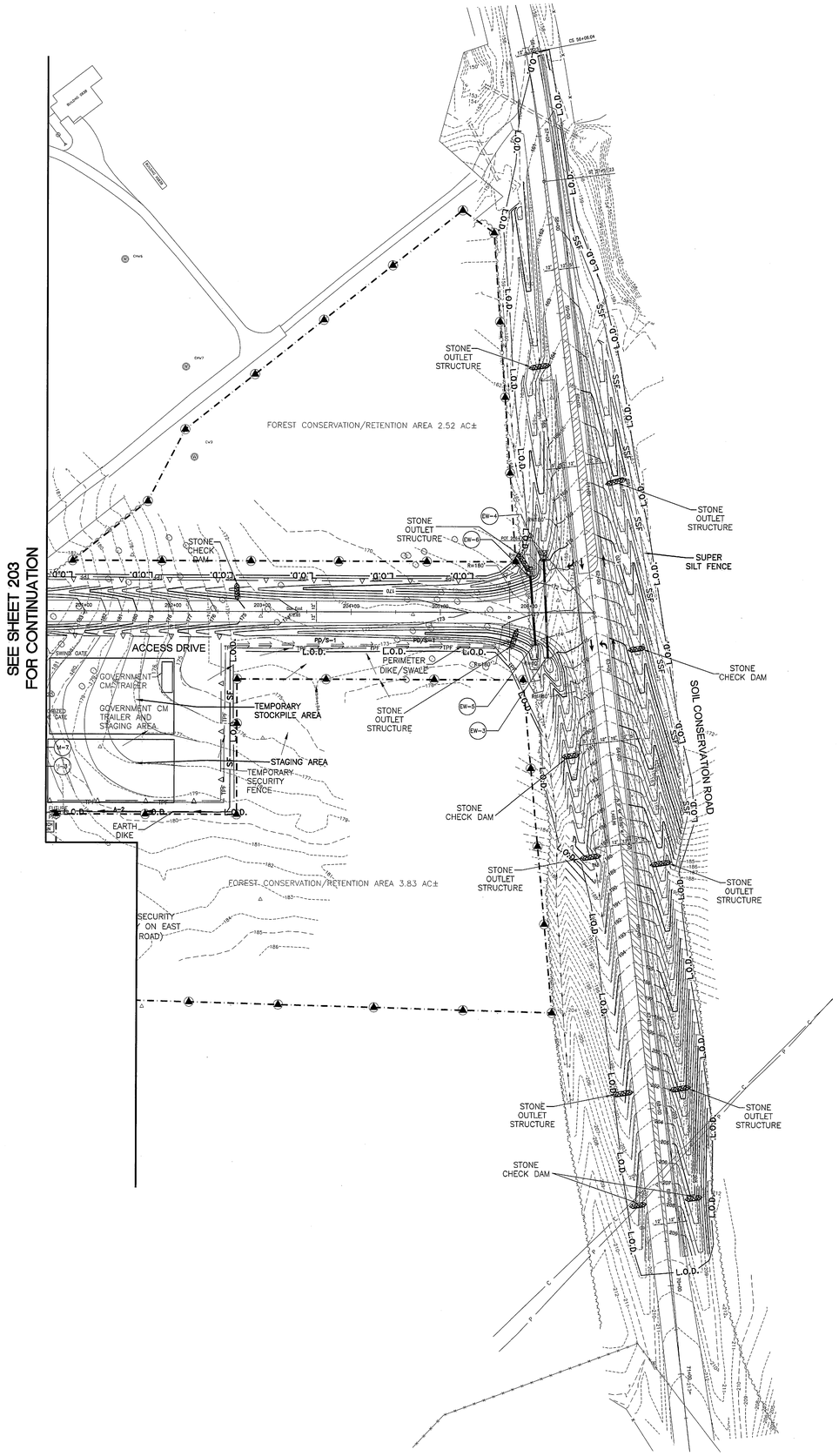

1 C202 EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=60'

SEQUENCE OF CONSTRUCTION

1. OBTAIN ALL NECESSARY PERMITS.
2. THE CONTRACTOR SHALL EXECUTE AN NPDES CONSTRUCTION ACTIVITY TRANSFER OF AUTHORIZATION FORM WITH NASA PRIOR TO STARTING CONSTRUCTION
3. LAYOUT THE LOD/TEMPORARY SECURITY FENCE/TREE PROTECTION FENCE/EROSION & SEDIMENT CONTROL PERIMETER, AND LIMIT OF GRADING LINES. THESE LINES SHALL BE FIELD INSPECTED, ADJUSTED IF NECESSARY, AND APPROVED AT THE PRE-CONSTRUCTION MEETING WITH WMA, DNR, AND NASA.
4. NOTIFY THE WATER MANAGEMENT ADMINISTRATION (WMA) AT 410-537-3510 AND THE DEPARTMENT OF NATURAL RESOURCES (DNR) AT 410-360-9774 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA, DNR, AND NASA.
5. INSTALL TEMPORARY SECURITY FENCE/TREE PROTECTION FENCE THROUGHOUT THE ENTIRE SITE EXTENTS. THE TEMPORARY FENCES SHALL ISOLATE AND SECURE THE NASA SITE AND THE CONSTRUCTION AREA.
6. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE PLAN.
7. CLEAR AND GRUB SITE AREA REQUIRED FOR STAGING AREA, INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES, AND CONSTRUCTION OF ACCESS DRIVE AND IMPROVEMENTS TO THE SOIL CONSERVATION (SC) ROAD.
8. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN.
9. INSTALL STORM DRAIN CULVERTS AND PERFORM GRADING FOR THE SC ROAD AND ACCESS DRIVE.
10. MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES ALL THE TIME.
11. CONSTRUCT IMPROVEMENTS TO SC ROAD AND INSTALL GRAVEL BASE FOR ACCESS DRIVE,
12. GRADING FOR SC ROAD AND ACCESS DRIVE SHALL BEGIN AT UPSTREAM END AND AREA UPSTREAM OF "TSOS " SHALL BE STABILIZED BEFORE CONTINUING WORK DOWNSTREAM OF INSTALLED "TSOS".
13. STABILIZE ALL DISTURBED AREA ALONG SC ROAD.
14. WITH THE APPROVAL OF MDE ENFORCEMENT DIVISION, REMOVE SEDIMENT CONTROL DEVICES INSTALLED ALONG SC ROAD AND STABILIZE ALL DISTURBED AREAS WHERE SEDIMENT CONTROL DEVICES HAVE BEEN REMOVED.
15. INSTALL THE SSF ALONG THE EXTREME WESTERN EDGE OF THE SITE, THEN INSTALL THE SEDIMENT BASIN.
16. CLEAR AND GRUB SITE AREA REQUIRED FOR REMAINDER OF SITE.
17. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN INCLUDING DIVERSION DIKES.
18. INSTALL STORM DRAIN SYSTEM FROM HEADWALL HW-1 TO END SECTION ES-1 AND INLET I-6 TO MANHOLE M-9 AND ASSOCIATED RIPRAP. INSTALL DOWN STREAM SWALE FOR POSITIVE DRAINAGE AND STABILIZE DISTURBED AREA.
19. PERFORM GRADING FOR THE NEW BUILDING, ASSOCIATED PARKING LOT, LOADING DOCK, AND SERVICE ROAD.
20. AREA SOUTH AND WEST OF WAREHOUSE SHALL BE GRADED ON A DRY DAY AND STABILIZED THE SAME DAY. THE SIZE OF THE DAILY DISTURBANCES SHALL BE LIMITED TO AN AREA THAT CAN BE STABILIZED BY THE END OF THE WORKDAY
21. INSTALL AND MAINTAIN INLET PROTECTIONS.
22. COMPLETE ALL REMAINING PROJECT WORK INCLUDING SERVICE ROAD CONNECTION.
23. STABILIZE THE DISTURBED AREA WITH TEMPORARY SEEDING AND/OR GRAVEL BASE.
24. MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES ALL THE TIME.
25. CLEAN ALL THE STORM DRAIN SYSTEM.
26. CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT POND.
27. STABILIZE ALL DISTURBED AREA.
28. WITH THE APPROVAL OF MDE ENFORCEMENT DIVISION, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS WHERE ESC DEVICES HAVE BEEN REMOVED.

NOTES FOR UTILITY CONSTRUCTION

OVERNIGHT TRENCH DEWATERING: IN THE EVENT A TRENCH SECTION IS LEFT OPEN OVERNIGHT AND REQUIRES DEWATERING, ALL SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH A PROPERLY MAINTAINED FILTER BAG. IF A TRENCH IS LEFT OPEN OVERNIGHT THEN SILT FENCING IS REQUIRED TO BE INSTALLED. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE.

SILT FENCE: NO SILT FENCE SHOWN. THE CONTRACTOR HAS THE OPTION OF INSTALLING SILT FENCE ON THE DOWNHILL SIDE OF THE TRENCHES, OR STABILIZING ALL DISTURBANCES BY THE END OF EACH WORKDAY. IF SILT FENCE IS NOT PROVIDED, ALL DISTURBED AREAS SHALL BE STABILIZED BY THE END OF THE WORKDAY, THE SIZE OF THE DAILY DISTURBANCES SHALL BE LIMITED TO AN AREA THAT CAN BE STABILIZED BY THE END OF THE WORKDAY, AND NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE. IF THE CONTRACTOR CHOOSES THE OPTION TO LEAVE DISTURBED AREAS UNSTABILIZED OVERNIGHT, THEN SILT FENCE MUST BE INSTALLED ON THE DOWNHILL SIDE OF THE DISTURBED AREA PER MDE STD FOR SILT FENCE AND STANDARD NOTE 22.

NOTE:
TREE PROTECTON SIGNAGE SHALL REMAIN PERMANENTLY.

NORTH

60 30 0 60 120 FEET

GRAPHIC SCALE: 1"=60'

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PARSONS
Pipeline Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
WALTER J. PATTI
No. 19533
PROFESSIONAL ENGINEER

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	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	PS	3/1/10
CM	-	
PM	JHA	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

EROSION AND SEDIMENT CONTROL
INITIAL STAGE PLAN

C202

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	29 of 158	GF-035-34017

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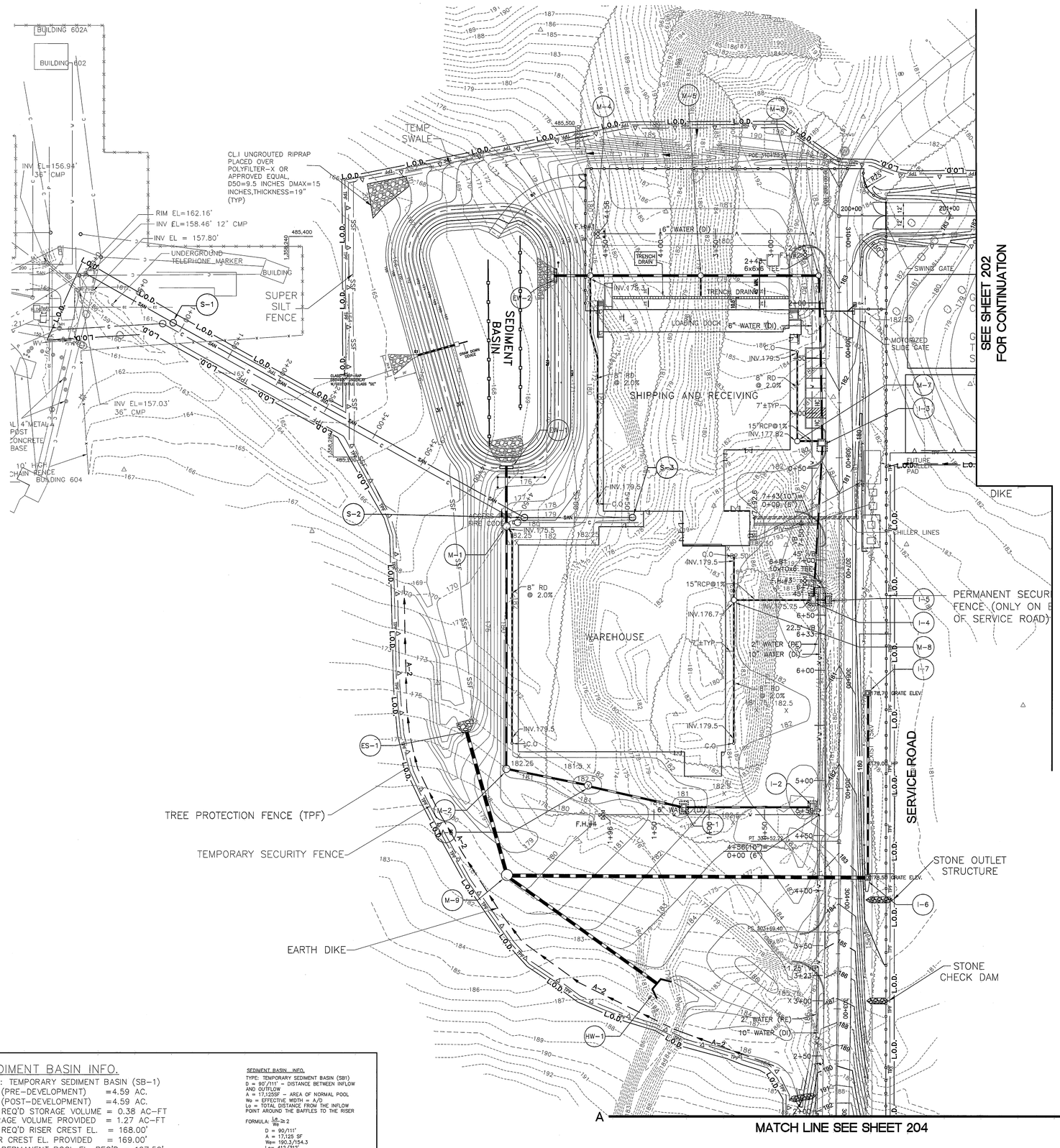
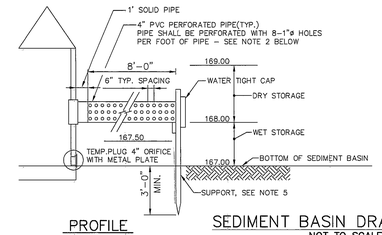


NOTE :

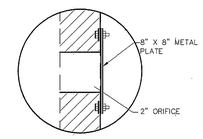
1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. PROVIDE ROWS OF 4-1" DIAMETER HOLES AT 6" O.C. ALONG THE LENGTH OF THE PIPE. HOLES SHALL BE SPACED AT 6"± ON CENTER AROUND THE CIRCUMFERENCE OF THE PIPE.
3. PIPE AND FITTINGS SHALL BE 4" PVC ASTM D-1785, SCH 80 OR D-2241, SDR-26, UNLESS OTHERWISE NOTED.
4. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
5. PROVIDE SUPPORT OF THE DRAW-DOWN DEVICE BY STAKING BOTH SIDES OF THE DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 2"x 2" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND, THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAGE MINIMUM WIRE.
6. PROVIDE TEMORARY 4" OPENING FOR DRAW-DOWN DEVICE. PLUG THE OPENING AFTER REMOVING SEDIMENT BASIN.



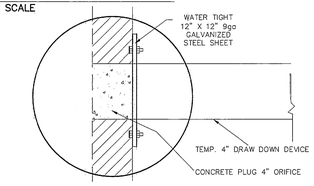
PROFILE

SEDIMENT BASIN DRAW DOWN DEVICE

NOT TO SCALE



TEMPORARY ORIFICE PLATE



DRAW DOWN DEVICE PLATE

SEDIMENT BASIN INFO.

TYPE: TEMPORARY SEDIMENT BASIN (SB-1)
D.A. (PRE-DEVELOPMENT) =4.59 AC.
D.A. (POST-DEVELOPMENT) =4.59 AC.
MIN. REQ'D STORAGE VOLUME = 0.38 AC-FT
STORAGE VOLUME PROVIDED = 1.27 AC-FT
MIN. REQ'D RISER CREST EL. = 168.00'
RISER CREST EL. PROVIDED = 169.00'
MIN. PERMANENT POOL EL. REQ'D = 167.50'
PERMANENT POOL EL. PROVIDED = 168.00'
MIN. CLEANOUT EL. REQ'D. = 167.25'
CLEANOUT EL. PROVIDEDD. = 167.50'
BAFFLES (5.0'HIGTH) LENGTH = 347'

SEDIMENT BASIN INFO.

TYPE: TEMPORARY SEDIMENT BASIN (SB1)
D = 90'/111' - DISTANCE BETWEEN INFLOW AND OUTFLOW
A = 17,125SF - AREA OF NORMAL POOL
We = EFFECTIVE WIDTH = A/D
Le = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $\frac{Le}{We} \geq 2$

D = 90/111'
A = 17,125 SF
We= 190.3/154.3
Le= 412/312'

$\frac{Le}{We} \geq 2 \quad \frac{412}{190.3} = 2.17 \geq 2$

$\frac{Le}{We} \geq 2 \quad \frac{312}{154.3} = 2.02 \geq 2$

1 / C203 EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=40'

40 20 0 40 80 FEET

GRAPHIC SCALE: 1"=40'

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License No. 19533 , Expiration Date: 02/05/2012

SEAL AREA

STATE OF MARYLAND — NIMISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

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	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	—	
PM	JBM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
EROSION AND SEDIMENT CONTROL
INTERMEDIATE STAGE PLAN

C203

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	30 of 158	GF-035-34018

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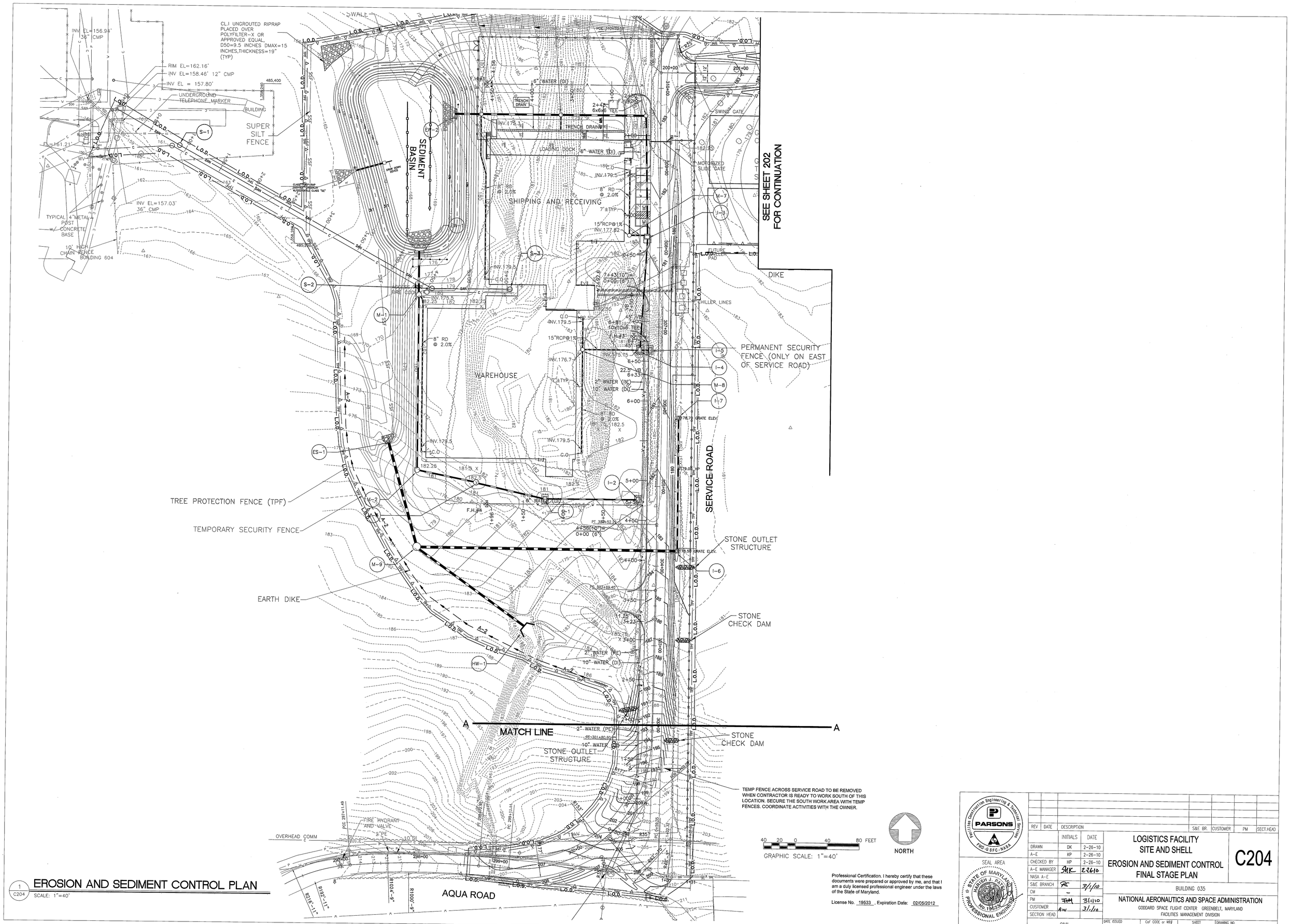

1 C204 **EROSION AND SEDIMENT CONTROL PLAN**

SCALE: 1"=40'

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License No. 19533 , Expiration Date: 02/05/2012

PARSONS — Facilities Construction Engineering & Operation Services — FMD-G SFC-NASA

SEAL AREA — STATE OF MARYLAND — HARRY J. PATTON — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2.26.10
NASA A-E		
S&E BRANCH		3/1/10
CM		
PM		3/1/10
CUSTOMER		3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY SITE AND SHELL

EROSION AND SEDIMENT CONTROL FINAL STAGE PLAN

C204

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
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1 C205 EROSION AND SEDIMENT CONTROL PLAN-BID ADDITIVE INITIAL/FINAL STAGE

SCALE: 1"=40'

THIS DRAWING IS NOT REQUIRED AS ALL EROSION AND SEDIMENT CONTROL NECESSARY TO COMPLETE BID ADDITIVE 3, 4, OR 5 (IF AWARDED) IS INCLUDED IN THE BASIC REQUIREMENT.

NORTH

40 20 0 40 80 FEET

GRAPHIC SCALE: 1"=40'

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PARSONS

Facilities Construction Engineering & Technical Services

FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — MARISH J. PATEL — NO. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHPC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	HM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

EROSION AND SEDIMENT CONTROL BID ADDITIVE PLAN

C205

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

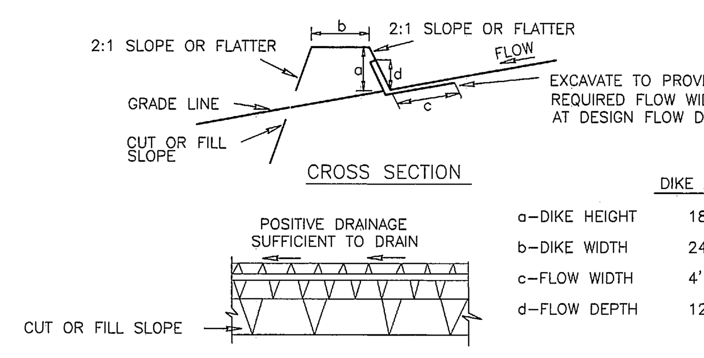
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
	03-01-10	A6890	32 OF 158	GF-035-34020

N:\ENGDRAWG\2254A3\GDWG\Sheets\C201-205_ESC Plan.dwg, 2/25/2010 12:02:53 PM, 1:1

DETAIL 1 – EARTH DIKE



	DIKE A	DIKE B
a–DIKE HEIGHT	18"	30"
b–DIKE WIDTH	24"	36"
c–FLOW WIDTH	4'	6'
d–FLOW DEPTH	12"	24"

STANDARD SYMBOL
A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after each rain event.

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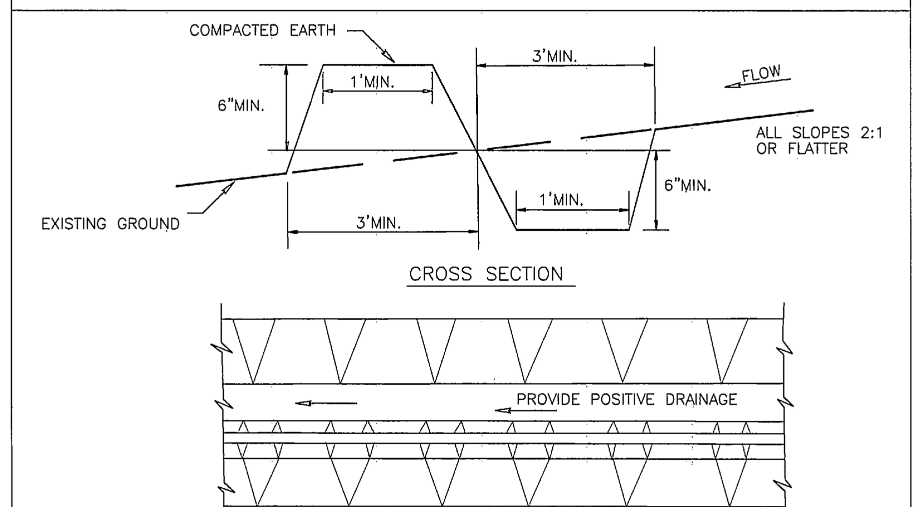
1 C206 **DETAIL** SCALE: NTS

DETAIL 3 – PERIMETER DIKE / SWALE



STABILIZATION
PD/S-1 SEED AND MULCH (DRAINING ≤1 ACRE)
PD/S-2 SEED AND COVER WITH SOIL STABILIZATION MATTING OR LINE WITH SOD (DRAINING BETWEEN 1 AND 2 ACRES)

STANDARD SYMBOL
PD/S-1

Construction Specifications

1. All perimeter dike/swales shall have an uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet into an undisturbed stabilized area at a non-erosive velocity.

4. The swale shall be excavated or shaped to line, grade, and cross-section as required to meet the criteria specified in the standard.

5. Fill shall be compacted by earth moving equipment.

6. Stabilization with seed and mulch or as specified of the area disturbed by the dike and swale shall be completed within 7 days upon removal.

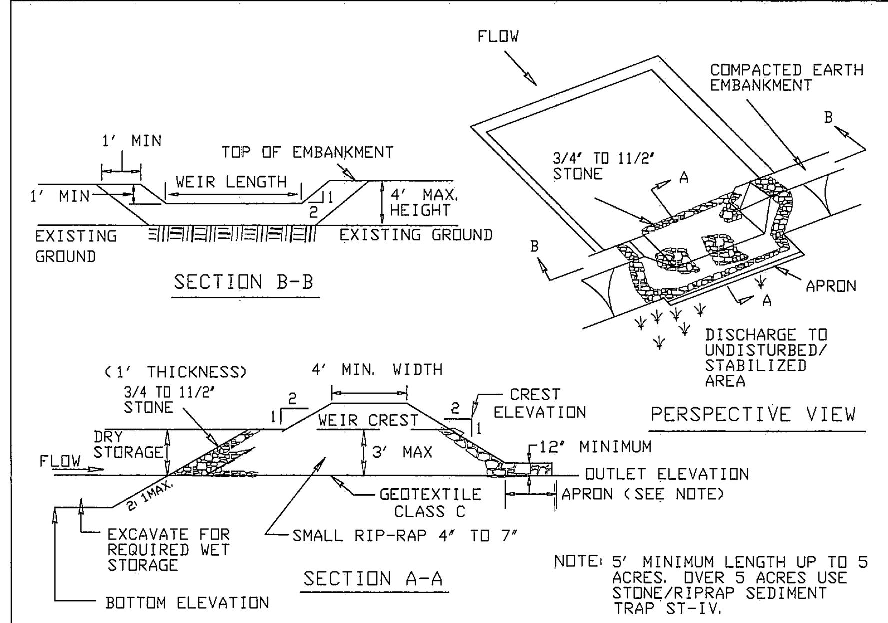
7. Inspection and required maintenance shall be provided after each rain event.

Note: The maximum drainage area for this practice is 2 acres.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A – 3 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

2 C206 **DETAIL** SCALE: NTS

DETAIL 9 – STONE OUTLET SEDIMENT TRAP – ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

3 C206 **DETAIL** SCALE: NTS

STONE OUTLET SEDIMENT TRAP – ST II

Constuction Specifications

6. The structure shall be inspected periodically after each rain and repairs made as needed.

7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to section D for specifications concerning trap dewatering

10. Minimum trap depth shall be measured from the wier elevation.

11. The Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

12. Geotextile class C shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of filter cloth must overlap al least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at entrance of the outlet channel.

13. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

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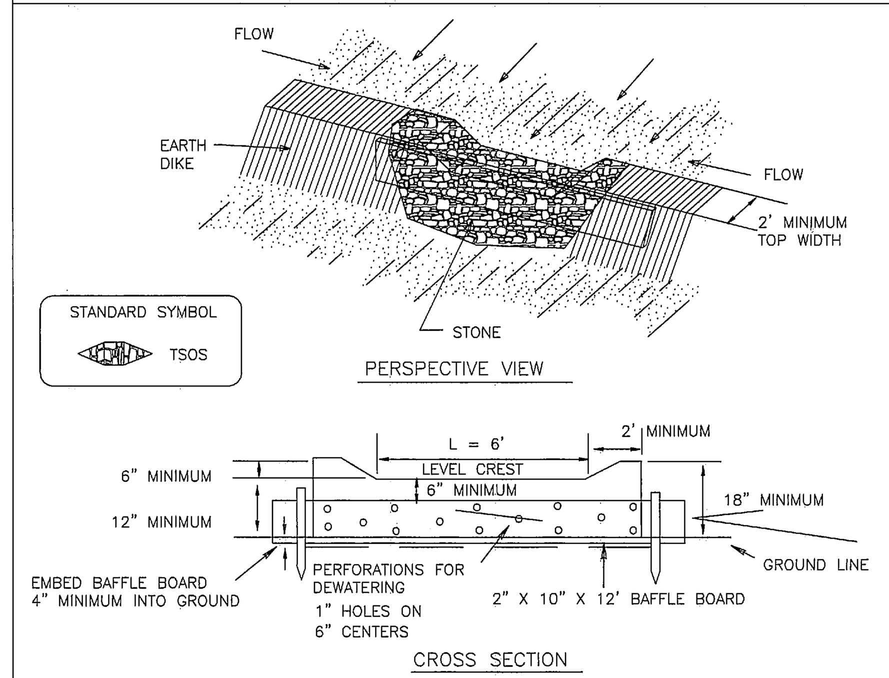
4 C206 **DETAIL** SCALE: NTS

DETAIL 19 – STONE OUTLET STRUCTURE



Construction Specifications

1. Crushed stone shall be used. Gravel may be used if crushed stone is not available. The stone shall be 2"–3" in size.

2. The crest of the stone dike shall be at least 6" lower than the lowest elevation of the top of the earth dike and shall be level.

3. The stone outlet structure shall be embedded into the soil a minimum of 4".

4. The minimum length of the crest of the stone outlet structure shall be 6'.

5. The stone outlet structure shall be inspected after each rain. Stone shall be replaced when the structure ceases to function and ponding results.

6. The baffle board shall be extended one foot into the dike, staked and embedded 4" into the existing ground.

7. The drainage area to this structure shall be less than 1/2 acre.

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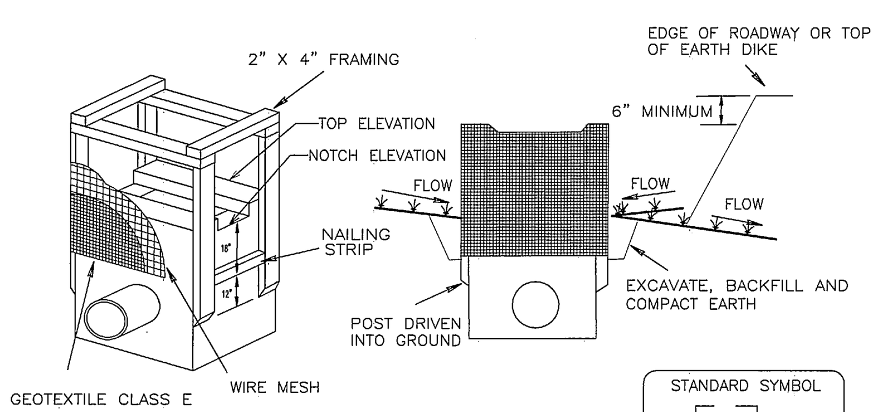
5 C206 **DETAIL** SCALE: NTS

DETAIL 23A – STANDARD INLET PROTECTION



STANDARD SYMBOL
SIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

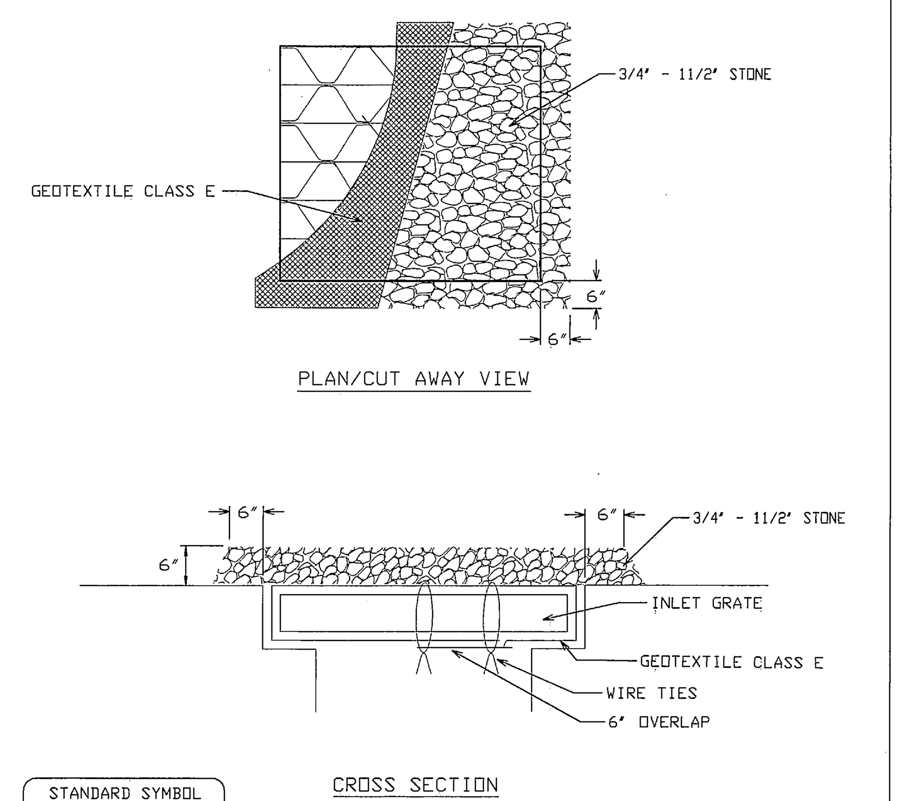
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

6 C206 **DETAIL** SCALE: NTS

DETAIL 23B - AT GRADE INLET PROTECTION



STANDARD SYMBOL
AGIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

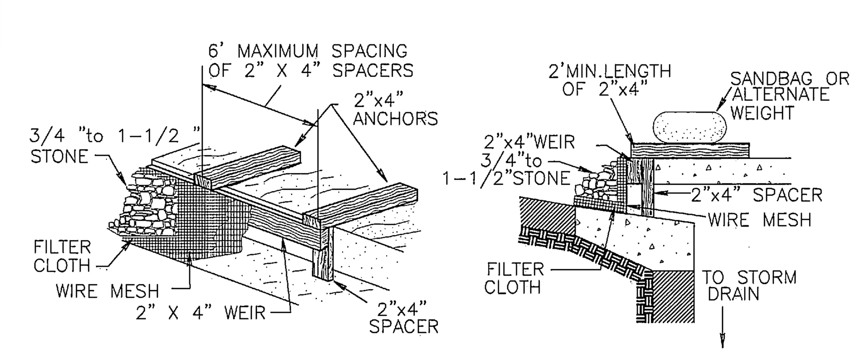
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

7 C206 **DETAIL** SCALE: NTS

DETAIL 23C - CURB INLET PROTECTION

DETAIL 23B
PAGE E-16-5B



MAX. DRAINAGE AREA = 1/4 ACRE

STANDARD SYMBOL
CIP

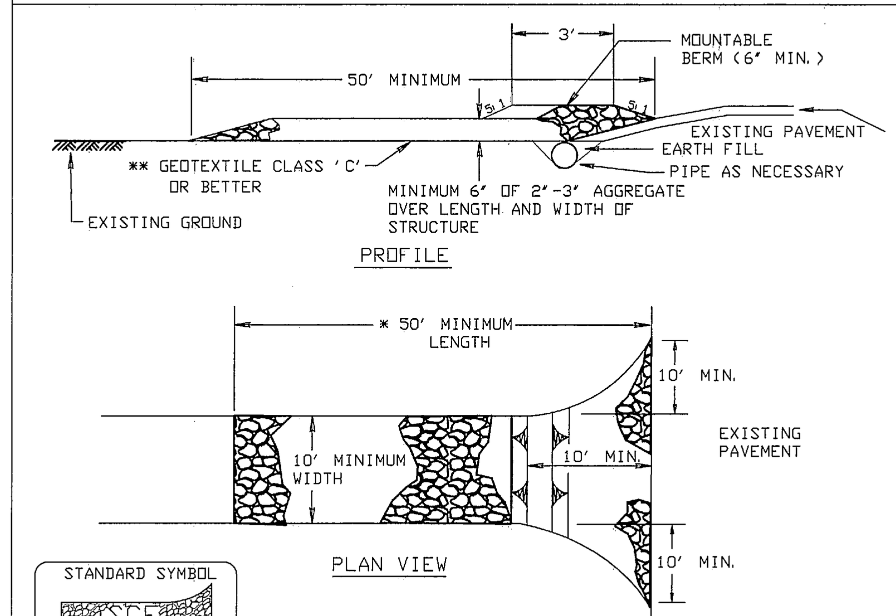
CONSTRUCTION SPECIFICATIONS

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (min. 2' lengths of 2"x 4" to the top of the weir at spacer locations). These 2"x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" to 1-1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

8 C206 **DETAIL** SCALE: NTS

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

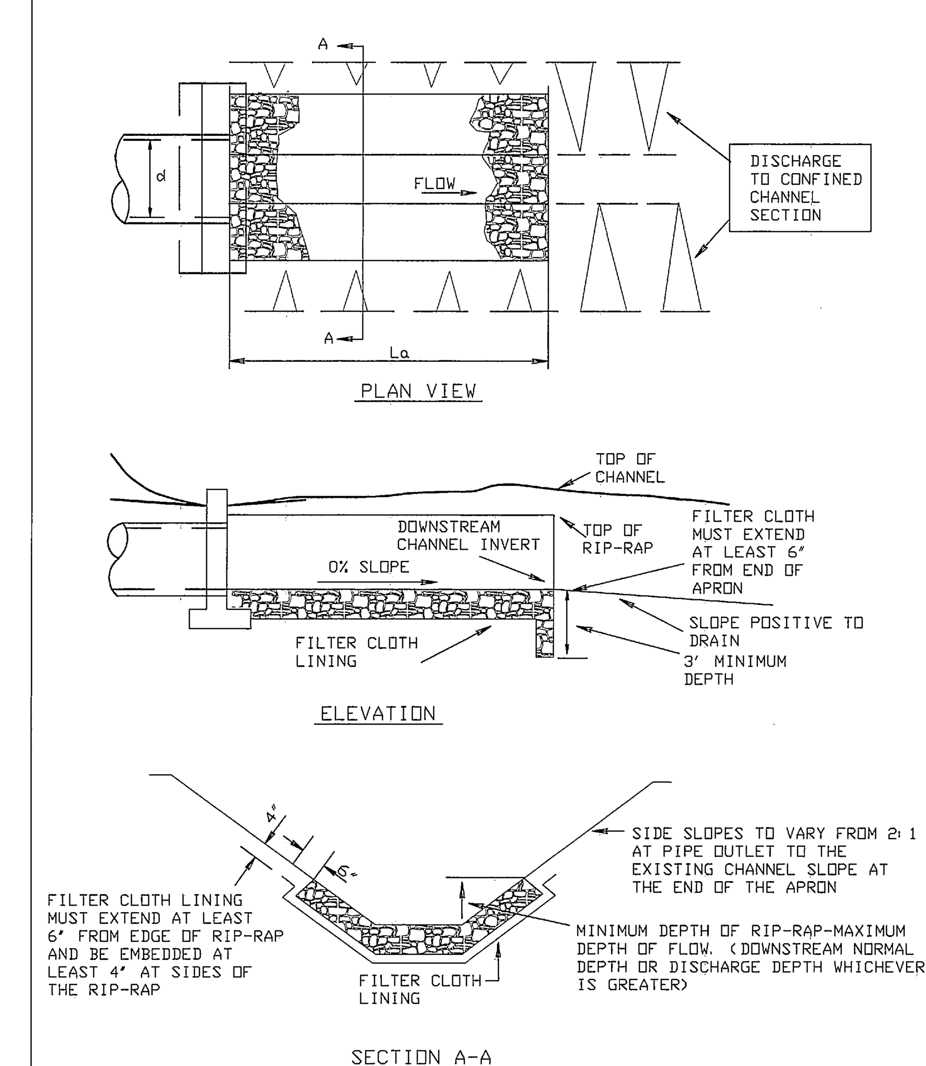
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

9 C206 **DETAIL** SCALE: NTS

DETAIL 26 - ROCK OUTLET PROTECTION II



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 18 - 9	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

10 C206 **DETAIL** SCALE: NTS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services — PARSONS — FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND — HARISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	FHM	3/1/10
CUSTOMER	AJV	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
EROSION AND SEDIMENT CONTROL
STANDARD MDE DETAILS 1

C206

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	33 OF 158	GF-035-34021

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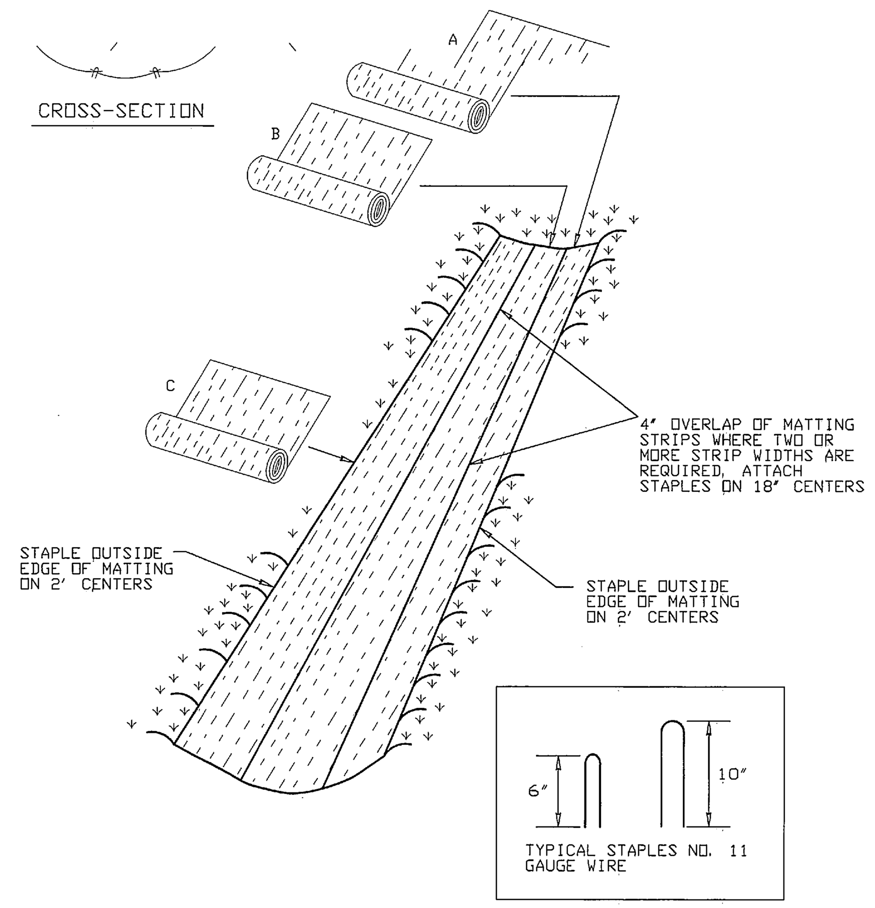
DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

1 / C207 **DETAIL** SCALE: NTS

EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

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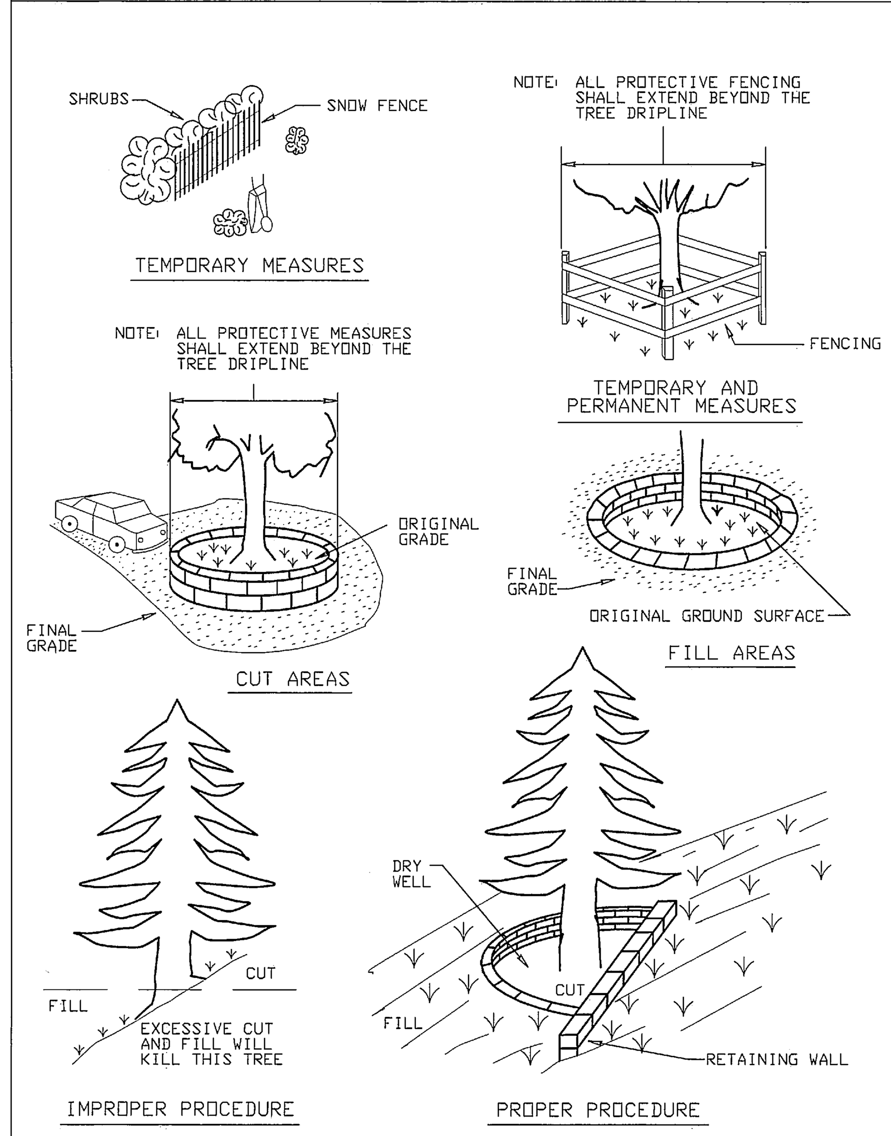
2 / C207 **DETAIL** SCALE: NTS

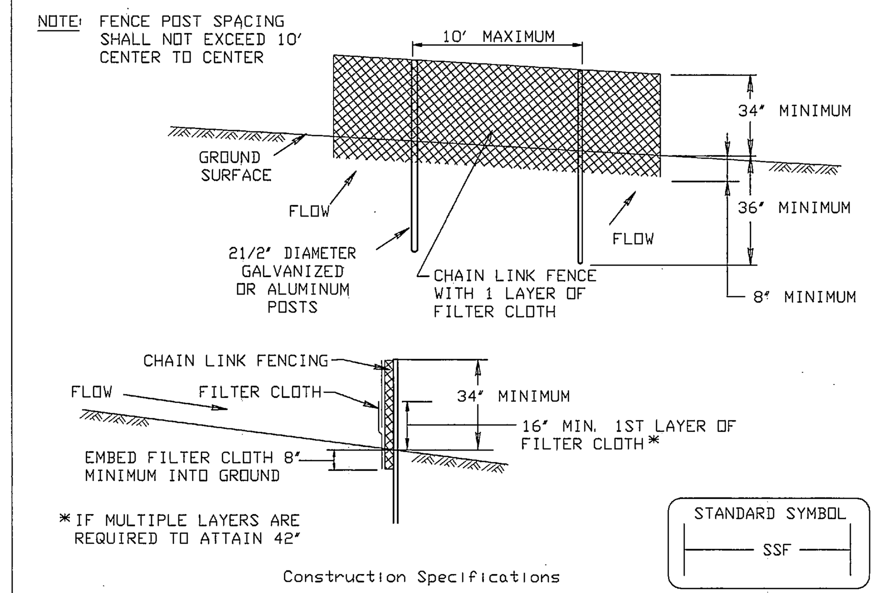
DETAIL 31 - TREE PROTECTION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 23 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

3 / C207 **DETAIL** SCALE: NTS

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

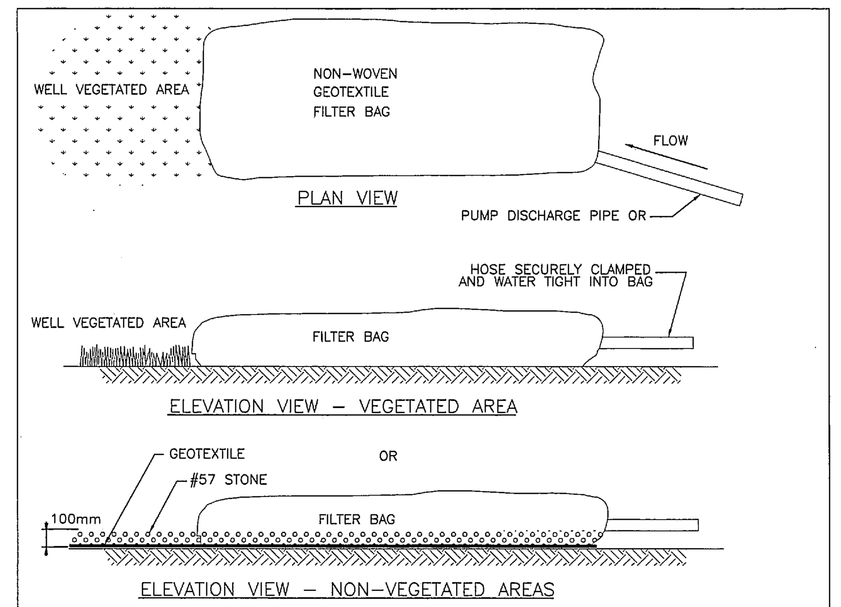
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

4 / C207 **DETAIL** SCALE: NTS



NOTE: THE CONTRACTOR SHALL HAVE AN EQUIPMENT FOR DEWATERING AT THE SITE AT ALL TIMES.

THE CONTRACTOR SHALL USE A NON-WOVEN GEOTEXTILE FILTER BAG FOR ALL DEWATERING OPERATIONS AS THE MEANS OF SEDIMENT CONTROL. THE OUTLET OF THE PUMP DISCHARGE HOSE SHALL BE FASTENED TO THE BAG SO THAT ALL DISCHARGE IS FORCED THROUGH THE BAG. 4" MAX. PUMP DISCHARGE.

1. THE PUMP FLOW RATE SHALL NOT EXCEED THE FILTRATION CAPACITY OF THE BAG.

2. THE BAG SHALL BE LAYED ON GENTLY SLOPING GRASS AREA.

3. BAGS SHALL BE REPLACED WHEN THE FLOW BECOMES INHIBITED OR SEDIMENT COVERS THE BOTTOM. CONTRACTOR SHALL PROPERLY DISPOSE OF BAG OFF GSFC PROPERTY.

NON-WOVEN GEOTEXTILE BAG

FABRIC OZ/YD	8
GRAB STRENGTH (LBS)	200
PUNCTURE STRENGTH	130
AOS ASTM D-4751	100
WATER FLOW RATE	80 GAL/MIN/SF
PERMITIVITY (SEC-1)	1.4
UV RESISTANCE	70%

FILTER BAGS SHALL BE AS MANUFACTURED FOR THE PURPOSE OF SEDIMENT CONTROL BY:

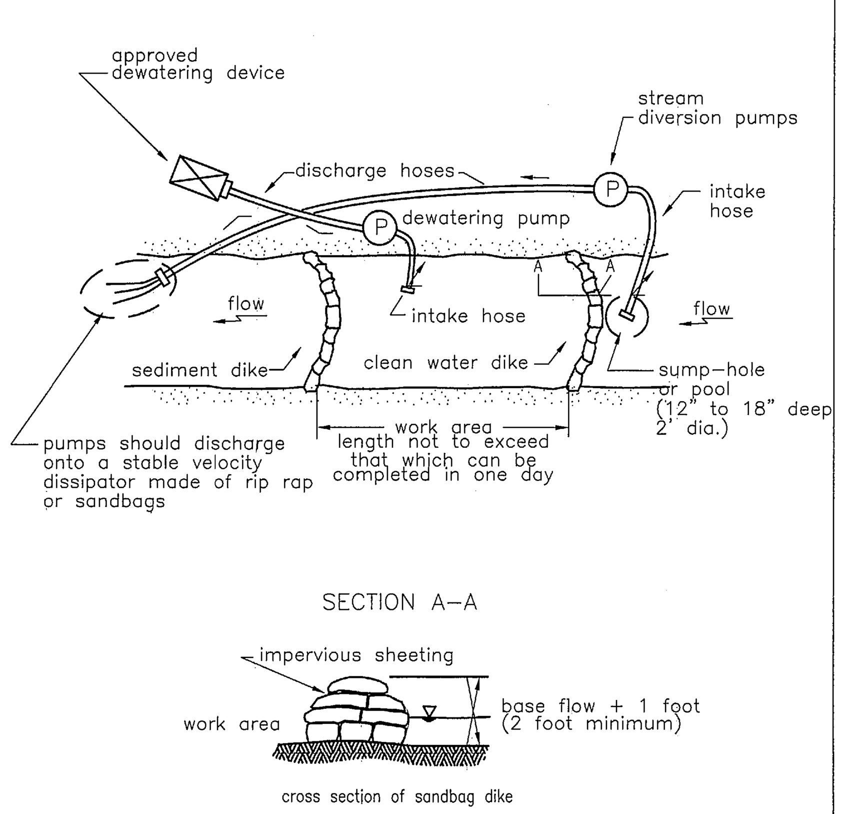
ACF ENVIRONMENTAL INC.
1801-A WILLIS ROAD
RICHMOND, VA 23237
PHONE: 1-800-644-9223
FAX: 1-804-271-3074

OR EQUAL

5 / C206 **FILTER BAG FOR DEWATERING** SCALE: NTS

PUMP-AROUND PRACTICE

PLAN VIEW

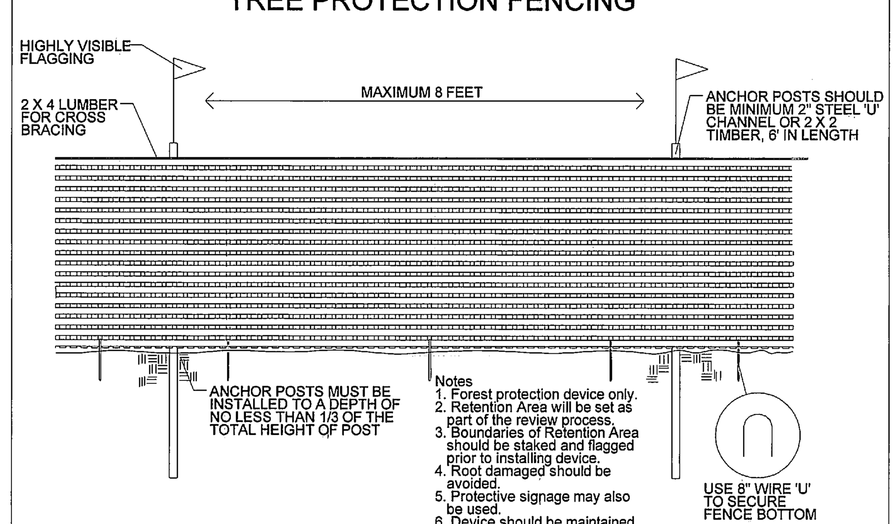


cross section of sandbag dike

MARYLAND DEPARTMENT OF ENVIRONMENT WETLAND AND WATERWAYS PROGRAM	PAGE 1.2 – 3	MARYLAND GUIDELINES FOR WATERWAY CONSTRUCTION

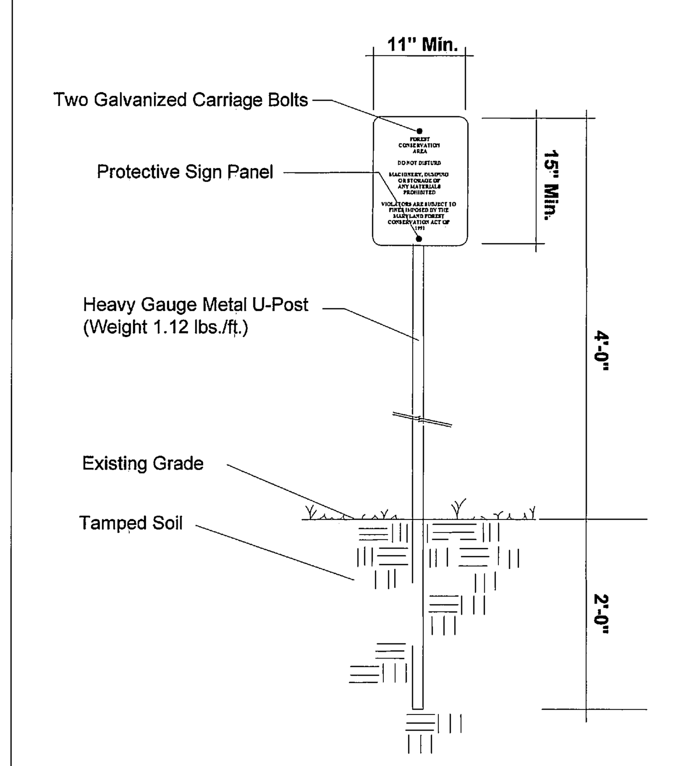
6 / C207 **DETAIL** SCALE: NTS

Blaze Orange Plastic Mesh TREE PROTECTION FENCING



Notes
1. Forest protection device only.
2. Retention Area will be set as part of the review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Root damaged should be avoided.
5. Protective signage may also be used.
6. Device should be maintained throughout construction.

7 / C207 **DETAIL** SCALE: NTS



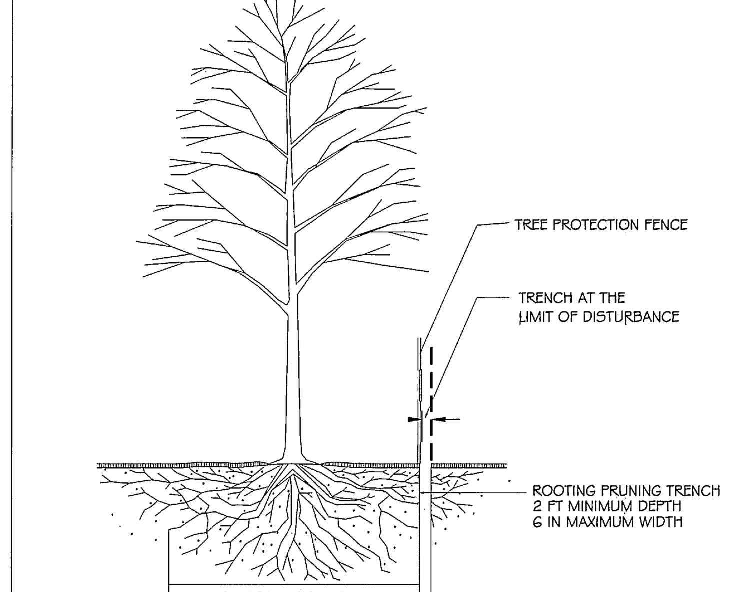
NOTE:

1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED APPROXIMATELY 50' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

PROTECTIVE SIGNAGE DETAIL

NOT TO SCALE

8 / C207 **DETAIL** SCALE: NTS



Root Pruning Detail

NOT TO SCALE

NOTES:

1. Tree Preservation Areas are to be established prior to construction.
2. Exact location of trench is to be identified in the field prior to trenching.
3. Root pruning is to be completed prior to the installation of super silt fence.
4. Roots are to be cleanly cut using vibratory knife or other acceptable equipment.
5. Trench is to be immediately backfilled with soil removed or clean organic topsoil.

9 / C207 **DETAIL** SCALE: NTS

FOREST PROTECTION NOTES:

- THE FCP SHALL LOCATE AND DESCRIBE ANY PROTECTION MECHANISMS TO BE INSTALLED TO PROTECT RETENTION AREAS DURING AND AFTER CONSTRUCTION. THESE MECHANISMS SHALL BE FIELD LOCATED AND APPROVED BY INSPECTION PRIOR TO THE START OF CONSTRUCTION.

- ANY CLEARING, GRADING OR CONSTRUCTION WITHIN 50 FEET OF THE RETENTION AREA WILL REQUIRE PROTECTIVE DEVICES, INCLUDING BUT NOT LIMITED TO, FENCING OR ADAPTED SEDIMENT AND EROSION CONTROL DEVICES AND SIGNS AS INDICATED IN THE APPROVED FCP. ALL PROTECTION DEVICES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION COMPLETION, FINAL INSPECTION, AND AN OCCUPANCY PERMIT, UNLESS WAIVED BY THE APPROVING AUTHORITY. MORE INFORMATION ON PROTECTION DEVICES CAN BE FOUND IN SECTION 3.2.2.

-FURTHERMORE, THE EDGE OF THE RETENTION AREA WILL NEED TO BE STAKED BY THE APPLICANT AND APPROVED BY THE AUTHORITY PRIOR TO CLEARING. THIS FIELD EDGE SHOULD BE ADJUSTED ALONG THE CRITICAL ROOT ZONES OF THE TREES IN THE PROPOSED RETENTION AREA.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND HARISH J. PATEL No. 19533 PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	IM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
EROSION AND SEDIMENT CONTROL
STANDARD MDE DETAILS 2

C207

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 34 OF 158	DRAWING NO. GF-035-34022

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STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ADMINISTRATION (WMA) AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE ADMINISTRATION, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF WMA.

2. THE CONTRACTOR MUST NOTIFY WMA IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:

   A. THE REQUIRED PRE-CONSTRUCTION MEETING.

   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.

   C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.

   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).

   E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.

   F. PRIOR TO FINAL ACCEPTANCE.

3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR WMA INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES WITHOUT PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND WMA APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.

4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM WMA INSPECTOR AND AGENCY INSPECTOR.

6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREAS.)

7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS.)

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.

9. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF WMA AND AGENCY RESPONSIBLE FOR PROJECT.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIPRAP OR BY OTHER APPROVED STABILIZATION MEASURES.

12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF WMA INSPECTOR AND AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION AND ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.

15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.

16. THE WMA INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.

18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING AND GROUND COVERS.

19. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.

20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.

21. ALL WATER REMOVED FROM EXCAVATED AREAS (e.g. UTILITY TRENCHES) SHALL BE PASSED THROUGH AN APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE FROM THE SITE (i.e. VIA FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE).

22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION FOR AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR WMA INSPECTOR.

   (A) CALL "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF WORK.

   (B) EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.

   (C) TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY, UNLESS;

   (D) TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

23. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.

24. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY WMA AND OTHER APPLICABLE STATE, FEDERAL AND LOCAL AGENCIES OTHERWISE, APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

25. SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.

26. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVERFLOW OF INLETS IN SUMP AREAS.

27. SITE INFORMATION:

TOTAL AREA OF SITE	1270 Acres	±
AREA DISTURBED	14.54 Acres	±
AREA TO BE ROOFED OR PAVED	5.5 Acres	±
TOTAL CUT	10,783 CY	±
TOTAL FILL	25,445 CY	±
OFFSITE WASTE/BORROW		±

(NOT TO BE USED FOR BIDDING)

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

OWNER'S / DEVELOPER'S CERTIFICATION

I / WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

DATE ____________ OWNER / DEVELOPER SIGNATURE ____________

CARD No. ____________ PRINTED NAME AND TITLE ____________

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME I & II AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS.

02/26/2010
DATE

DESIGNER'S SIGNATURE

Md. REGISTRATION No. 19533
(P.E.) R.L.S., RLA, or R.A. (CIRCLE ONE)

HARISH J. PATEL
PRINTED NAME

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533, Expiration Date: 02/05/2012

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — HARISH J. PATEL — No. 19533 — PROFESSIONAL ENGINEER

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SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
EROSION AND SEDIMENT CONTROL
STANDARD MDE 27 NOTES

C208

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	35 OF 158	GF-035-34023

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VEGETATIVE STABILIZATION SPECIFICATIONS
(ZONE 7a)

SECTION I
VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION

i. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.

ii. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.

iii. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.

B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

i. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.

ii. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL BE DELIVERED TO THE SITE, FULLY LABELED ACCORDING TO APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK, AND WARRANTY OF THE PRODUCER.

iii. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE, AND 98 TO 100% WILL PASS THROUGH A #20 MESH SIEVE.

iv. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 – 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

C. SEEDBED PREPARATION

i. TEMPORARY SEEDING

a. SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3 INCHES TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS, CHISEL PLOWS, OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

ii. PERMANENT SEEDING

a. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:

1. SOIL pH SHALL BE BETWEEN 6.0 AND 7.0.
2. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
3. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERECIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
4. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
5. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 "STANDARD AND SPECIFICATION FOR TOPSOIL" OF THE 1994 MD STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.

b. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.

c. APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED IN THE CONTRACT DOCUMENTS.

d. MIX SOIL AMENDMENTS INTO THE TOP 3 – 5 INCHES OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE; REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1 –3 INCHES OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

D. SEED SPECIFICATIONS

i. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.

ii. INOCULANT – THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 – 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE INOCULANT LESS EFFECTIVE.

E. METHODS OF SEEDING

i. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER), BROADCAST OR DROP SEEDER, OR A CULTIPACKER SEEDER.

a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN – MAXIMUM OF 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 POUNDS/ACRE; K20 (POTASSIUM): 200 POUNDS/ACRE

b. LIME – USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

c. SEED AND FERTILIZER SHALL BE MIXED ON SITE, AND SEEDING SHALL BE DONE IMMEDIATELY WITHOUT INTERRUPTION.

ii. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

a. SEED SPREAD SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

iii. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

a. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

b. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)

i. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY, AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.

ii. WOOD CELLULOSE FIBER MULCH (WCFM)

a. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

b. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

c. WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

d. WCFM SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDINGS.

e. WCFM SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

f. WOOD CELLULOSE FIBER MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM., DIAMETER APPROXIMATELY 1 MM., pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM, AND WATER HOLDING CAPACITY OF 90% MINIMUM.

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE A STAND OF ONE SPECIES OF GRASS IS DESIRED.

G. MULCHING SEEDED AREAS – MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

i. IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AND PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS, AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.

ii. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN ONE AND TWO INCHES. MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.

iii. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

H. SECURING STRAW MULCH (MULCH ANCHORING): MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD.

i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS IS THE MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR, IF POSSIBLE.

ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

iii. APPLICATIONS OF LIQUID BINDERS SHOULD BE APPLIED HEAVIER AT EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD BE UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS – SYNTHETIC BINDERS SUCH AS ACRYLIC DRL (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR, OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.

iv. LIGHTWEIGHT: PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

SECTION II: TEMPORARY SEEDING

VEGETATION – ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO TWELVE MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7a) (FROM TABLE 26)					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
	ANNUAL RYEGRASS	50	3/1-4/30 8/15-11/15	1/4"-1/2"	600 lb/ac (15 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)
	MILLET	50	5/1-8/14	1/2"		

SECTION III: PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7a) (FROM TABLE 25)					FERTILIZER RATE (10-20-20-)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
3	TALL FESCUE	125	3/1-5/15 8/15-10/15	1/2"	90 lb/ac (2.0 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 st)	2 tons/ac (100 lb/ 1000 sf)
3	PERENNIAL RYEGRASS	15	3/1-5/15 8/15-10/15	1/2"				
3	KENTUCKY BLUEGRASS	10	3/1-5/15 8/15-10/15	1/2"				

SECTION IV
TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER)

A. GENERAL SPECIFICATIONS

i. CLASS OF TURFGRASS SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

ii. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/4", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIER'S WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

iii. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

iv. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

v. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

B. SOD INSTALLATION

i. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.

ii. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

iii. WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED, OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

iv. SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

C. SOD MAINTENANCE

i. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.

ii. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

iii. THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE FINAL SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2" AND 3", UNLESS OTHERWISE SPECIFIED.

SECTION V – TURFGRASS ESTABLISHMENT

AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. AREAS TO RECEIVE SEED SHALL BE TILLED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVELED, AND RAKED TO PREPARE A PROPER SEEDBED. STONES AND DEBRIS OVER 1-1/2 INCHES IN DIAMETER SHALL BE REMOVED. THE RESULTING SEEDBED SHALL BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

NOTE: CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

A. TURFGRASS MIXTURES

i. KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND THE EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS/1000 SQUARE FEET. A MINIMUM OF THREE BLUEGRASS CULTIVARS SHOULD BE CHOSEN, RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

ii. KENTUCKY BLUEGRASS/PERENNIAL RYE – FULL SUN MIXTURE – FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM 10% TO 35% OF THE MIXTURE BY WEIGHT.

iii. TALL FESCUE/KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN DROUGHT PRIME AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95% – 100%; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 – 5%. SEEDING RATE: 5 TO 8 POUNDS/1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

iv. KENTUCKY BLUEGRASS/FINE FESCUE – SHADE MIXTURE – FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30-40% AND CERTIFIED FINE FESCUE AND 60 – 75%. SEEDING RATE: 1-1/2 TO 3 POUNDS/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN WITH EACH CULTIVARRANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

NOTE: TURFGRASS VARIETIES SHOULD BE SELECTED FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MIMEO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND."

B. IDEAL TIMES OF SEEDING

WESTERN MARYLAND: MARCH 15 – JUNE 1; AUGUST 1 – OCTOBER 1 (HARDINESS ZONES – 5b, 6a)

CENTRAL MARYLAND: MARCH 1 – MAY 15; AUGUST 15 – OCTOBER 15 (HARDINESS ZONES – 6b)

SOUTHERN MARYLAND, EASTERN SHORE: MARCH 1 – MAY 15, AUGUST 15 – OCTOBER 15 (HARDINESS ZONES – 7a, 7b)

C. IRRIGATION

IF SOIL MIXTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2" – 1" EVERY 3 TO 4 DAYS, DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.

D. REPAIRS AND MAINTENANCE

INSPECT ALL SEEDED AREAS FOR FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

i. ONCE THE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 95% GROUNDCOVER TO BE CONSIDERED ADEQUATELY STABILIZED.

ii. IF THE STAND PROVIDES LESS THAN 40% GROUND COVERAGE, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING RECOMMENDATIONS.

iii. IF THE STAND PROVIDES BETWEEN 40% AND 94% GROUND COVERAGE, OVERSEEDING AND FERTILIZING USING HALF OF THE RATES ORIGINALLY APPLIED MAY BE NECESSARY.

iv. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDINGS ARE SHOWN IN TABLE 24. FOR LAWNS AND OTHER MEDIUM TO HIGH MAINTENANCE TURFGRASS AREAS, REFER TO THE UNIVERSITY OF MARYLAND PUBLICATION, "LAWN CARE IN MARYLAND", BULLETIN NO. 171.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 19533 , Expiration Date: 02/05/2012

PARSONS
Facilities Construction Engineering & Technical Services
FMD-G SFC-NASA

SEAL AREA

STATE OF MARYLAND
JAMES J. DAY
No. 19533
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT. HEAD

	INITIALS	DATE
DRAWN	DK	2-26-10
A-E	KP	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHE	2.26.10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JAH	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
EROSION AND SEDIMENT CONTROL
VEGETATIVE STABILIZATION NOTES

C209

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL | DATE ISSUED 03-01-10 | CoF CODE or WRF A6890 | SHEET 36 OF 158 | DRAWING NO. GF-035-34024

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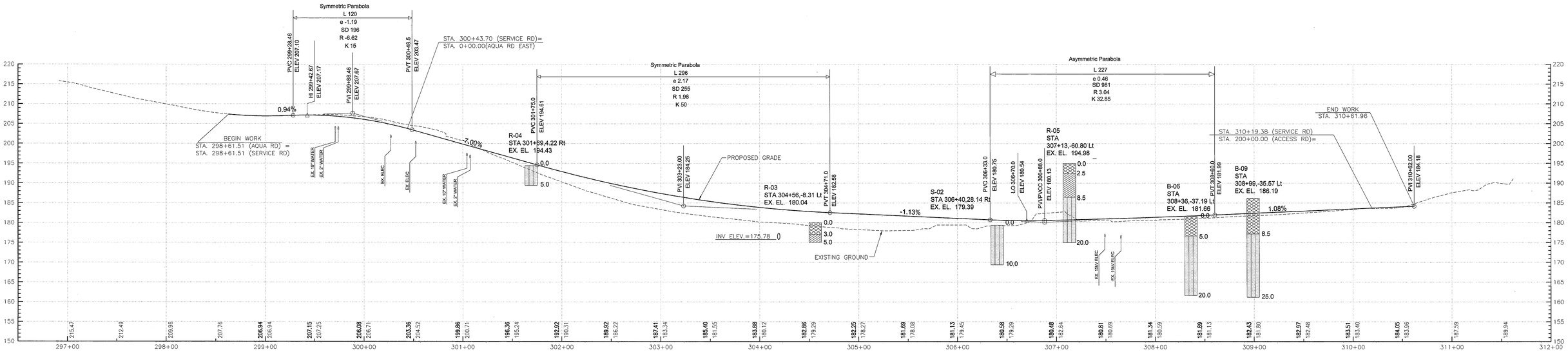
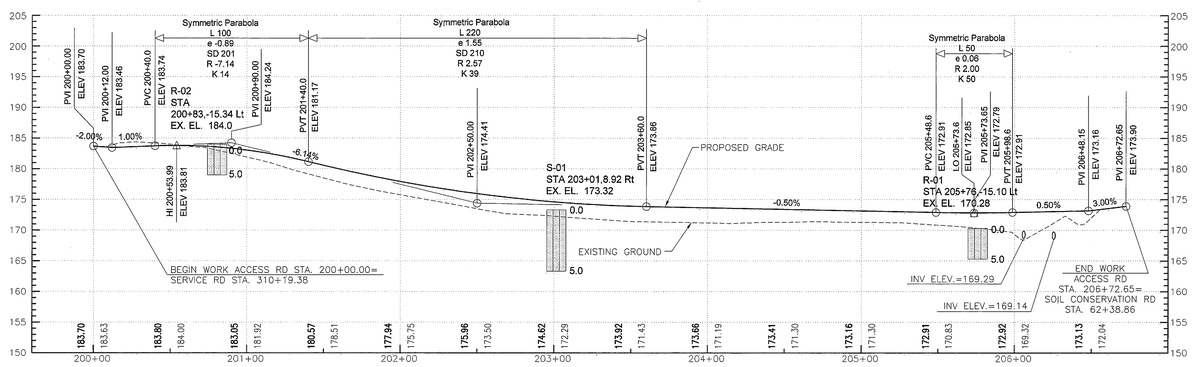


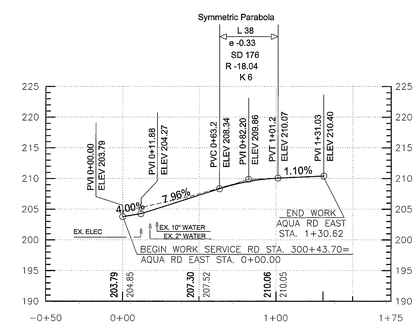
1 C301 **PROFILE SERVICE ROAD**

STA. 298+61 TO STA. 310+61.91



2 C301 **PROFILE ACCESS ROAD**

STA. 200+00 TO STA. 206+72.65



3 C301 **PROFILE AQUA ROAD EAST**

STA. 0+00 TO STA. 1+30.62

207.25 – EXISTING GROUND ELEVATION
207.25 – PROFILE GRADE ELEVATION

LITHOLOGY GRAPHICS

Fill (made ground) | USCS Low Plasticity Clay | USCS Silty Sand

20 FEET 10 0 5 10
VERTICAL SCALE: 1"=10'

40 20 0 40 80 FEET
HORIZONTAL SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

PARSONS
Facilities Construction Engineering & Technical Services
EMD-G SFC-NASA

SEAL AREA

STATE OF MARYLAND
NICHOLAS C. HOBBS
No. 24509
PROFESSIONAL ENGINEER
3/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	1-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JAK	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
ROADWAYS
PROFILES

C301

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 37 of 158 | DRAWING NO. GF-035-34025

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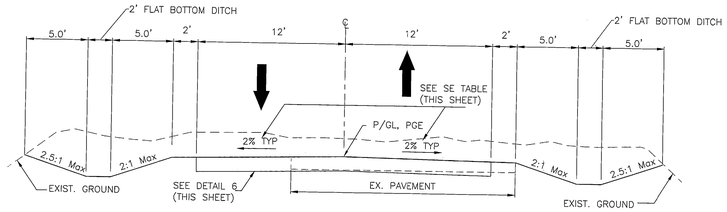
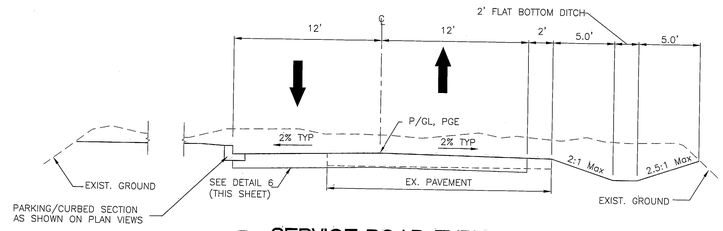
SUPER ELEVATION TABLE						
FROM	TO	LEFT		RIGHT		REMARKS
298+72.97	299+33.97	0	0	0%	4%	Right Begin Transition
298+72.97	299+35.97	2%	4%			Left Begin Transition
298+72.97	301+50.60			4%	4%	Right Begin Transition
299+35.97	301+50.60	4%	4%	0		Left Begin Transition
301+50.60	302+50.60	4%	2	4%	-2	End Transition



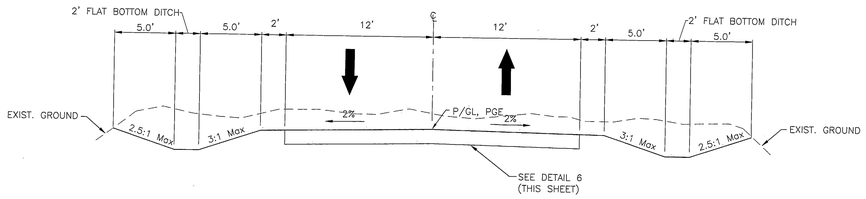
1A C302 **SERVICE ROAD TYPICAL**

STA. 298+61.51 TO STA. 303+01.87
SCALE: 1"=5'



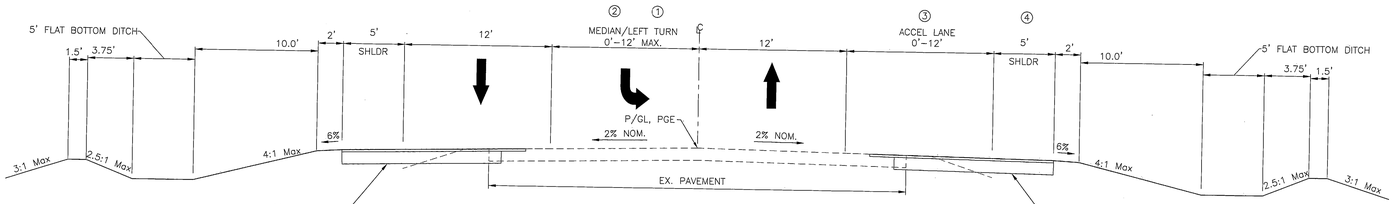
1B C302 **SERVICE ROAD TYPICAL**

STA. 303+01.87 TO STA. 310+62.20
SCALE: 1"=5'



2 C302 **ACCESS ROAD TYPICAL**

STA. 200+00.00 TO STA. 206+72.65
SCALE: 1"=5'



3 C302 **SOIL CONSERVATION ROAD TYPICAL**

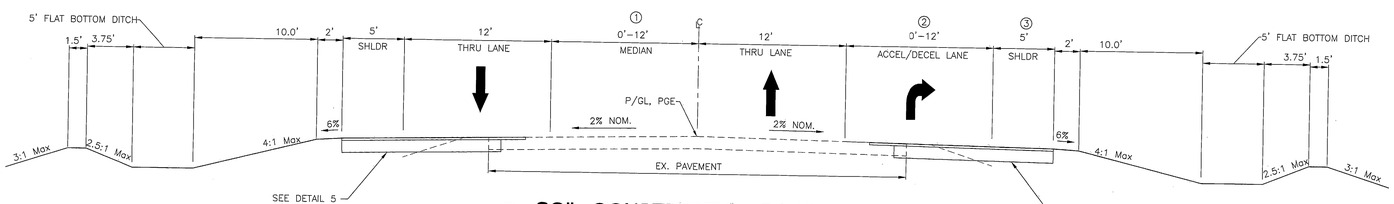
STA. 62+38.86 TO STA. 71+01.26
SCALE: 1"=5'

① FLUSH MEDIAN
0'-12' 63+99.06 TO 64+99.06
12' 62+38.86 TO 62+64.06
12'-0' 64+99.06 TO 71+01.26

② LEFT TURN LANE
12' 62+64.06 TO 63+99.06
12'-0' 63+99.06 TO 64+99.06

③ ACCEL LANE
12' 62+48.10 TO 63+99.06
12'-0' 63+99.06 TO 64+99.06

④ SHOULDER
5'-17' 63+99.06 TO 64+99.06



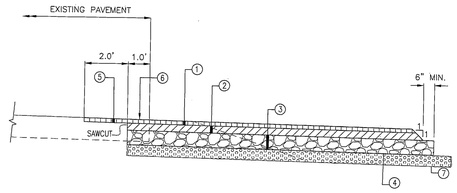
4 C302 **SOIL CONSERVATION ROAD TYPICAL**

STA. 56+11.11 TO STA. 62+38.86
SCALE: 1"=5'

① FLUSH MEDIAN
0'-12' 56+11.11 TO 61+93.49
12' 61+93.49 TO 62+38.86

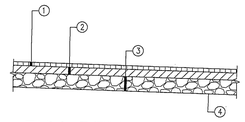
② DECEL LANE
0'-12' 59+73.62 TO 60+73.62
12' 60+73.62 TO 62+23.93

③ SHOULDER
17'-5' 59+73.62 TO 60+73.62



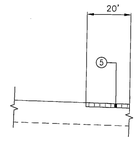
5 C302 **FULL DEPTH SECTION FOR SC RD WIDENING**

SCALE: NTS



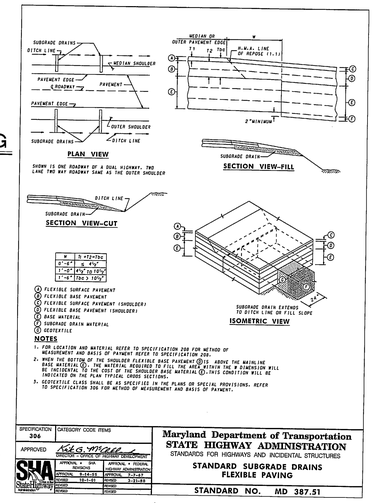
6 C302 **FULL DEPTH SECTION FOR ACCESS/SERVICE RD**

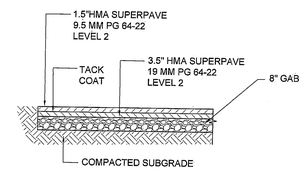
SCALE: NTS



7 C302 **MILL/OVERLAY DETAIL FOR AQUA RD/ SERVICE RD/AQUA RD EAST AT TIE-INS**

SCALE: NTS





8 C302 **FULL DEPTH SECTION FOR PARKING LOT**

SCALE: NTS

NOTES FOR DETAILS 5, 6 AND 7

① 2" HMA SUPERPAVE 9.5mm, PG 64-22 LEVEL 2

② 4" HMA SUPERPAVE 19mm, PG 64-22 LEVEL 2

③ 8" GRADED AGGREGATE BASE

④ COMPACTED SUBGRADE TO 95% DENSITY

⑤ 2" MILL WITH 2" SUPERPAVE 9.5mm PG 64-22 LEVEL 2

⑥ REMOVE 1' WIDTH OF EXISTING PAVEMENT FOR RECONSTRUCTION

⑦ EXTEND EXISTING UNDERDRAINS AS PER DETAIL MSHA DETAIL. 387.51. SEE C101,C102 FOR EXISTING LOCATIONS

NOTE:

THE TOP 18 INCHES OF THE PAVEMENT SUBGRADE AT THE NORTH LOADING AREA REQUIRES MIXING WITH A PROPORTIONED QUANTITY OF PORTLAND CEMENT TO PRODUCE A CEMENT MODIFIED SOIL (CMS). THE REQUIRED CEMENT CONTENT IS 4 PERCENT BY VOLUME. THE MIXTURE SHOULD BE PLACED IN 8-INCH LIFTS AND COMPACTED TO THE DENSITY SPECIFIED IN THE CONTRACT DOCUMENTS FOR THIS PROJECT. THE CEMENT SHOULD BE THOROUGHLY AND EVENLY MIXED INTO THE TOP 18 INCHES OF THE SOIL SUBGRADE. A MOISTURE-DENSITY RELATIONSHIP SHOULD BE PERFORMED IN THE LABORATORY TO DETERMINE THE COMPACTION CHARACTERISTICS OF THE CMS PRIOR TO USE IN THE FIELD.

5 2.5 0 5 10 FEET

GRAPHIC SCALE: 1"=5'

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License No. 24509 , Expiration Date: 9/21/2011

2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

Facilities Construction Engineering & Technical Services — PARSONS — PMO-GSFC-NASA

SEAL AREA

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JW	3/1/10
CUSTOMER	AM	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

ROADWAYS
TYPICAL SECTIONS

C302

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	38 of 158	GF-035-34026

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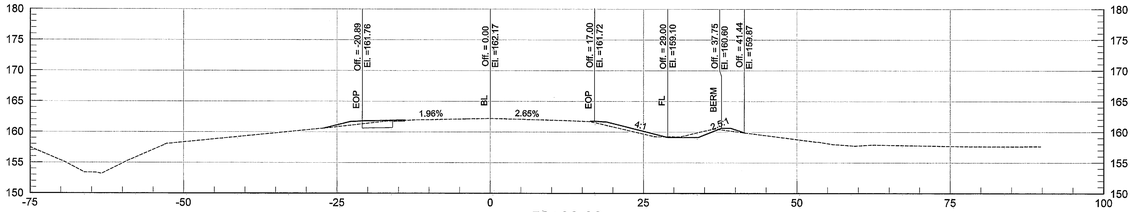

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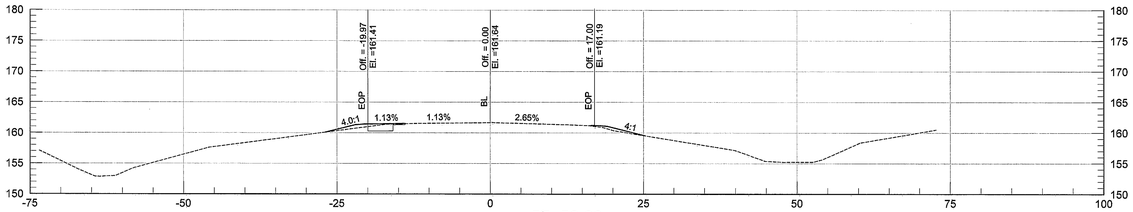

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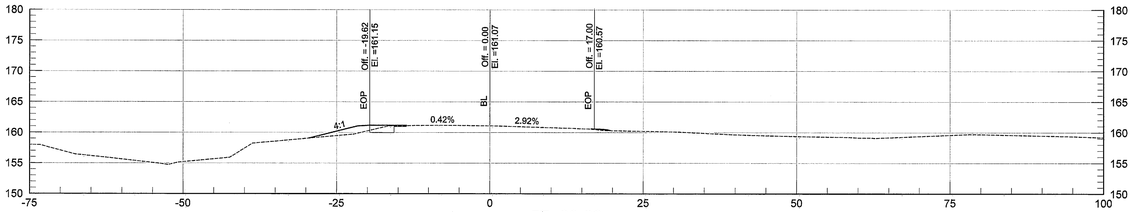

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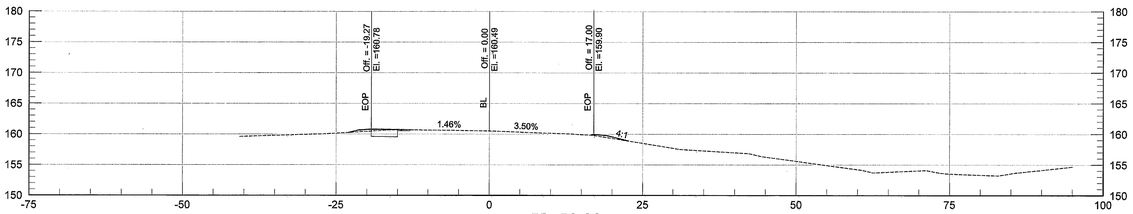

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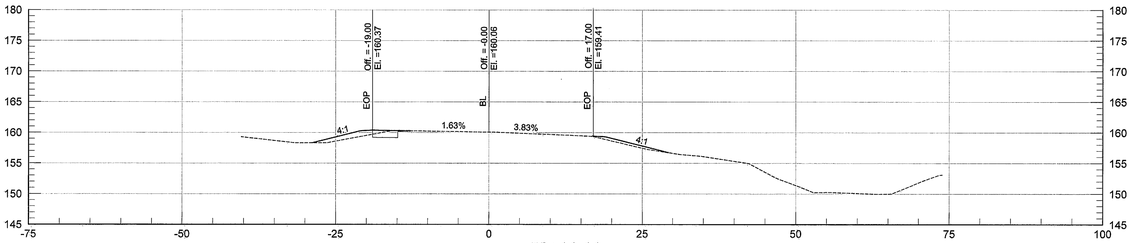

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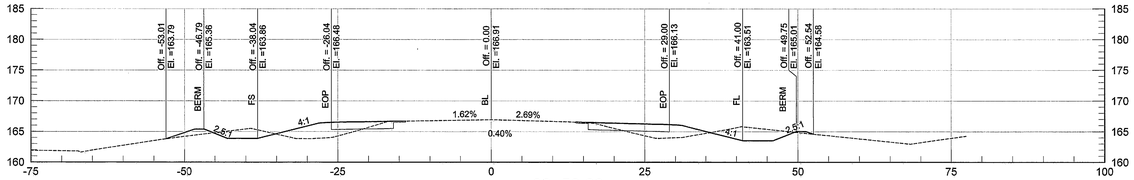

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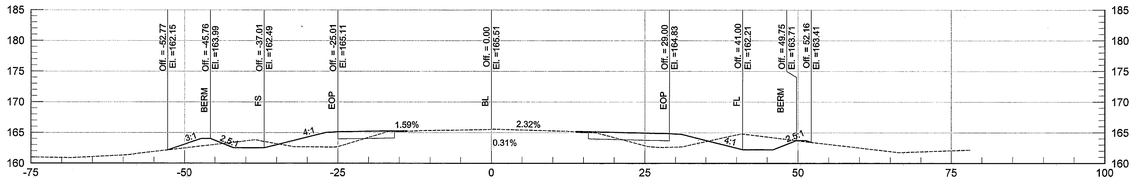

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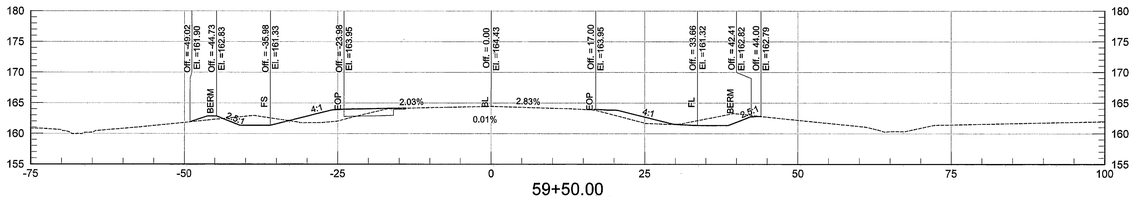

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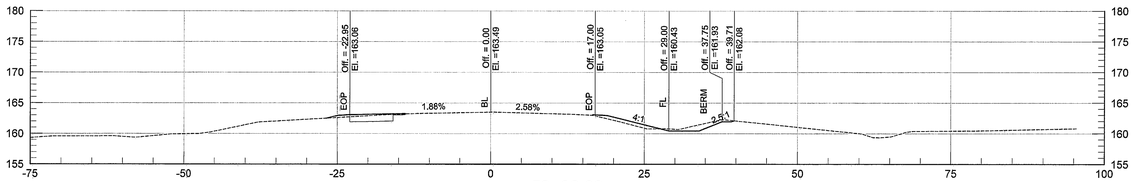

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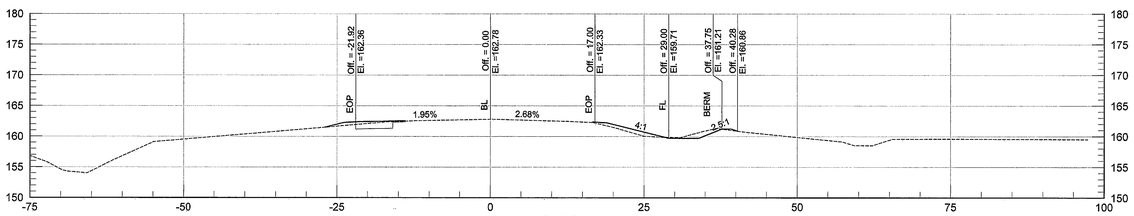

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ABBREVIATIONS
FS : FORESLOPE
EOP: EDGE OF PAVEMENT
FL : FLOWLINE
BL : BASELINE

LEGEND
------ EXISTING SURFACE
—— PROPOSED SURFACE

10 05 0 10 20 FEET
HORIZONTAL SCALE: 1"=10'

20 FEET 10 0 5 10
VERTICAL SCALE: 1"=10'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

PARSONS
Facilities Construction Engineering & Technical Services
FMD-9 SFC-NASA

SEAL AREA

STATE OF MARYLAND
DOUGLAS C. HOWE
No. 24509
PROFESSIONAL ENGINEER

2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JWA	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

SOIL CONSERVATION ROAD
CROSS SECTIONS 1

C303

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	39 OF 158	GF-035-34027

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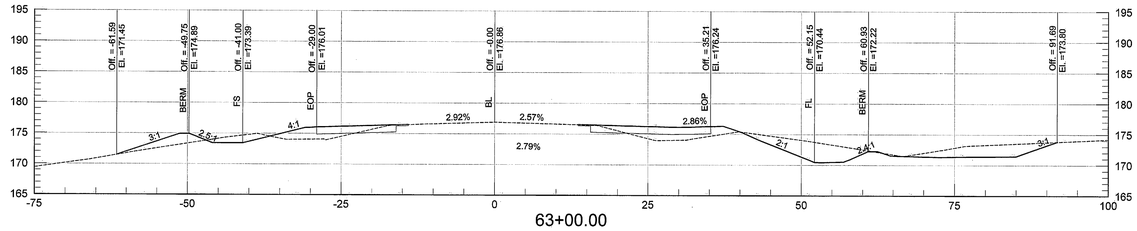

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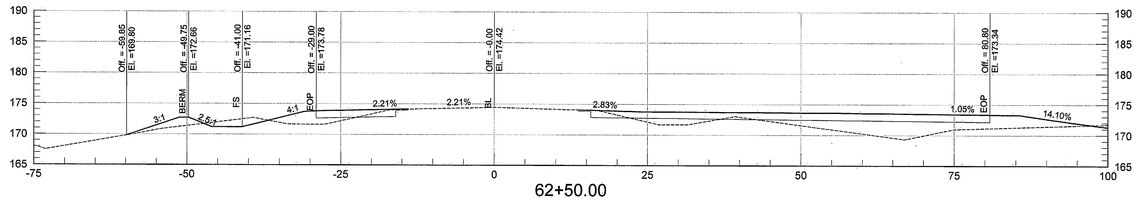

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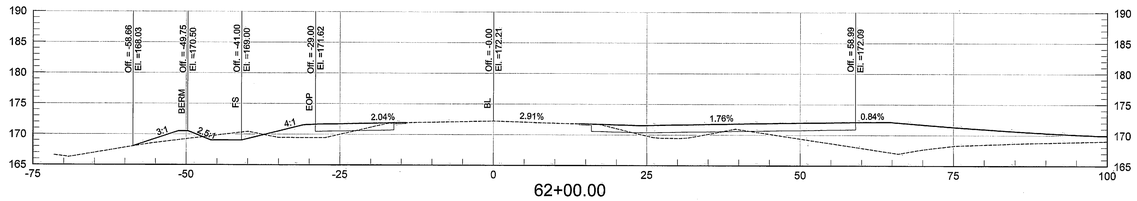

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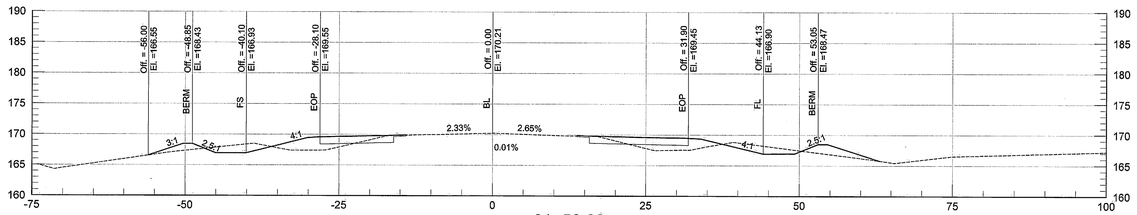

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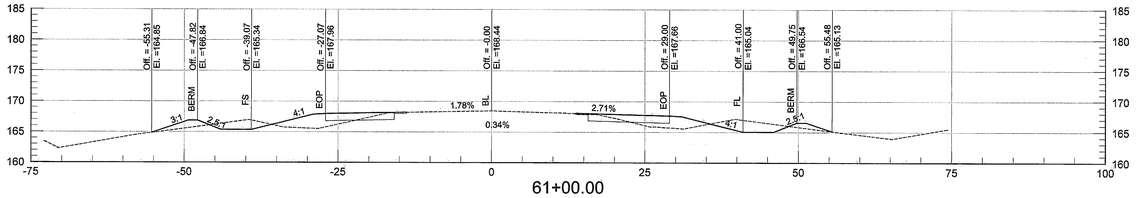

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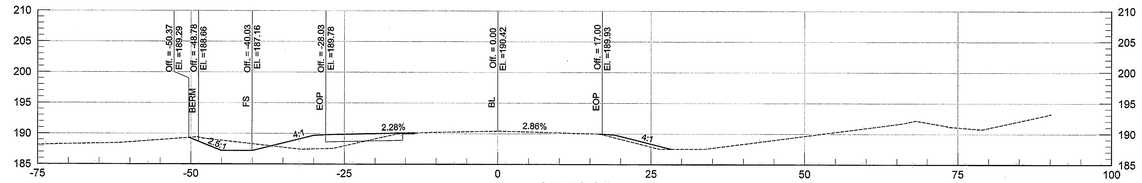

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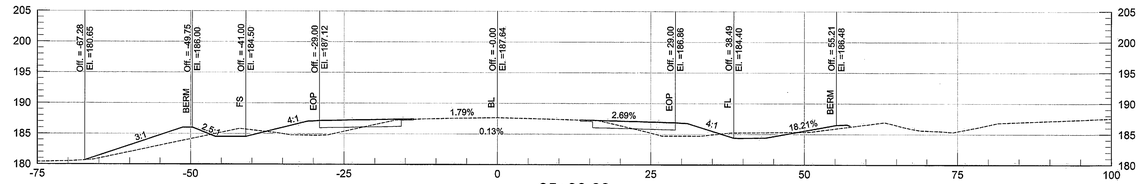

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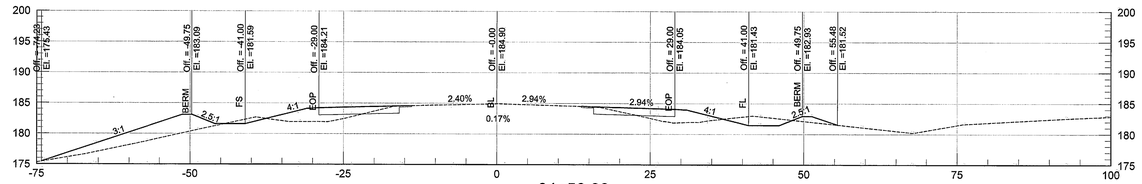

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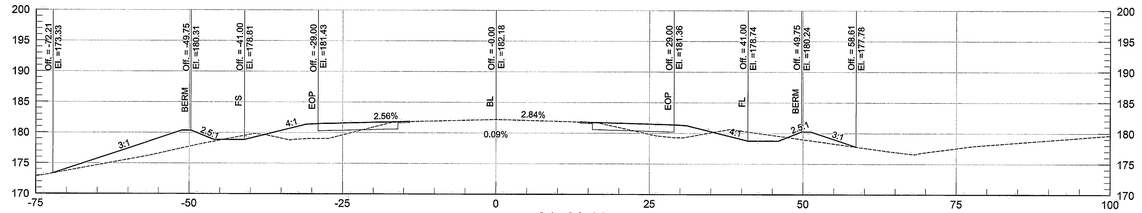

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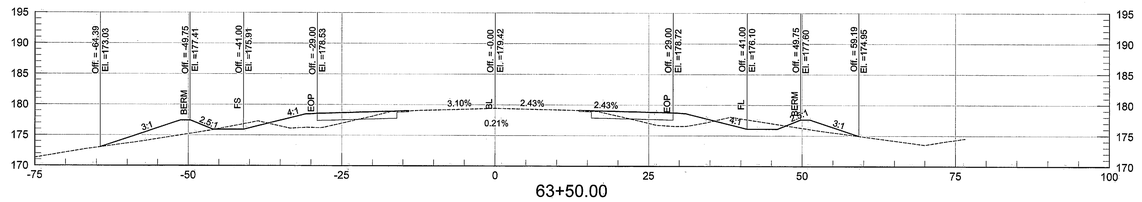

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20 FEET
10
0
5
10
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License No. 24509 , Expiration Date: 9/21/2011

SEAL AREA

STATE OF MARYLAND DOUGLAS C. HOPPE No. 24509 PROFESSIONAL ENGINEER
3/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SAE	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FM	3/1/10
CUSTOMER	RBW	3/1/10
SECTION HEAD		

PARSONS — Facilities Construction Engineering & Technical Services — FMO-GSFC-NASA

LOGISTICS FACILITY
SITE AND SHELL

SOIL CONSERVATION ROAD
CROSS SECTIONS 2

C304

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL

DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
03-01-10	A6890	40 OF 158	GF-035-34028

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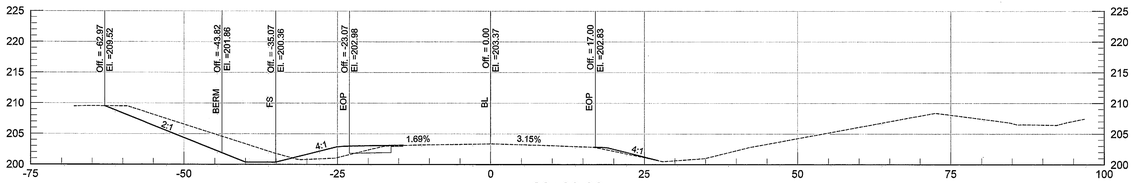

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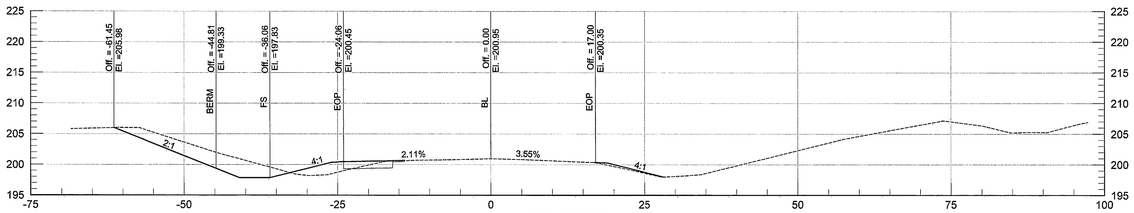

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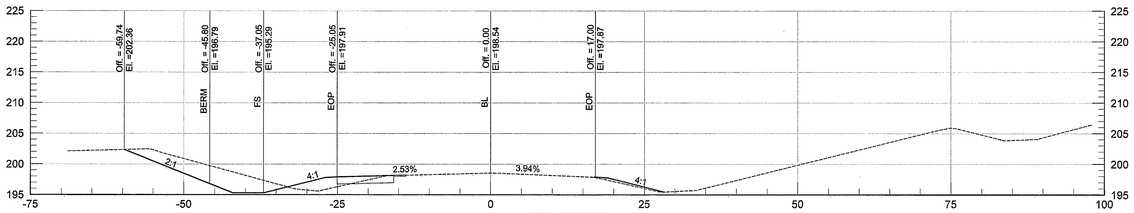

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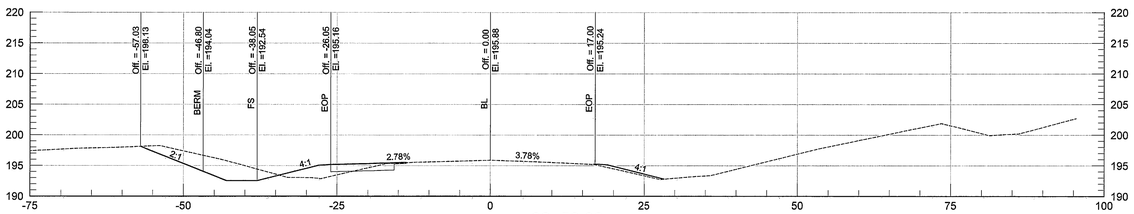

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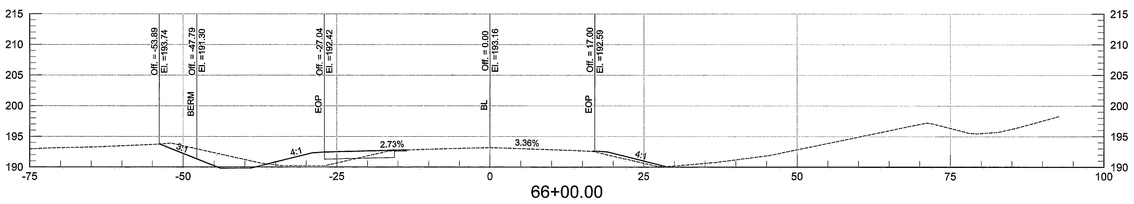

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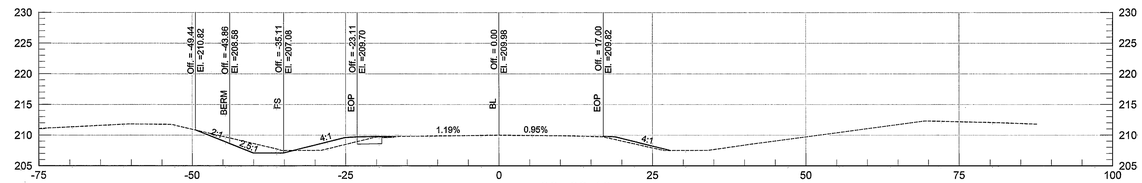

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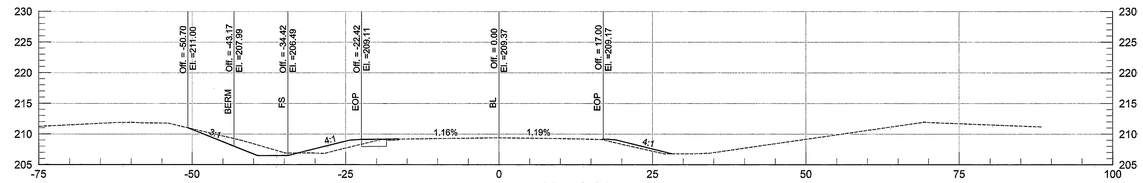

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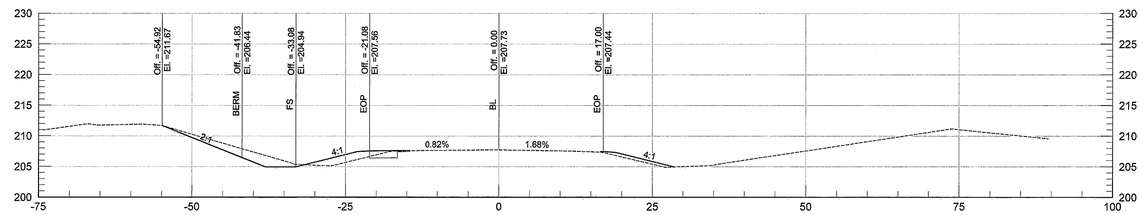

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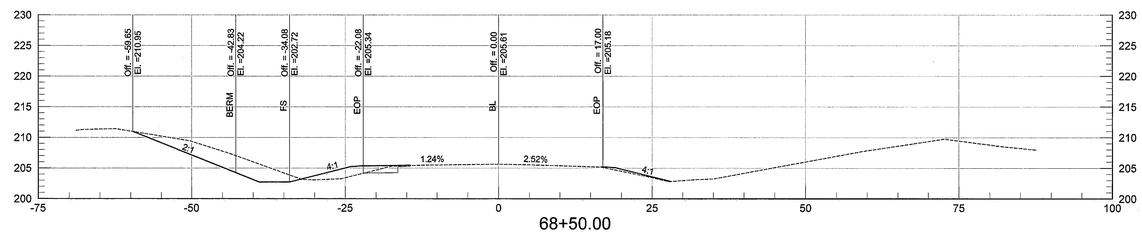

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PARSONS
Facilities Construction Engineering & Technical Services
FMD-G SFC-NASA

SEAL AREA

STATE OF MARYLAND
DOUGLAS C. BOWER
No. 24509
PROFESSIONAL ENGINEER
2/24/10

REV	DATE	DESCRIPTION			S&E BR.	CUSTOMER	PM	SECT.-HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
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A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JM	3/1/10
CUSTOMER	RH	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SOIL CONSERVATION ROAD
CROSS SECTIONS 3

C305

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or W/O# A6890	SHEET 41 OF 158	DRAWING NO. GF-035-34029

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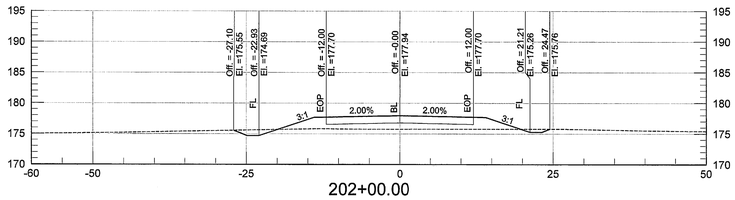

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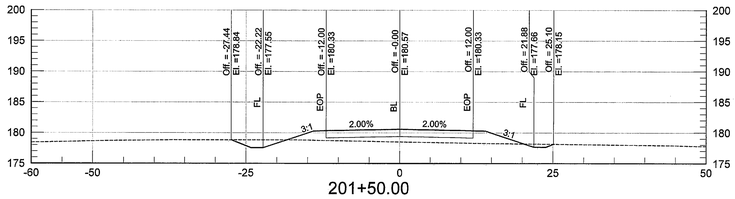

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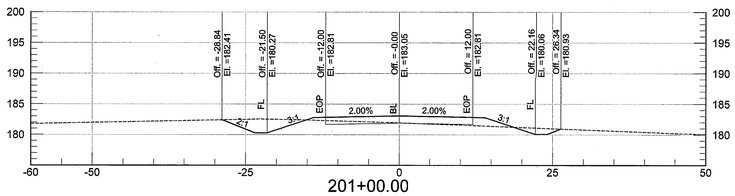

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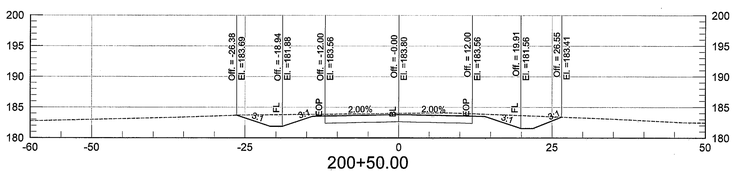

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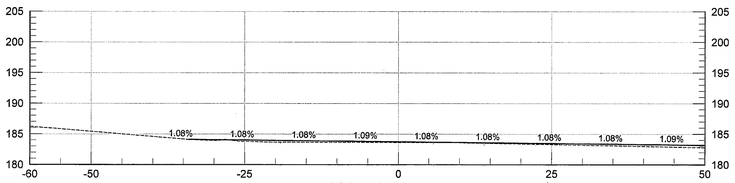

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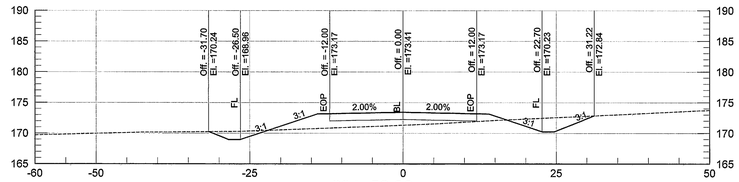

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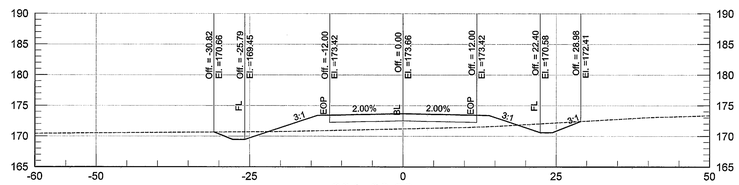

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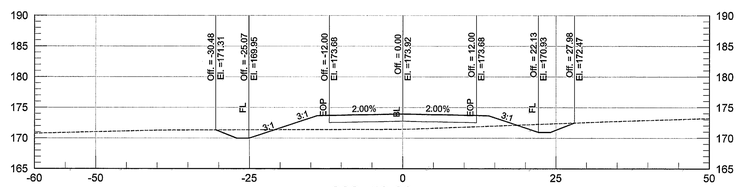

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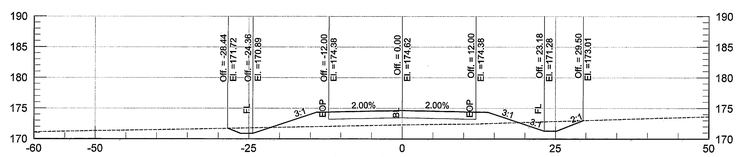

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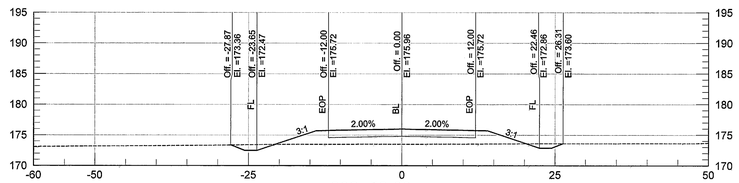

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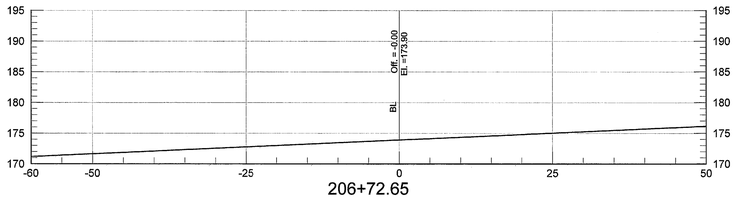

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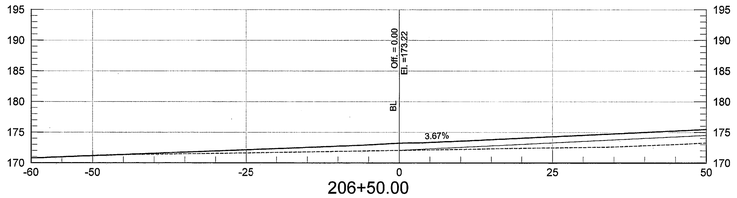

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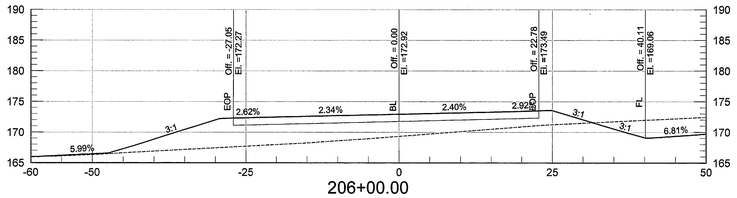

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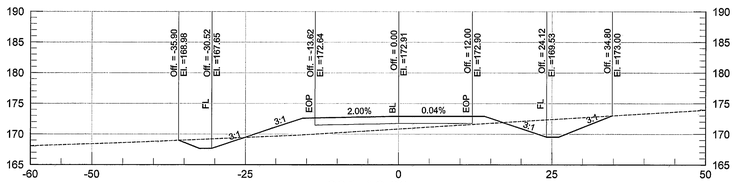

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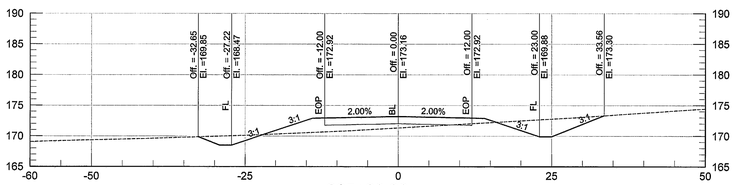

205+00.00

ABBREVIATIONS
FS : FORESLOPE
EOP: EDGE OF PAVEMENT
FL : FLOWLINE
BL : BASELINE

LEGEND

------ EXISTING SURFACE
—— PROPOSED SURFACE

10 05 0 10 20 FEET
HORIZONTAL SCALE: 1"=10'

20 FEET 10 0 5 10
VERTICAL SCALE: 1"=10'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

SEAL AREA

STATE OF MARYLAND DOUGLAS C. KOSH No. 24509 PROFESSIONAL ENGINEER
2/26/10

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKK	2-26/10
NASA A-E		
S&E BRANCH	RE	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ACCESS ROAD
CROSS SECTIONS

C306

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 42 OF 158	DRAWING NO. GF-035-34030

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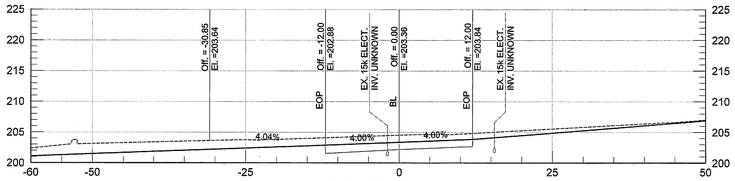

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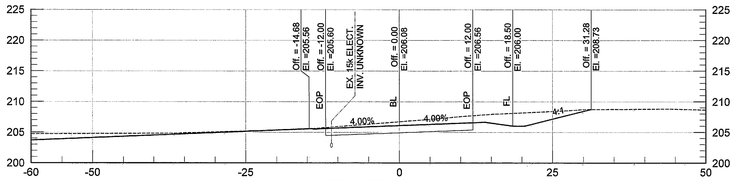

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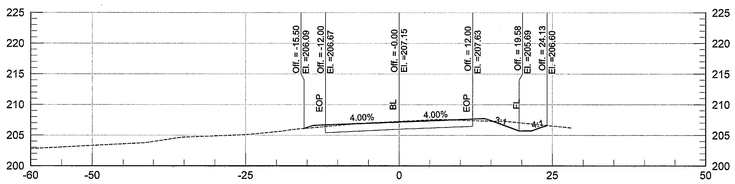

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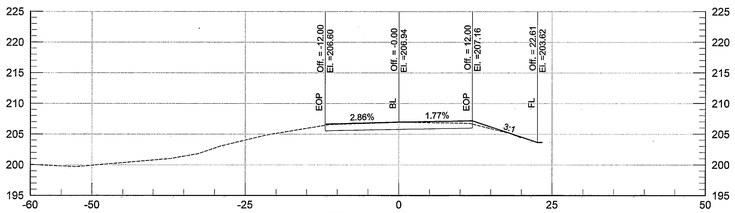

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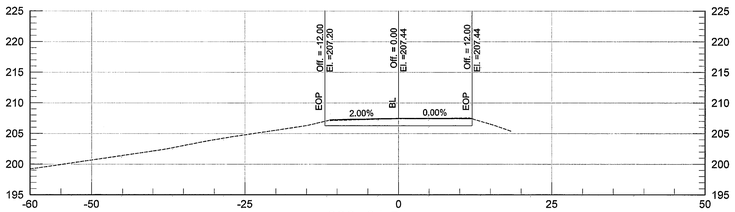

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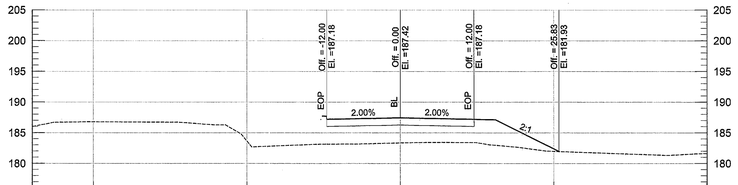

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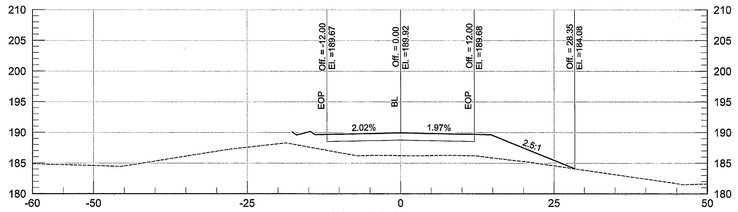

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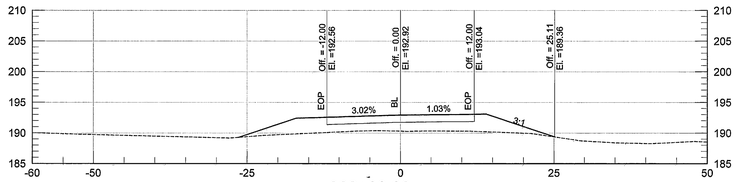

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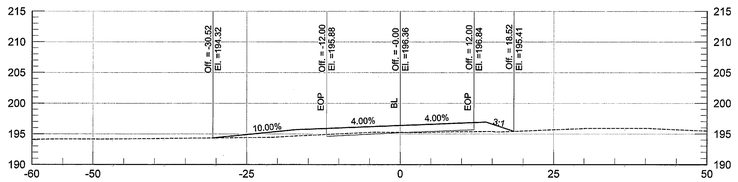

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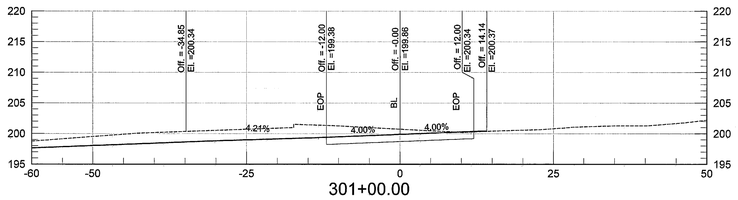

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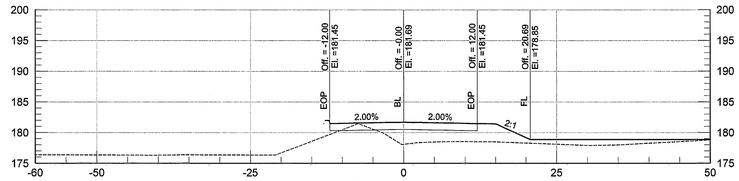

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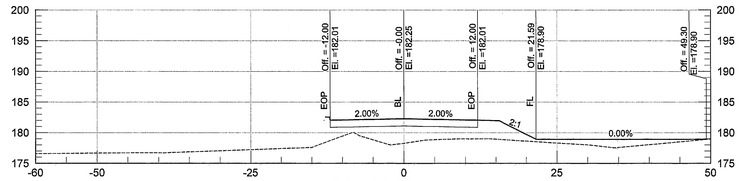

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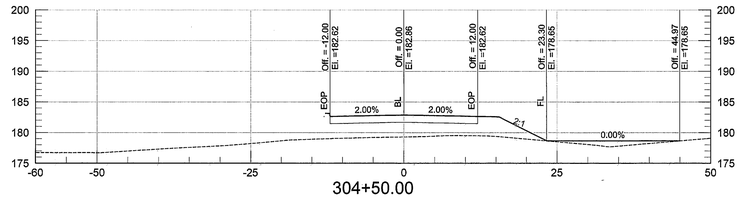

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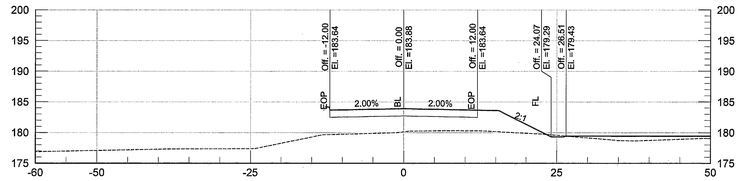

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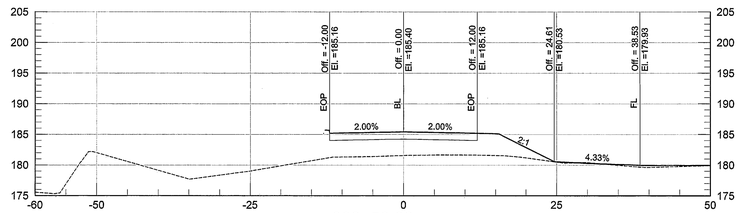

303+50.00

ABBREVIATIONS
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LEGEND
------- EXISTING SURFACE
—— PROPOSED SURFACE

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License No. 24509 , Expiration Date: 9/21/2011

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
DOUGLAS C. MARTIN
No. 24509
PROFESSIONAL ENGINEER
2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKE	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM	–	
PM		3/1/10
CUSTOMER	AM	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SERVICE ROAD
CROSS SECTIONS 1

C307

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED 03-01-10	CoF CODE or WBS A6890	SHEET 43 OF 158	DRAWING NO. GF-035-34031

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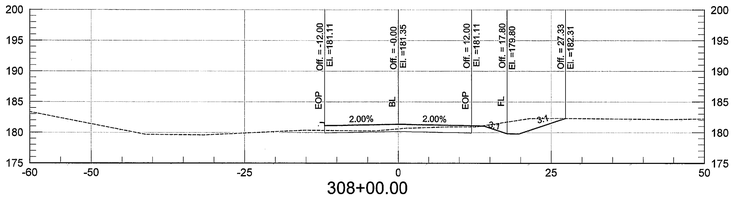

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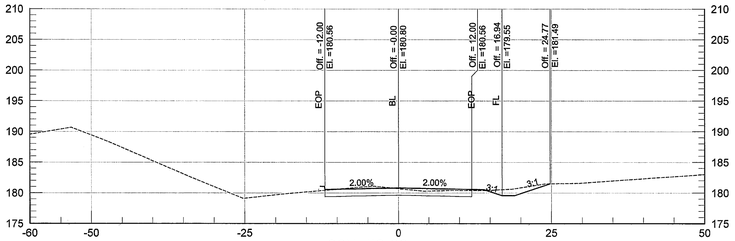

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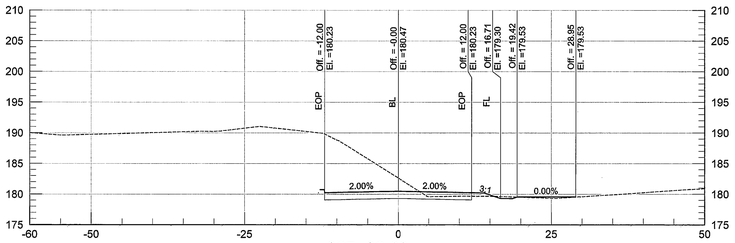

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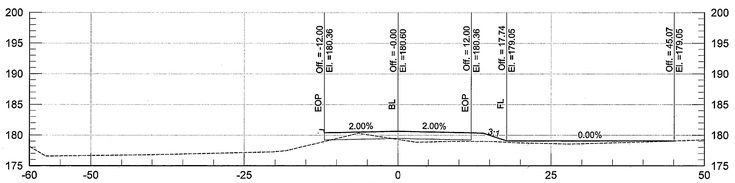

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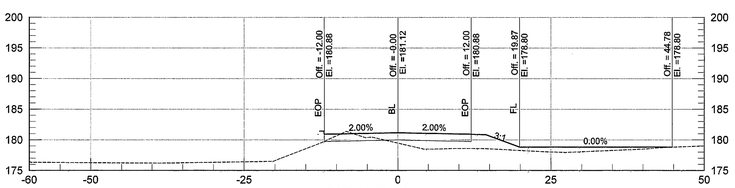

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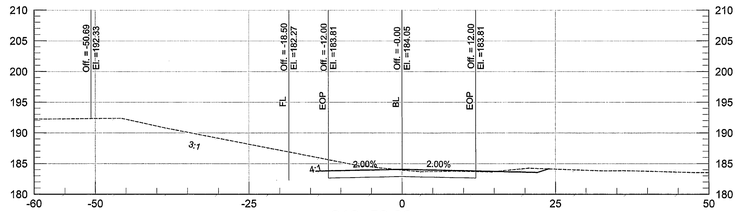

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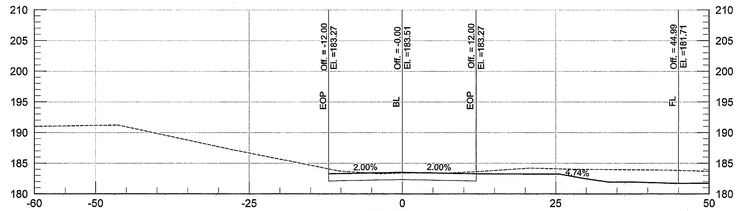

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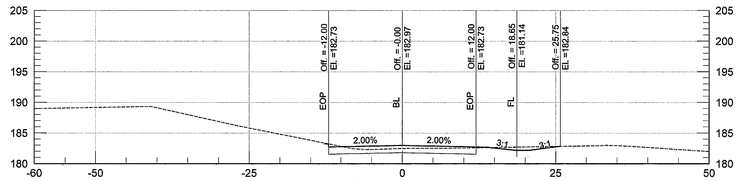

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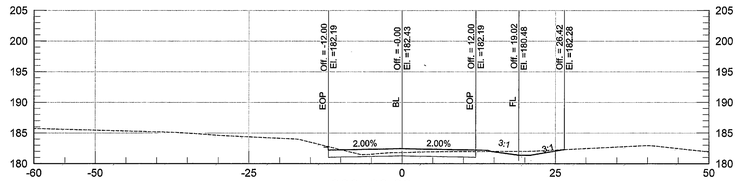

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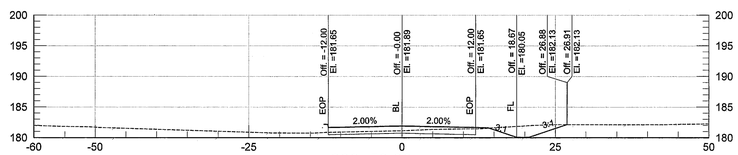

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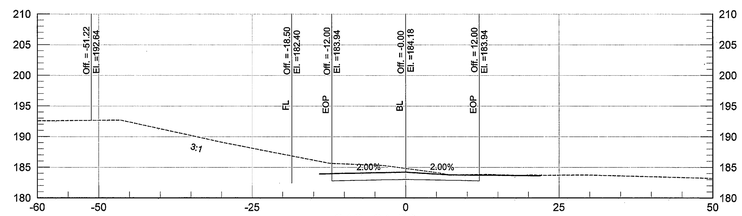

310+61.96

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LEGEND

------ EXISTING SURFACE
—— PROPOSED SURFACE

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VERTICAL SCALE: 1"=10'

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PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND DOUGLAS C. BOSLEY No. 24509 PROFESSIONAL ENGINEER

3/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SAE	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JMT	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SERVICE ROAD
CROSS SECTIONS 2

C308

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
	03-01-10	A6890	44 OF 158	GF-035-34032

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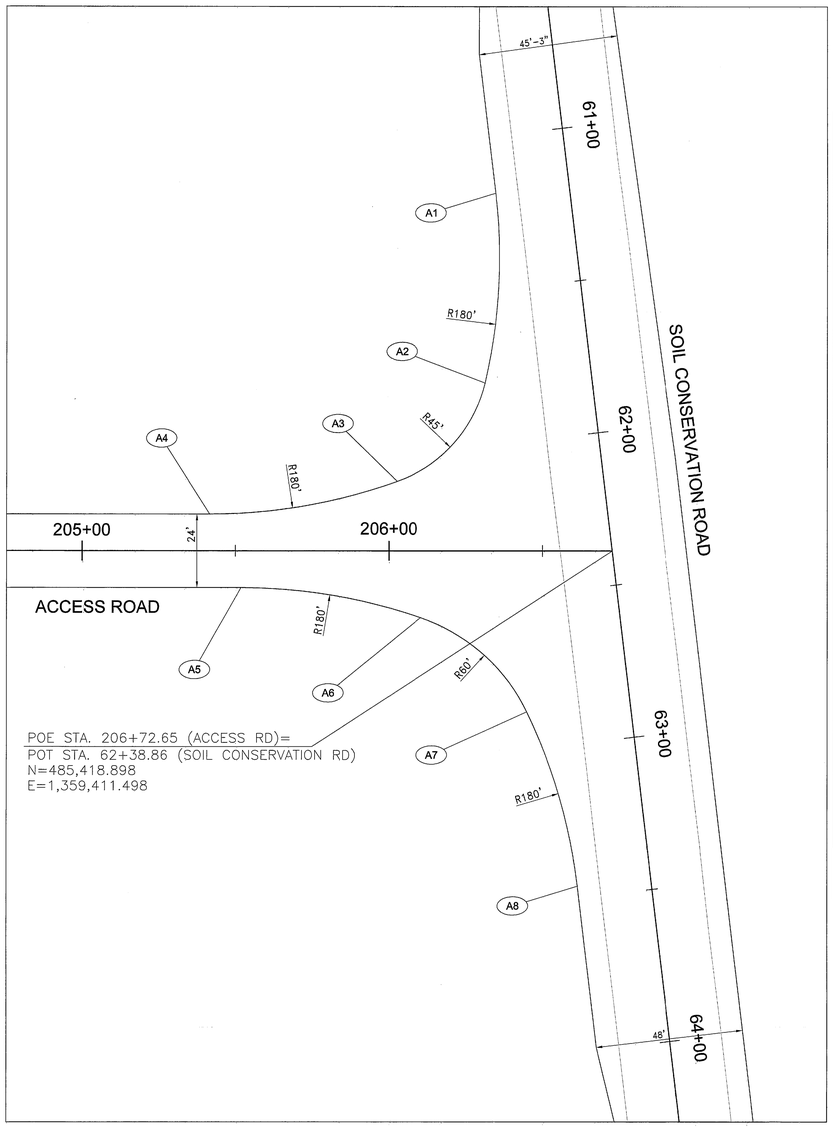
① POINT LAYOUT TABLE – ACCESS RD/SOIL CONSERVATION RD					
POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
A1	SOIL CONSERVATION ROAD	61+18.51	RT, 24.00'	168.51	PC
A2	SOIL CONSERVATION ROAD	61+79.55	RT, 34.66'	170.78	PCC
A3	ACCESS DRIVE	206+02.69	LT, 22.66'	172.38	PCC
A4	ACCESS DRIVE	205+41.64	LT, 12.00'	172.71	PT
A5	ACCESS DRIVE	205+51.84	RT, 12.00'	172.91	PT
A6	ACCESS DRIVE	206+10.28	RT, 21.75'	173.61	PCC
A7	SOIL CONSERVATION ROAD	62+87.72	RT, 33.75'	175.41	PCC
A8	SOIL CONSERVATION ROAD	63+46.16	RT, 24.00'	178.64	PC

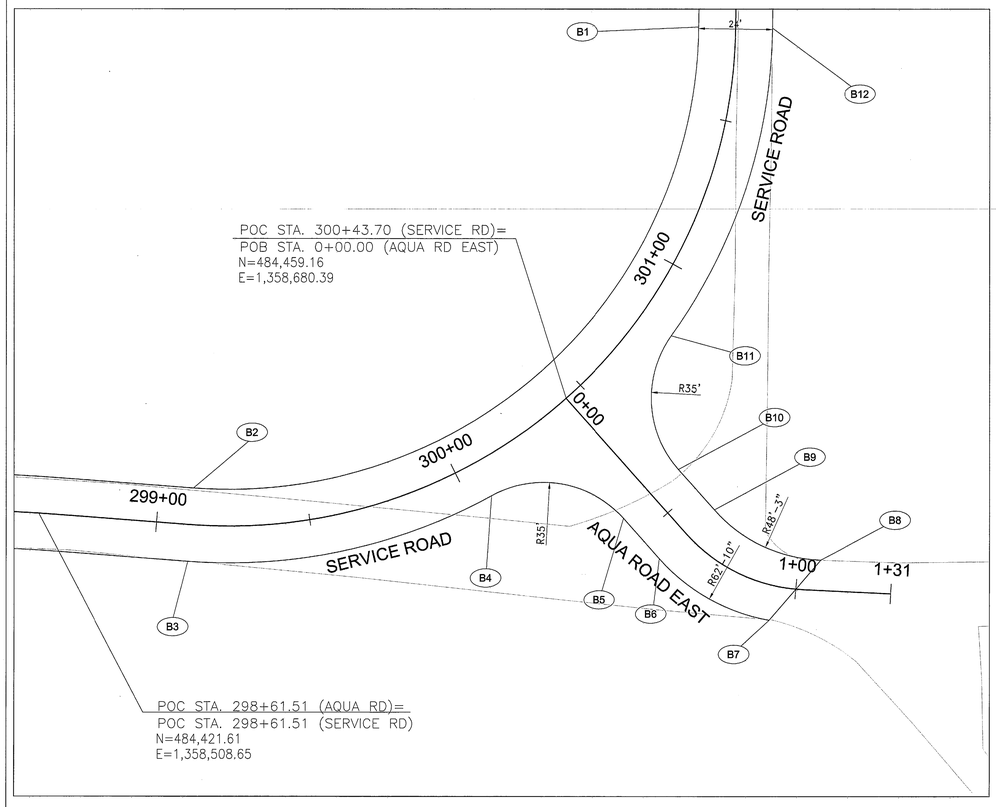
② POINT LAYOUT TABLE – AQUA RD/SERVICE RD/AQUA RD EAST					
POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
B1	SERVICE ROAD	301+80.60	LT, 12.00'	193.81	PC
B2	SERVICE ROAD	299+11.11	LT, 12.00'	206.58	PT
B3	SERVICE ROAD	299+11.11	RT, 12.00'	207.27	PC
B4	SERVICE ROAD	300+06.81	RT, 12.00'	206.29	PCC
B5	AQUA ROAD	0+41.72	RT. 12.00'	207.24	PT
B6	AQUA ROAD	0+59.35	RT. 12.00'	208.53	PT
B7	AQUA ROAD	0+93.61	RT. 11.36'	210.26	PC
B8	AQUA ROAD	1+07.71	LT. 9.91'	212.58	PC
B9	AQUA ROAD	0+59.35	LT. 12.00'	207.52	PT
B10	AQUA ROAD	0+41.72	LT. 12.00'	206.00	PC
B11	SERVICE ROAD	300+80.59	RT. 12.00'	201.70	PCC
B12	SERVICE ROAD	301+80.60	RT. 12.00'	194.48	PT

③ POINT LAYOUT TABLE – SERVICE RD/ACCESS RD					
POINT	BASELINE	STATION	OFFSET	ELEVATION	DESCRIPTION
C1	SERVICE ROAD	310+69.20	RT, 19.20'	183.65	PC
C2	ACCESS DRIVE	200+43.80	LT, 12.00'	183.54	PT
C3	ACCESS DRIVE	200+42.00	RT, 12.00'	183.52	PC
C4	SERVICE ROAD	309+77.39	RT, 12.00'	183.02	PT



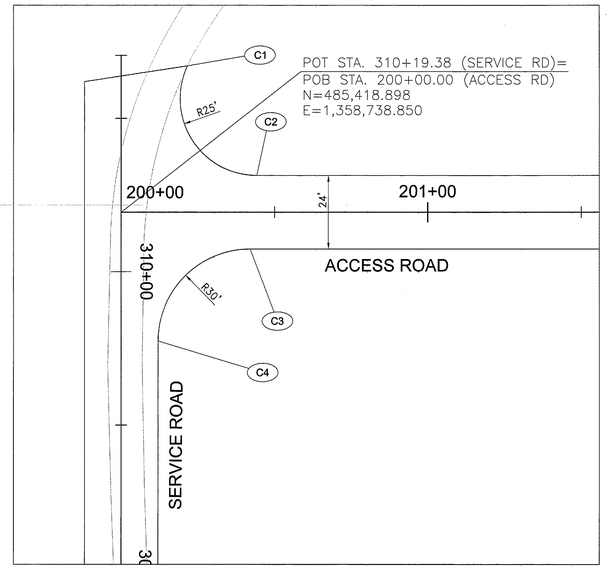
1 C309 ACCESS RD/SOIL CONSERVATION RD INTERSECTION DETAIL

SCALE: 1'=20'



2 C309 AQUA RD/SERVICE RD/AQUA RD EAST INTERSECTION DETAIL

SCALE: 1'=20'



3 C309 SERVICE RD/ACCESS RD INTERSECTION DETAIL

SCALE: 1'=20'

NORTH

20 10 0 20 40 FEET

GRAPHIC SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

SEAL AREA

STATE OF MARYLAND — SOURAN C. HOANG — No. 24509 — PROFESSIONAL ENGINEER

3/24/10

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/4/10
CM	–	
PM	JAA	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

CIVIL

LOGISTICS FACILITY
SITE AND SHELL

ROADWAYS
INTERSECTION DETAILS

C309

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	45 OF 158	GF-035-34033

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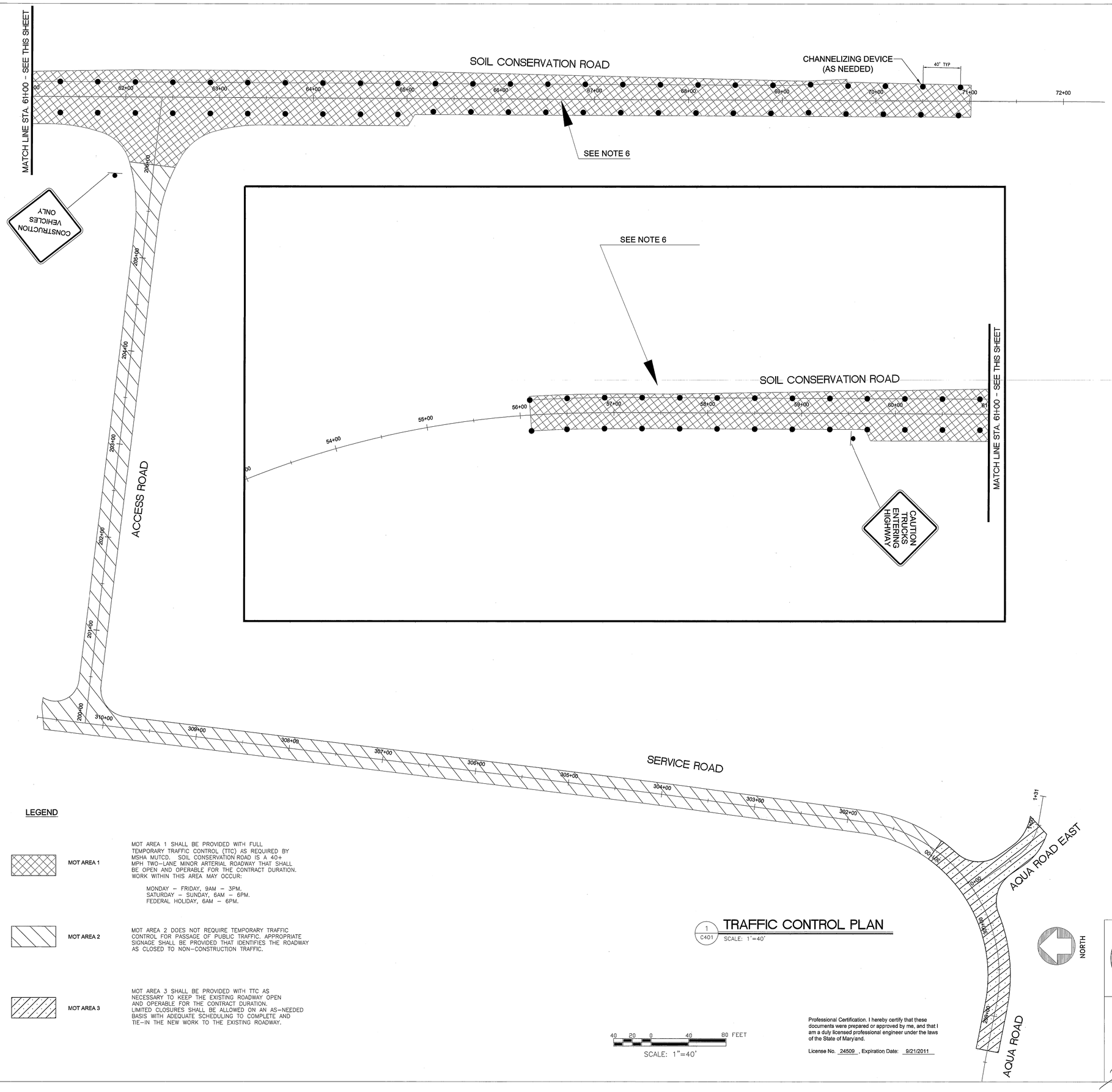

MAINTENANCE OF TRAFFIC GENERAL NOTES:

1. A PRIMARY REQUIREMENT OF THIS CONTRACT IS THAT VEHICULAR AND PEDESTRIAN TRAFFIC BE MAINTAINED IN A SAFE AND EFFICIENT MANNER. THE MAINTENANCE OF TRAFFIC PLANS PRESENTED ARE SUGGESTED TRAFFIC CONTROL PLANS. SHOULD THE CONTRACTOR PREFER AN ALTERNATIVE SCHEME, HE MAY SUBMIT PLANS FOR APPROVAL BY THE COTR.
2. ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS WELL AS THE MARYLAND STATE HIGHWAY ADMINISTRATION'S TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING THE LATEST MUTCD EDITION AND MARYLAND SUPPLEMENTS FOR HIS USE.
3. THE SEQUENCE OF CONSTRUCTION FOR EACH OF THE CONSTRUCTION PHASES SHOWN REFERS SPECIFICALLY TO THE CRITICAL ITEMS OF WORK WHICH MUST BE COMPLETED DURING THAT CONSTRUCTION PHASE BEFORE THE NEXT SEQUENCED PHASE OF WORK MAY BE COMMENCED.
4. ALL CONFLICTING SIGNS AND TRAFFIC SIGNAL EQUIPMENT SHOULD BE COVERED. THE CONTRACTOR SHALL INSTALL PERMANENT SIGNS AS SOON AS POSSIBLE OR AS DIRECTED BY THE COTR TO IMPROVE OVERALL PROJECT SAFETY. NO SECTION OF FINAL ROADWAY SHALL BE OPENED TO TRAFFIC UNTIL ALL PERMANENT SIGNS, TRAFFIC SIGNAL EQUIPMENT AND PERMANENT MARKINGS ARE IN PLACE.
5. ANY DAMAGE TO EXISTING SIGNS, POSTS OR HARDWARE AS A RESULT OF RELOCATION DURING CONSTRUCTION PHASES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. THE MAINTENANCE OF TRAFFIC SHOWN IS FOR NON-WORK HOURS. DURING WORK HOURS, WHEN A LANE MUST BE SHUT DOWN, WHEN FLAGGERS MUST BE USED, OR OTHER NECESSARY OPERATION, THEN MAINTENANCE OF TRAFFIC SHALL FOLLOW MSHA MUTCD AND STANDARD TEMPORARY TRAFFIC CONTROL DETAILS. COMMONLY USED DETAILS INCLUDE:

LANE SHIFT RIGHT OR LEFT SIDE/2-LANE, 2-WAY GREATER THAN 40 MPH/15 MIN-12 HRS. OR DAYTIME ONLY	STD. NO. MD 104.02-03
FLAGGING OPERATION/2-LANE, 2-WAY GREATER THAN 40 MPH	STD. NO. MD 104.02-09
FLAGGING OPERATION/2-LANE, 2-WAY EQ/LESS THAN 40 MPH	STD. NO. MD 104.02-10
STAGED ROADWAY CONSTRUCTION	STD. NO. MD 104.01-28

7. TRAFFIC BARRELS SHALL BE PROVIDED IN ACCORDANCE WITH THE MUTCD TO SEPARATE WORK ZONES FROM TRAVEL LANES.
8. TRAFFIC BARRICADES SHALL BE PROVIDED IN ACCORDANCE WITH THE MUTCD TO BLOCK ROADWAYS, DRIVEWAYS, SIDEWALKS AND AREAS OF TRAVEL FROM CONSTRUCTION WORK ZONES.

SEQUENCE OF CONSTRUCTION

CONSTRUCTION

1. THE CONTRACTOR SHALL SUBMIT EACH CHANGE TO THE MAINTENANCE OF TRAFFIC PLAN TO THE CONTRACTING OFFICER AT LEAST TWO WEEKS IN ADVANCE OF THE START OF ANOTHER PHASE OR CHANGE WITHIN A PHASE FOR REVIEW AND APPROVAL. THE SUBMITTAL SHALL SHOW THE WORK AREAS, EXISTING PAVEMENTS, COMPLETED WORK AND PROPOSED TRAFFIC CONTROL DEVICES INCLUDING ALL SIGNS, TEMPORARY MARKINGS, BARRICADES, BARRELS, ARROW BOARDS, ETC.

PHASE 1 – COMPLETE WORK IN MOT AREA 1 IN ORDER TO PROVIDE A SAFE INGRESS/EGRESS TO THE CONSTRUCTION SITE FOR CONSTRUCTION VEHICLES, AND FOR THE BYPASS OF PUBLIC TRAFFIC. MAINTAIN PUBLIC TRAVELWAY AND REPAIR ANY ASPHALT AREAS DAMAGED BY CONSTRUCTION TRAFFIC FOR THE DURATION OF THE CONTRACT.

PHASE 2 – CONSTRUCT ACCESS RD AND RECONSTRUCT SERVICE RD. COMPLETE WORK IN MOT AREA 3 IN THE LATTER STAGE OF CONTRACT DURATION, OR OTHER ACCEPTABLE SCHEDULED TIME.

PHASE 3 – CONSTRUCT NEW AQUA RD INTERSECTION UTILIZING FLAGGING OPERATION. RE-MARK MOT AREA 1 AT THE END OF CONSTRUCTION TO PROVIDE FRESH MARKINGS.

LEGEND

MOT AREA 1 — MOT AREA 1 SHALL BE PROVIDED WITH FULL TEMPORARY TRAFFIC CONTROL (TTC) AS REQUIRED BY MSHA MUTCD. SOIL CONSERVATION ROAD IS A 40+ MPH TWO-LANE MINOR ARTERIAL ROADWAY THAT SHALL BE OPEN AND OPERABLE FOR THE CONTRACT DURATION. WORK WITHIN THIS AREA MAY OCCUR:

MONDAY – FRIDAY, 9AM – 3PM.
SATURDAY – SUNDAY, 6AM – 6PM.
FEDERAL HOLIDAY, 6AM – 6PM.

MOT AREA 2 — MOT AREA 2 DOES NOT REQUIRE TEMPORARY TRAFFIC CONTROL FOR PASSAGE OF PUBLIC TRAFFIC. APPROPRIATE SIGNAGE SHALL BE PROVIDED THAT IDENTIFIES THE ROADWAY AS CLOSED TO NON-CONSTRUCTION TRAFFIC.

MOT AREA 3 — MOT AREA 3 SHALL BE PROVIDED WITH TTC AS NECESSARY TO KEEP THE EXISTING ROADWAY OPEN AND OPERABLE FOR THE CONTRACT DURATION. LIMITED CLOSURES SHALL BE ALLOWED ON AN AS-NEEDED BASIS WITH ADEQUATE SCHEDULING TO COMPLETE AND TIE-IN THE NEW WORK TO THE EXISTING ROADWAY.

1 / C401 TRAFFIC CONTROL PLAN
SCALE: 1"=40'

40 20 0 40 80 FEET
SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SEK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	FJH	3/1/10
CUSTOMER	DW	3/1/10
SECTION HEAD		

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — DOUGLAS C. BOWEN — No. 24509 — PROFESSIONAL ENGINEER — 3/1/10

LOGISTICS FACILITY
SITE AND SHELL
ROADWAYS
TEMPORARY TRAFFIC CONTROL PLAN

C401

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	46 OF 158	GF-035-34034

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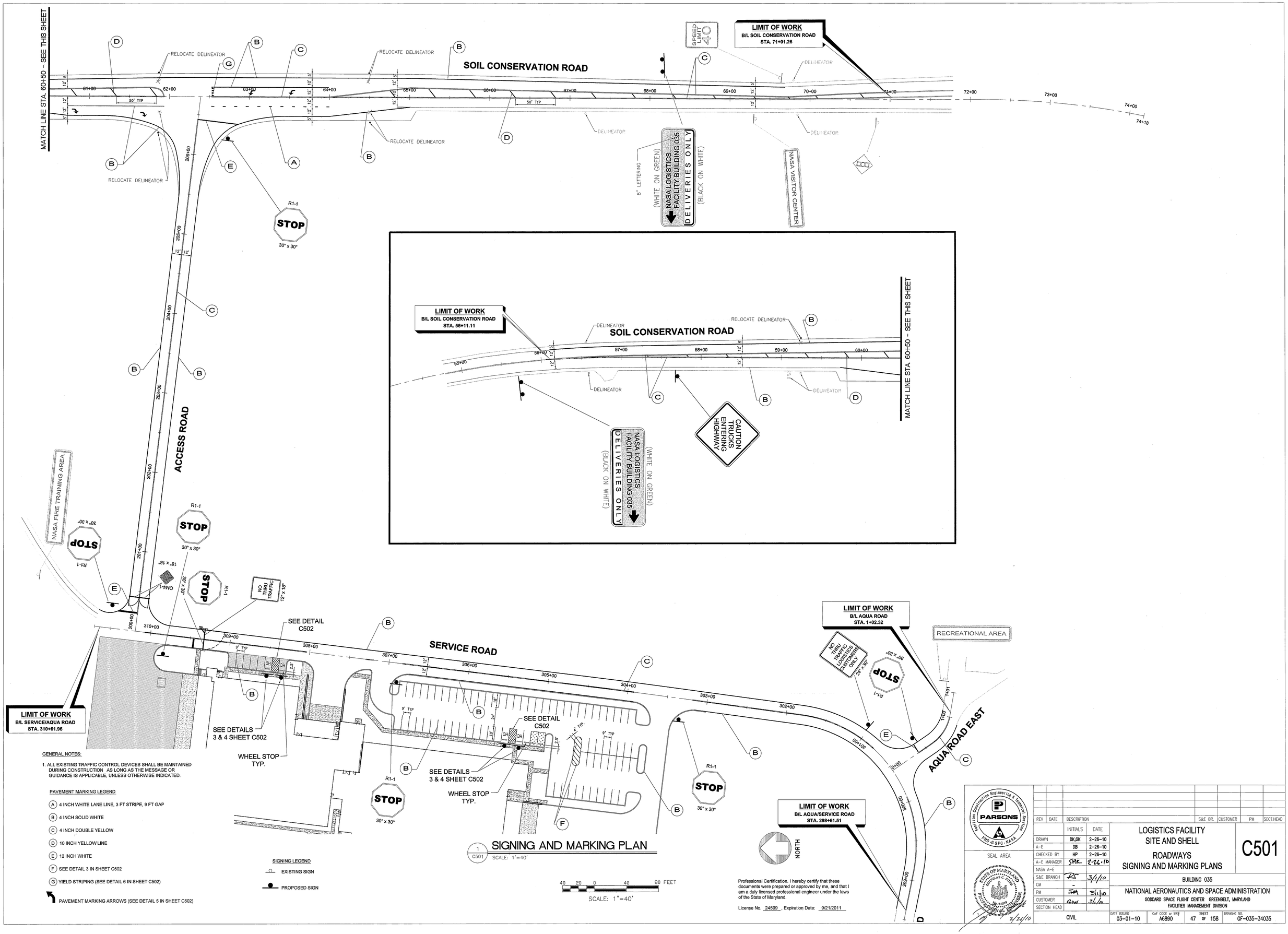


1 C501 SIGNING AND MARKING PLAN
SCALE: 1"=40'

GENERAL NOTES:

1. ALL EXISTING TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED DURING CONSTRUCTION AS LONG AS THE MESSAGE OR GUIDANCE IS APPLICABLE, UNLESS OTHERWISE INDICATED.

PAVEMENT MARKING LEGEND

- (A) 4 INCH WHITE LANE LINE, 3 FT STRIPE, 9 FT GAP
- (B) 4 INCH SOLID WHITE
- (C) 4 INCH DOUBLE YELLOW
- (D) 10 INCH YELLOW LINE
- (E) 12 INCH WHITE
- (F) SEE DETAIL 3 IN SHEET C502
- (G) YIELD STRIPING (SEE DETAIL 6 IN SHEET C502)
- PAVEMENT MARKING ARROWS (SEE DETAIL 5 IN SHEET C502)

SIGNING LEGEND

- EXISTING SIGN
- PROPOSED SIGN

40 20 0 40 80 FEET
SCALE: 1"=40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509, Expiration Date: 9/21/2011

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
DOUGLAS C. BOSIN
No. 24509
PROFESSIONAL ENGINEER
2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
ROADWAYS
SIGNING AND MARKING PLANS

C501

BUILDING 035

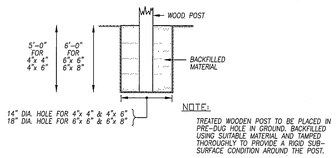
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	47 OF 158	GF-035-34035

WOOD SIGN SUPPORTS POST SIZES AND SPACING

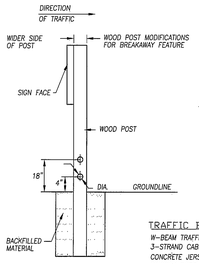
MD 812.01



NOTE:

TREATED WOODEN POST TO BE PLACED IN PRE-DUG HOLE IN GROUND, BACKFILLED USING SUITABLE MATERIAL AND TAMPED THOROUGHLY TO PROVIDE A RIGID SUB-SURFACE CONDITION AROUND THE POST.

TYPICAL FOUNDATION FOR WOOD SUPPORTS



POST SIZE	HOLE DIA. (IN)
4"x 4"	--
4"x 6"	1 1/2
6"x 6"	2
6"x 8"	3

NOTES:

1. ALL WOOD POSTS LARGER THAN 4"x 4" SHALL BE DRILLED WITH TWO HOLES CENTERED 4" AND 18" ABOVE THE GROUNDLINE AND PERPENDICULAR TO THE ROADWAY.
2. WOOD POSTS SHOULD NOT BE MODIFIED BY DRILLING HOLES WHEN THE POSTS ARE PROTECTED BY PHYSICAL TRAFFIC BARRIERS WITH THE PROPER MINIMUM DEFLECTION DISTANCE PROVIDED.

TRAFFIC BARRIER	OFFSET TO SIGN EDGE
W-BEAM TRAFFIC BARRIER	6' FROM RAIL FACE
3-STRAND CABLE	11'- 6"
CONCRETE JERSEY BARRIER	2' FROM FACE
BARRIER CURB	2' MIN. 6' MIN. PREFERABLE

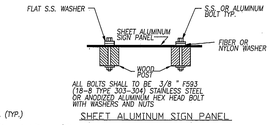
WOOD POST MODIFCATIONS FOR BREAKAWAY FEATURE

1 / C502 **DETAIL**

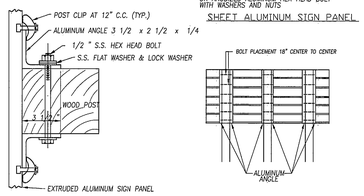
SCALE: NTS

WOOD SIGN SUPPORTS SIGN MOUNTING

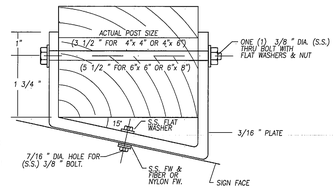
MD 812.02



SHEET ALUMINUM SIGN PANEL



EXTRUDED ALUMINUM SIGN PANEL



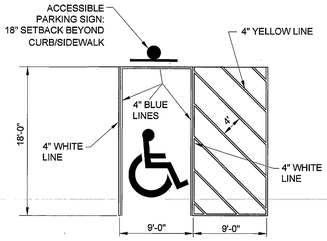
NOTES:

1. INSTALL SIGN ON CLAMPS FIRST AND THEN INSTALL ENTIRE ASSEMBLY ON WOOD POST.
2. TWO CLAMPS PER WOOD SUPPORT LOCATED 3" FROM TOP & BOTTOM OF SIGN.

CLAMP FOR SIGN MOUNTED AT 15 DEGREE ANGLE

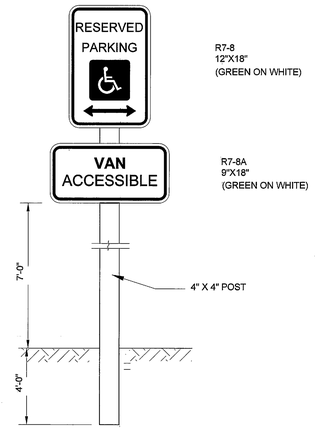
2 / C502 **DETAIL**

SCALE: NTS



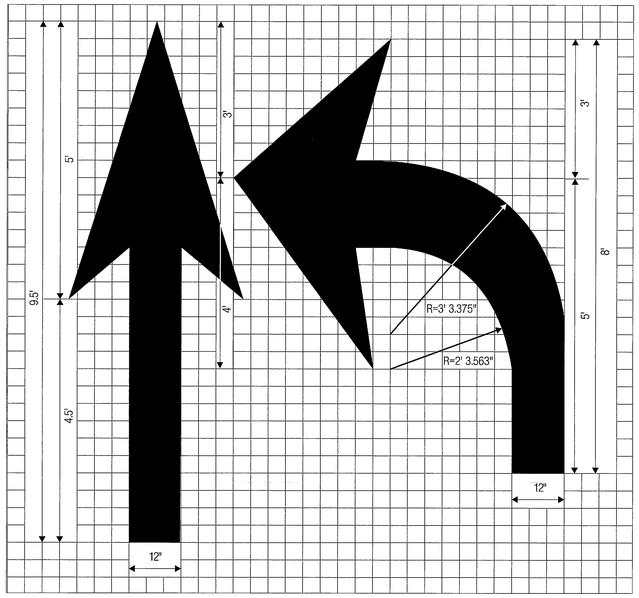
3 / C502 **ACCESSIBLE TYPICAL PARKING STALL**

SCALE: NTS



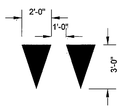
4 / C502 **ACCESSIBLE TYPICAL PARKING SIGN**

SCALE: NTS



5 / C502 **DETAIL-PAVEMENT MARKING-TURN ARROW**

SCALE: NTS



6 / C502 **DETAIL-YIELD STRIPING (MD MUTCD SECTION 3B.16)**

SCALE: NTS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

SEAL AREA

STATE OF MARYLAND DOUGLAS C. BAKER No. 24509 PROFESSIONAL ENGINEER

2/26/10

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	TJM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
ROADWAYS
SIGNING AND MARKING DETAILS

C502

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

CIVIL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	48 OF 158	GF-035-34036

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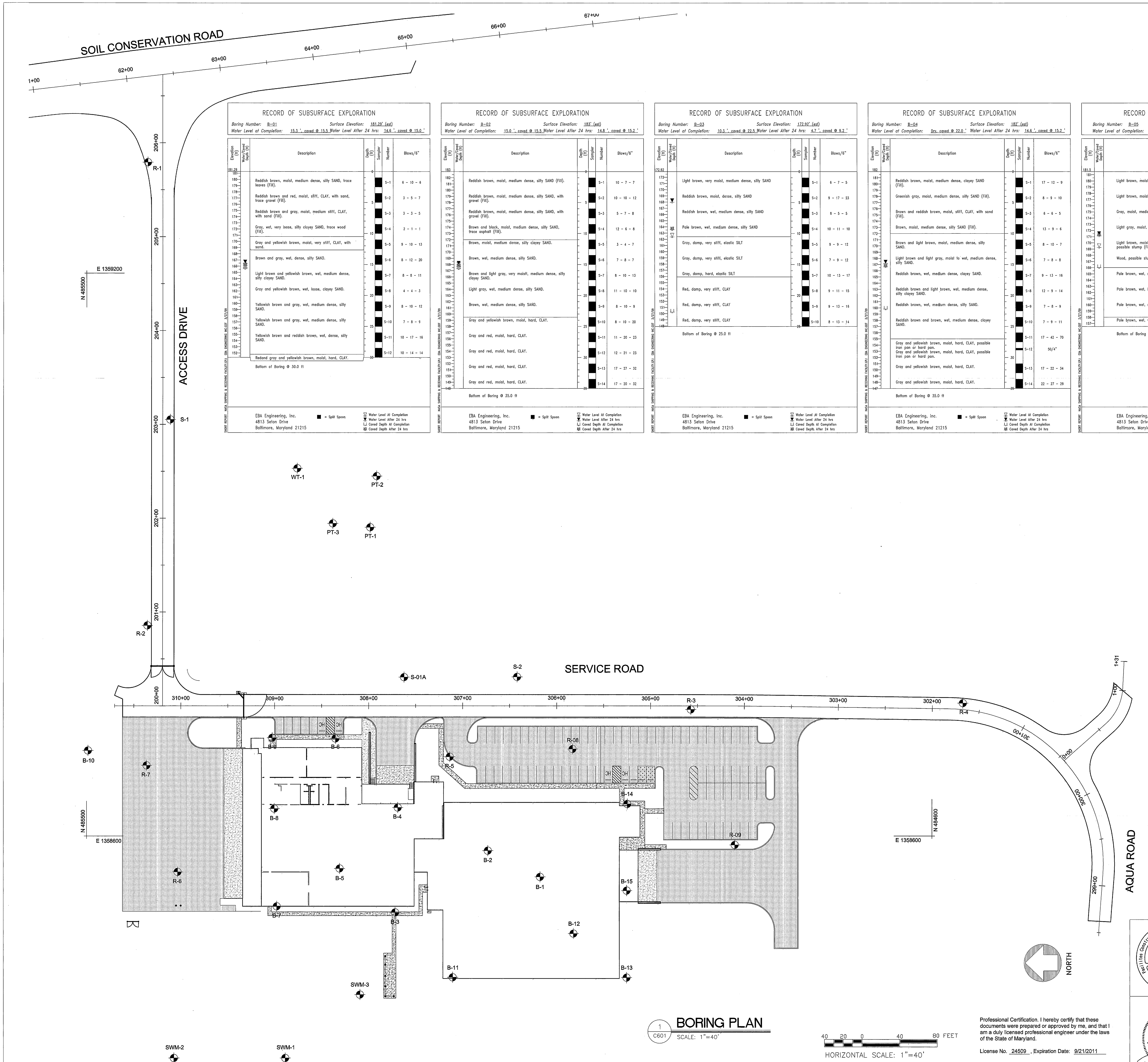

1 / C601 **BORING PLAN**
SCALE: 1"=40'

40 20 0 40 80 FEET
HORIZONTAL SCALE: 1"=40'

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-01 *Surface Elevation:* 181.29' (est)
Water Level at Completion: 15.3 ', caved @ 15.5 *Water Level After 24 hrs:* 14.6 ', caved @ 15.0 '

Description	Number	Blows/6"
Reddish brown, moist, medium dense, silty SAND, trace leaves (Fill).	S-1	6 - 10 - 6
Reddish brown and red, moist, stiff, CLAY, with sand, trace gravel (Fill).	S-2	3 - 5 - 7
Reddish brown and gray, moist, medium stiff, CLAY, with sand (Fill).	S-3	3 - 3 - 5
Gray, wet, very loose, silty clayey SAND, trace wood (Fill).	S-4	2 - 1 - 1
Gray and yellowish brown, moist, very stiff, CLAY, with sand.	S-5	9 - 10 - 13
Brown and gray, wet, dense, silty SAND.	S-6	8 - 12 - 20
Light brown and yellowish brown, wet, medium dense, silty clayey SAND.	S-7	8 - 8 - 11
Gray and yellowish brown, wet, loose, clayey SAND.	S-8	4 - 4 - 3
Yellowish brown and gray, wet, medium dense, silty SAND.	S-9	8 - 10 - 12
Yellowish brown and gray, wet, medium dense, silty SAND.	S-10	7 - 8 - 9
Yellowish brown and reddish brown, wet, dense, silty SAND.	S-11	10 - 17 - 16
Redand gray and yellowish brown, moist, hard, CLAY.	S-12	10 - 14 - 14

Bottom of Boring @ 30.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-02 *Surface Elevation:* 183' (est)
Water Level at Completion: 15.0 ', caved @ 15.5 *Water Level After 24 hrs:* 14.8 ', caved @ 15.2 '

Description	Number	Blows/6"
Reddish brown, moist, medium dense, silty SAND (Fill).	S-1	10 - 7 - 7
Reddish brown, moist, medium dense, silty SAND, with gravel (Fill).	S-2	10 - 10 - 12
Reddish brown, moist, medium dense, silty SAND, with gravel (Fill).	S-3	5 - 7 - 8
Brown and black, moist, medium dense, silty SAND, trace asphalt (Fill).	S-4	12 - 6 - 8
Brown, moist, medium dense, silty clayey SAND.	S-5	3 - 4 - 7
Brown, wet, medium dense, silty SAND.	S-6	7 - 8 - 7
Brown and light gray, very moistt, medium dense, silty clayey SAND.	S-7	8 - 10 - 13
Light gray, wet, medium dense, silty SAND.	S-8	11 - 10 - 10
Brown, wet, medium dense, silty SAND.	S-9	8 - 10 - 9
Gray and yellowish brown, moist, hard, CLAY.	S-10	8 - 10 - 20
Gray and red, moist, hard, CLAY.	S-11	11 - 20 - 23
Gray and red, moist, hard, CLAY.	S-12	12 - 21 - 23
Gray and red, moist, hard, CLAY.	S-13	17 - 27 - 32
Gray and red, moist, hard, CLAY.	S-14	17 - 20 - 32

Bottom of Boring @ 35.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-03 *Surface Elevation:* 172.92' (est)
Water Level at Completion: 10.3 ', caved @ 22.5 *Water Level After 24 hrs:* 4.7 ', caved @ 9.2 '

Description	Number	Blows/6"
Light brown, very moist, medium dense, silty SAND	S-1	6 - 7 - 5
Reddish brown, moist, dense, silty SAND	S-2	9 - 17 - 23
Reddish brown, wet, medium dense, silty SAND	S-3	8 - 5 - 5
Pale brown, wet, medium dense, silty SAND	S-4	10 - 11 - 10
Gray, damp, very stiff, elastic SILT	S-5	9 - 9 - 12
Gray, damp, very stiff, elastic SILT	S-6	7 - 9 - 12
Gray, damp, hard, elastic SILT	S-7	10 - 13 - 17
Red, damp, very stiff, CLAY	S-8	9 - 11 - 15
Red, damp, very stiff, CLAY	S-9	9 - 13 - 16
Red, damp, very stiff, CLAY	S-10	8 - 13 - 14

Bottom of Boring @ 25.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-04 *Surface Elevation:* 182' (est)
Water Level at Completion: Dry, caved @ 22.0 ' *Water Level After 24 hrs:* 14.6 ', caved @ 15.2 '

Description	Number	Blows/6"
Reddish brown, moist, medium dense, clayey SAND (Fill).	S-1	17 - 12 - 9
Greenish gray, moist, medium dense, silty SAND (Fill).	S-2	8 - 9 - 10
Brown and reddish brown, moist, stiff, CLAY, with sand (Fill).	S-3	6 - 6 - 5
Brown, moist, medium dense, silty SAND (Fill).	S-4	13 - 9 - 6
Brown and light brown, moist, medium dense, silty SAND.	S-5	8 - 10 - 7
Light brown and light gray, moist to wet, medium dense, silty SAND.	S-6	7 - 8 - 8
Reddish brown, wet, medium dense, clayey SAND.	S-7	9 - 13 - 16
Reddish brown and light brown, wet, medium dense, silty clayey SAND.	S-8	12 - 9 - 14
Reddish brown, wet, medium dense, silty SAND.	S-9	7 - 8 - 9
Reddish brown and brown, wet, medium dense, clayey SAND.	S-10	7 - 9 - 11
Gray and yellowish brown, moist, hard, CLAY, possible iron pan or hard pan.	S-11	17 - 42 - 70
Gray and yellowish brown, moist, hard, CLAY, possible iron pan or hard pan.	S-12	50/4"
Gray and yellowish brown, moist, hard, CLAY.	S-13	17 - 22 - 34
Gray and yellowish brown, moist, hard, CLAY.	S-14	22 - 27 - 29

Bottom of Boring @ 35.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-05 *Surface Elevation:* 181.5' (est)
Water Level at Completion: 12.0 ', caved @ 15.3 *Water Level After 24 hrs:* 10.0 ', caved @ 10.2 '

Description	Number	Blows/6"
Light brown, moist, medium dense, silty SAND (Fill)	S-1	12 - 15 - 18
Light brown, moist, loose, silty SAND (Fill)	S-2	5 - 4 - 4
Gray, moist, medium dense, silty SAND (Fill)	S-3	5 - 6 - 6
Light gray, moist, loose, silty SAND (Fill)	S-4	3 - 3 - 2
Light brown, moist, loose, silty SAND, with wood, possible stump (Fill)	S-5	12 - 5 - 4
Wood, possible stump (Fill)	S-6	10 - 9 - 9
Pale brown, wet, medium dense, silty SAND	S-7	11 - 11 - 11
Pale brown, wet, loose, silty SAND	S-8	4 - 3 - 2
Pale brown, wet, medium dense, silty SAND	S-9	7 - 5 - 5
Pale brown, wet, very stiff, CLAY	S-10	9 - 10 - 9

Bottom of Boring @ 25.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-06 *Surface Elevation:* 181.66' (est)
Water Level at Completion: Dry, caved @ 11.8 ' *Water Level After 24 hrs:* Dry, caved @ 11.8 '

Description	Number	Blows/6"
Reddish brown, moist, medium dense, clayey SAND, trace gravel (Fill).	S-1	3 - 13 - 17
Reddish brown, moist, medium dense, clayey SAND, trace gravel (Fill).	S-2	8 - 13 - 17
Light brown, moist, medium dense, silty SAND.	S-3	8 - 11 - 9
Light brown, moist, medium dense, silty SAND.	S-4	9 - 10 - 9
Light brown, wet, medium dense, silty SAND.	S-5	10 - 9 - 20
Light brown, wet, dense, silty SAND.	S-6	10 - 13 - 27
Light brown, wet, medium dense, silty SAND.	S-7	6 - 12 - 17
Light brown, wet, medium dense, silty clayey SAND.	S-8	6 - 9 - 9

Bottom of Boring @ 20.0 ft

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■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-07 *Surface Elevation:* 173.5' (est)
Water Level at Completion: 5.4 ', caved @ 5.5 ' *Water Level After 24 hrs:* N/A

Description	Number	Blows/6"
Brown and gray, moist, loose, silty SAND	S-1	3 - 3 - 5
Brown and gray, moist, medium dense, silty SAND	S-2	9 - 8 - 7
Light brown, wet, medium dense, poorly graded SAND	S-3	7 - 8 - 8
Light reddish brown, wet, medium dense, silty SAND	S-4	10 - 9 - 10
Red and gray, damp, stiff, CLAY, little sand	S-5	4 - 4 - 10
Red and gray, damp, very stiff, CLAY, little sand	S-6	10 - 11 - 10
Gray, damp, hard, CLAY	S-7	17 - 18 - 16
Gray, damp, hard, CLAY	S-8	18 - 17 - 19

Bottom of Boring @ 20.0 ft

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■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
Caved Depth At Completion
Caved Depth After 24 hrs

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

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2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JM	3/1/10
CUSTOMER	RW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL
SITE
BORING PLAN AND LOGS

C601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	49 OF 158	GF-035-34037

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-08 — Surface Elevation: 185.5' (est)
Water Level at Completion: Dry, caved @ 17.0 ' — Water Level After 24 hrs: Dry, caved @ 17.0 '

Description	Depth (ft)	Number	Blows/6"
Brown, moist, medium dense, silty clayey SAND (Fill).		S-1	7 - 5 - 6
Brown and reddish brown, moist, stiff, CLAY, with sand (Fill).	5	S-2	4 - 4 - 6
Reddish brown and brown, moist, medium stiff, CLAY, trace sand and wood (Fill).		S-3	3 - 3 - 5
Brown, moist, medium dense, silty SAND (Fill).		S-4	10 - 10 - 8
Reddish brown, medium dense, silty SAND.	10	S-5	10 - 8 - 6
Light brown, moist, medium dense, silty SAND.		S-6	7 - 6 - 6
Light brown, wet, medium dense, silty SAND.	15	S-7	5 - 5 - 6
Light brown, wet, medium dense, silty SAND.		S-8	6 - 7 - 8
Reddish brown, wet, loose, silty SAND.	20	S-9	4 - 4 - 5
Reddish brown and light brown, wet, very loose, silty SAND.	25	S-10	3 - 1 - 1

Bottom of Boring @ 25.0 ft

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■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-09 — Surface Elevation: 186.19' (est)
Water Level at Completion: Dry, caved @ 19.5 ' — Water Level After 24 hrs: Dry, caved @ 16.8 '

Description	Depth (ft)	Number	Blows/6"
Brown, moist, medium dense, silty SAND (Fill).		S-1	7 - 9 - 11
Brown, moist, loose, silty SAND, trace clay and gravel (Fill).	5	S-2	4 - 4 - 6
Gray and brown, moist, sandy silty CLAY, trace wood (Fill).		S-3	6 - 6 - 8
Brown, moist, medium dense, silty SAND.	10	S-4	8 - 11 - 12
Brown and reddish brown, moist, medium dense, clayey SAND.		S-5	11 - 13 - 10
Brown and light brown, moist, medium dense, silty SAND.	15	S-6	8 - 9 - 13
Light brown, wet, medium dense, silty SAND.		S-7	7 - 10 - 14
Light brown, wet, medium dense, silty clayey SAND.	20	S-8	8 - 10 - 13
Light brown, wet, medium dense, silty clayey SAND.		S-9	11 - 13 - 12
Reddish brown, wet, medium dense, silty SAND.	25	S-10	10 - 8 - 7

Bottom of Boring @ 25.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-10 — Surface Elevation: 194.0' (est)
Water Level at Completion: 30.7 ', caved @ 31.2 ' — Water Level After 24 hrs: 15.7 ', caved @ 22.4 '

Description	Depth (ft)	Number	Blows/6"
Reddish brown, stiff, damp, sandy silty CLAY (Fill)		S-1	8 - 6 - 5
Reddish brown, damp, medium stiff, sandy silty CLAY (Fill)	5	S-2	4 - 3 - 3
Reddish brown and gray, moist, medium stiff, CLAY, little sand and organic matter (Fill)		S-3	4 - 3 - 2
Gray, moist, medium stiff, CLAY, trace gravel (Fill)	10	S-4	4 - 2 - 5
Brown, very moist, stiff, CLAY, trace gravel (Fill)		S-5	4 - 5 - 5
Brown, very moist, medium stiff, sandy CLAY, trace organic matter (Fill)	15	S-6	3 - 3 - 3
Brown, red and gray, moist, medium dense, SAND, with clay pods, trace organic matter (Fill)		S-7	3 - 5 - 17
Pale brown, damp, medium dense, poorly graded SAND, trace silt	20	S-8	9 - 12 - 17
Pale brown, moist, dense, silty SAND		S-9	20 - 21 - 23
Pale reddish brown, wet, medium dense, silty SAND	25	S-10	6 - 6 - 8
Pale reddish brown, wet, dense, silty SAND		S-11	17 - 18 - 20
Dark red and gray, damp, hard, CLAY	30	S-12	17 - 23 - 25
Red, moist, hard, sandy CLAY		S-13	20 - 27 - 26
Dark red, purple and gray, damp, hard, CLAY	35	S-14	17 - 28 - 32

Bottom of Boring @ 35.0 ft

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■ Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-11 — Surface Elevation: 170.7'
Water Level at Completion: 7.2 ', caved @ 9.7 ' — Water Level After 24 hrs: 1.5 ', caved @ 5.2 '

Description	Depth (ft)	Number	Blows/6"
Gray and light brown, very moist, medium stiff, CLAY, little sand		S-1	2 - 2 - 3
Gray and light brown, moist, very stiff, sandy SILT	5	S-2	5 - 6 - 10
Light gray, wet, medium dense, silty fine SAND		S-3	4 - 4 - 6
Red and gray, moist, very stiff, CLAY	10	S-4	6 - 7 - 10
Red and gray, moist, very stiff, CLAY		S-5	4 - 6 - 9
Red and gray, damp, very stiff, CLAY	15	S-6	7 - 9 - 11
Red and gray, damp, very stiff, CLAY		S-7	6 - 9 - 13
Red and gray, damp, very stiff, CLAY	20	S-8	9 - 11 - 17
Red and gray, very moist, very stiff, CLAY, little sand		S-9	9 - 13 - 16
Red, moist, hard, CLAY	25	S-10	12 - 16 - 27

Bottom of Boring @ 25.0 ft

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■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-12 — Surface Elevation: 173.2'
Water Level at Completion: 4.2 ', caved @ 6.5 ' — Water Level After 24 hrs: 0.0 ', caved @ 5.0 '

Description	Depth (ft)	Number	Blows/6"
Brown and gray, moist, stiff, sandy SILT		S-1	2 - 4 - 9
Brown and gray, moist, very stiff, sandy SILT	5	S-2	8 - 14 - 13
Reddish brown, wet, medium dense, silty SAND, little gravel		S-3	10 - 12 - 7
Light brown, wet, loose, silty SAND	10	S-4	4 - 4 - 4
Light brown, wet, medium dense, clayey SAND, with seams of gray clay		S-5	5 - 5 - 7
Pale gray, wet, loose, fine SAND, little silt	15	S-6	3 - 3 - 3
Light brown, wet, medium dense, fine SAND, little silt		S-7	5 - 6 - 6
Light brown, wet, loose, fine SAND, little silt	20	S-8	4 - 4 - 5
Light brown, wet, loose, fine SAND, little silt		S-9	5 - 7 - 6
Reddish brown, wet, loose, fine SAND, little silt	25	S-10	4 - 8 - 4
Red and gray, damp, hard, CLAY		S-11	8 - 14 - 18
Red and gray, damp, hard, CLAY	30	S-12	9 - 16 - 19
Red and gray, damp, hard, CLAY		S-13	13 - 23 - 35
Red and gray, damp, hard, CLAY	35	S-14	18 - 23 - 35

Bottom of Boring @ 35.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-13 — Surface Elevation: 175.1'
Water Level at Completion: Dry, caved @ 2.5 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Light reddish brown, moist, loose, silty clayey SAND		S-1	2 - 2 - 2
Reddish brown, moist, medium dense, fine SAND, little silt	5	S-2	7 - 8 - 9
Light brown, wet, loose, fine SAND, trace silt		S-3	5 - 4 - 5
Light reddish brown, wet, medium dense, fine SAND, with clay	10	S-4	7 - 11 - 15
Reddish brown, wet, very dense, fine SAND, little silt		S-5	14 - 30 - 56
Light brown, wet, dense, fine SAND, little silt	15	S-6	28 - 21 - 17
Red and gray, damp, stiff, CLAY		S-7	6 - 3 - 6
Red and gray, moist, very stiff, sandy SILT	20	S-8	8 - 11 - 15
Red and gray, moist, hard, CLAY, with seams wet fine sand		S-9	12 - 17 - 19
Red and gray, damp, stiff, CLAY	25	S-10	11 - 17 - 15

Bottom of Boring @ 25.0 ft

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■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-14 — Surface Elevation: 183.2'
Water Level at Completion: 18.0 ', caved @ 18.3 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Reddish brown, moist, stiff, sandy SILT (Fill)		S-1	4 - 4 - 4
Red, moist, stiff, CLAY, little sand (Fill)	5	S-2	4 - 4 - 5
Gray and dark brown, moist, medium stiff, CLAY, little sand, trace organic matter (Fill)		S-3	2 - 2 - 5
Dark brown, moist, medium stiff, SILT, little sand (Fill)	10	S-4	4 - 3 - 3
Light reddish brown, moist, medium dense, silty SAND		S-5	6 - 7 - 10
Light reddish brown, moist, medium dense, fine SAND, little silt	15	S-6	12 - 10 - 6
Red and gray, very moist, loose, clayey SAND, with gravel		S-7	3 - 2 - 5
Pale brown, very moist, medium dense, silty fine SAND	20	S-8	10 - 9 - 7
Light brown, moist, medium dense, fine SAND, little silt		S-9	5 - 6 - 8
Light brown, wet, medium dense, fine SAND, little silt	25	S-10	6 - 4 - 6
Red and gray, very moist, soft, CLAY		S-11	WOR/12" - 3
Red and gray, damp, very stiff, CLAY	30	S-12	7 - 8 - 10
Gray and light brown, damp, hard, CLAY		S-13	14 - 20 - 22
Yellow brown, moist, very stiff, CLAY, little fine sand	35	S-14	9 - 9 - 8

Bottom of Boring @ 35.0 ft

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■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: B-15 — Surface Elevation: 175.2'
Water Level at Completion: 5.4 ', caved @ 5.7 ' — Water Level After 24 hrs: 5.5 ', caved @ 5.9 '

Description	Depth (ft)	Number	Blows/6"
Brown and gray, moist, stiff, sandy CLAY		S-1	2 - 4 - 8
Brown and pale gray, damp, very stiff, CLAY, little sand	5	S-2	7 - 12 - 15
Light brown, wet, medium to fine SAND, trace silt		S-3	7 - 8 - 9
Light reddish brown, wet, medium dense, medium to fine SAND, little silt	10	S-4	8 - 9 - 6
Pale brown, wet, medium dense, fine SAND, little silt		S-5	7 - 7 - 10
Light reddish brown, wet, medium dense, fine SAND, little silt	15	S-6	7 - 8 - 7
Pale brown, wet, medium dense, fine SAND, little silt		S-7	5 - 6 - 9
Light reddish brown, wet, dense, fine SAND, little silt, few clasts or red clay, trace of ironite	20	S-8	5 - 4 - 8
Light brown, very moist, medium dense, silty SAND		S-9	7 - 8 - 18
Red and gray, damp, hard, CLAY	25	S-10	7 - 4 - 8
Red and gray, damp, hard, CLAY		S-11	13 - 23 - 38
Red and gray, damp, hard, CLAY	30	S-12	17 - 23 - 33

Bottom of Boring @ 30.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: S-01 — Surface Elevation: 173.32' (est)
Water Level at Completion: 6.8 ', caved @ 7.0 ' — Water Level After 24 hrs: Dry, caved @ 7.0 '

Description	Depth (ft)	Number	Blows/6"
Light brown, damp, medium dense, silty SAND		S-1	6 - 8 - 8
Reddish brown, moist, loose, silty SAND	5	S-2	5 - 4 - 5
Light brown, very moist, medium dense, poorly graded SAND, little silt		S-3	4 - 6 - 12
Light brown, very moist, medium dense, silty SAND	10	S-4	7 - 6 - 8

Bottom of Boring @ 10.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: S-02 — Surface Elevation: 179.39' (est)
Water Level at Completion: Dry, caved @ 7.3 ' — Water Level After 24 hrs: Dry, caved @ 7.4 '

Description	Depth (ft)	Number	Blows/6"
Reddish brown, damp, loose, poorly graded SAND, little silt		S-1	3 - 2 - 3
Reddish brown, damp, loose, silty SAND	5	S-2	3 - 3 - 4
Dark reddish brown, moist, medium stiff, sandy SILT		S-3	3 - 3 - 4
Reddish brown, moist, dense, silty SAND, little gravel, trace ironite and cemented sand	10	S-4	15 - 14 - 18

Bottom of Boring @ 10.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-01 — Surface Elevation: 170.28' (est)
Water Level at Completion: Dry, caved @ 3.1 ' — Water Level After 24 hrs: Dry, caved @ 3.5 '

Description	Depth (ft)	Number	Blows/6"
Light brown, damp, loose, silty SAND		S-1	3 - 4 - 3
Light brown, moist, poorly graded SAND, trace silt	5	S-2	3 - 3 - 4

Bottom of Boring @ 5.0 ft

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■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-02 — Surface Elevation: 184' (est)
Water Level at Completion: Dry, caved @ 3.0 ' — Water Level After 24 hrs: Dry, caved @ 3.1 '

Description	Depth (ft)	Number	Blows/6"
Light reddish brown, damp, loose, silty SAND		S-1	3 - 2 - 3
Light brown, moist, loose, poorly graded SAND	5	S-2	3 - 3 - 4

Bottom of Boring @ 5.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-03 — Surface Elevation: 180.04' (est)
Water Level at Completion: Dry, caved @ 2.2 ' — Water Level After 24 hrs: Dry, caved @ 2.5 '

Description	Depth (ft)	Number	Blows/6"
Brown, moist, medium dense, silty clayey SAND, trace gravel & brick pieces (Fill).		S-1	7 - 10 - 10
Reddish brown, moist, stiff, CLAY.	5	S-2	6 - 4 - 6

Bottom of Boring @ 5.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-04 — Surface Elevation: 194.43' (est)
Water Level at Completion: Dry, caved @ 2.2 ' — Water Level After 24 hrs: Backfilled upon completion.

Description	Depth (ft)	Number	Blows/6"
Red and reddish brown, moist, medium dense, silty SAND.		S-1	6 - 11 - 10
Red and reddish brown, moist, medium dense, silty SAND.	5	S-2	12 - 14 - 14

Bottom of Boring @ 5.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-05 — Surface Elevation: 194.98' (est)
Water Level at Completion: Dry, caved @ 15.5 ' — Water Level After 24 hrs: Dry, caved @ 14.1 '

Description	Depth (ft)	Number	Blows/6"
Reddish brown, soft, CLAY, little sand (Fill).		S-1	2 - 1 - 2
Reddish brown and gray, moist, stiff, CLAY, little sand.	5	S-2	3 - 4 - 6
Reddish brown and gray, moist, stiff, CLAY, little sand.		S-3	4 - 6 - 6
Brown, moist, medium dense, silty SAND.	10	S-4	9 - 11 - 13
Brown, moist, medium dense, silty SAND.		S-5	9 - 10 - 10
Brown and gray, moist, medium dense, silty SAND.	15	S-6	7 - 5 - 6
Brown, moist, dense, silty SAND.		S-7	14 - 20 - 14
Brown, moist to wet, loose, silty SAND.	20	S-8	5 - 4 - 4

Bottom of Boring @ 20.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-06 — Surface Elevation: 184.5' (est)
Water Level at Completion: N/A — Water Level After 24 hrs: Dry, caved @ 13.1 '

Description	Depth (ft)	Number	Blows/6"
Light reddish brown, damp, medium dense, silty SAND, little gravel (Fill)		S-1	10 - 12 - 8
Red, damp, very stiff, sandy SILT (Fill)	5	S-2	8 - 9 - 8
Light brown, moist, medium dense, silty SAND (Fill)		S-3	7 - 8 - 9
Pale brown, moist, very stiff, SILT, little sand (Fill)	10	S-4	8 - 8 - 8
Light brown, very moist, medium dense, silty SAND (Fill)		S-5	7 - 9 - 11
Dark brown, very moist, very stiff, CLAY, little organic matter and gravel (Fill)	15	S-6	8 - 12 - 14

Bottom of Boring @ 15.0 ft

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RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-07 — Surface Elevation: 193' (est)
Water Level at Completion: N/A — Water Level After 24 hrs: Dry, caved @ 16.8 '

Description	Depth (ft)	Number	Blows/6"
Dark brown, moist, very stiff, CLAY, little sand, organic matter and gravel (Fill)		S-1	7 - 8 - 11
Dark brown, very moist, medium stiff, CLAY, little sand, trace organic matter (Fill)	5	S-2	3 - 3 - 4
Dark brown, very moist, stiff, CLAY, little sand, trace organic matter (Fill)		S-3	3 - 4 - 5
Dark brown, very moist, stiff, CLAY, little sand, trace organic matter (Fill)	10	S-4	4 - 5 - 5
Dark brown, moist, stiff, CLAY, little sand, trace organic matter (Fill)		S-5	5 - 5 - 5
Brown, very moist, stiff, CLAY, little sand, trace organic matter (Fill)	15	S-6	4 - 4 - 4
Light brown, moist, dense, silty SAND		S-7	8 - 23 - 20
Light brown, very moist, very dense, silty SAND	20	S-8	13 - 27 - 23

Bottom of Boring @ 20.0 ft

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SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 3/27/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-08 — Surface Elevation: 176.0'
Water Level at Completion: Dry, caved @ 2.5 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Reddish brown, moist, stiff, silty SAND		S-1	2 - 3 - 6
Light reddish brown, very moist, medium dense, fine SAND, little silt	5	S-2	5 - 6 - 8

Bottom of Boring @ 5.0 ft

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4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: PT-1 — Surface Elevation: 179.5' (est)
Water Level at Completion: Dry, caved @ 7.0 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Light to pale brown, damp, loose, fine SAND, trace silt	5		

Bottom of Boring @ 7.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: PT-3 — Surface Elevation: 178.5' (est)
Water Level at Completion: Dry, caved @ 7.0 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Light to pale brown, damp, loose, fine SAND, trace silt	5		

Bottom of Boring @ 7.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: SWM-1 — Surface Elevation: 166.3'
Water Level at Completion: 8.5 ', caved @ 10.3 ' — Water Level After 24 hrs: 0.0 ', caved @ 4.0 '

Description	Depth (ft)	Number	Blows/6"
Gray and light brown, very moist, soft, sandy CLAY		S-1	1 - 1 - 2
Gray and light brown, wet, loose, clayey SAND	5	S-2	4 - 4 - 5
Light gray, wet, medium dense, silty fine SAND		S-3	5 - 7 - 10
Red and gray, damp, very stiff, CLAY	10	S-4	9 - 11 - 14
Red and gray, damp, very stiff, CLAY		S-5	6 - 9 - 11
Red and gray, damp, very stiff, CLAY	15	S-6	6 - 7 - 10

Bottom of Boring @ 15.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: SWM-2 — Surface Elevation: 167.2'
Water Level at Completion: Dry, caved @ 7.0 ' — Water Level After 24 hrs: 2.0 ', caved @ 4.3 '

Description	Depth (ft)	Number	Blows/6"
Light brown, moist, loose, silty fine SAND		S-1	2 - 3 - 6
Light reddish brown, very moist, medium dense, silty fine SAND	5	S-2	7 - 10 - 11
Light brown and reddish brown, very moist, medium dense, clayey SAND		S-3	7 - 6 - 7
Light brown, very moist, medium dense, silty fine SAND	10	S-4	7 - 9 - 12
Brown, moist, hard, SILT		S-5	9 - 13 - 17
Red and gray, damp, hard, CLAY	15	S-6	12 - 17 - 23

Bottom of Boring @ 15.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: SWM-3 — Surface Elevation: 168.2'
Water Level at Completion: Dry, caved @ 7.4 ' — Water Level After 24 hrs: 0.9 ', caved @ 2.4 '

Description	Depth (ft)	Number	Blows/6"
Gray and light brown, moist, medium dense, silty SAND		S-1	2 - 3 - 8
Gray and light brown, moist, medium dense, silty SAND	5	S-2	7 - 9 - 10
Gray and light brown, damp, very stiff, CLAY		S-3	5 - 7 - 10
Red and light brown, damp, very stiff, CLAY	10	S-4	5 - 9 - 11
Gray and light brown, damp, hard, CLAY, with seams of silty sand		S-5	7 - 12 - 18
Red, damp, hard, CLAY	15	S-6	9 - 13 - 17

Bottom of Boring @ 15.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: S-01A — Surface Elevation: 182' (est)
Water Level at Completion: Dry, caved @ 5.0 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Reddish brown, moist, sandy SILT			
Reddish brown, moist, poorly graded SAND, little silt	5	S-1	

Bottom of Boring @ 5.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Grab Sample — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: R-09 — Surface Elevation: 175.9'
Water Level at Completion: Dry, caved @ 2.5 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Reddish brown, very moist, very loose, silty clayey SAND		S-1	1 - 1 - 1
Reddish brown, moist, medium dense, fine SAND, little silt	5	S-2	6 - 10 - 7

Bottom of Boring @ 5.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
■ = Split Spoon — Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: PT-2 — Surface Elevation: 179.5' (est)
Water Level at Completion: Dry, caved @ 7.0 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Light to pale brown, damp, loose, fine SAND, trace silt	5		

Bottom of Boring @ 7.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: WT-1 — Surface Elevation: 177' (est)
Water Level at Completion: Dry, caved @ 13.0 ' — Water Level After 24 hrs: Dry, caved @ 13.0 '

Description	Depth (ft)	Number	Blows/6"
Light to pale brown, damp, loose, fine SAND, trace silt	5		
Medium dense consistency at 7.5 feet.	10		

Bottom of Boring @ 13.0 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

RECORD OF SUBSURFACE EXPLORATION

Boring Number: SOH-1 — Surface Elevation: 179' (est)
Water Level at Completion: Dry, caved @ 4.5 ' — Water Level After 24 hrs:

Description	Depth (ft)	Number	Blows/6"
Light to pale brown, damp, loose, fine SAND, trace silt			
Fragments of ironstone at 4.5 feet.			

Bottom of Boring @ 4.5 ft

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Water Level At Completion; Water Level After 24 hrs; Caved Depth At Completion; Caved Depth After 24 hrs

SHORT REPORT NASA SHIPPING & RECEIVING FACILITY.GPJ EBA ENGINEERING INC.GDT 6/10/09

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 24509 , Expiration Date: 9/21/2011

Facilities Construction Engineering & Technical Services — PARSONS — FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — DOUGLAS C. BOBB — No. 24509 — PROFESSIONAL ENGINEER — 2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	DK,GK	2-26-10
A-E	DB	2-26-10
CHECKED BY	HP	2-26-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JWA	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		
CIVIL		

LOGISTICS FACILITY
SITE AND SHELL

SITE
BORING LOGS

C602

BUILDING 035

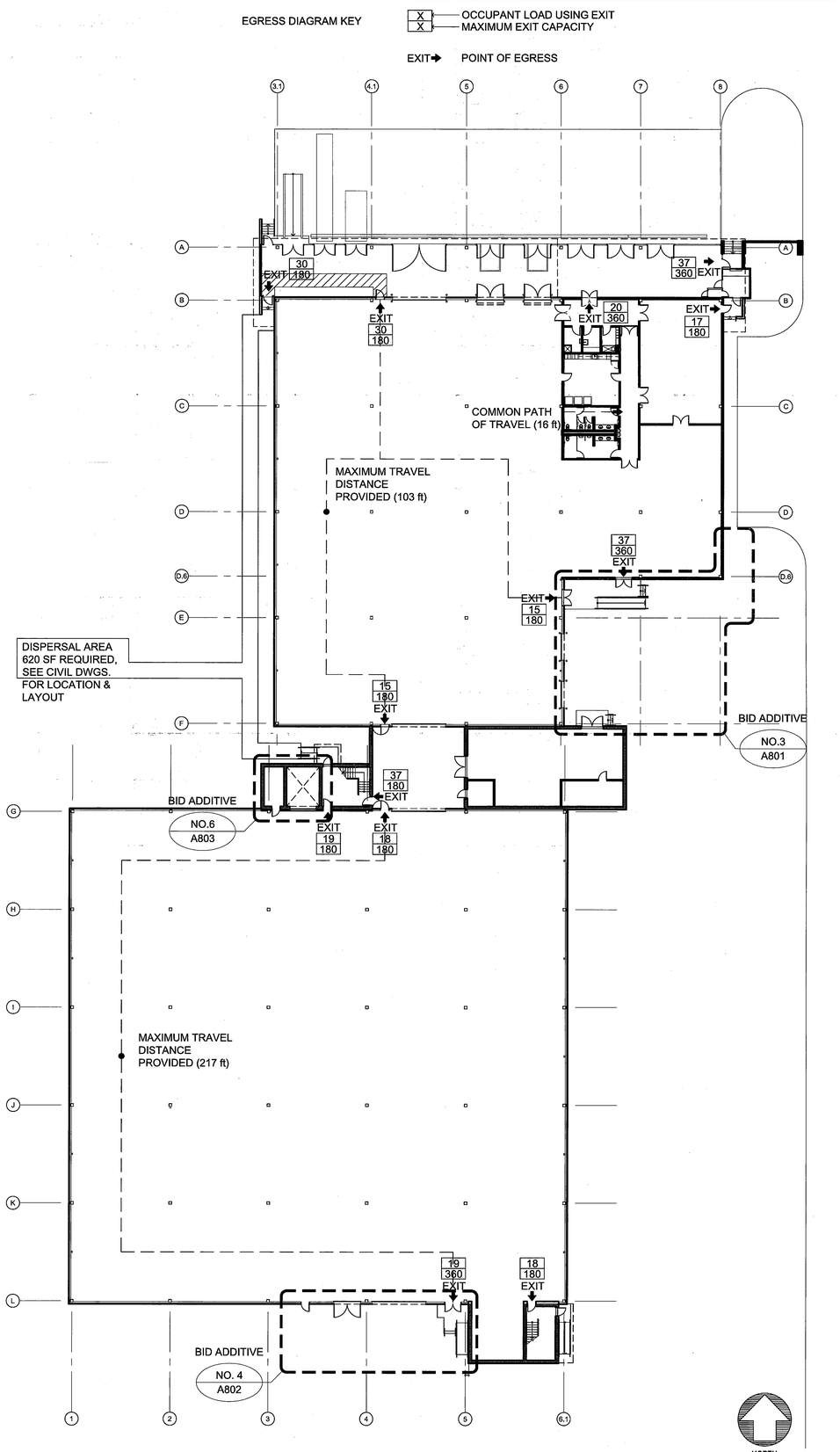
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	50 OF 158	GF-035-34038

X:\2554M26 - NASA Shipping Receiving\Active\Sheets\C601-C602_p_sbp001Nasa.dwg, 2/26/2010 11:07:52 AM, 1:1

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)

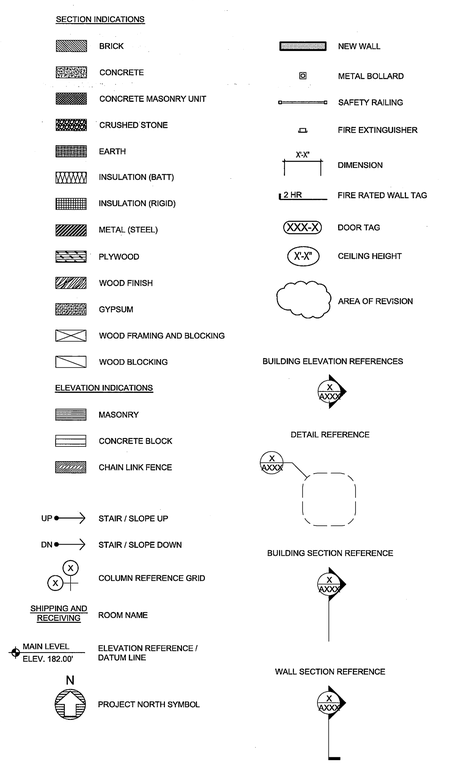
REFERENCE PLAN (BID ADDITIVE NO. 3, 4, AND 6)



ABBREVIATIONS

A	
ACM	ALUMINUM COMPOSITE METAL
ACP	ALUMINUM COMPOSITE PANEL
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
APPROX	APPROXIMATE
&	AND
B	
B/T	BETWEEN
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
C	
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
D	
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIAG	DIAGONAL
DIM	DIMENSION
DTL	DETAIL
DWGS	DRAWINGS
E	
EA	EACH
ELECT	ELECTRICAL
ELEV	ELEVATION
EQUIP	EQUIPMENT
EXIST	EXISTING
EXTR	EXTERIOR
F	
FD	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
FIN	FINISHED
FOUND	FOUNDATION
FS	FLOOR SINK
FT	FOOT
G	
GA	GAUGE
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
H	
H	HIGH
HM	HOLLOW METAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
I	
INFO	INFORMATION
INSUL	INSULATION
INTR	INTERIOR
J	
JAN	JANITOR
JT	JOINT
L	
L	LONG
LACT	LACTATION
M	
MACH	MACHINE
MAX	MAXIMUM
MECH	MECHANICAL
MIL	MILLIMETER
MIN	MINIMUM
MTL	METAL
N	
NO	NUMBER
O	
OC	ON CENTER
OCH	ON CENTER, HORIZONTAL
OCV	ON CENTER, VERTICAL
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPT	OPTIONAL
P	
PERF	PERFORATED
PLYWD	PLYWOOD
PR	PAIR
PREFAB	PREFABRICATED
PT	PRESSURE TREATED
PTD	PAINTED
R	
R	RISERS
RD	ROOF DRAIN
REINF	REINFORCED (ING)
RM	ROOM
S	
S	SPANDREL
SIM	SIMILAR
STL	STEEL
STRUCT	STRUCTURE / STRUCTURAL
T	
TH	THICK
TO	TOP OF
TPO	THERMOPLASTIC OLEFIN
T.R.	TOILET ROOM
TR	TREADS
TYP	TYPICAL
U	
UTIL	UTILITY
V	
V	VISION
W	
W/	WITH
WD	WOOD
WP	WATERPROOF

SYMBOLS



CODE ANALYSIS

International Building Code 2009
Life Safety Code NFPA 101 2009
GSA ABA Accessibility Standard for Federal Facilities

1. Project Description

The Project is the construction of a Shipping/Receiving/Distribution and Warehouse facility to be located on the eastern portion of NASA's Goddard Space Flight Center- Greenbelt site. The northern portion, the Shipping and Receiving area, is one story. The warehouse is two stories with the potential for a future mezzanine on the second level. A sprinkler system will be provided throughout.

2. Area Summary

	First Floor	Second Floor
Shipping and Receiving High-Bay (includes Link)	17,639	
Shipping and Receiving Low-Bay	7,279	
Warehouse First Floor	36,969	
Warehouse Second Floor		35,500
Warehouse Second Floor Mezzanine (future)		11,800
Sub-totals	61,887 gsf (footprint)	47,300 gsf

Total Area = 109,187 gsf

3. Use Group and Occupancy Classification

Mixed Use (IBC 508) with non-separated occupancies with more restrictive applicable provisions (S-1). No fire separation or rating required between occupancies.
Use Group: Moderate Hazard Storage Group S-1 (IBC 311) and Business Group B (IBC 304), New Business (LSC), and Ordinary Hazard Storage (NFPA 101 6.2).

4. Construction Type- IIB

IBC Section 602.2: Type IIB construction is that type of construction in which the structural elements, exterior walls, and interior walls are of non-combustible materials, except as permitted in Section 603. No fire-resistive ratings are required for building elements (IBC Table 601), except for 2-story elevator and stair shafts.

5. Fire Resistance Requirement II-B (Table 601)

Structural Frame		0 Hr.
Bearing Walls	Exterior	0 Hr.
	Interior	0 Hr.
Floor Construction (supporting beams, joists)		0 Hr.
Roof Construction (supporting beams, joists)		0 Hr.

6. Building Area and Height Limitation

S-1 Storage Use, Type II-B: Protected (Table 503)
Allowable Building Area/Floor: Unlimited
IBC Section 507.4: Unlimited Building Area - The area of a two-story building is not limited when the building has an approved sprinkler system and the building is surrounded by an open public way or yard 60' in width.

7. Occupant Load calculated for egress

(IBC Table 1004.1.1)

Shipping and Receiving High-Bay	17,639 gsf @ 300 gsf/occupant	=	59
Shipping and Receiving Low-Bay (Business)	7,171 gsf @ 100 gsf/occupant	=	78
Warehouse First Floor (Storage)	36,969 gsf @ 500 gsf/occupant	=	74
Warehouse Second Floor (Storage)	35,500 gsf @ 500 gsf/occupant	=	71
Warehouse Mezzanine (Business)	11,800 gsf @ 100 gsf/occupant	=	118
Total			**400**

(NFPA 101 42.1.7)
No occupant load is specified for storage. Occupant load is determined by establishing the maximum number of persons expected to occupy the storage occupancy under any anticipated facility operation.

8. Egress Capacity Calculation

(IBC Table 1005.1 and NFPA 7.3.3.1)
0.3 inches per person for Stairways
0.2 inches per person for Level Openings and Ramps
Warehouse Mezzanine and Second Floor Stairway (189 Occupants)
Stairway Clear Dimension: 35.4" Required each stair 96" Provided

Shipping and Receiving High-Bay	59 occupants x 0.20" =	11.80"	108" Provided
Shipping and Receiving Low-Bay	78 occupants x 0.20" =	15.60"	108" Provided
Warehouse First Floor	74 occupants x 0.20" =	14.80"	108" Provided
Warehouse Second Floor	71 occupants x 0.20" =	14.20"	72" Provided
Warehouse Mezzanine (Future)	118 occupants x 0.20" =	23.60"	72" Provided

9. Travel Distances- Exit Access, Common Path of Travel, and Dead Ends

(IBC Table 1016.1)

With Sprinkler System	Max. Allowable	Provided Maximum
Travel Distance to Exit Occ. B	300'	65' (Low-Bay)
Travel Distance to Exit Occ. S-1	250'	225' (Warehouse - 2nd Floor)
Dead End Corridors	20'	None
Common Path of Travel (1010.3)	100'	16'

10. Number of Exits

(IBC Table 1021.1)
For occupant loads of 1-500 - minimum of two exits provided per story.

	Exits Required	Exits Provided
Shipping and Receiving High-Bay	2	3
Shipping and Receiving Low-Bay	2	3
Warehouse First Floor	2	4
Warehouse Second Floor	2	2
Warehouse Mezzanine (Future)	2	2

11. Exit Discharge and Dispersal Area

(IBC 1027.6)
Exits shall discharge directly to the exterior of the building providing direct access to grade.
(IBC 1027.1.1)
Exception: A maximum of 50% of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met: 1) a clear and unobstructed path clearly visible; 2) any areas below are separated from the egress path with the appropriate rating; and 3) the egress path is fully protected by a sprinkler system.

(IBC 1027.6)
Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met: an area sized for 5 sf per person, located on the same lot at least 50' from the building, maintained and identified as a safe dispersal area, with a safe and unobstructed path from the building.

THE PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL BE IN CONFORMANCE WITH THE 2009 IBC, NFPA 101, AND ALL OTHER APPLICABLE CODES FOR PERFORMANCE, STRUCTURAL LOADING, AND LIFE SAFETY.

CODE ANALYSIS (CONT.)

A dispersal area is provided 50' from the western side of the building sized for 5 sf per person (104 x 5' = 620sf required, 900sf provided) to serve the exits that do not have direct access to a public way.

The northeast exit door from the northern Shipping and Receiving area opens onto the Loading Dock where there shall be a clear and unobstructed path to the exit dispersal area.

12. Accessible Means of Egress - Accessible Route

(IBC 1007 & 1104)
Accessible routes shall be provided to each portion of the buildings, to accessible building entrances connecting accessible pedestrian walkways and the public way. Common use circulation paths within employee work areas shall be accessible routes. Where more than one means of egress are required each accessible space shall be served by two accessible means of egress, continuous to a public way. The elevator, complying with Section 2.27 of ASME A17.1, is part of the accessible route. The exit stairways, 48" clear dimension (not between handrails) are considered part of the accessible route. Areas of refuge are not required in buildings with an automatic sprinkler system. Provided are complying ramps, access doors, elevators and stairways.

An accessible route exists from the handicap parking spaces and drop off via a handicap ramp to the primary entrance of the facility. The accessible route continues through the interior to an accessible exit on the south.

13. Minimum Plumbing Facilities

(IBC 2902.1)
The following calculation is based on the anticipated occupancy of both the Shipping and Receiving Facility and the Warehouse. The bathrooms will serve the needs of the occupants of the combined facility. Business requirements apply to the Low-Bay of Shipping and Receiving. The Storage requirement is applied to the High-Bay and to the Warehouse.

Water Closets-	Business Requirement = 1/25 for first 50 and 1/50 for balance exceeding 50. Storage = 1 per 100
Lavatories-	Business Requirement = 1/40 for first 80 and 1/80 for balance exceeding 80. Storage = 1 per 100
Showers-	None required by Plumbing Code.
Drinking Fountain-	Business Requirement = 1/100 Storage = 1/1000

Based on future combined (Shipping and Receiving Facility and Warehouse) occupant load = 80 (provided by NASA)

Total Minimum Requirement:
Water Closets = 3
Lavatories = 2
Drinking Fountain = 1

Provided:
Shipping and Receiving
Men- 1 Water Closet, 2 Urinals, 2 Lavatories
Women- 3 Water Closets, 2 Lavatories
1 Drinking Fountain

Warehouse (First Floor)
Men- 1 Water Closet, 1 Urinal, 2 Lavatories
Women- 2 Water Closets, 2 Lavatories
1 Drinking Fountain

Warehouse (Second Floor)
Men- 1 Water Closet, 1 Urinal, 2 Lavatories
Women- 2 Water Closets, 2 Lavatories
1 Drinking Fountain

Total Provided = 10 Water Closets, 4 Urinals, 12 Lavatories, 3 Drinking Fountains

DRAWING LIST

A001 ARCHITECTURAL NOTES, LEGENDS, AND CODE ANALYSIS
A101 SHIPPING AND RECEIVING - FLOOR PLAN
A102 WAREHOUSE - 1ST FLOOR PLAN
A103 WAREHOUSE - 2ND FLOOR PLAN
A104 SHIPPING AND RECEIVING - ROOF PLAN
A105 WAREHOUSE - ROOF PLAN
A201 ELEVATIONS - OVERALL E & W AND SHIPPING AND RECEIVING N & S
A202 ELEVATIONS - WAREHOUSE N & S
A301 BUILDING SECTIONS - NORTH VIEW
A302 BUILDING SECTIONS - EAST VIEW
A401 ENLARGED ELEVATIONS AND ENLARGED LOADING DOCK PLAN
A402 WET AREAS - ENLARGED PLANS AND INTERIOR ELEVATIONS
A403 SECURITY MODULE - ENLARGED PLAN AND ELEVATIONS
A404 SHIPPING AND RECEIVING STAIRS - ENLARGED PLANS & SECTIONS
A405 WAREHOUSE STAIRS - ENLARGED PLANS & SECTION
A501 SHIPPING AND RECEIVING - WALL SECTIONS 1
A502 SHIPPING AND RECEIVING - WALL SECTIONS 2
A503 SHIP. & RECEIVE. AND WAREHOUSE - WALL SECTIONS & ROOF HATCH
A504 ARCHITECTURAL DETAILS - WALLS, BOLLARD, & FLOOR RAIL
A505 ARCHITECTURAL DETAILS - STAIRS AND RAMPS 1
A506 ARCHITECTURAL DETAILS - STAIRS AND RAMPS 2
A507 ARCHITECTURAL DETAILS - CASEWORK & MISC. INTERIOR
A601 SCHEDULES - DOOR, HARDWARE, FINISHES, AND COLOR
A602 SCHEDULES / DETAILS - PARTITIONS, DOORS, HEAD, & JAMBS
A701 SHIPPING AND RECEIVING - REFLECTED CEILING PLAN
A702 WAREHOUSE - REFLECTED CEILING PLAN - 1ST FLOOR
A703 WAREHOUSE - REFLECTED CEILING PLAN - 2ND FLOOR & MEZZ. STAIRS
A801 PLANS, SECTIONS, AND DETAILS - BID ADDITIVE 3
A802 PLANS, SECTIONS, AND DETAILS - BID ADDITIVE 4
A803 PLANS, SECTIONS, AND DETAILS - BID ADDITIVE 6

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	GMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JBM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ARCHITECTURAL NOTES, LEGENDS, AND CODE ANALYSIS

A001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	51 OF 158	GF-035-34039

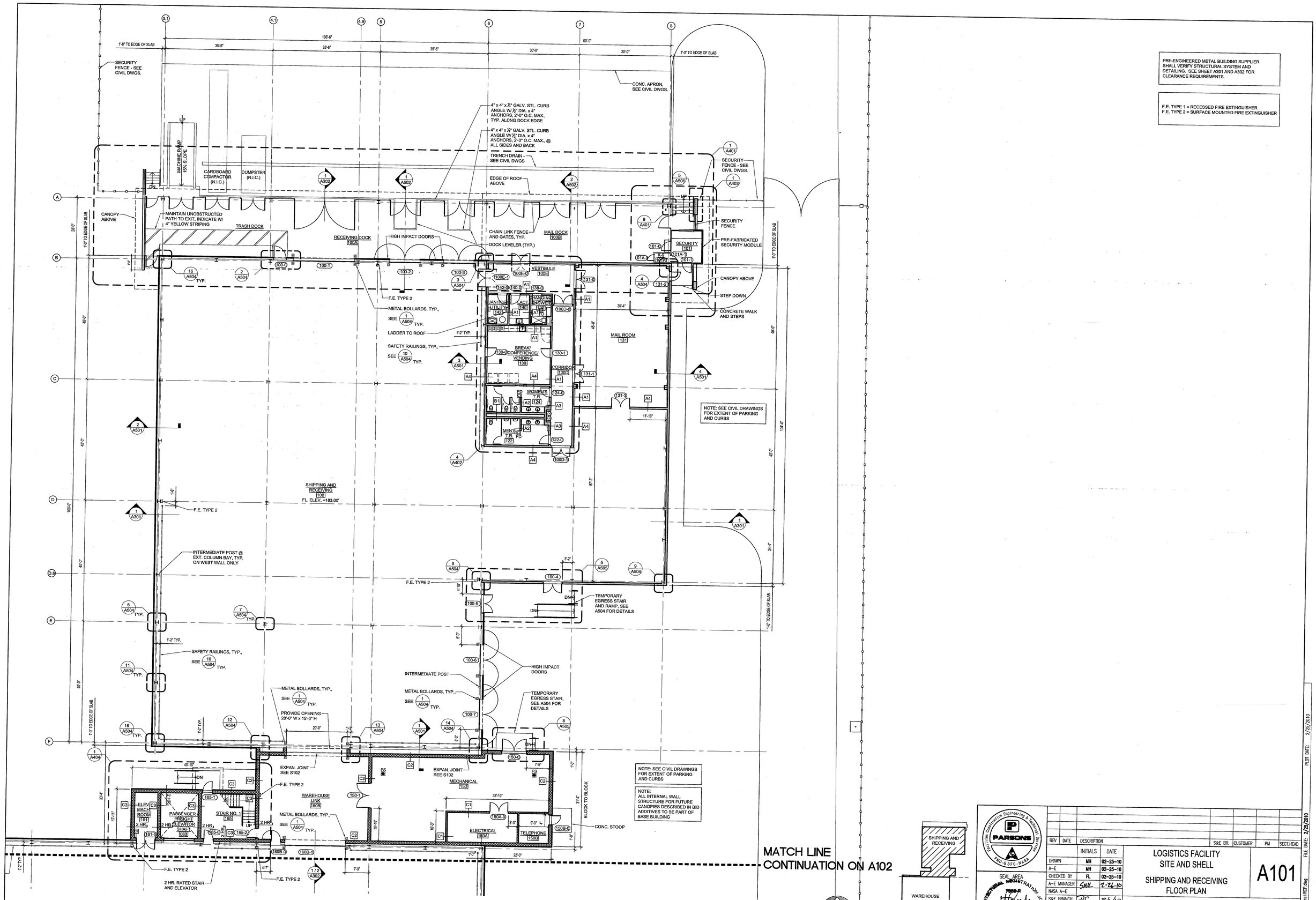
SEAL AREA
ARCHITECTURAL REGISTRATION BOARD 7859-R FRANKLIN L. LUCAS, JR. STATE OF MARYLAND

PARSONS
Facilities Construction Engineering & Technical Services
GSFC-NASA

FILE NAME: Cover.dwg PLOT DATE: 2/25/2010 FILE DATE: 2/25/2010

FORM F 03-07-05

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHL	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JDA	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
FLOOR PLAN

A101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

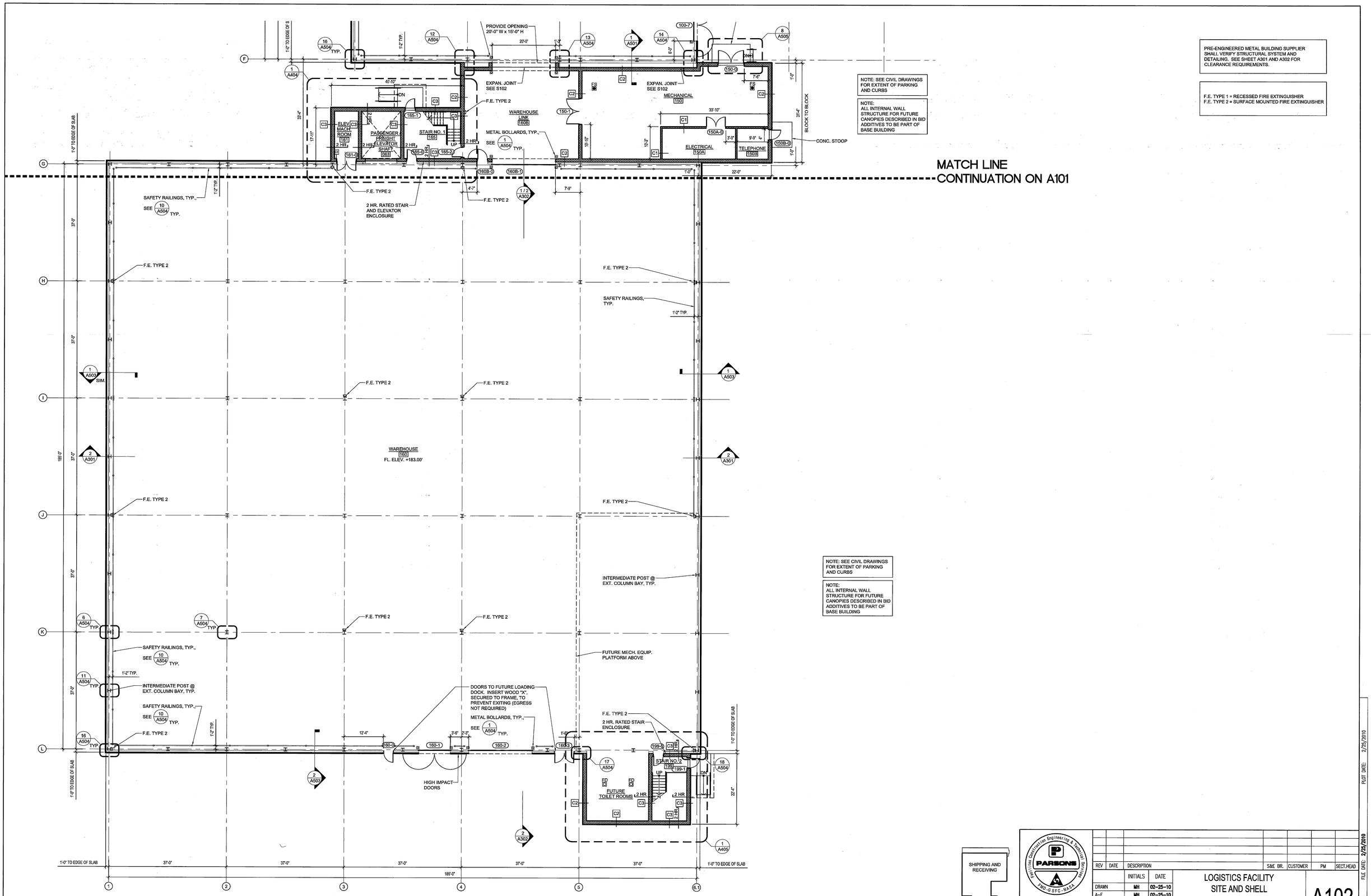
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	52 OF 158	GF-035-34040

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
ARCHITECTURAL REGISTRATION JOURNAL
7980-R
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010
FILE NAME: Floor Plans-HCP.dwg

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

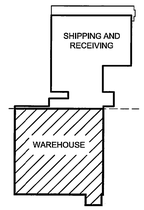
F.E. TYPE 1 = RECESSED FIRE EXTINGUISHER
F.E. TYPE 2 = SURFACE MOUNTED FIRE EXTINGUISHER

NOTE: SEE CIVIL DRAWINGS FOR EXTENT OF PARKING AND CURBS

NOTE:
ALL INTERNAL WALL STRUCTURE FOR FUTURE CANOPIES DESCRIBED IN BID ADDITIVES TO BE PART OF BASE BUILDING

NOTE: SEE CIVIL DRAWINGS FOR EXTENT OF PARKING AND CURBS

NOTE:
ALL INTERNAL WALL STRUCTURE FOR FUTURE CANOPIES DESCRIBED IN BID ADDITIVES TO BE PART OF BASE BUILDING



0 4'-0" 8'-0" 16'-0"

NORTH

1 / A102 WAREHOUSE - 1ST FLOOR PLAN

SCALE: 3/32" = 1'-0"

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	-	
PM	JAR	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
1ST FLOOR PLAN

A102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 53 OF 158 | DRAWING NO. GF-035-34041

FILE NAME: Floor Plans-R02.dwg | PLOT DATE: 2/25/2010 | FILE DATE: 2/25/2010

FORM F 03-03-08

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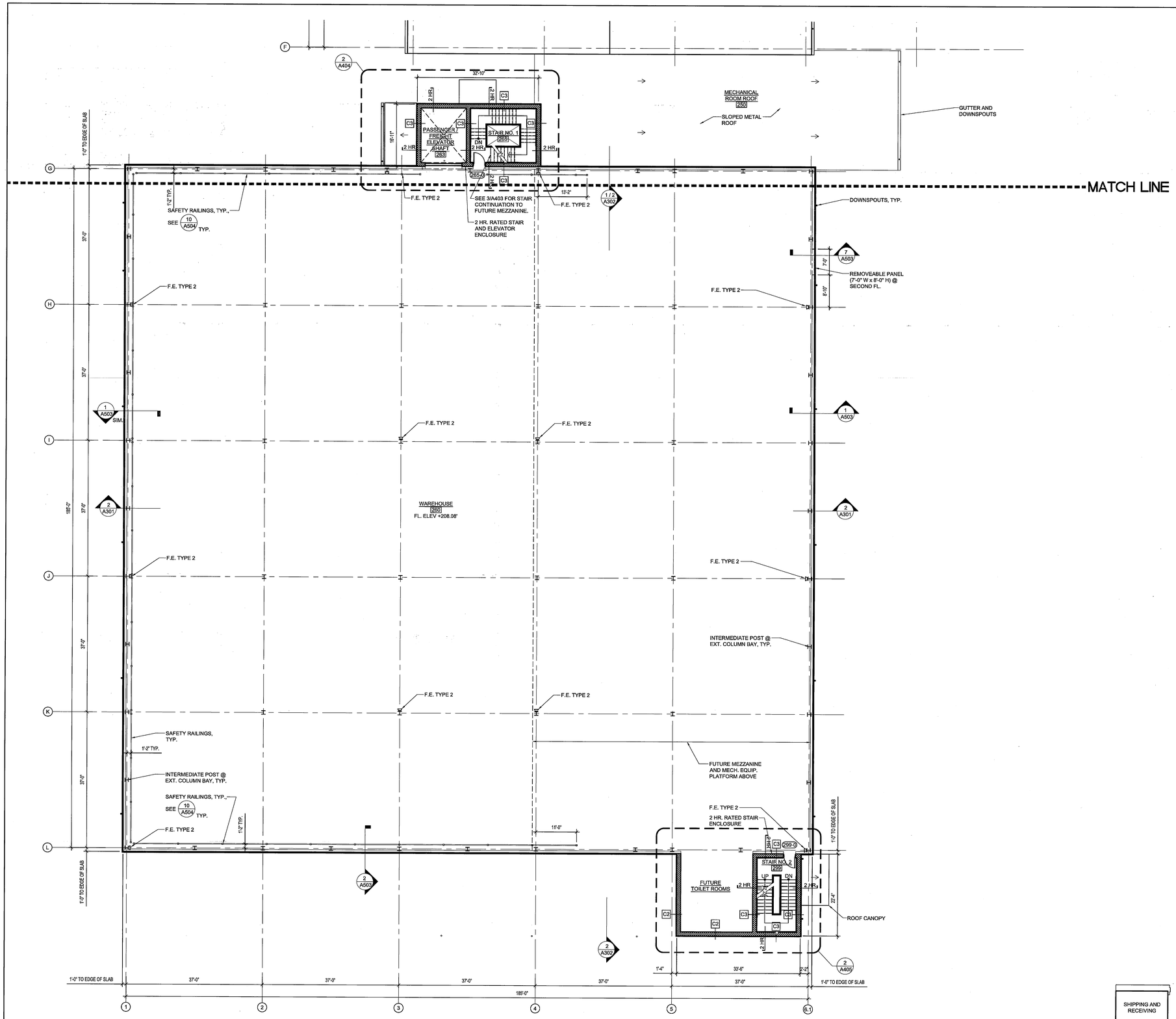
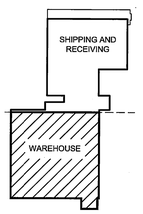
PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

F.E. TYPE 1 = RECESSED FIRE EXTINGUISHER
F.E. TYPE 2 = SURFACE MOUNTED FIRE EXTINGUISHER



1 A103 WAREHOUSE - 2ND FLOOR PLAN
SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	PS	2/1/10
CM	–	
PM	FH	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
2ND FLOOR PLAN

A103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	54 OF 158	GF-035-34042

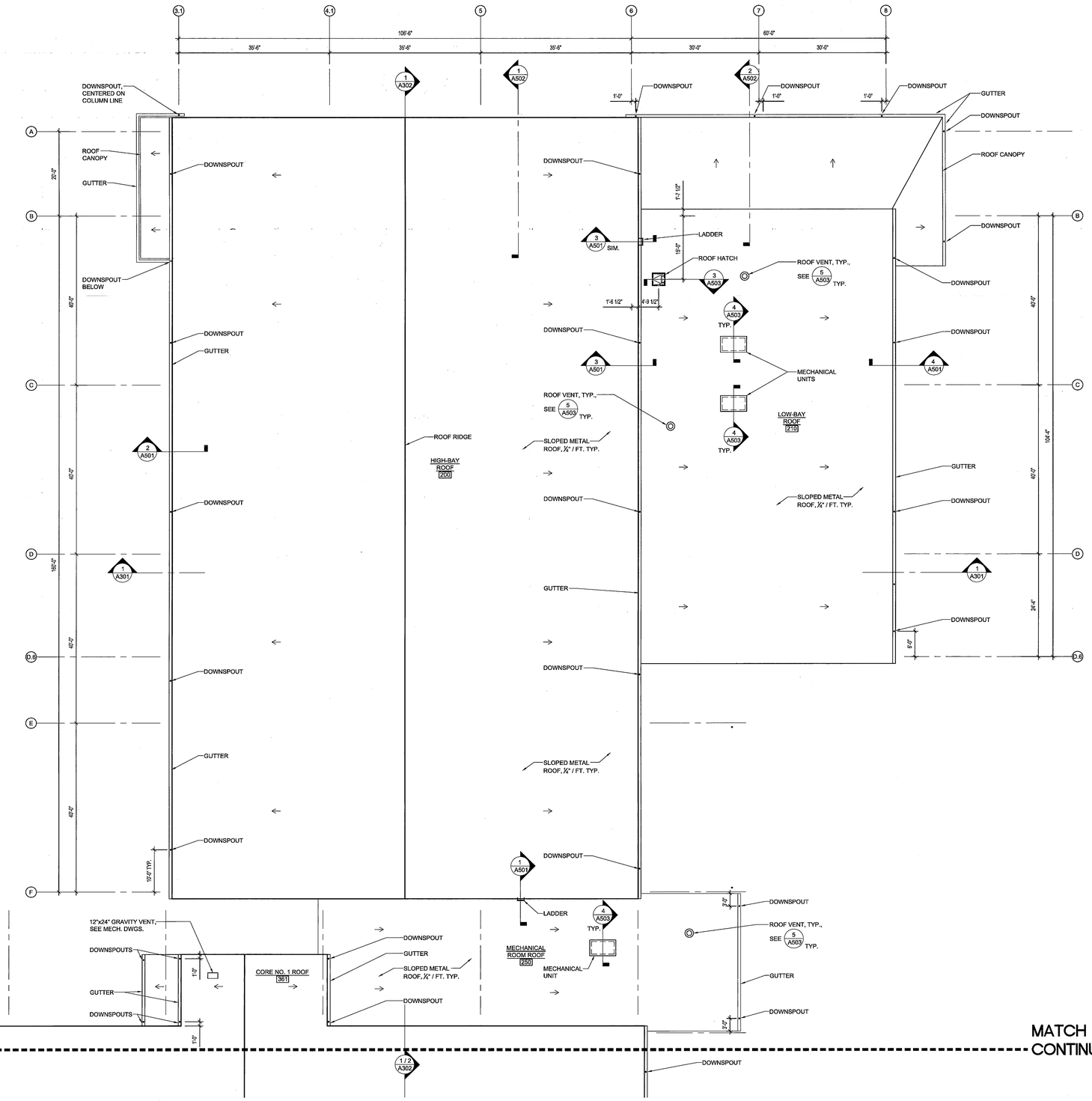
SEAL AREA
ARCHITECTURAL REGISTRATION BOARD
STANLEY L. LUCAS, JR.
STATE OF MARYLAND

FILE NAME: Floor Plans-HKP.dwg
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010

FORM F 03-07-08

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.



1 A104 SHIPPING AND RECEIVING - ROOF PLAN

SCALE: 3/32" = 1'-0"

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHL	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	-	
PM	JJH	3/1/10
CUSTOMER		3/1/10
SECTION HEAD		

PARSONS — Facilities Construction Engineering & Technical Services — GSFC - NASA

SEAL AREA — ARCHITECT/ENGINEER CERTIFICATION REQUIRED — FRANK VINCENT LUCASIC JR. — STATE OF MARYLAND

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
ROOF PLAN

A104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

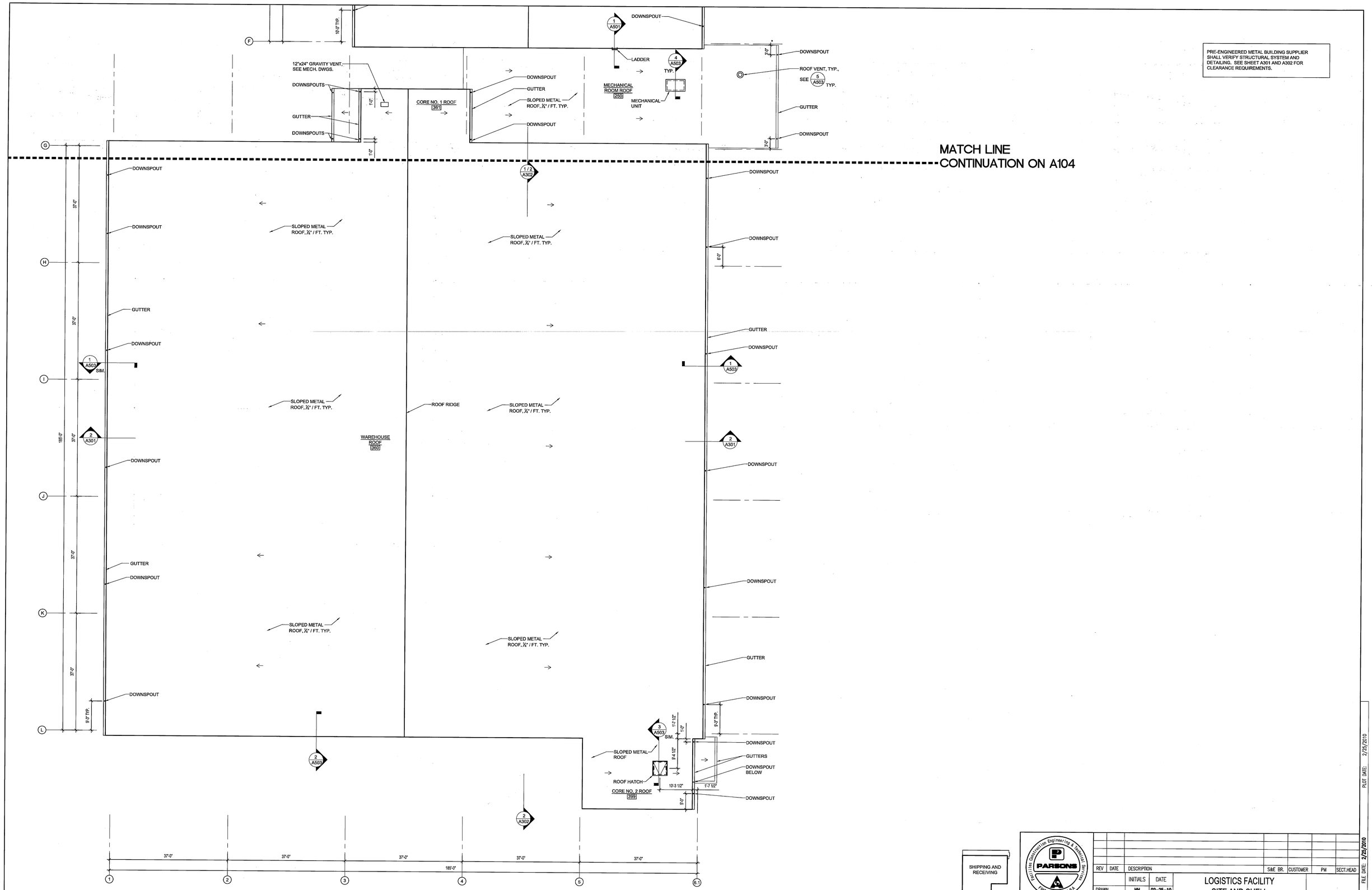
ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	55 OF 158	GF-035-34043

FORM F 03-01-08

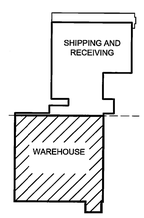
R.E. NAME: Floor Plans/RCP.dwg R.E. DATE: 2/25/2010 PLOT DATE: 2/25/2010

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



WAREHOUSE - ROOF PLAN

1 / A105 SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	S&E	2.26.10
NASA A-E		
S&E BRANCH	DLS	3/1/10
CM	—	
PM	FMM	3/1/10
CUSTOMER	A.W	3/1/10
SECTION HEAD		

ARCHITECTURAL

SEAL AREA

ARCHITECTURAL REGISTRATION ADMIN. FRANKLYN L. LUCAS, JR. STATE OF MARYLAND

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
ROOF PLAN

A105

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	56 OF 158	GF-035-34044

PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010
FILE NAME: Floor Plans-ROOF.dwg

FORM F 03-07-08

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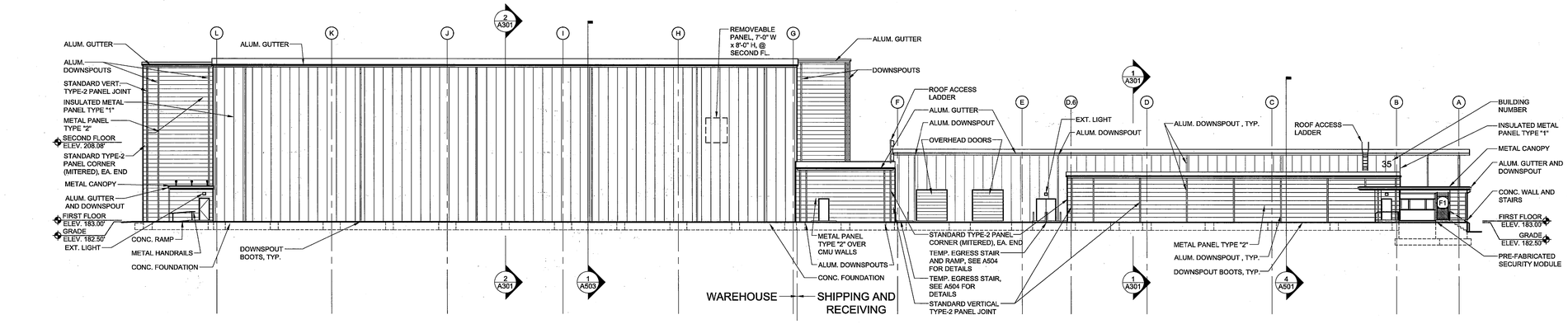
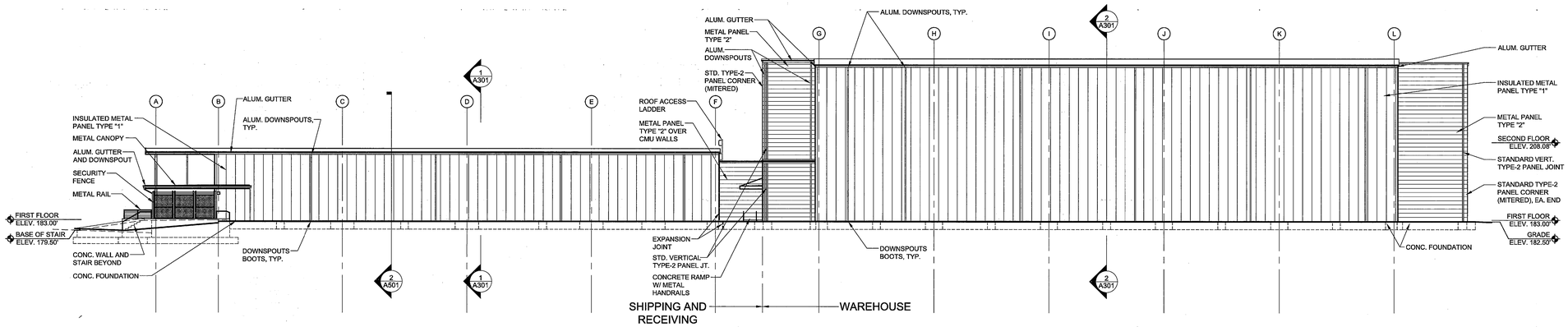


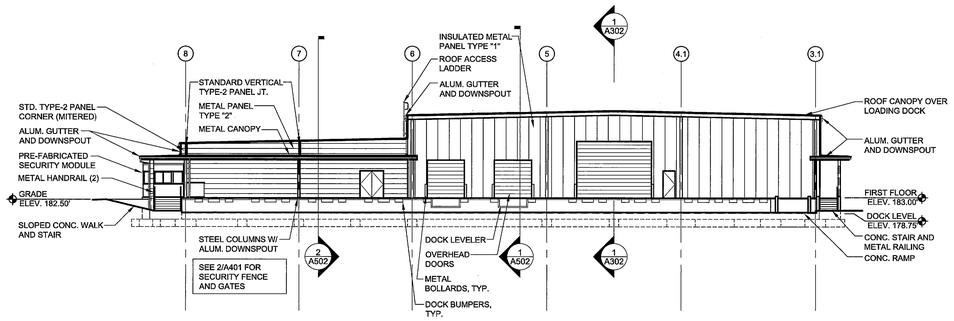
1 A201 EAST ELEVATION - OVERALL

SCALE: 1/16" = 1'-0"



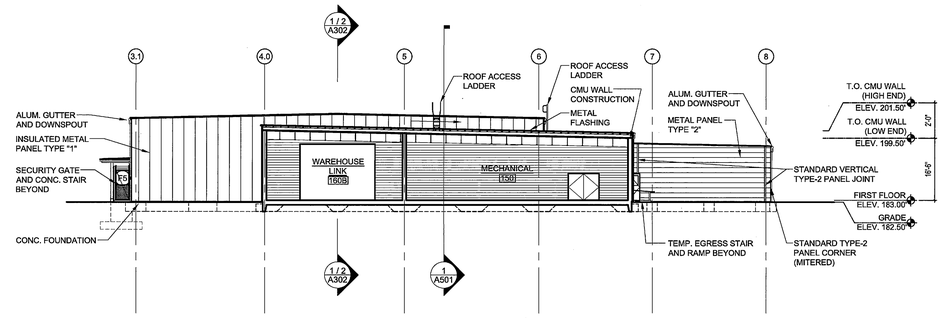
2 A201 WEST ELEVATION - OVERALL

SCALE: 1/16" = 1'-0"



3 A201 NORTH ELEVATION - SHIPPING AND RECEIVING

SCALE: 1/16" = 1'-0"

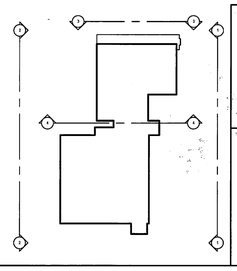


4 A201 SOUTH ELEVATION / SECTION - SHIPPING AND RECEIVING

SCALE: 1/16" = 1'-0"

0 8'-0" 16'-0" 32'-0"

NORTH



PARSONS
Facilities Construction Engineering & Technical Services
GSFC · NASA

SEAL AREA
ARCHITECTURAL REGISTRATION
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JM	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ELEVATIONS - OVERALL E & W
SHIPPING AND RECEIVING N & S

A201

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

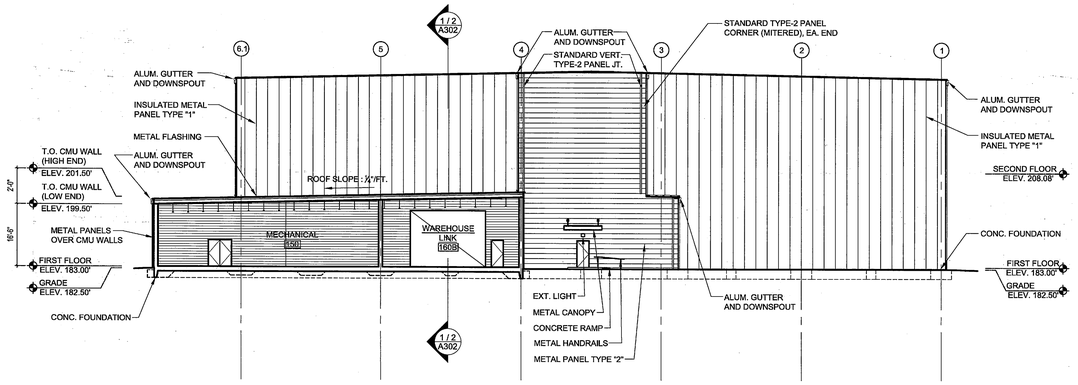
ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	57 OF 158	GF-035-34045

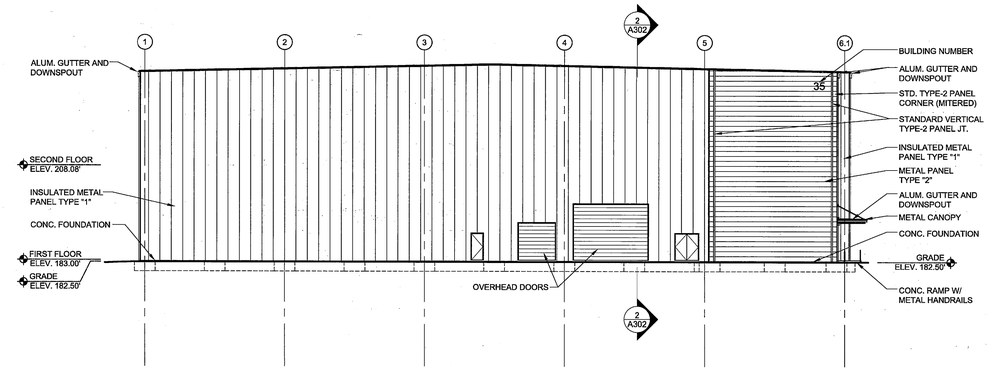
FILE NAME: Ext.Elevations + Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-01-00

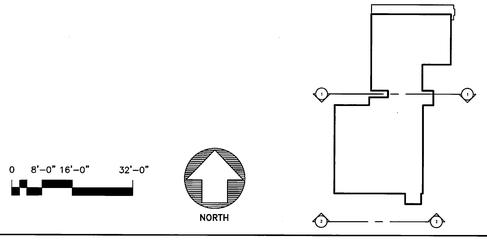
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



1 A202 NORTH ELEVATION / SECTION - WAREHOUSE
SCALE: 1/16" = 1'-0"



2 A202 SOUTH ELEVATION - WAREHOUSE
SCALE: 1/16" = 1'-0"



REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JAA	3/1/10
CUSTOMER	AW	3/1/10
SECTION HEAD		

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
7859-R
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

LOGISTICS FACILITY
SITE AND SHELL

ELEVATIONS
WAREHOUSE N & S

A202

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

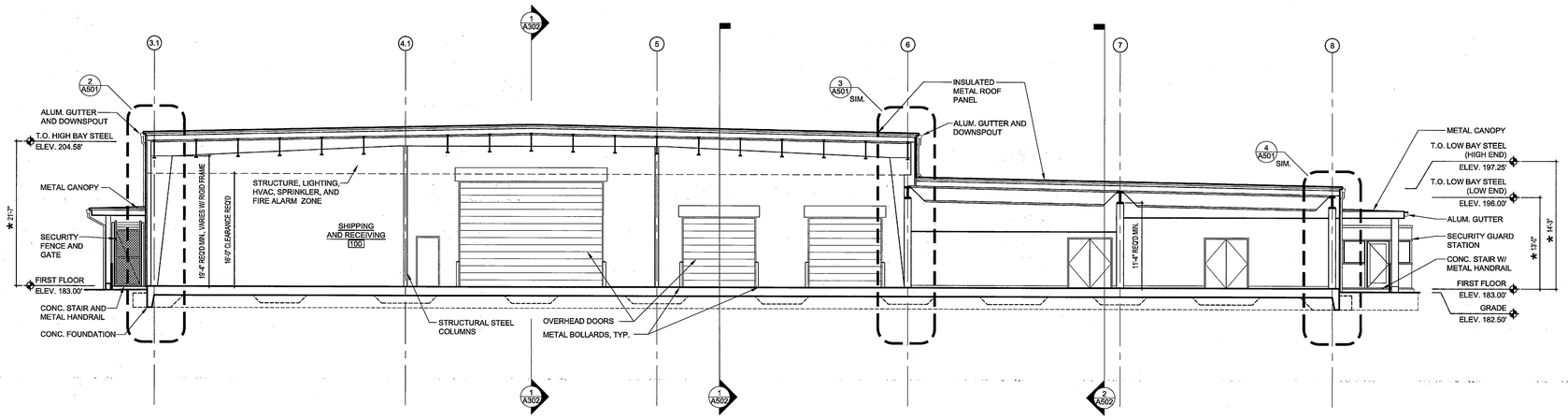
ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	58 OF 158	GF-035-34046

FORM F 03-07-08

FILE NAME: Ext.Elevations + Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)

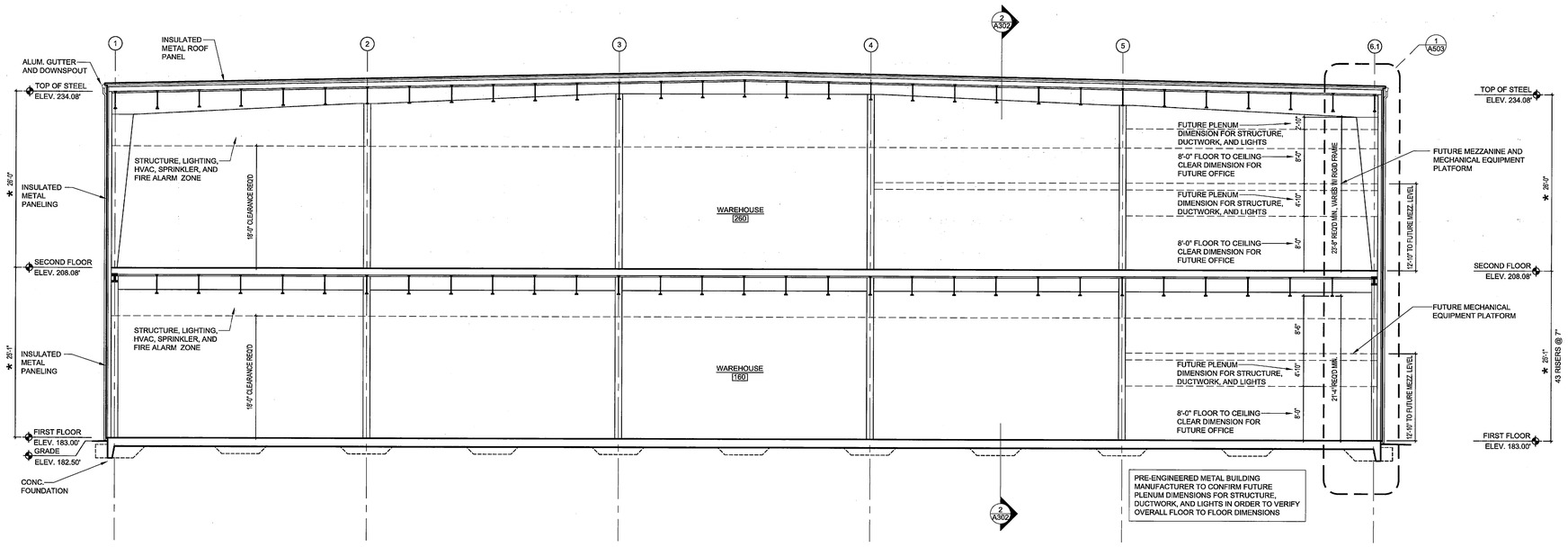


1 A301 SECTION 1 - 1 (SHIPPING AND RECEIVING)

SCALE: 1/8" = 1'-0"

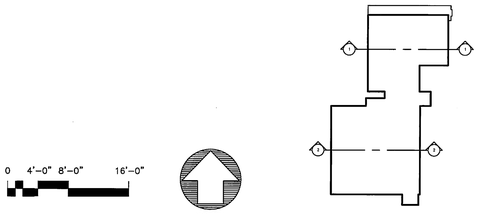
* VERTICAL DIMENSIONS INDICATED ARE NOMINAL. VERIFY AND ADJUST TO PROVIDE REQUIRED CLEARANCES.

AREA	CLEARANCE	
SHIPPING & RECEIVING (100)	16'-0" MIN.	THE CONTRACTOR AND THE PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL ENSURE THAT THE BUILDING DIMENSIONS PROVIDED AND ALL WORK AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, FIRE ALARM, FIRE PROTECTION, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS IS INSTALLED TO PROVIDE THE CLEARANCE REQUIRED.
WAREHOUSE-FIRST FLOOR (160)	18'-0" MIN.	
WAREHOUSE-SECOND FLOOR (260)	18'-0" MIN.	



2 A301 SECTION 2 - 2 (WAREHOUSE)

SCALE: 1/8" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

Parsons Construction Engineering & Technical Services PARSONS PMD-GSFC-NASA

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD 7890R FRANKLYN L. LUCAS, JR. STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SAK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	–	
PM	FHH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

BUILDING SECTIONS
NORTH VIEW

A301

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL	DATE ISSUED 03-01-10	CoF CODE or WP A6890	SHEET 59 OF 158	DRAWING NO. GF-035-34047

FILE NAME: Ext.Elevations + Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-07-08

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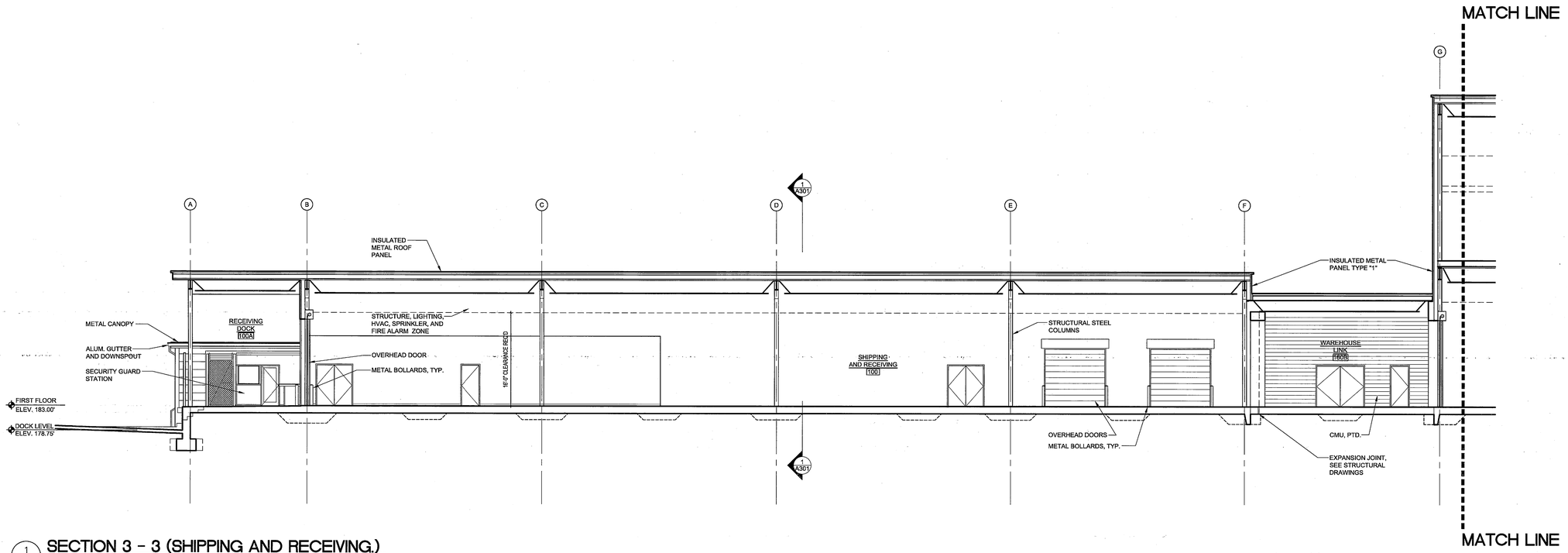
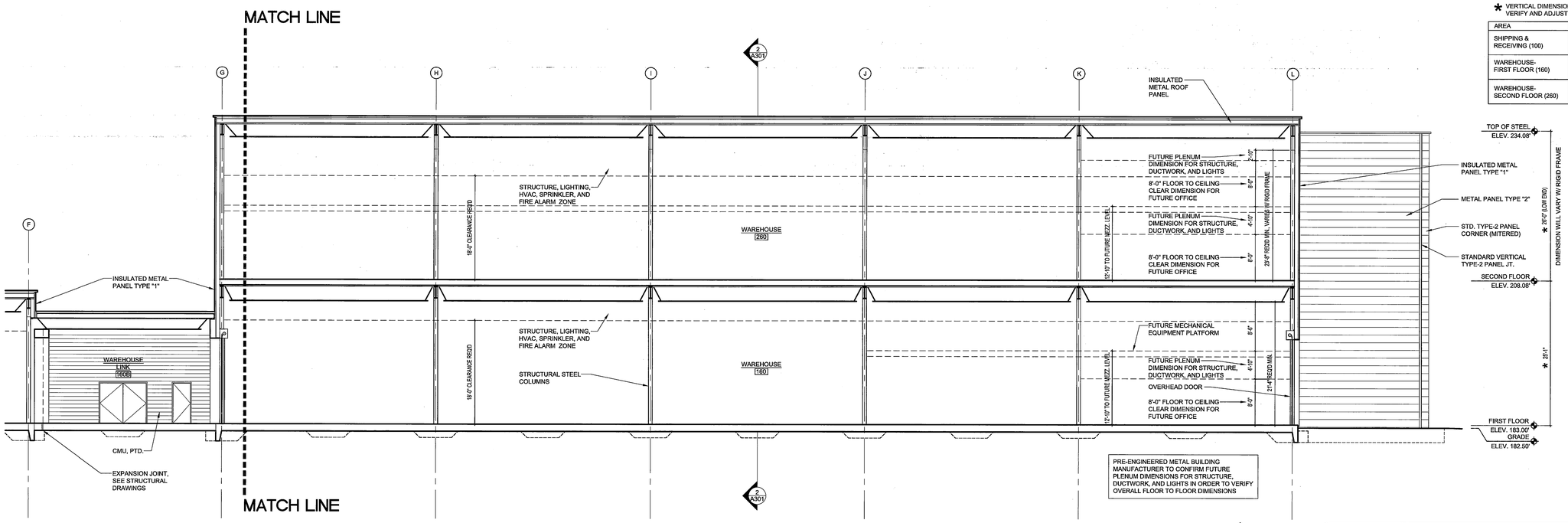


1 A302 SECTION 3 - 3 (SHIPPING AND RECEIVING.)
SCALE: 1/8" = 1'-0"

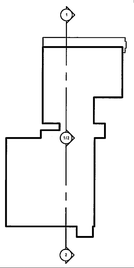


PRE-ENGINEERED METAL BUILDING MANUFACTURER TO CONFIRM FUTURE PLENUM DIMENSIONS FOR STRUCTURE, DUCTWORK, AND LIGHTS IN ORDER TO VERIFY OVERALL FLOOR TO FLOOR DIMENSIONS

2 A302 SECTION 3 - 3 (WAREHOUSE)
SCALE: 1/8" = 1'-0"

* VERTICAL DIMENSIONS INDICATED ARE NOMINAL. VERIFY AND ADJUST TO PROVIDE REQUIRED CLEARANCES.

AREA	CLEARANCE	
SHIPPING & RECEIVING (100)	16'-0" MIN.	THE CONTRACTOR AND THE PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL ENSURE THAT THE BUILDING DIMENSIONS PROVIDED AND ALL WORK AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, FIRE ALARM, FIRE PROTECTION, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS IS INSTALLED TO PROVIDE THE CLEARANCE REQUIRED.
WAREHOUSE-FIRST FLOOR (160)	18'-0" MIN.	
WAREHOUSE-SECOND FLOOR (260)	18'-0" MIN.	



0 4'-0" 8'-0" 16'-0"

NORTH

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	[illegible]	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

BUILDING SECTIONS
EAST VIEW

A302

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

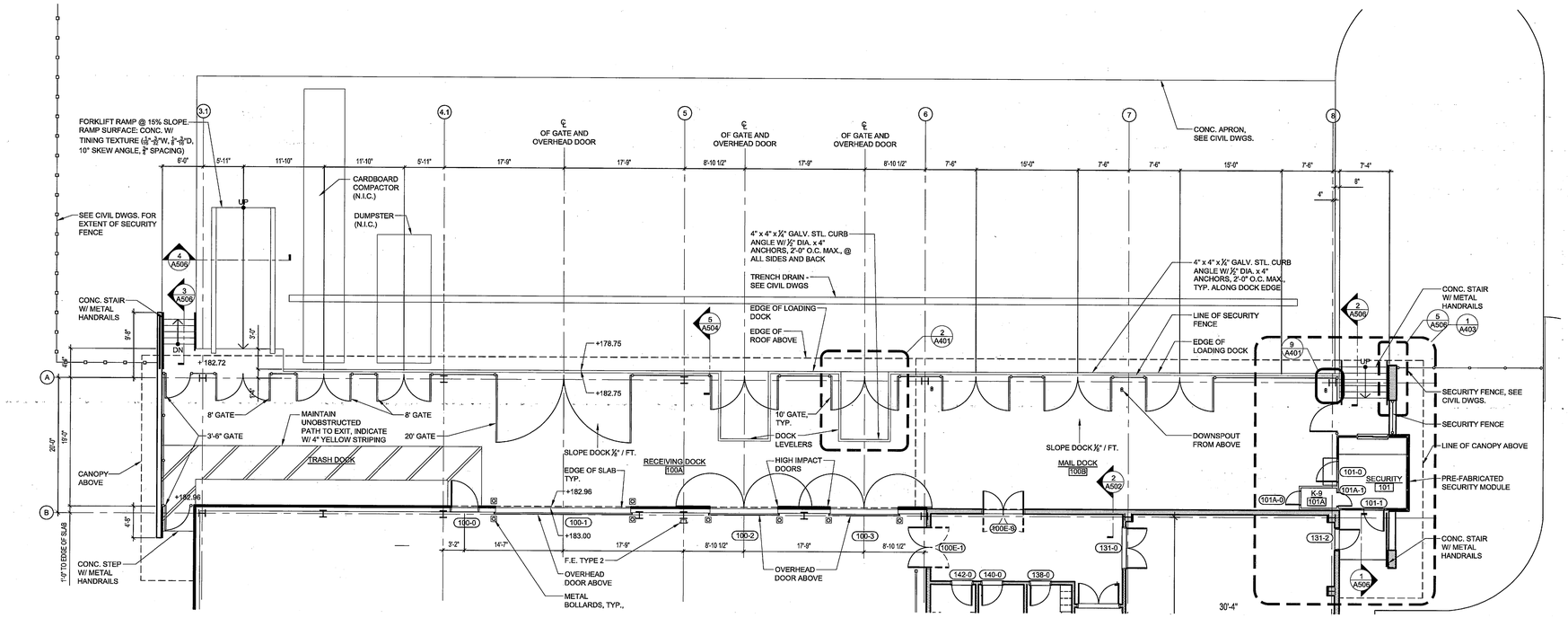
ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	60 OF 158	GF-035-34048

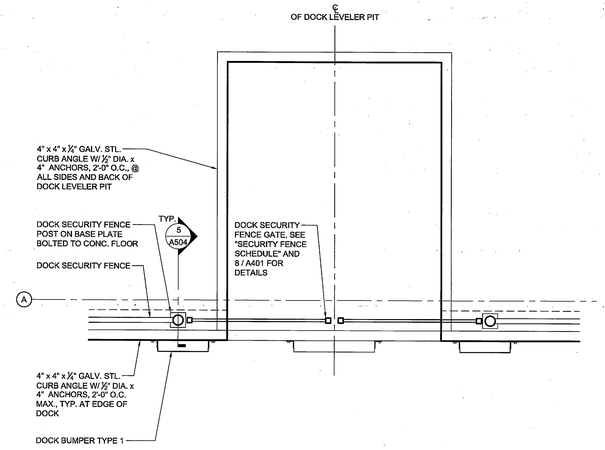
FORM F 03-07-08

FILE NAME: Ext.Elevations + Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

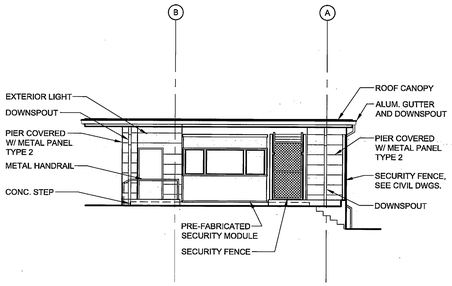
All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



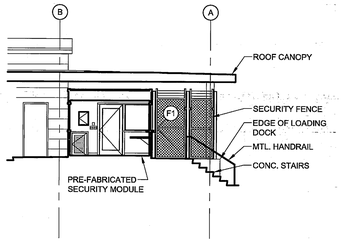
1 A401 ENLARGED LOADING DOCK PLAN
SCALE: 1/8" = 1'-0"



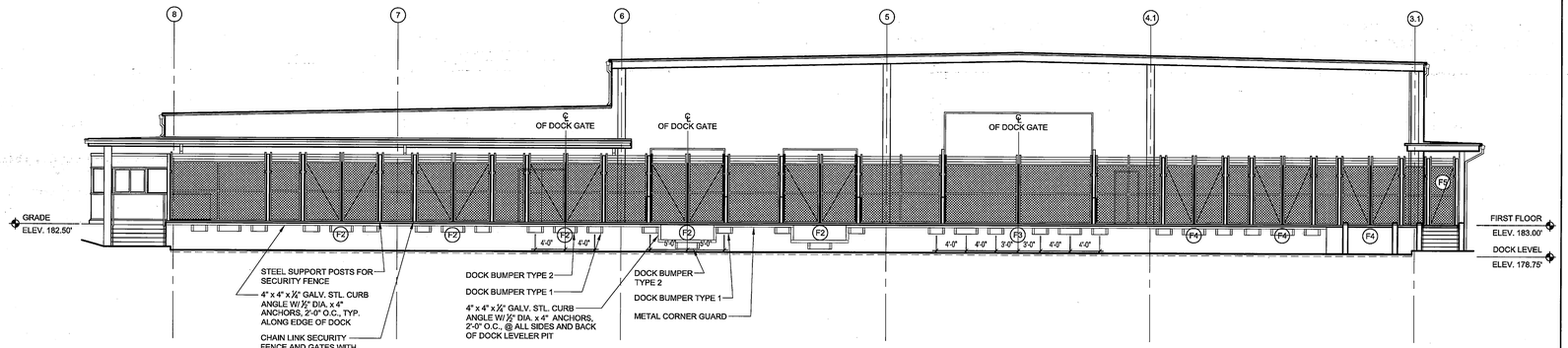
2 A401 DOCK LEVELER PLAN DETAIL
SCALE: 1/2" = 1'-0"



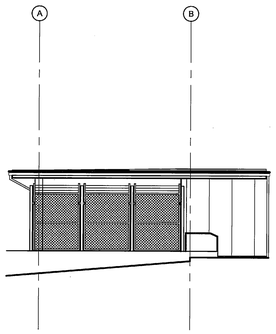
3 A401 ENLARGED EAST ELEVATION
SCALE: 1/8" = 1'-0"



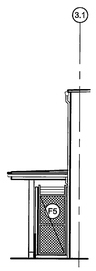
4 A401 ENLARGED EAST SECTION
SCALE: 1/8" = 1'-0"



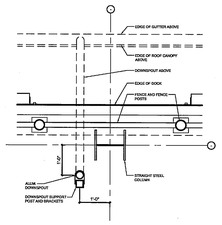
5 A401 ENLARGED NORTH ELEVATION
SCALE: 1/8" = 1'-0"



6 A401 ENLARGED WEST ELEVATION
SCALE: 1/8" = 1'-0"



7 A401 ENLARGED SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



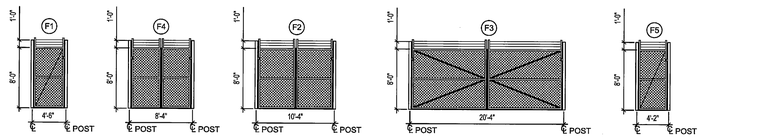
9 A401 LOADING DOCK DOWNSPOUT DETAIL
SCALE: 1/2" = 1'-0"

SECURITY FENCE SCHEDULE

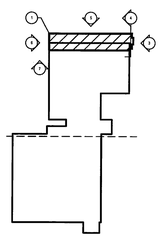
NO.	LOCATION	HEIGHT	WIDTH Centerline of Posts	POST SIZE
F1	MAIL DOCK	9'-0"	4'-6"	4" DIA.
F2	MAIL/ RECEIVING DOCK	9'-0"	10'-4"	4" DIA.
F3	RECEIVING DOCK	9'-0"	20'-4"	4" DIA.
F4	TRASH DOCK	9'-0"	8'-4"	4" DIA.
F5	TRASH DOCK	9'-0"	4'-2"	4" DIA.

DOCK BUMPER SCHEDULE

TYPE	HEIGHT	WIDTH	DEPTH
1	10"	2'-0"	4½"
2	10"	3'-0"	4½"



8 A401 SECURITY FENCE GATES
SCALE: 1/8" = 1'-0"



REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHC	2-26-10
NASA A-E		
S&E BRANCH	RS	3-1-10
CM	-	
PM	TMT	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

ARCHITECTURAL

LOGISTICS FACILITY SITE AND SHELL

ENLARGED ELEVATIONS AND ENLARGED LOADING DOCK PLAN

A401

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WO#	SHEET	DRAWING NO.
03-01-10	A6890	61 OF 158	GF-035-34049

SEAL AREA

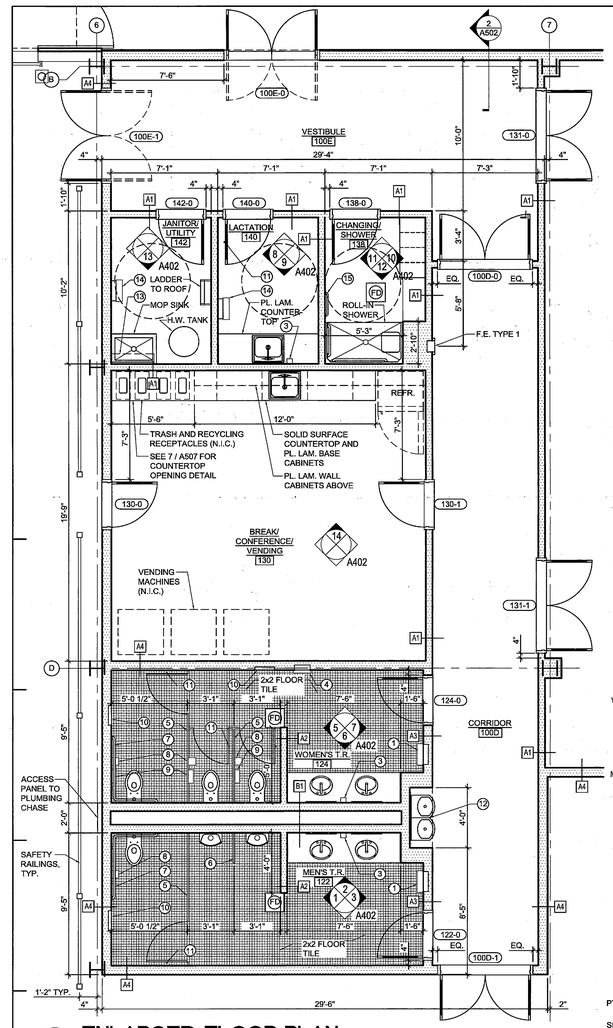
PARSONS Facilities Construction Engineering & Technical Services PMO-GSFC-NASA

ARCHITECTURAL SEAL — STATE OF MARYLAND

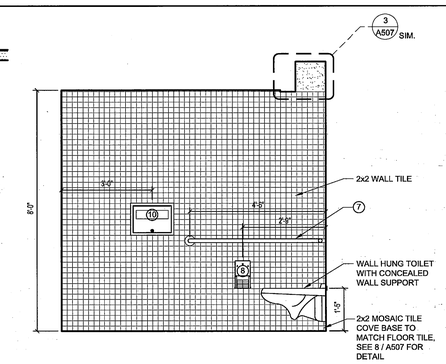
FILE NAME: Floor Plans+RCP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

FORM F 03-07-08

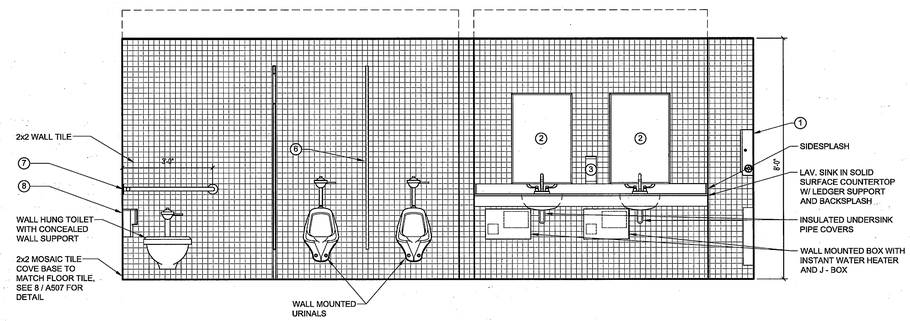
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



4 A402 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"



1 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



2 A402 INTERIOR ELEVATION
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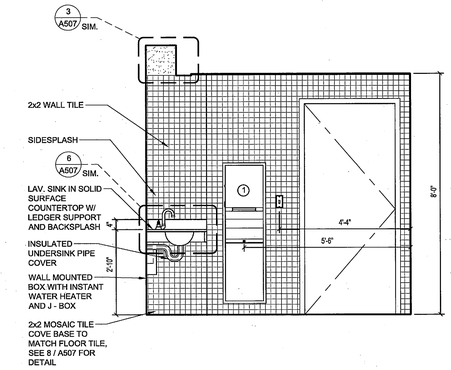
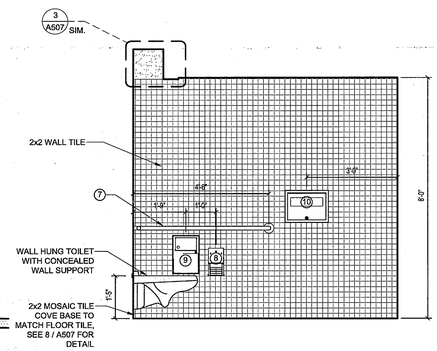


3 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



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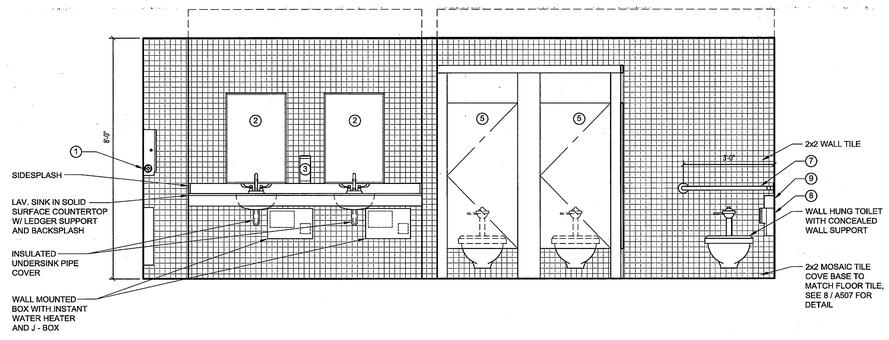
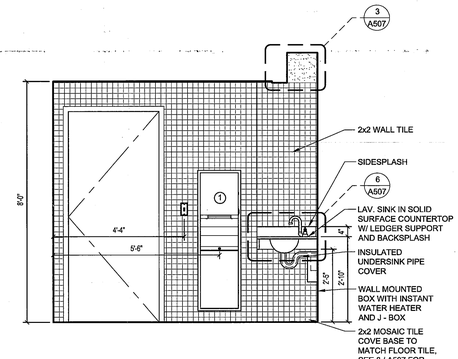
SCALE: 1/2" = 1'-0"



6 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



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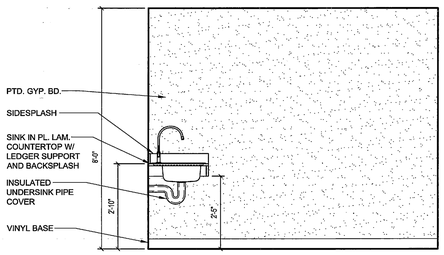
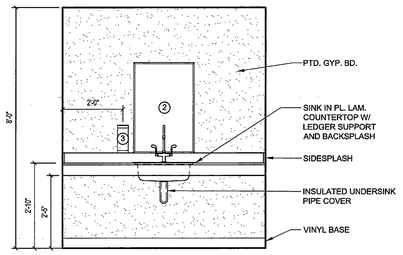
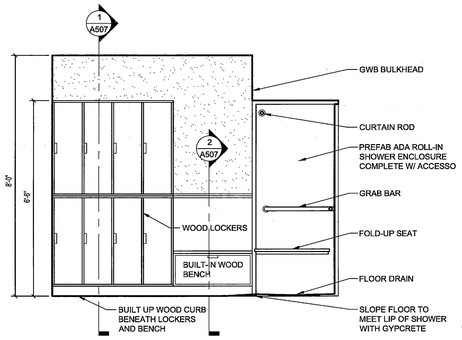
SCALE: 1/2" = 1'-0"



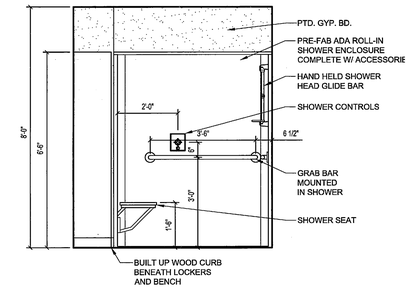
8 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



9 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



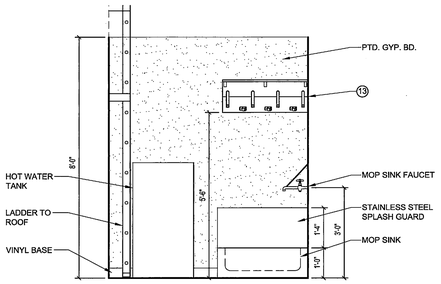
10 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



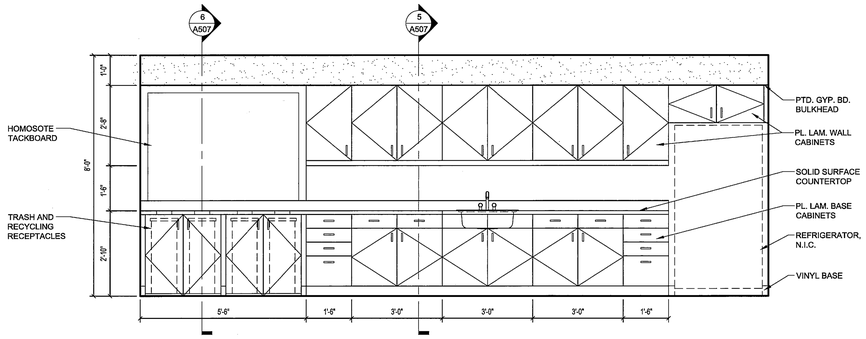
12 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

TOILET ROOM ACCESSORY SCHEDULE

NO.	DESCRIPTION	MOUNTING TYPE	MOUNTING HEIGHT ABOVE FIN. FL.
1	COMBINATION ROLL PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	SEMI - RECESSED	4'-11½" TO TOP
2	FRAMED MIRROR	SURFACE	3'-2" TO BOTTOM
3	CARTRIDGE SOAP DISPENSER	SURFACE	3'-2" TO BOTTOM
4	FEMININE NAPKIN / TAMPON VENDOR	RECESSED	5'-0½" TO TOP
5	TOILET PARTITION	FLOOR MOUNTED	
6	URINAL SCREEN	WALL HUNG	1'-0" TO BOTTOM
7	GRAB BAR - 54" x 36"	SURFACE	3'-0" TO CENTER
8	TOILET TISSUE DISPENSER	SURFACE	2'-4" TO TOP
9	FEMININE NAPKIN DISPOSAL	SURFACE	2'-9" TO TOP
10	TOILET SEAT COVER DISPENSER	RECESSED	4'-2" TO TOP
11	CLOTHES HOOK	SURFACE	
12	ELECTRIC WATER COOLER	SURFACE	VARIES
13	STAINLESS STEEL UTILITY SHELF W/ MOP / BROOM HOLDERS AND RAG HOOKS	SURFACE	5'-6" TO BOTTOM
14	COMBINATION ROLL PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	SURFACE	4'-11½" TO TOP
15	TOWEL BAR	SURFACE	3'-0" TO CENTER



13 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



14 A402 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

0 1'-0" 2'-0" 4'-0"

0 2'-0" 4'-0" 8'-0"

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
ARCHITECTURAL
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHL	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FHM	3/1/10
CUSTOMER	G.W	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WET AREAS - ENLARGED PLANS AND INTERIOR ELEVATIONS

A402

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	62 OF 158	GF-035-34050

FILE NAME: Floor Plans-RCP.dwg
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010

FORM F 03-02-05

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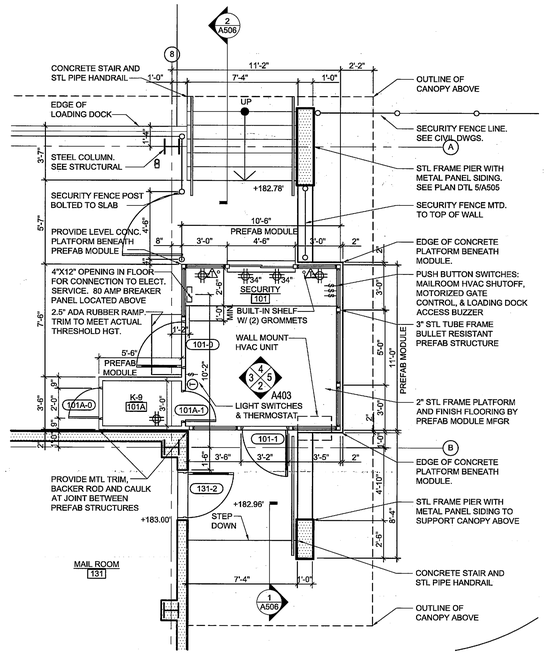
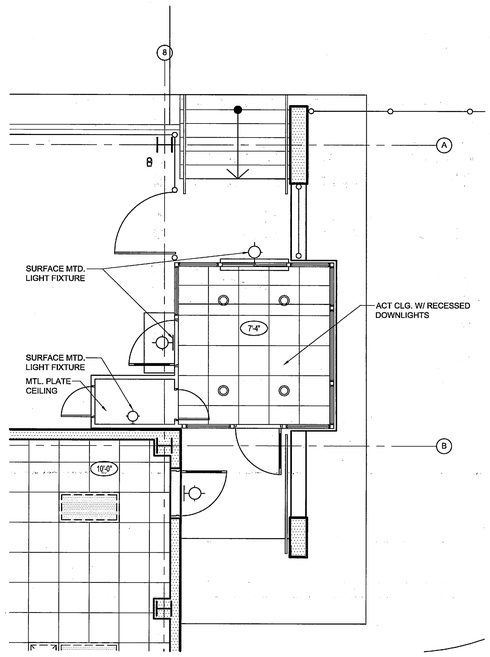
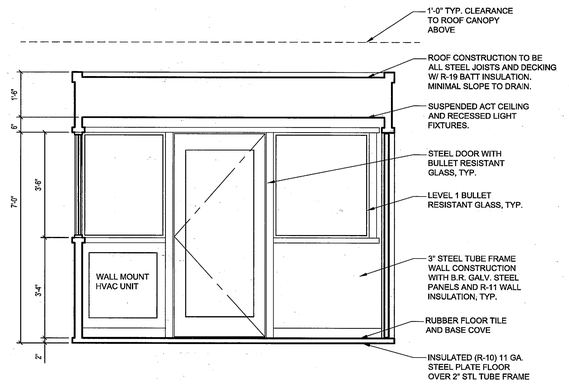


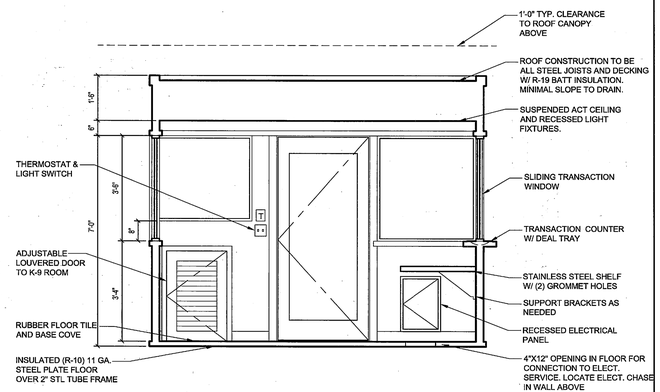
1 A403 ENLARGED FLOOR PLAN - PRE-FABRICATED SECURITY MODULE
SCALE: 1/4" = 1'-0"



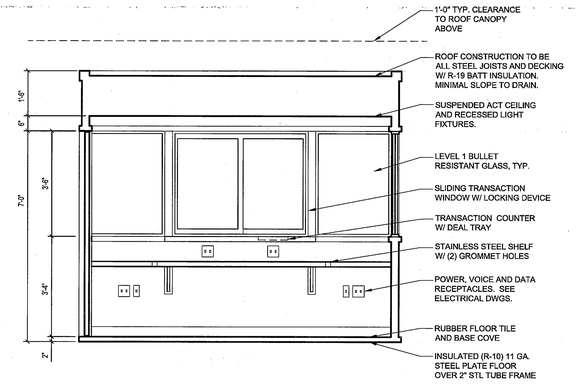
1A A403 ENLARGED CEILING PLAN
SCALE: 1/4" = 1'-0"



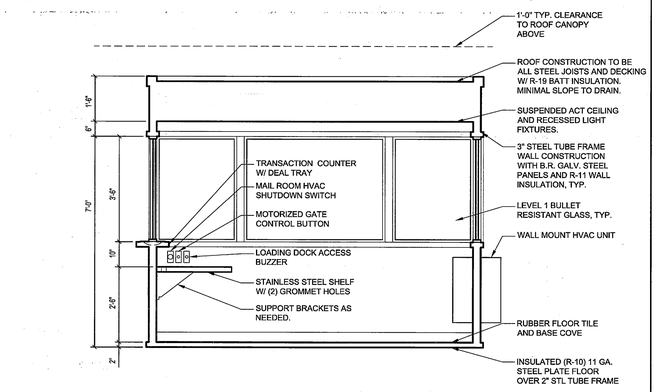
2 A403 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



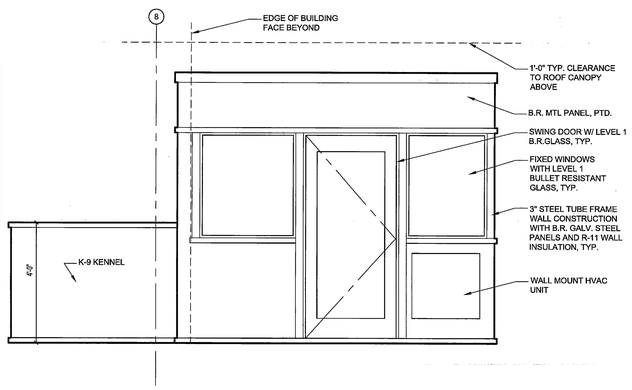
3 A403 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



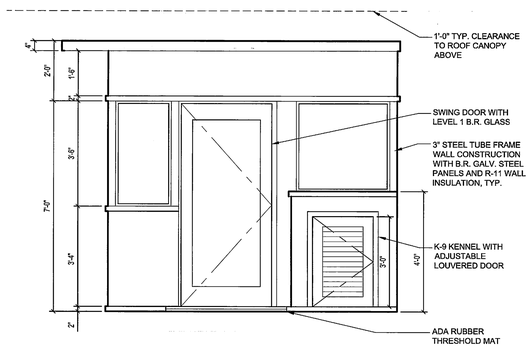
4 A403 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



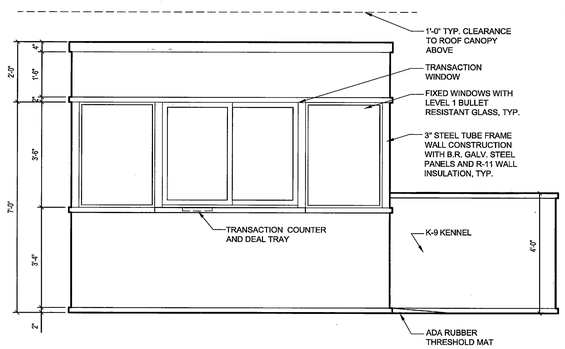
5 A403 INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



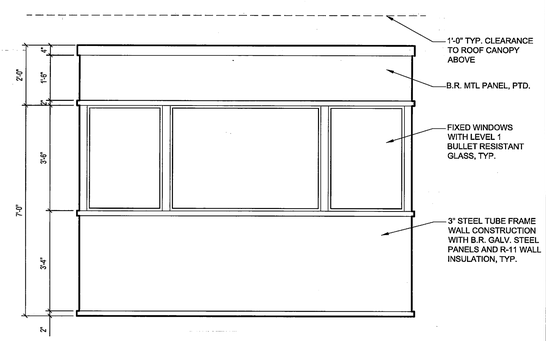
6 A403 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



7 A403 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



8 A403 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



9 A403 EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

PRE-FABRICATED SECURITY MODULE

1. SEE SPECIFICATIONS FOR COMPLETE DESCRIPTION OF BULLET RESISTANT PREFAB SECURITY MODULE.
2. MODULE TO ARRIVE TOTALLY PREFABRICATED, COMPLETELY WIRED AND PAINTED, AND READY FOR INSTALLATION BY CRANE. MODULE DESIGNED TO MOUNT DIRECTLY TO CONCRETE SLAB WITH EXPANSION TYPE ANCHOR BOLTS SPECIFIED BY PREFAB MANUFACTURER.
3. MODULE TO SHIP WITH FACTORY INSTALLED INTERIOR HVAC SYSTEM, THERMOSTAT, BREAKER PANEL AND ELECTRICAL WIRING. ELECTRICAL HOOK-UP AND INSTALLATION OF HVAC COMPRESSOR UNIT WILL OCCUR ON SITE. PROVIDE CONDUIT FOR 80 AMP SINGLE PHASE POWER FEED IN CONCRETE SLAB BENEATH ACCESS PANEL IN FLOOR.
4. PREFAB SECURITY MODULE TO BE BUILT TO UL 752 STANDAROS FOR LEVEL ONE BULLET RESISTANT PROTECTION AND MEET ALL APPLICABLE CODE REQUIREMENTS.
5. PREFAB SECURITY MODULE TO BE CONSTRUCTED OF 3"X3"X.083 STEEL TUBE FRAME WITH WELDED STEEL BULLET RESISTANT PANELS. WALLS, FLOOR AND CEILING TO BE INSULATED AS NOTED.
6. MODULE TO SHIP WITH COMPLETE DOOR HARDWARE AND LOCKING DEVICES.
7. CONTRACTOR TO PROVIDE RUBBER RAMP TO MEET THRESHOLD HEIGHT.
8. COORDINATE INSTALLATION OF PREFAB MODULE WITH ROOF CANOPY OF MAIN BUILDING LOCATED OVERHEAD.
9. PREFAB MFGR TO DETERMINE LOCATION OF OVERFLOW ROOF SCUPPER.

0 1'-0" 2'-0" 4'-0" 0 2'-0" 4'-0" 8'-0"

PARSONS — Facilities Construction Engineering & Inspection Services — FMO-8 SFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — 7890-R — STANLEY N. L. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	GAK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	–	
PM	FWH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

ARCHITECTURAL

LOGISTICS FACILITY SITE AND SHELL

SECURITY MODULE - ENLARGED PLAN AND ELEVATIONS

A403

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	63 OF 158	GF-035-34051

FILE NAME: Floor Plans-HDP.dwg
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010

FORM F 63-07-08

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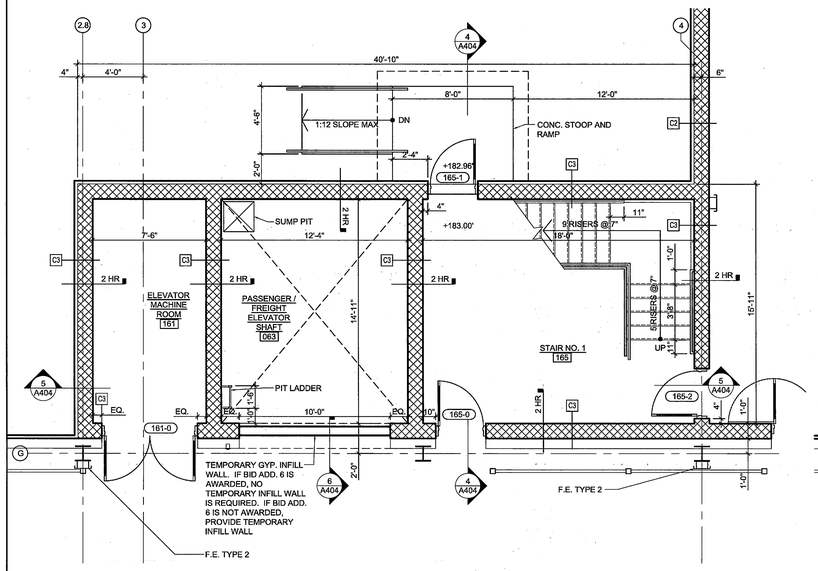
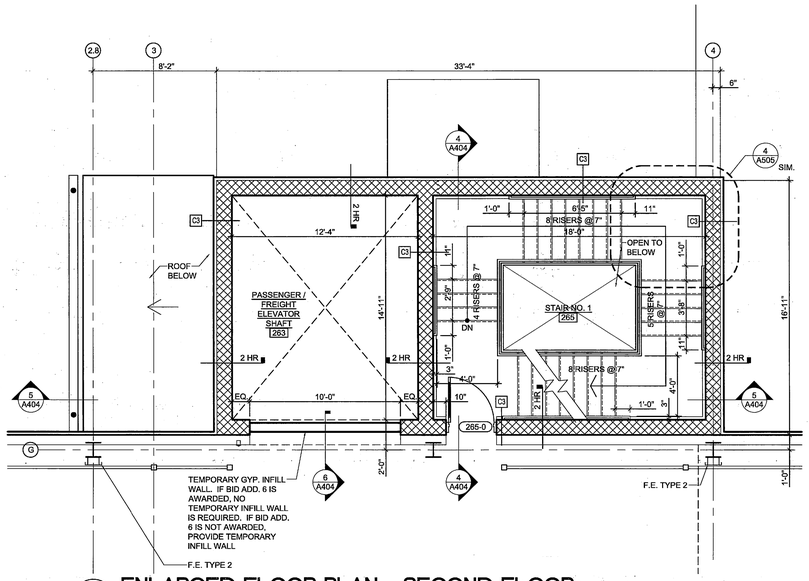


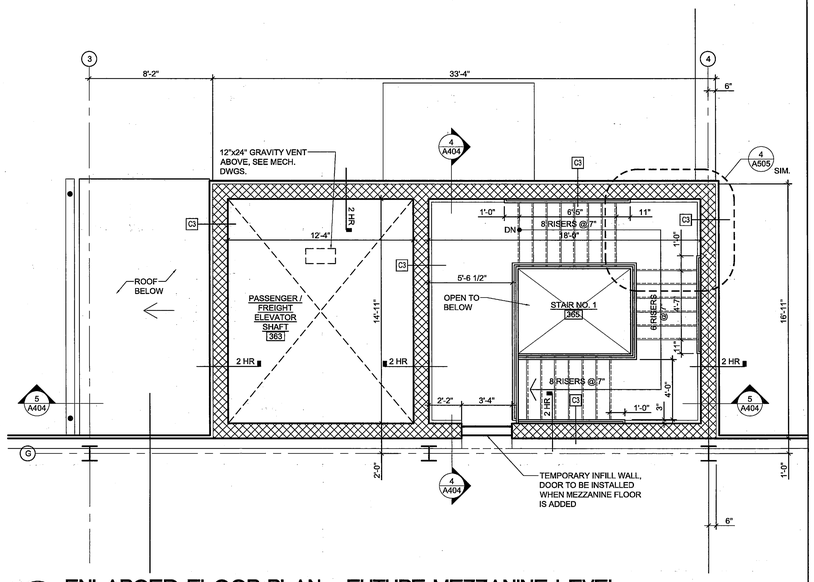
1 A404 ENLARGED FLOOR PLAN - FIRST FLOOR

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



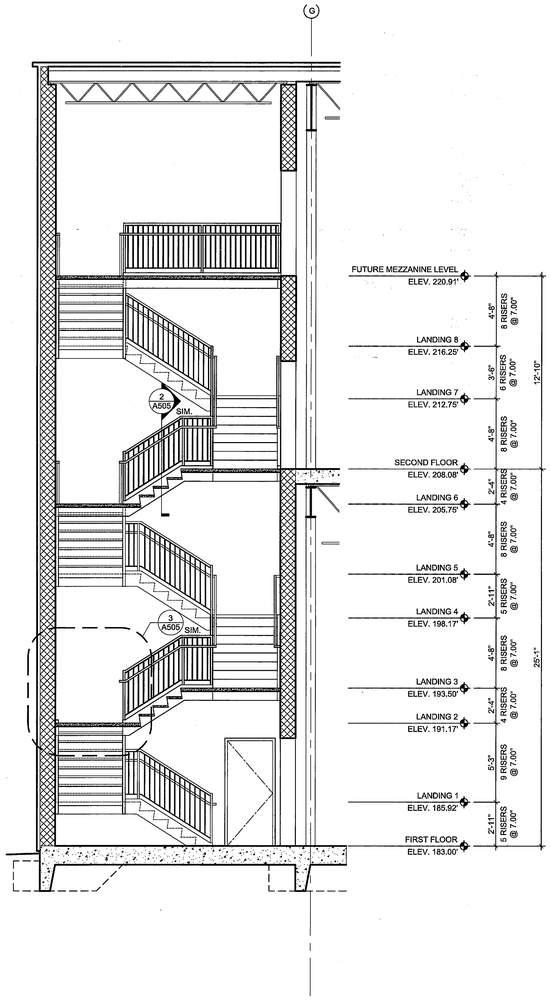
2 A404 ENLARGED FLOOR PLAN - SECOND FLOOR

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



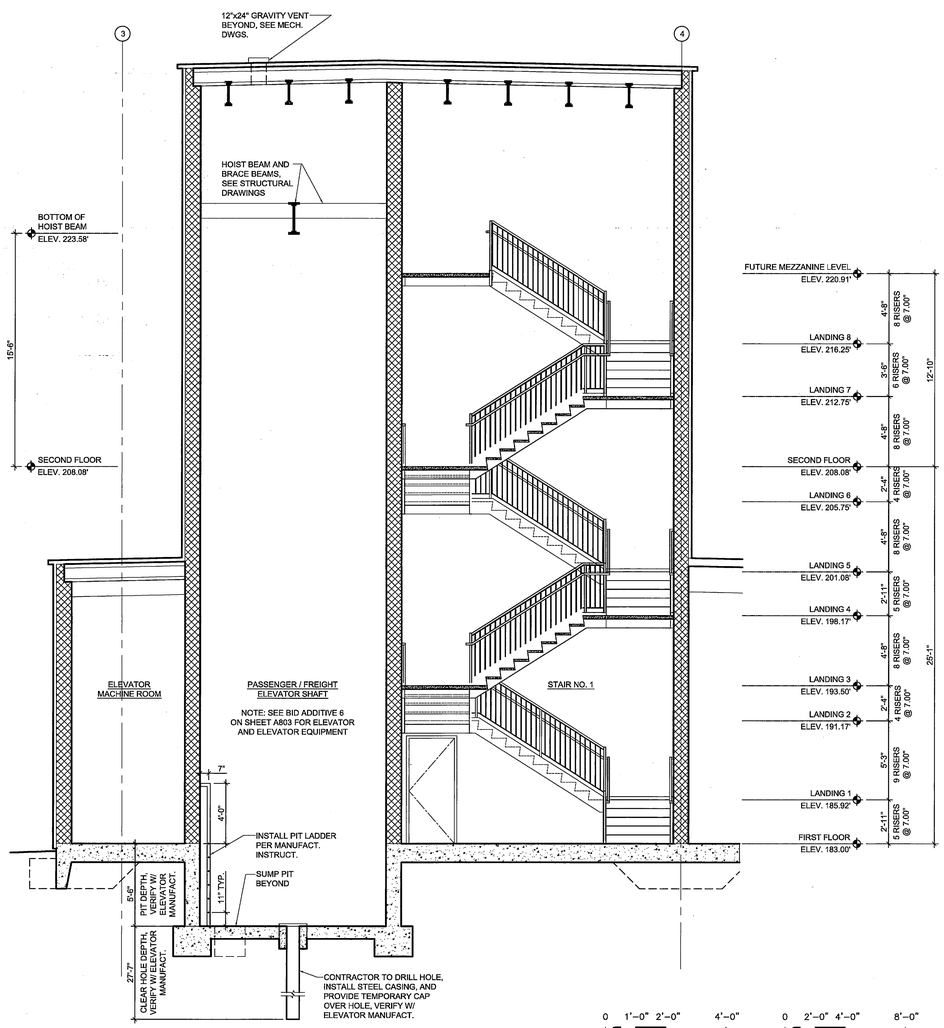
3 A404 ENLARGED FLOOR PLAN - FUTURE MEZZANINE LEVEL

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



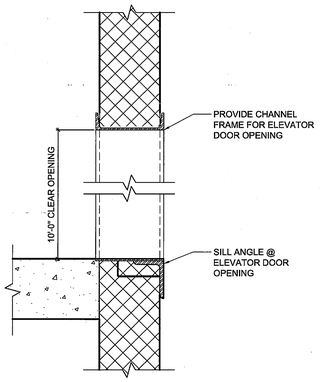
4 A404 SECTION

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



5 A404 SECTION

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



6 A404 ELEVATOR DOOR OPENING DETAIL

SCALE: 1" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

PARSONS — Parsons Infrastructure & Technology — AMD-GSFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — 7920-R — FRANKLYN L. LUCAS JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHC	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	-	
PM	FJM	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
STAIRS - ENLARGED PLANS & SECTIONS

A404

BUILDING 035

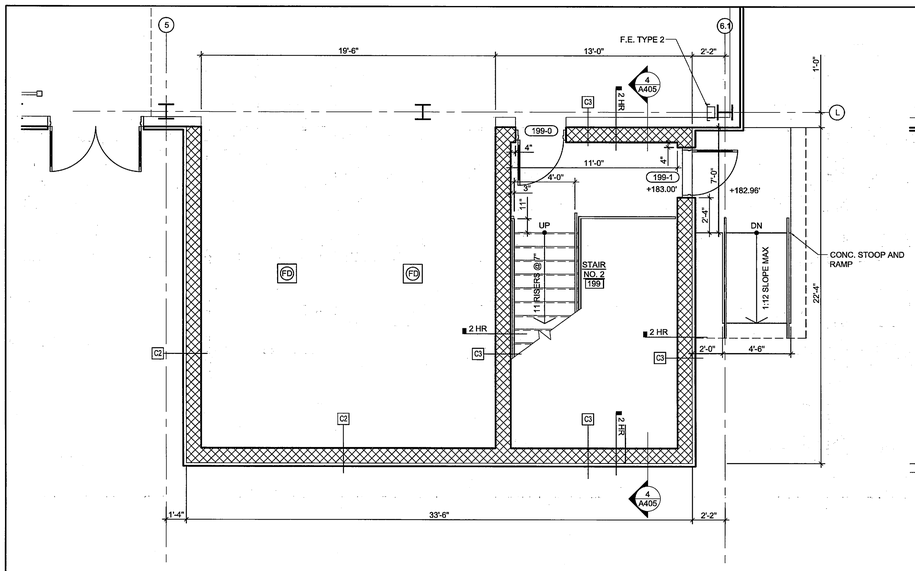
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 64 OF 158	DRAWING NO. GF-035-34052

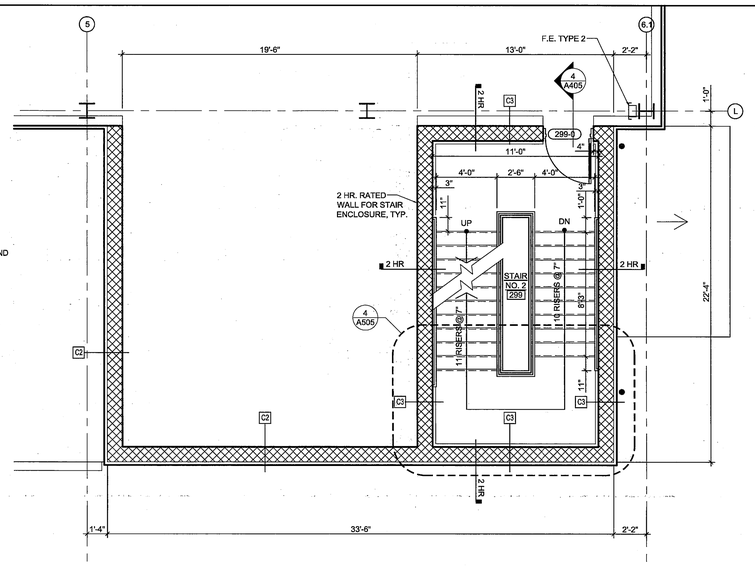
PLOT DATE: 2/25/2010
FILE DATE: 1/25/2010
FILE NAME: Floor Plans+RCP.dwg

FORM F 03-02-08

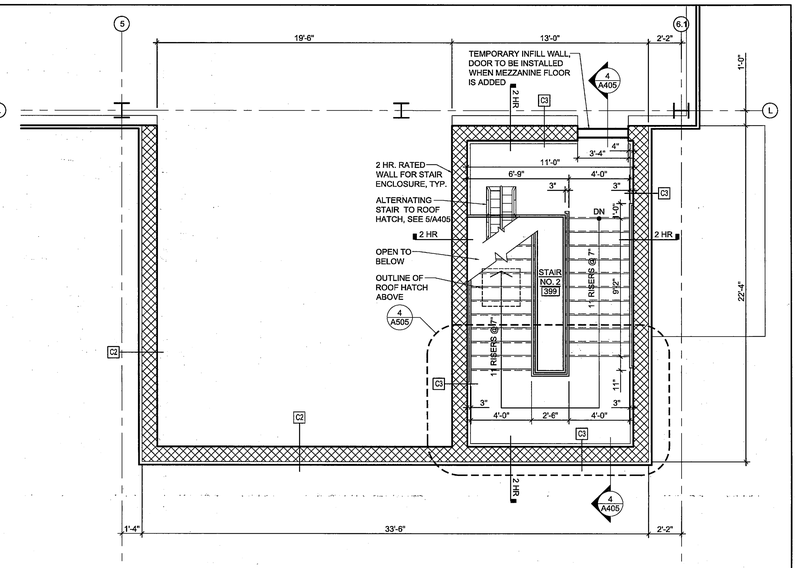
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



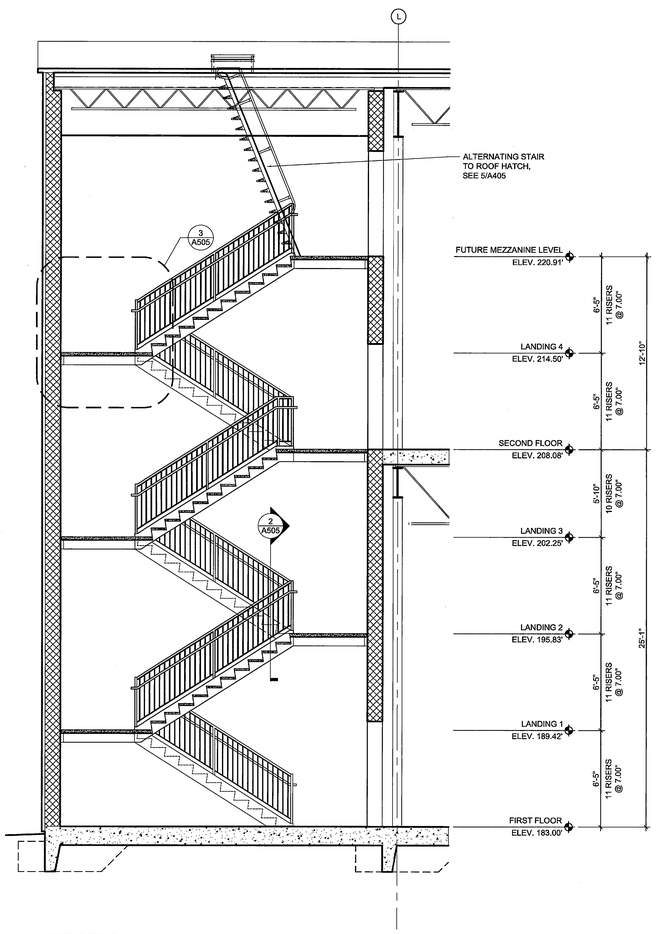
1 A405 ENLARGED FLOOR PLAN - FIRST FLOOR
SCALE: 1/4" = 1'-0"



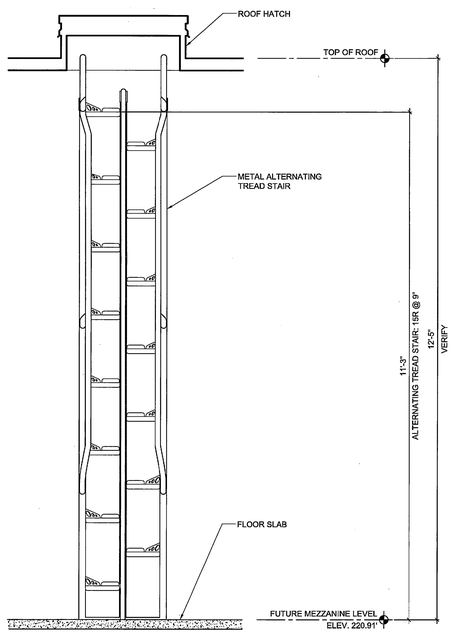
2 A405 ENLARGED FLOOR PLAN - SECOND FLOOR
SCALE: 1/4" = 1'-0"



3 A405 ENLARGED FLOOR PLAN - FUTURE MEZZANINE LEVEL
SCALE: 1/4" = 1'-0"



4 A405 SECTION
SCALE: 1/4" = 1'-0"



5 A405 DETAIL- ALTERNATING TREAD STAIR
SCALE: 3/4" = 1'-0"

0 1'-0" 2'-0" 3'-0"

0 2'-0" 4'-0" 8'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY ALL DIMENSIONAL & STRUCTURAL REQUIREMENTS FOR ALTERNATING TREAD STAIR.

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	TJM	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
STAIRS - ENLARGED PLANS & SECTION

A405

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

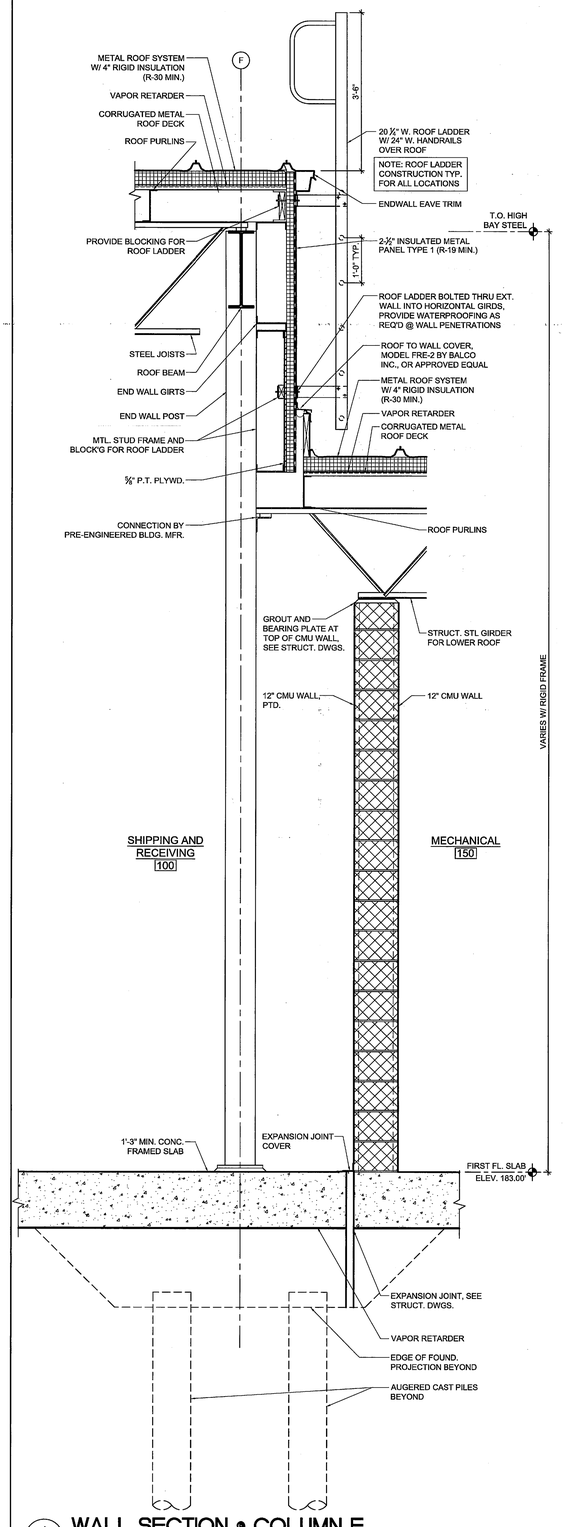
ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	65 OF 158	GF-035-34053

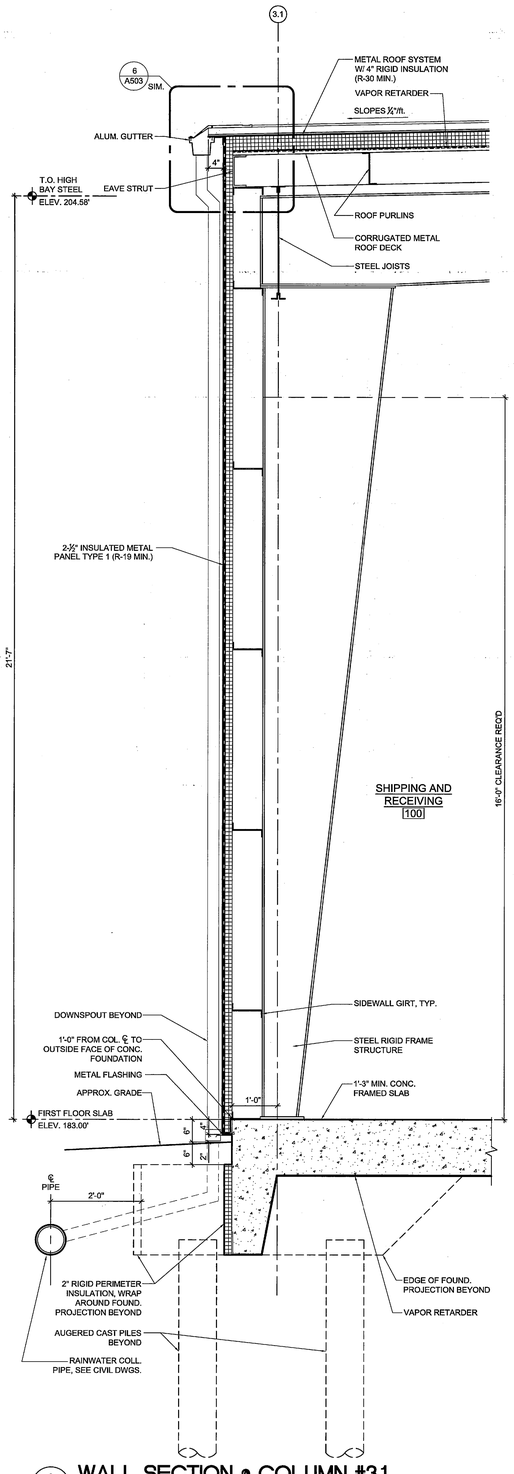
FORM F 03-07-08

FILE NAME: Floor Plans+RCP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

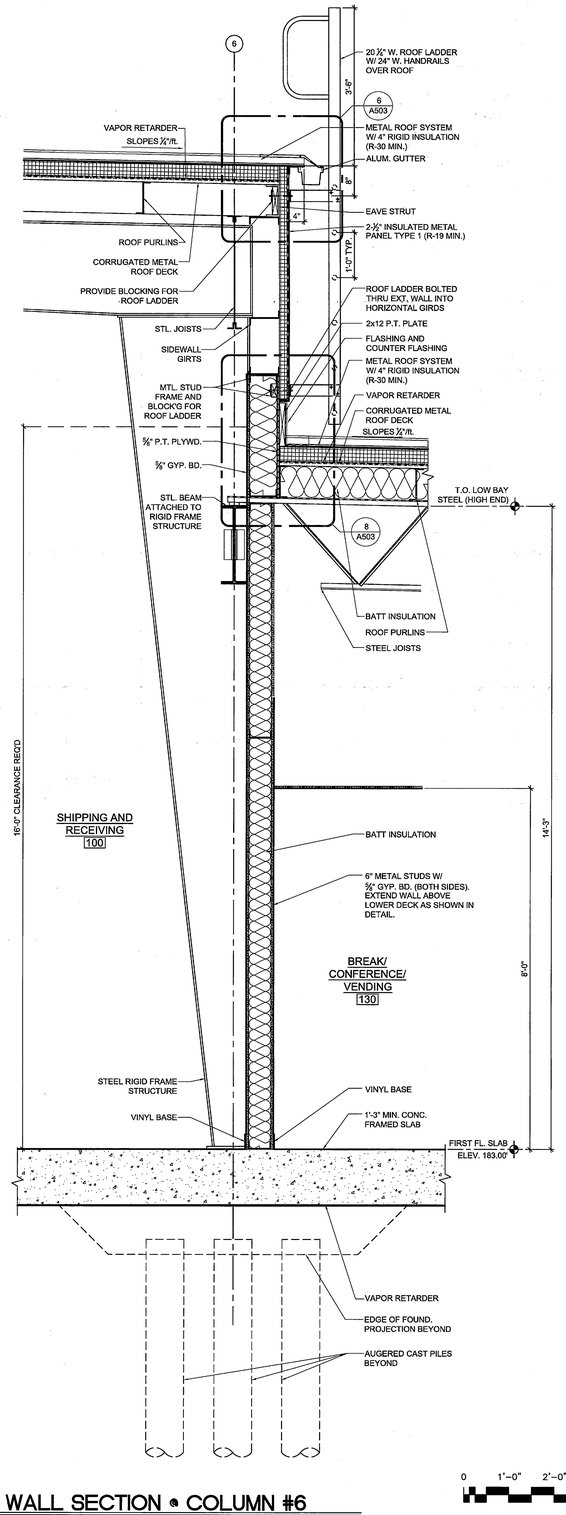
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



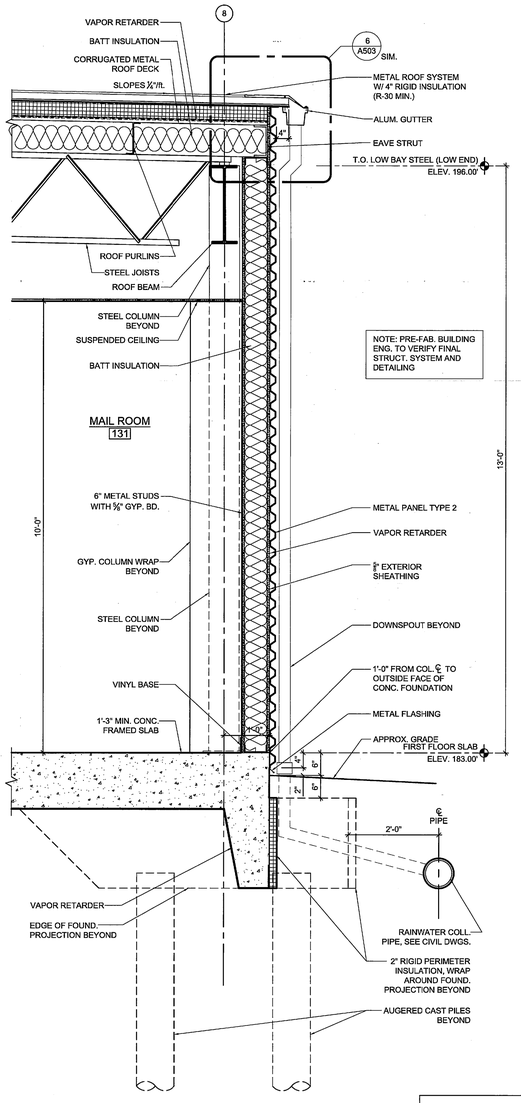
1 A501 **WALL SECTION @ COLUMN F**
SCALE: 3/4" = 1'-0"



2 A501 **WALL SECTION @ COLUMN #3.1**
SCALE: 3/4" = 1'-0"



3 A501 **WALL SECTION @ COLUMN #6**
SCALE: 3/4" = 1'-0"



4 A501 **WALL SECTION @ COLUMN #8**
SCALE: 3/4" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

SIZE OF GUTTERS AND DOWNSPOUTS TO BE VERIFIED BY PRE-ENGINEERED METAL BUILDING SUPPLIER.

0 1'-0" 2'-0" 3'-0"

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — 7000 P — FRANK W. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHE	2-26-10
NASA A-E		
S&E BRANCH	25	3/1/10
CM	—	
PM	JM	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
WALL SECTIONS 1

A501

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

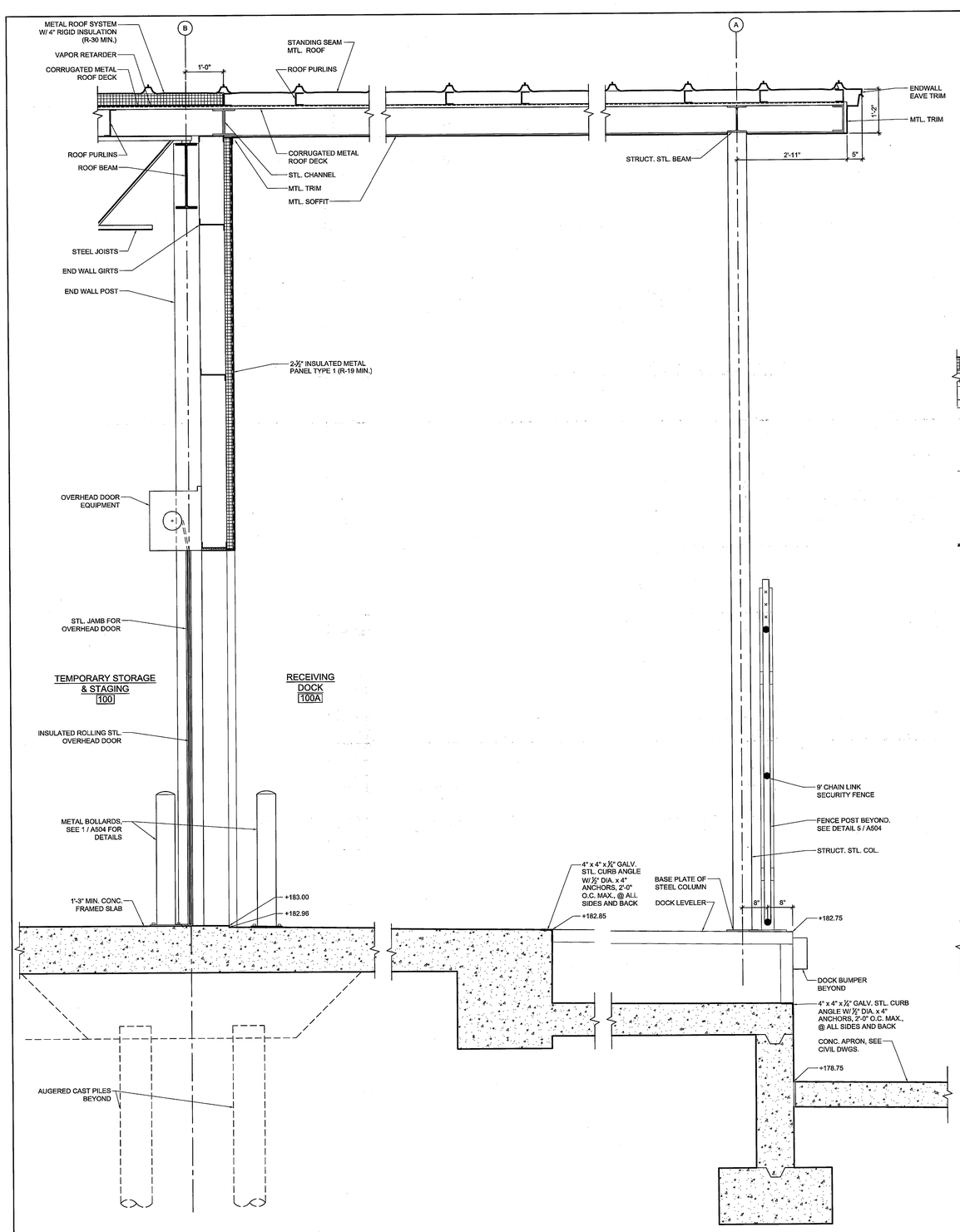
ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	66 OF 158	GF-035-34054

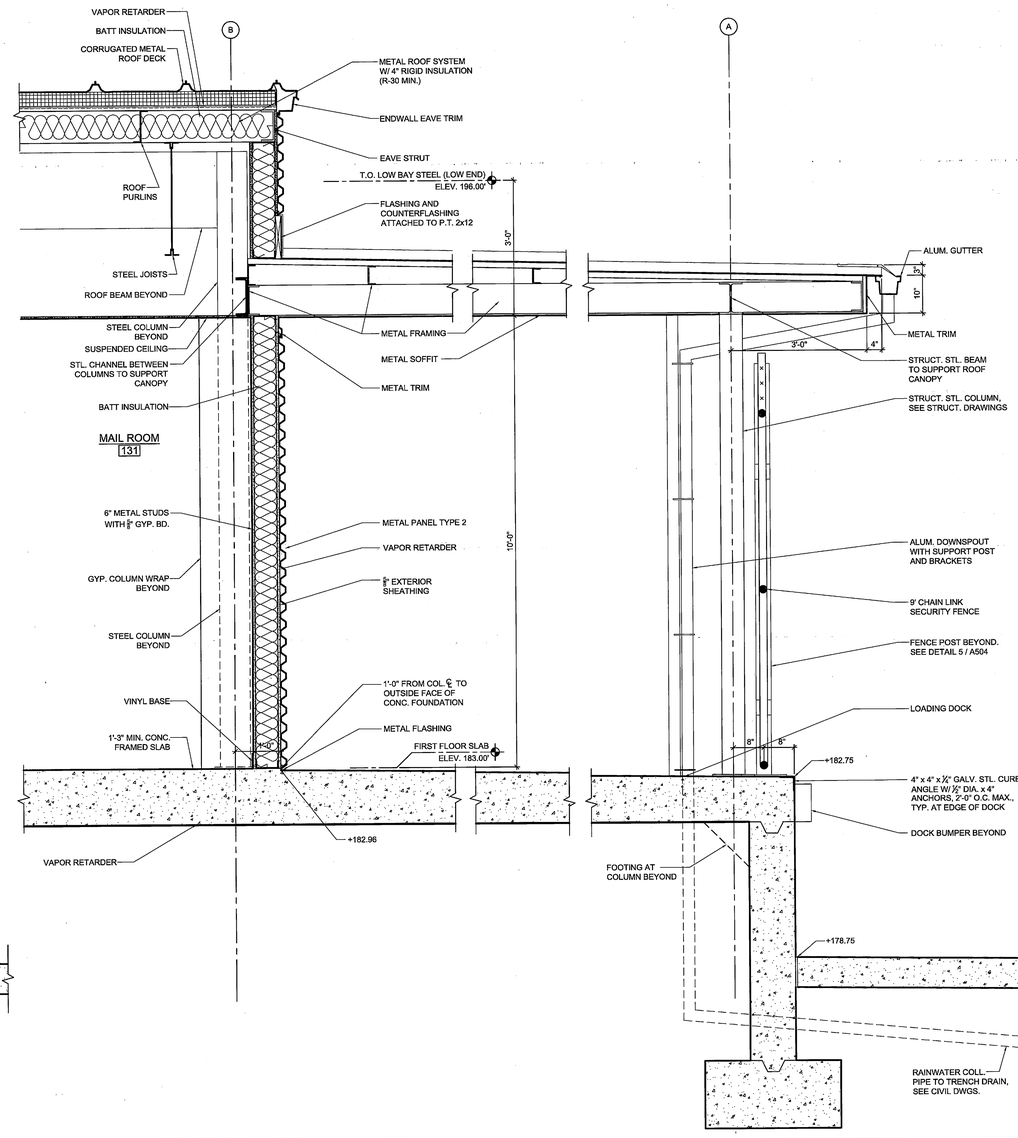
FILE NAME: Dadalo-Wall Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-03-08

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



1 A502 **WALL SECTION @ COLUMN B / A**
SCALE: 3/4" = 1'-0"



2 A502 **WALL SECTION @ COLUMN #B7**
SCALE: 3/4" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

SIZE OF GUTTERS AND DOWNSPOUTS TO BE VERIFIED BY PRE-ENGINEERED METAL BUILDING SUPPLIER.

0 1'-0" 2'-0" 3'-0"

Facilities Construction Engineering & Technical Services — PARSONS — FMD-GSFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — FRANK M. L. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RJ	3/1/10
CM	–	
PM	JAH	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

ARCHITECTURAL

LOGISTICS FACILITY
SITE AND SHELL
SHIP. & RECEIVE. AND WAREHOUSE
WALL SECTIONS 2

A502

BUILDING 035

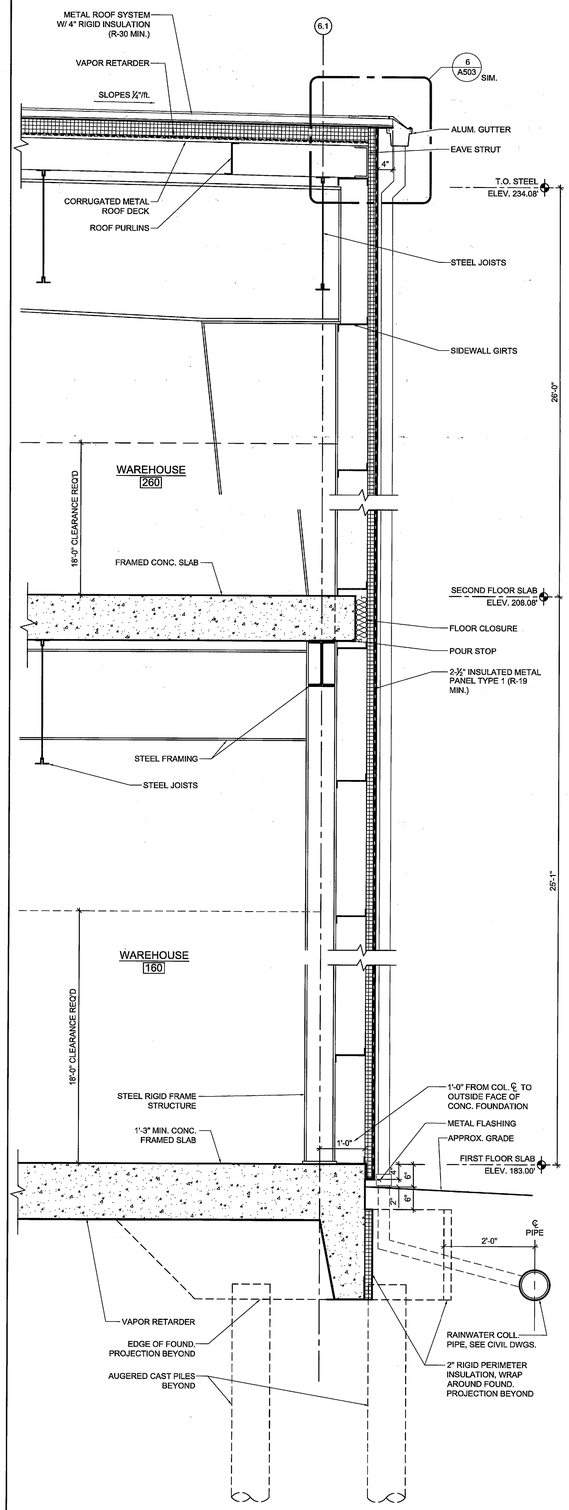
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	67 OF 158	GF-035-34055

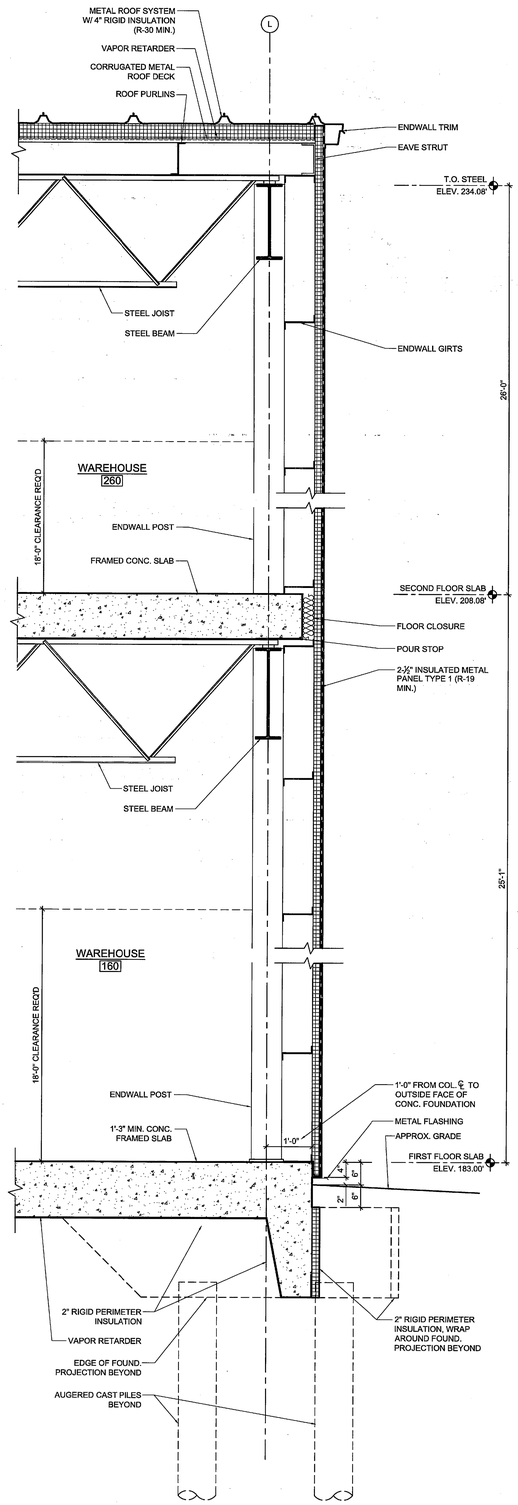
FORM F 03-07-08

PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010
FILE NAME: Details+Wall Sections.dwg

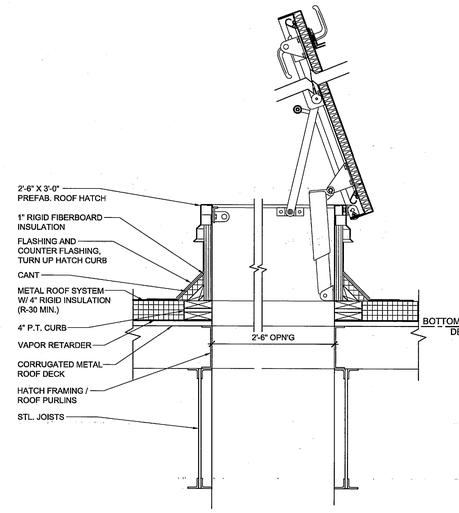
All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



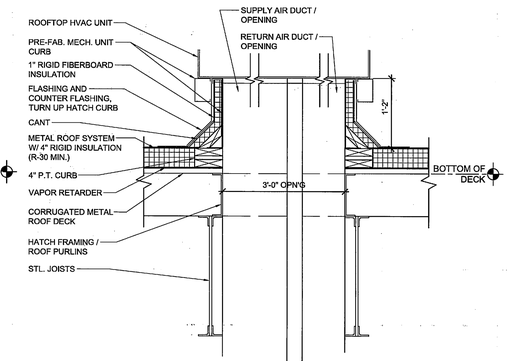
1 A503 WALL SECTION @ COLUMN #6.1
SCALE: 3/4" = 1'-0"



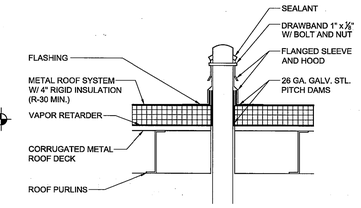
2 A503 WALL SECTION @ COLUMN L
SCALE: 3/4" = 1'-0"



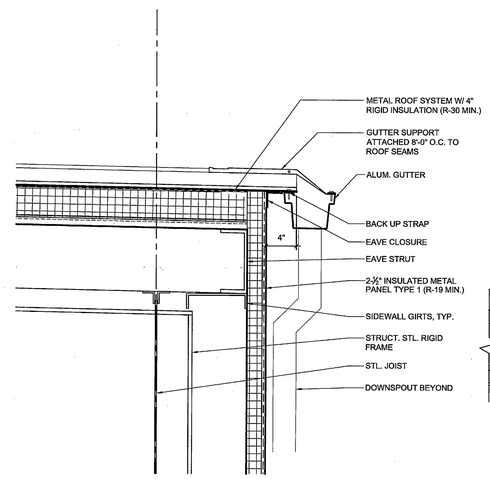
3 A503 ROOF HATCH DETAIL
SCALE: 1" = 1'-0"



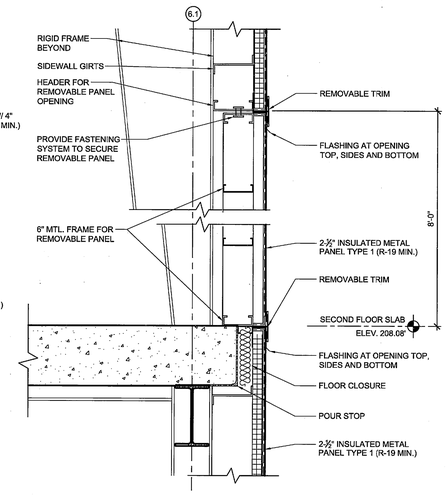
4 A503 HVAC UNIT ROOFTOP CURB DETAIL
SCALE: 1" = 1'-0"



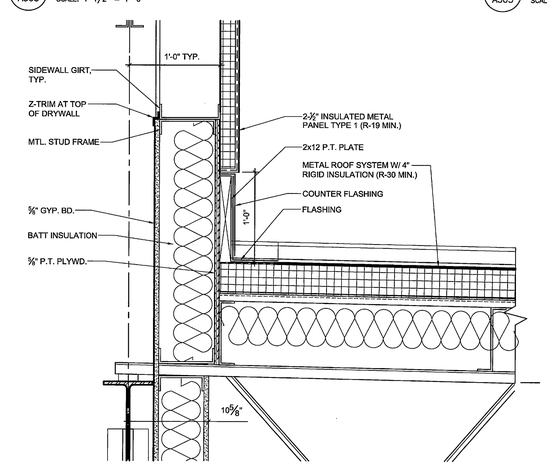
5 A503 TYP. VENT THRU ROOF DTL.
SCALE: 1" = 1'-0"



6 A503 TYPICAL GUTTER DETAIL
SCALE: 1-1/2" = 1'-0"



7 A503 REMOVABLE PANEL DETAIL
SCALE: 1" = 1'-0"



8 A503 TYPICAL WALL - LOW ROOF INTERSECTION DTL.
SCALE: 1-1/2" = 1'-0"

0 0'-4" 0'-8" 1'-0" | 0 1'-0" 2'-0" 3'-0" | 0 4'-0" 8'-0" 16'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

SIZE OF GUTTERS AND DOWNSPOUTS TO BE VERIFIED BY PRE-ENGINEERED METAL BUILDING SUPPLIER.

PARSONS — Facilities Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION ADARU — TERRY L. LUCAS JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	[illegible]	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	TWL	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIP. & RECEIVE. AND WAREHOUSE
WALL SECTIONS & ROOF HATCH

A503

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 68 OF 158 | DRAWING NO. GF-035-34056

FILE NAME: Details+Wall Sections.dwg | PLOT DATE: 2/25/2010 | FILE DATE: 2/25/2010

FORM F 03-07-08

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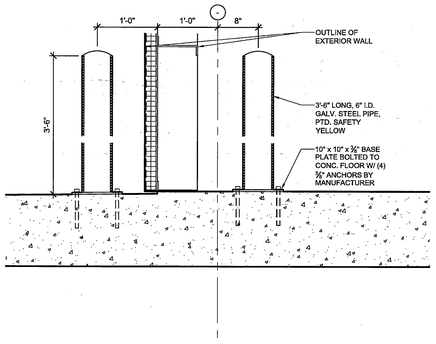
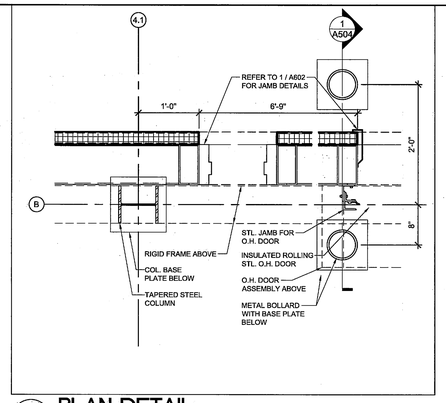
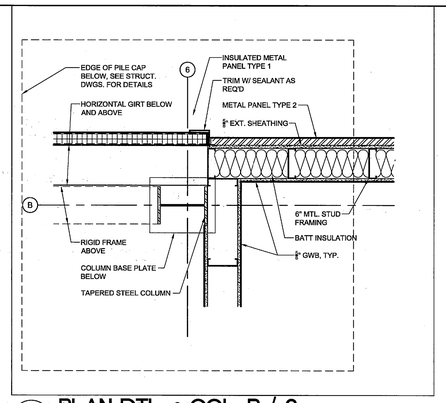


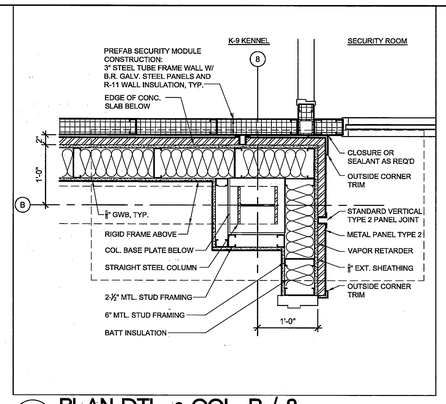
1 A504 **TYP. BOLLARD DETAIL**
SCALE: 1" = 1'-0"



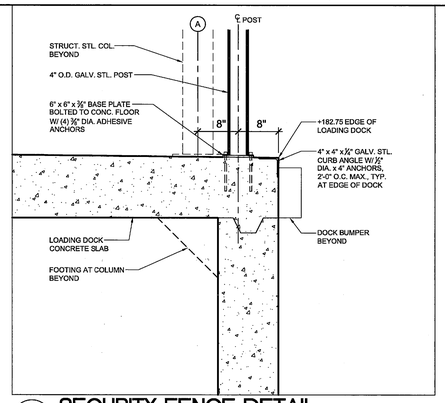
2 A504 **PLAN DETAIL**
SCALE: 1" = 1'-0"



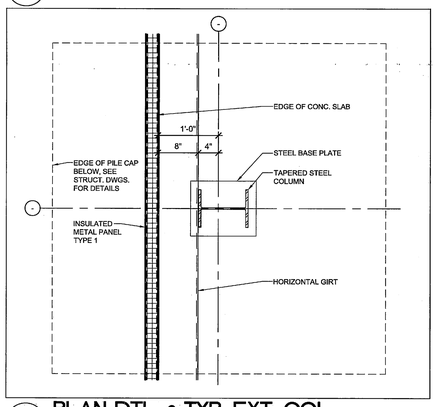
3 A504 **PLAN DTL. @ COL. B / 6**
SCALE: 1" = 1'-0"



4 A504 **PLAN DTL. @ COL. B / 8**
SCALE: 1" = 1'-0"



5 A504 **SECURITY FENCE DETAIL**
SCALE: 1" = 1'-0"



6 A504 **PLAN DTL. @ TYP. EXT. COL.**
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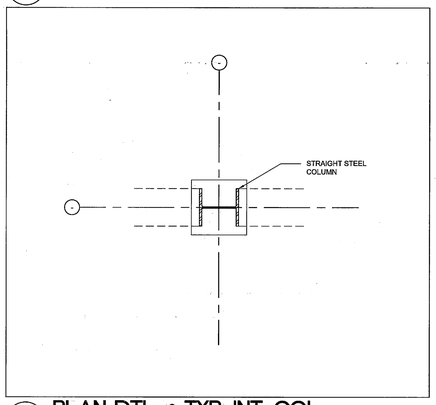

7 A504 **PLAN DTL. @ TYP. INT. COL.**
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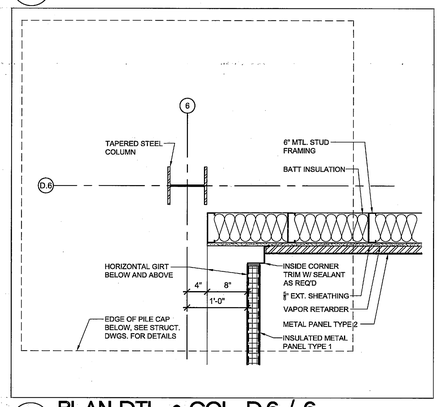

8 A504 **PLAN DTL. @ COL. D.6 / 6**
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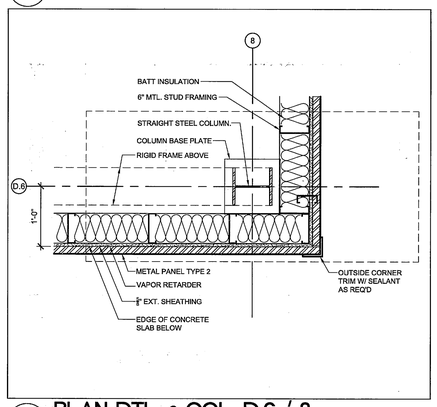

9 A504 **PLAN DTL. @ COL. D.6 / 8**
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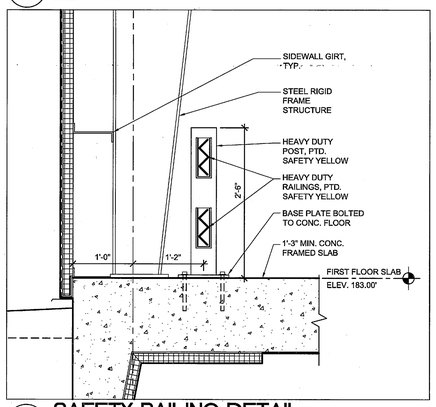
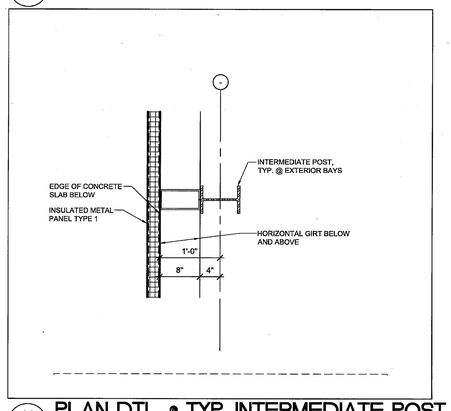
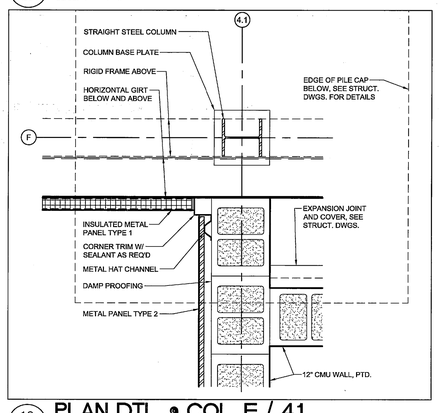


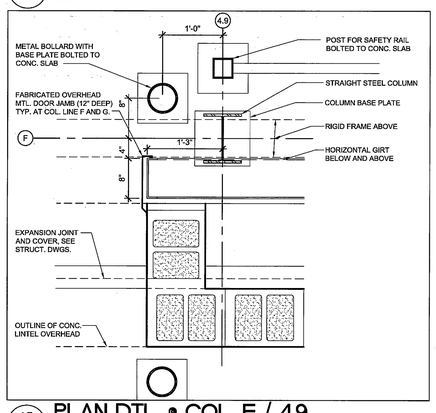
10 A504 **SAFETY RAILING DETAIL**
SCALE: 1" = 1'-0"



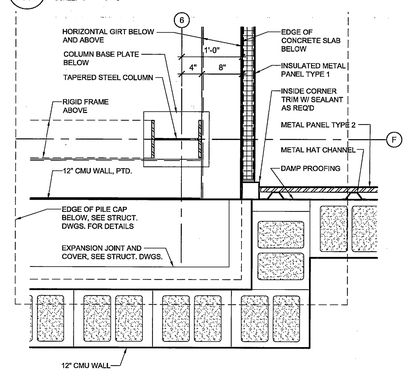
11 A504 **PLAN DTL. @ TYP. INTERMEDIATE POST**
SCALE: 1" = 1'-0"



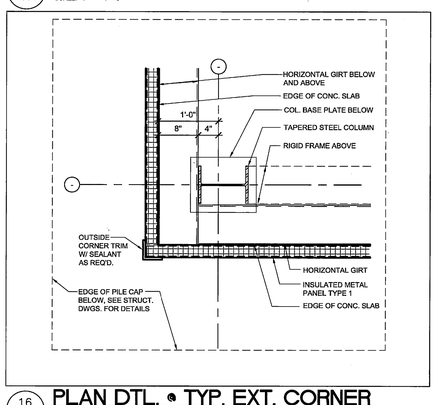
12 A504 **PLAN DTL. @ COL. F / 4.1**
SCALE: 1" = 1'-0"



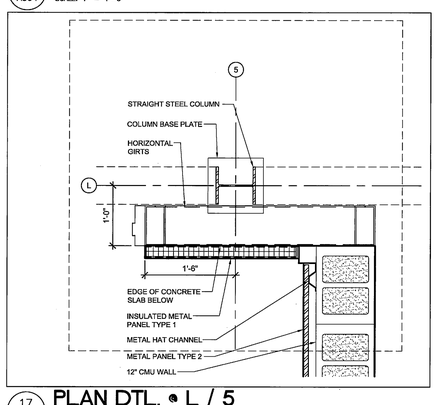
13 A504 **PLAN DTL. @ COL. F / 4.9**
SCALE: 1" = 1'-0"



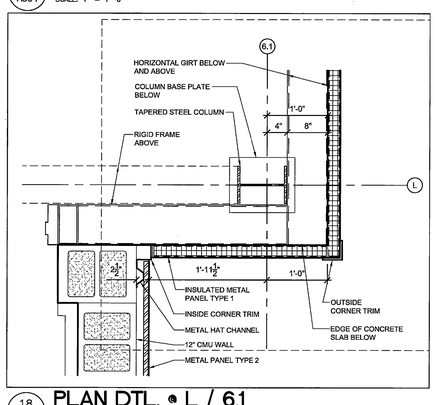
14 A504 **PLAN DTL. @ COL. F / 6**
SCALE: 1" = 1'-0"



16 A504 **PLAN DTL. @ TYP. EXT. CORNER**
SCALE: 1" = 1'-0"



17 A504 **PLAN DTL. @ L / 5**
SCALE: 1" = 1'-0"



18 A504 **PLAN DTL. @ L / 6.1**
SCALE: 1" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING.

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL DESIGN AND VERIFY COLUMN SIZES AND LAYOUT.

0 0'-6" 1'-0" 2'-0"

PARSONS
Facilities Construction Engineering & Technical Services
FMD-@ SFC-NASA

SEAL AREA
ARCHITECTURAL REGISTRATION BOARD
TODD
STANLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TWM	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ARCHITECTURAL DETAILS
WALLS, BOLLARD, & FLOOR RAIL

A504

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	69 OF 158	CF-035-34057

FILE NAME: Details-Wall Sections.dwg
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010

FORM F 03-01-06

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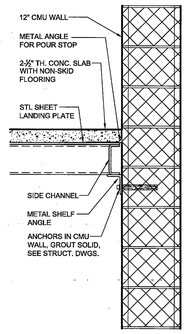
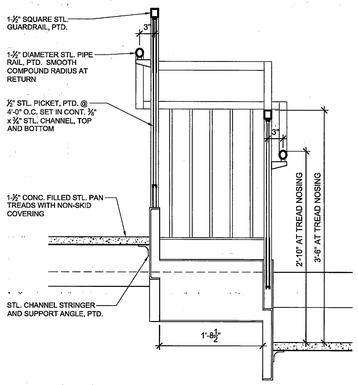
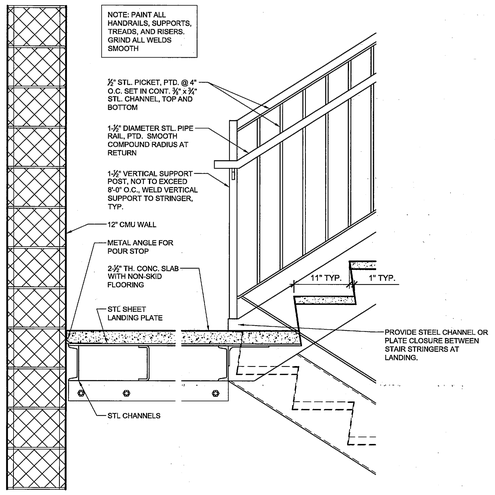


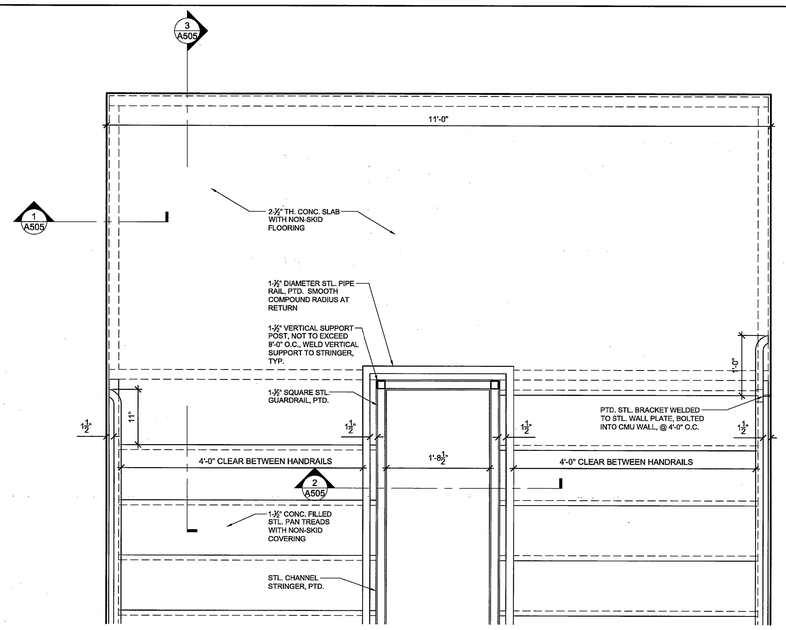
1 A505 **DTL. AT STAIR LANDING**
SCALE: 1" = 1'-0"



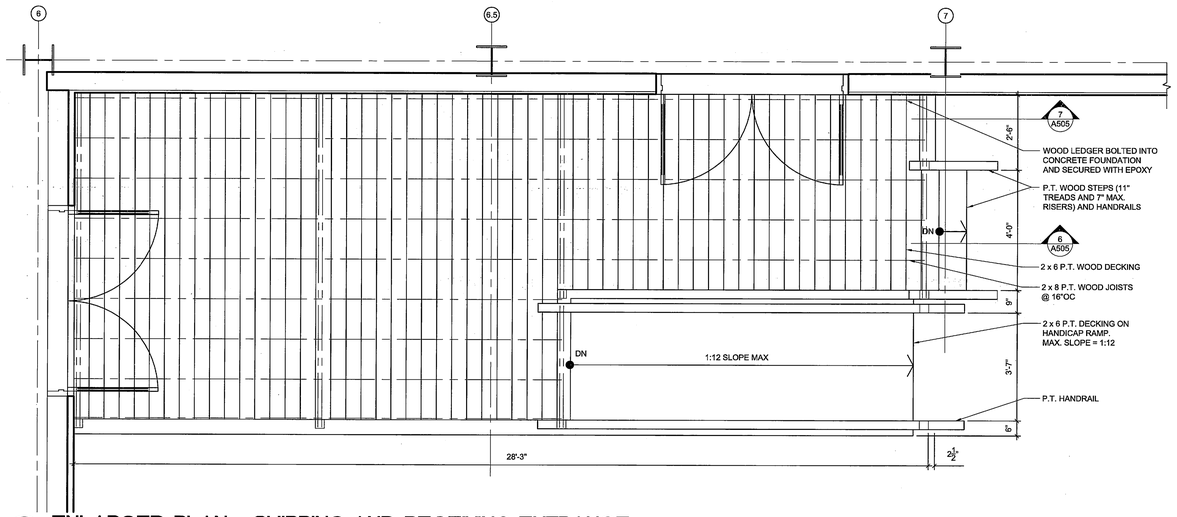
2 A505 **DTL. AT STAIR STRINGER**
SCALE: 1" = 1'-0"



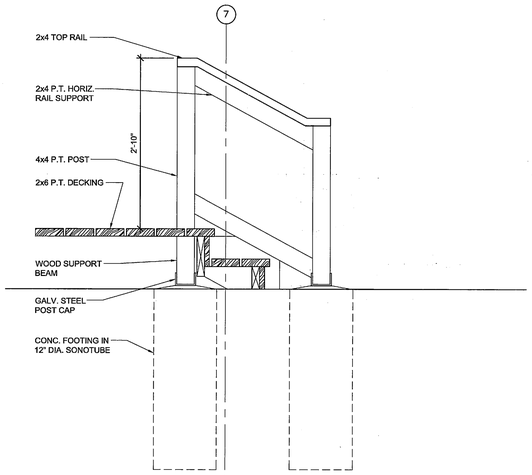
3 A505 **DTL. AT STAIR AND STAIR LANDING**
SCALE: 1" = 1'-0"



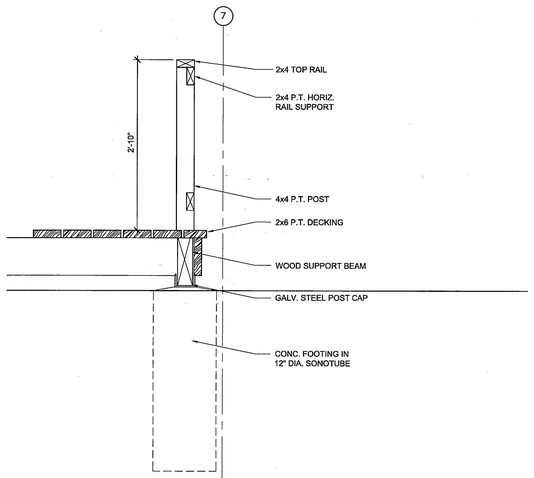
4 A505 **PLAN AT STAIR LANDING**
SCALE: 1" = 1'-0"



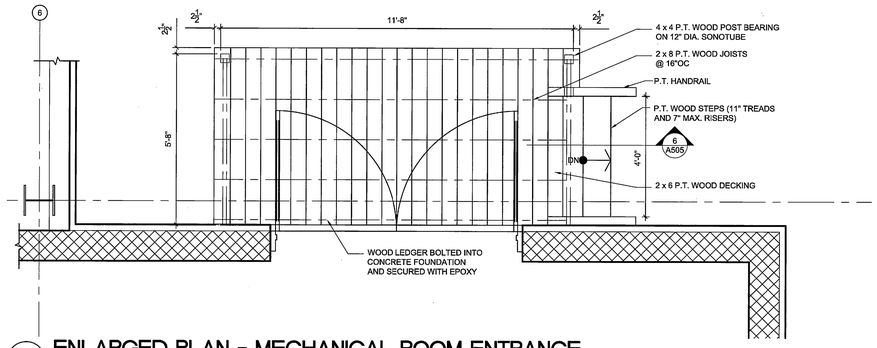
5 A505 **ENLARGED PLAN - SHIPPING AND RECEIVING ENTRANCE**
SCALE: 1/2" = 1'-0"



6 A505 **SECTION THRU LOADING DOCK STAIR**
SCALE: 1" = 1'-0"



7 A505 **SECTION THRU LOADING DOCK STAIR**
SCALE: 1" = 1'-0"



8 A505 **ENLARGED PLAN - MECHANICAL ROOM ENTRANCE**
SCALE: 1/2" = 1'-0"

0 1'-0" 2'-0" 4'-0"

0 0'-6" 1'-0" 2'-0"

Parsons Construction Engineering & Facilities Services
PARSONS
PMO-GSFC-NASA

SEAL AREA
ARCHITECTURAL REGISTRATION JOARU
7559-R
STANLEY N. L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2.26.10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TMA	3/1/10
CUSTOMER	A.W.	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ARCHITECTURAL DETAILS
STAIRS AND RAMPS 1

A505

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL	DATE ISSUED 03-01-10	CoF CODE or WBS A6890	SHEET 70 OF 158	DRAWING NO. GF-035-34058

FORM F 03-07-08

FILE NAME: Details-Hvac Sections.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

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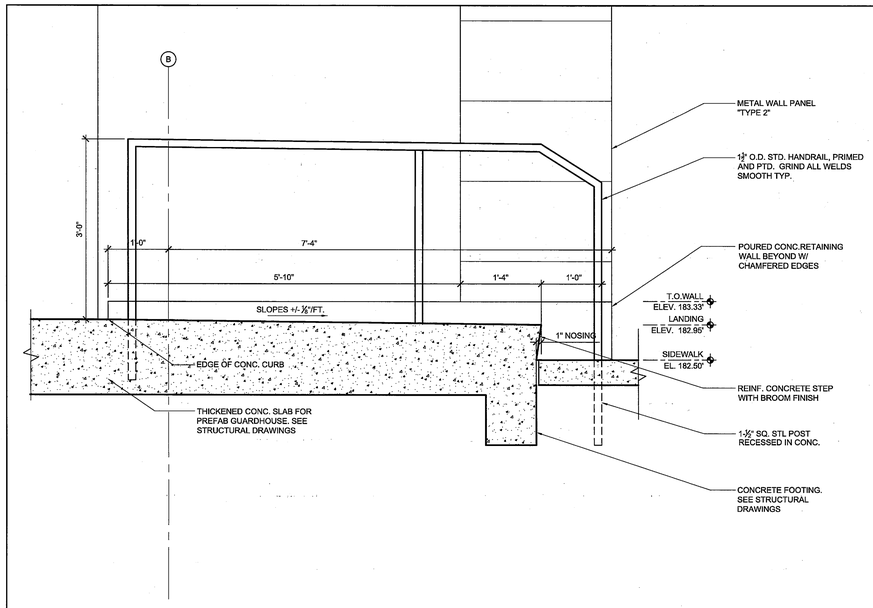
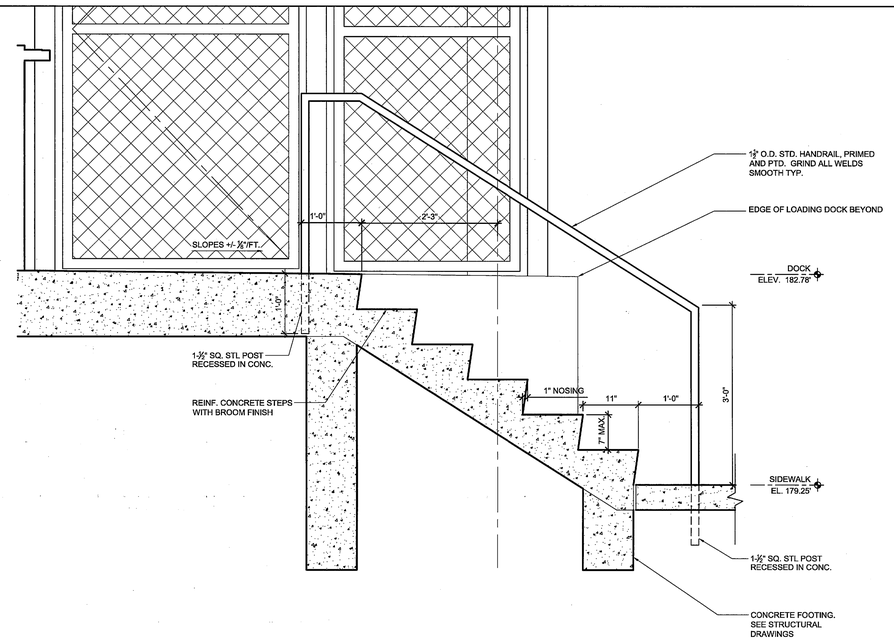
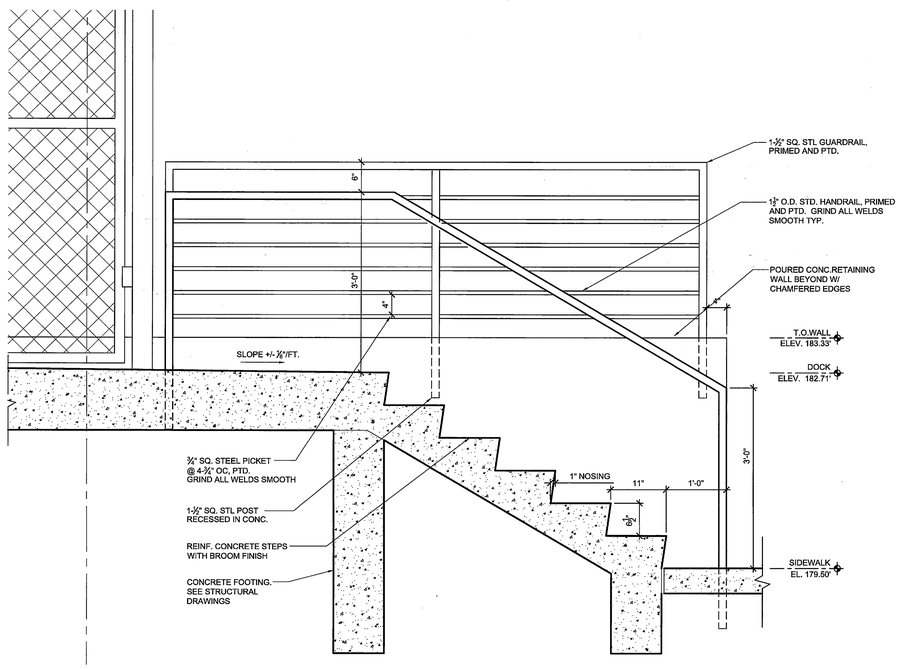


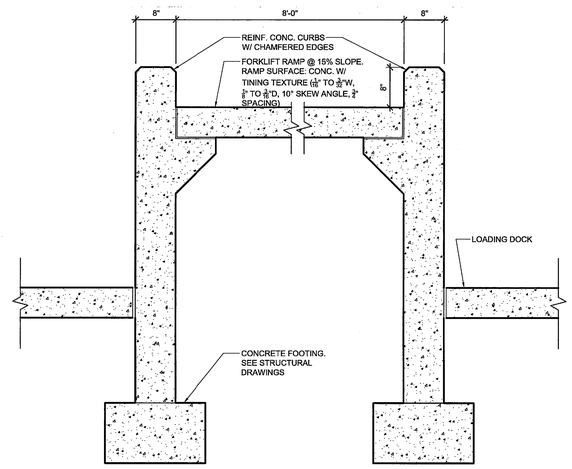
1 A506 SECTION THRU EXTERIOR STAIR
SCALE: 1" = 1'-0"



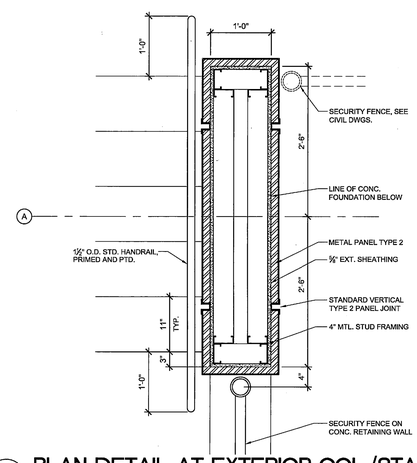
2 A506 SECTION THRU EXTERIOR STAIR
SCALE: 1" = 1'-0"



3 A506 SECTION THRU LOADING DOCK STAIR
SCALE: 1" = 1'-0"



4 A506 SECTION THRU LOADING DOCK FORKLIFT RAMP
SCALE: 1" = 1'-0"



5 A506 PLAN DETAIL AT EXTERIOR COL./STAIR
SCALE: 1" = 1'-0"

0 0'-6" 1'-0" 2'-0"

PARSONS
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SEAL AREA
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STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	PL	02-25-10
A-E MANAGER	SKC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	TMA	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ARCHITECTURAL DETAILS
STAIRS AND RAMPS 2

A506

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL	DATE ISSUED 03-01-10	CoF CODE or W/O A6890	SHEET 71 OF 158	DRAWING NO. GF-035-34059

FILE NAME: Details-Hvac Sections.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

FORM F 03-01-08

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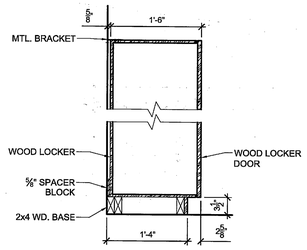
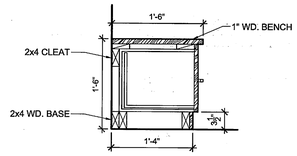
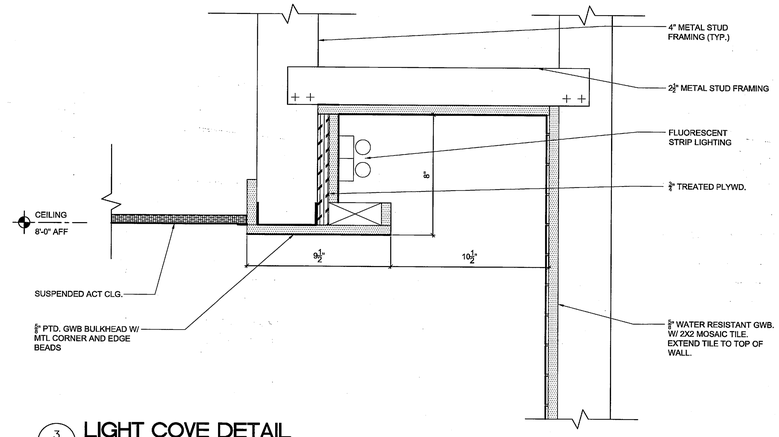


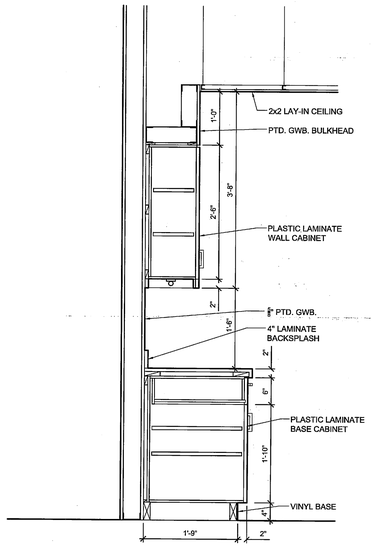
1 A507 LOCKER DETAIL
SCALE: 1" = 1'-0"



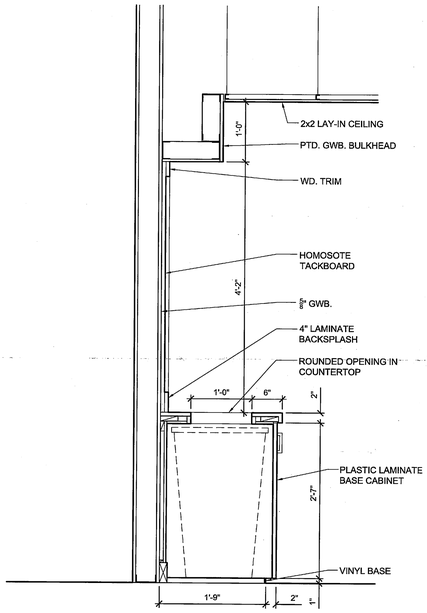
2 A507 BENCH DETAIL
SCALE: 1" = 1'-0"



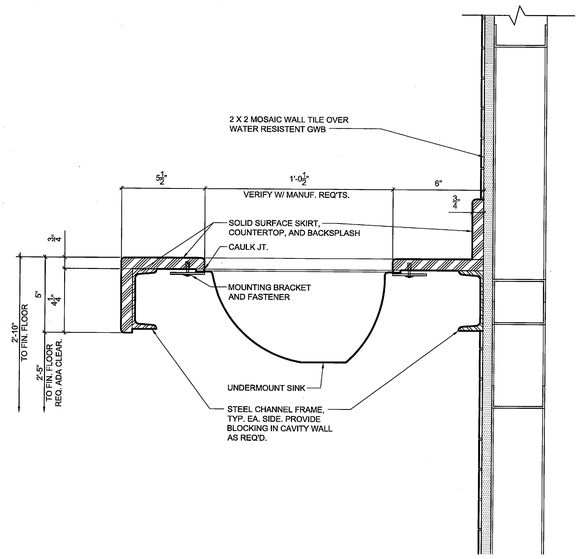
3 A507 LIGHT COVE DETAIL
SCALE: 3" = 1'-0"



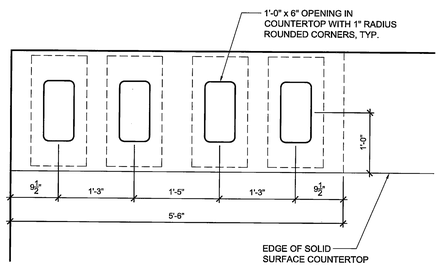
4 A507 SECTION THRU KITCHEN CASEWORK
SCALE: 1" = 1'-0"



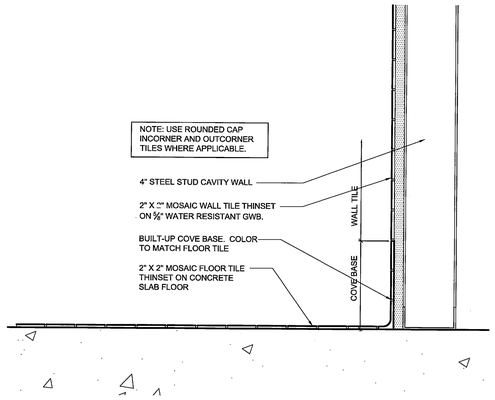
5 A507 SECTION THRU KITCHEN CASEWORK
SCALE: 1" = 1'-0"



6 A507 BATHROOM SINK DETAIL
SCALE: 3" = 1'-0"



7 A507 PLAN DETAIL AT KITCHEN COUNTERTOP
SCALE: 1" = 1'-0"



8 A507 MOSAIC TILE BASE COVE DETAIL
SCALE: 3" = 1'-0"

0 0'-2" 0'-4" 0'-8"

0 0'-6" 1'-0" 2'-0"

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SEAL AREA
ARCHITECTURAL REGISTRATION BOARD
75598
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REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SAK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	—	
PM	FTM	3/1/10
CUSTOMER	HW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

ARCHITECTURAL DETAILS
CASEWORK & MISC. INTERIOR

A507

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	72 OF 158	GF-035-34060

FILE NAME: Details-Wall Sections.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

FORM F 03-07-08

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DOOR, FRAME AND HARDWARE SCHEDULE

ASSEMBLY		DOOR						FRAME							
NO.	LOCATION	TYPE	WIDTH	HEIGHT	THICK.	MATERIAL	FINISH	MATERIAL	FINISH	HEAD DTL ON A602	JAMB DTL ON A602	SILL	HARDWARE TYPE	RATING	REMARKS
100-0	SHIP'G AND REC'G	C	4'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H5	J5	S1	SET 1	NONE	SEE NOTES #3,4
100-1	SHIP'G AND REC'G	A	20'-0"	15'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	
100-2	SHIP'G AND REC'G	B / H	10'-0"	10'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	W/ HIGH IMPACT DOORS
100-3	SHIP'G AND REC'G	B / H	10'-0"	10'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	W/ HIGH IMPACT DOORS
100-4	SHIP'G AND REC'G	I	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	CLEAR	STEEL	CLEAR	H6	J6	S1	SET 2	NONE	SEE NOTES #1,4
100-5	SHIP'G AND REC'G	D	3'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H5	J5	S1	SET 2	NONE	SEE NOTES #3,4
100-6	SHIP'G AND REC'G	B	10'-0"	10'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	W/ HIGH IMPACT DOORS
100-7	SHIP'G AND REC'G	B	10'-0"	10'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	W/ HIGH IMPACT DOORS
100D-0	CORRIDOR	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	—	SET 12	NONE	
100D-1	CORRIDOR	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S2	SET 12	NONE	SEE NOTE #3 (BOTH SIDES)
100E-0	VESTIBULE	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H6	J6	S1	SET 3	NONE	SEE NOTE #4
100E-1	VESTIBULE	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H1	J1	S2	SET 5	NONE	
101-0	PREFAB SECURITY MODULE	J	3'-0"	6'-10"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	BY MFGR	BY MFGR	BY MFGR	BY MFGR	NONE	W/ BULLET RESISTENT GLASS
101-1	PREFAB SECURITY MODULE	J	3'-0"	6'-10"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	BY MFGR	BY MFGR	BY MFGR	BY MFGR	NONE	W/ BULLET RESISTENT GLASS
101A-0	K-9 KENNEL	K	2'-0"	3'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	BY MFGR	BY MFGR	BY MFGR	BY MFGR	NONE	W/ OPERABLE LOUVER
101A-1	K-9 KENNEL	K	2'-0"	3'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	BY MFGR	BY MFGR	BY MFGR	BY MFGR	NONE	W/ OPERABLE LOUVER
122-0	MEN'S RESTROOM	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H7	J7	S4	SET 9	NONE	
124-0	WOMEN'S RESTROOM	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H7	J7	S4	SET 9	NONE	
130-0	BREAK/CONF. ROOM	E	3'-0"	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S2	SET 9	NONE	
130-1	BREAK/CONF. ROOM	E	3'-0"	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S3	SET 9	NONE	
131-0	MAILROOM	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S3	SET 8	NONE	SEE NOTE #3
131-1	MAILROOM	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S3	SET 8	NONE	SEE NOTE #3
131-2	MAILROOM	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H6	J6	S1	SET 1	NONE	SEE NOTE #4
131-3	MAILROOM	F	3'-0" PR.	7'-0"	1-¾"	STL/GLASS	PAINT	STEEL	PAINT	H7	J7	S2	SET 8	NONE	SEE NOTE #3
138-0	CHANGING/SHOWER	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H7	J7	S3	SET 10	NONE	
140-0	LACTATION	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H7	J7	S3	SET 10	NONE	
142-0	JANITOR/UTILITY	G	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H7	J7	S3	SET 11	NONE	LOUVERED VENT IN DOOR
150-0	MECHANICAL	D	4'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H2	J2	S1	SET 2	NONE	SEE NOTE #4
150-1	MECHANICAL	D	4'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	—	SET 7	NONE	
150A-0	ELECTRICAL	D	3'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H8	J8	—	SET 11	NONE	SEE NOTE #3
150B-0	TELEPHONE	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H2	J2	S1	SET 1	NONE	SEE NOTE #3
160-0	WAREHOUSE	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H5	J5	S1	SET 1	NONE	SEE NOTE #4
160-1	WAREHOUSE	B	10'-0"	10'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	W/ HIGH IMPACT DOORS
160-2	WAREHOUSE	A	20'-0"	15'-0"	BY MFGR.	STEEL	PAINT	STEEL	PAINT	H3	J3	—	BY MFGR.	NONE	
160-3	WAREHOUSE	D	3'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H5	J5	S1	SET 2	NONE	SEE NOTE #4
160B-0	WAREHOUSE LINK	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	—	SET 6	NONE	
160B-1	WAREHOUSE LINK	A	20'-0"	15'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H4	J4	—	BY MFGR.	NONE	NON-INSULATED DOOR
161-0	ELEV. MACHINE ROOM	D	3'-0" PR.	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	—	SET 12	2-HR	
165-0	STAIR NO. 1	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	S2	SET 6	2-HR	
165-1	STAIR NO. 1	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H2	J2	S1	SET 4	2-HR	SEE NOTE #4
165-2	STAIR NO. 1	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	S2	SET 6	2-HR	
199-0	STAIR NO. 2	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	S2	SET 6	2-HR	
199-1	STAIR NO. 2	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H2	J2	S1	SET 4	2-HR	SEE NOTES #1,3,4
265-0	STAIR NO. 1	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	S2	SET 6	2-HR	
299-0	STAIR NO. 2	C	3'-0"	7'-0"	1-¾"	STEEL	PAINT	STEEL	PAINT	H1	J1	S2	SET 6	2-HR	

SILL TYPE LEGEND

S1	EXTERIOR THRESHOLD, SEE HARDWARE SCHEDULE
S2	⅛" UNDERSLUNG RESILIENT FLOOR REDUCER
S3	5/16" SNAP DOWN RESILIENT MATERIAL JOINER
S4	MARBLE THRESHOLD, MAX. HGT. 1#2"

REMARKS LEGEND

NOTE #1	DOOR / FRAME TO BE EQUIPPED FOR HANDICAP DOOR OPENER
NOTE #2	DOOR / FRAME TO BE EQUIPPED WITH ROUGH-IN FOR MAGNETIC CARD READER, SEE E502
NOTE #3	DOOR / FRAME TO BE EQUIPPED WITH ROUGH-IN FOR ELECTRIC LOCKSET CARD READER, SEE E502
NOTE #4	DOOR / FRAME TO BE EQUIPPED WITH ROUGH-IN FOR ALARM POINTS, SEE E502

HARDWARE SCHEDULE

HARDWARE SET #1 - EXTERIOR	HARDWARE SET #2 - EXTERIOR	HARDWARE SET #3 - EXTERIOR	HARDWARE SET #4 - EXTERIOR
ENTRANCE LOCKSET PUSH BAR HARDWARE CLOSER 1-½ PAIR HINGES DOOR HOLDER THRESHOLD WEATHERSTRIPPING	ENTRANCE LOCKSET PUSH BAR HARDWARE 2 CLOSERS 3 PAIR HINGES OUTDOOR STOPS THRESHOLD WEATHERSTRIPPING	ENTRANCE LOCKSET PUSH BAR HARDWARE 2 CLOSERS 3 PAIR HINGES 2 (OUTDOOR) STOPS THRESHOLD WEATHERSTRIPPING	ENTRANCE LOCKSET PUSH BAR HARDWARE CLOSER 1-½ PAIR HINGES DOOR HOLDER THRESHOLD WEATHERSTRIPPING
HARDWARE SET #5 - INTERIOR	**HARDWARE SET #6 - INTERIOR**	**HARDWARE SET #7 - INTERIOR**	**HARDWARE SET #8 - INTERIOR**
ENTRANCE LOCKSET CLOSER 3 PAIR HINGES WALL STOPS	PUSH BAR HARDWARE CLOSERS 1-½ PAIR HINGES WALL STOP FLOOR STOP	STOREROOM LOCKSET CLOSER 3 PAIR HINGES 2 WALL STOPS	CYLINDER LOCKSET CLOSER 3 PAIR HINGES 2 WALL STOPS CARD READER
HARDWARE SET #9 - INTERIOR	**HARDWARE SET #10 - INTERIOR**	**HARDWARE SET #11 - INTERIOR**	**HARDWARE SET #12 - INTERIOR**
PUSH/PULL HANDLES CYLINDER LOCKSET CLOSER 1-½ PAIR HINGES WALL STOP	PRIVACY LOCKSET CLOSER 1-½ PAIR HINGES WALL STOP	STOREROOM LOCKSET 1-½ PAIR HINGES WALL STOP	2 CLOSERS 3 PAIR HINGES 2 WALL STOPS

FINISH SCHEDULE

NO.	LOCATION	FLOOR FINISH	BASE FINISH	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING FINISH
100	SHIP'G AND REC'G	SEALED CONCRETE	RUBBER BASE	METAL PANEL	HIGH IMPACT GWB, PTD	METAL PANEL	METAL PANEL	METAL DECK
100A	RECEIVING DOCK	SEALED CONC. W/ FLOOR HARDENER	NONE	CHAIN LINK FENCE	CHAIN LINK FENCE	METAL PANEL	CHAIN LINK FENCE	METAL CANOPY
100B	MAIL DOCK	SEALED CONC. W/ FLOOR HARDENER	NONE	CHAIN LINK FENCE	CHAIN LINK FENCE	METAL PANEL	CHAIN LINK FENCE	METAL CANOPY
100D	CORRIDOR	VINYL TILE	RUBBER BASE	GWB, PTD.	GWB, PTD.	GWB, PTD.	GWB, PTD.	ACT #1
100E	VESTIBULE	NON-SKID VINYL	RUBBER BASE	GWB, PTD.	GWB, PTD.	GWB, PTD.	GWB, PTD.	ACT #1
101	SECURITY PRE FAB ENCLOSURE SEE DETAILS SHT.A 403	RUBBER TILE	RUBBER BASE	B.R. GLASS/STEEL	B.R. GLASS/STEEL	B.R. GLASS/STEEL	B.R. GLASS/STEEL	ACT BY MFGR
101A	KENNEL PRE FAB ENCLOSURE SEE DETAILS SHT.A 403	RUBBER TILE	RUBBER BASE	B.R. GLASS/STEEL	B.R. GLASS/STEEL	B.R. GLASS/STEEL	B.R. GLASS/STEEL	ACT BY MFGR
122	MEN'S RESTROOM	CERAMIC TILE	CERAMIC TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	ACT #2
124	WOMEN'S RESTROOM	CERAMIC TILE	CERAMIC TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	GWB #2 / CER. TILE	ACT #2
130	BREAK / CONF. / VENDING	VINYL TILE	RUBBER BASE	GWB, PTD.	GWB, PTD.	GWB, PTD.	GWB, PTD.	ACT #1
131	MAILROOM	SHEET VINYL	INTEGRAL COVE BASE	GWB, EPOXY PAINT	GWB, EPOXY PAINT	GWB, EPOXY PAINT	GWB, EPOXY PAINT	ACT #3
138	CHANGING / SHOWER	SHEET VINYL	INTEGRAL COVE BASE	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	ACT #2
140	LACTATION	VINYL TILE	RUBBER BASE	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	ACT #1
142	JANITOR / UTILITY	SHEET VINYL	INTEGRAL COVE BASE	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	GWB #2, PTD.	ACT #1
150	MECHANICAL	SEALED CONC. W/ FLOOR HARDENER	N/A	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
150A	ELECTRICAL	SEALED CONC. W/ FLOOR HARDENER	N/A	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
150B	TELEPHONE	VINYL TILE	N/A	CMU/ WD PANEL PTD.	CMU, PTD	CMU / WD. PANEL, PTD	CMU / WD. PANEL, PTD	METAL DECK
160	WAREHOUSE	SEALED CONC. W/ FLOOR HARDENER	N/A	METAL PANEL	METAL PANEL	METAL PANEL	METAL PANEL	METAL DECK
160B	WAREHOUSE LINK	SEALED CONC. W/ FLOOR HARDENER	N/A	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
161	ELEV. MACHINE ROOM	SEALED CONC. W/ FLOOR HARDENER	N/A	CMU	CMU	CMU	CMU	METAL DECK
063	PASSENGER / FREIGHT ELEV.	SEALED CONC. W/ FLOOR HARDENER	N/A	CMU	CMU	CMU	CMU	METAL DECK
165	STAIR NO. 1	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
199	STAIR NO. 2	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
260	WAREHOUSE	SEALED CONCRETE	N/A	METAL PANEL	METAL PANEL	METAL PANEL	METAL PANEL	METAL DECK
263	PASSENGER / FREIGHT ELEV.	SEALED CONCRETE	N/A	CMU	CMU	CMU	CMU	METAL DECK
265	STAIR NO. 1	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
299	STAIR NO. 2	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
365	STAIR NO. 1	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK
399	STAIR NO. 2	NON-SKID FLOORING	RUBBER BASE	CMU, PTD.	CMU, PTD.	CMU, PTD.	CMU, PTD.	METAL DECK

FINISH SCHEDULE - BID ADDITIVES

NO.	LOCATION	FLOOR FINISH	BASE FINISH	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING FINISH
100C	DISTRIBUTION DOCK SEE BID ADDITIVE 3	SEALED CONC. W/ NON-SKID FINISH	NONE	METAL PANEL	NONE	METAL PANEL	METAL PANEL	METAL CANOPY
160D	LOADING DOCK SEE BID ADDITIVE 4	SEALED CONC. W/ NON-SKID FINISH	NONE	METAL PANEL	METAL PANEL	NONE	NONE	METAL CANOPY

SCHEDULE KEY

TYPE	DESCRIPTION
ACT #1	STANDARD CEILING TILE
ACT #2	MOLD RESISTANT CEILING TILE
ACT #3	MYLAR FACED CEILING TILE
CMU	CONCRETE MASONRY UNIT
GWB	REGULAR GYPSUM WALL BOARD
GWB #2	WATER RESISTANT GYPSUM WALL BOARD

EXTERIOR COLOR SCHEDULE BASIS OF DESIGN

REFERENCE TO SPEC SECTION	EXTERIOR PRODUCTS	PRODUCT DESCRIPTION	COLOR NAME
13 34 19	METAL WALL PANEL, TYPE 1	INSULATED VERTICAL WALL PANEL	BUTLER "SOLAR WHITE" OR EQUAL
13 34 19	METAL WALL PANEL, TYPE 1	INTERIOR OF ROOF AND WALL PANELS	BUTLER "SOLAR WHITE" OR EQUAL
13 34 19	METAL WALL PANEL, TYPE 2	HORIZONTAL WALL PANEL	BUTLER "PEBBLE" OR EQUAL
13 34 19	MTL FASCIA & ACCESSORIES		BUTLER "SOLAR WHITE" OR EQUAL
13 34 19	METAL SOFFIT		BUTLER "SOLAR WHITE" OR EQUAL
13 34 19	MTL. GUTTER, DOWNSPOUT & TRIM		BUTLER "SOLAR WHITE" OR EQUAL
13 34 19	MTL. ROOF	"COOL ROOF" INITIAL REFLECTANCE > 0.65 AGED REFLECTANCE > 0.50	BUTLER "SOLAR WHITE" OR EQUAL
08 11 13	STEEL DOORS		DURON #7072 - "ONLINE" OR EQUAL; MAIN ENTRANCE DOOR #100-4 D1 AC143N - "NIGHT MISSION"
08 11 13	STEEL DOOR FRAME		DURON #7072 - "ONLINE" OR EQUAL; MAIN ENTRANCE DOOR #100-4 D1 AC143N - "NIGHT MISSION"
05 52 00	EXTERIOR MTL HANDRAILS	HOT-DIPPED GALV. FINISH	DURON #7074 - "SOFTWARE OR EQUAL
08 34 02	PREFAB SECURITY MODULE	GALV. STEEL PANEL	TO MATCH BUTLER "SOLAR WHITE"

INTERIOR COLOR SCHEDULE BASIS OF DESIGN

SPECSINTACT SECTION NUMBER	INTERIOR PRODUCTS	PRODUCT DESCRIPTION	COLOR NAME
09 65 00	VINYL COMPOSITION TILE	STD EXCELON - IMPERIAL TEXTURE BY ARMSTRONG OR EQUAL	T1 "PEWTER" - 51908
09 65 00	SHEET VINYL	"MEDINTECH" BY ARMSTRONG OR APPROVED EQUAL	86431 - "COOL GRAY"
09 95 00	STAIR TREADS AND LANDING	RUBBER SLIP RESISTANT SAFETY TREAD AND INTEGRATED RISER FROM ROPPE OR EQUAL	178 - "PEWTER"
09 65 00	RESILIENT BASE & MOLDINGS	RUBBER WALL BASE BY ROPPE OR EQUAL	178 - "PEWTER"
09 30 00	CERAMIC FLOOR TILE	2" x 2" UNGLAZED CERAMIC MOSAIC TILE	"STORM GRAY SPECKLED" - A06 BY AMERICAN OLEAN OR EQUAL
09 30 00	CERAMIC WALL TILE	2" x 2" UNGLAZED CERAMIC MOSAIC TILE	"LIGHT SMOKE" - A43 BY AMERICAN OLEAN OR EQUAL
09 90 00	CONC. FLOOR HARDENER		CLEAR FINISH
09 90 00	PAINT - INTERIOR WALLS	LATEX ENAMEL, LOW SHEEN - (OFFICE AREAS) LATEX ENAMEL, SEMI-GLOSS - (PUBLIC AREAS)	DURON #7070 - "SITE WHITE", OR EQUAL
08 11 13	STEEL DOORS	FACTORY PRIMED AND FIELD PAINTED	DURON #7072 - "ONLINE", OR EQUAL
08 11 13	STEEL DOOR FRAMES	FACTORY PRIMED AND FIELD PAINTED	DURON #7072 - "ONLINE", OR EQUAL
10 44 16	FIRE EXTINGUISHER CABINET	BAKED ENAMEL FINISH	STANDARD WHITE
05 52 00	MTL HANDRAILS	FACTORY PRIMED AND FIELD PAINTED	DURON #7074 - "SOFTWARE", OR EQUAL
05 51 33	MTL LADDERS	FACTORY PRIMED AND FIELD PAINTED	DURON #7074 - "SOFTWARE", OR EQUAL
05 51 00	MTL STAIRS	FACTORY PRIMED AND FIELD PAINTED	DURON #7074 - "SOFTWARE", OR EQUAL
10 21 13	TOILET PARTITIONS & URINAL SCREENS	GALV. STEEL WITH BAKED ENAMEL FINISH	COLOR TO MATCH DURON #7072 - "ONLINE", OR EQUAL
06 41 16	PLASTIC LAMINATE	CABINETS AND COUNTERROP	D92-60 "DOVE GREY" - BY WILSONART OR EQUAL
06 61 16	SOLID SURFACE FABRICATION	KITCHEN AND RESTROOM COUNTERTOP	"PINE" - BY CORIAN OR EQUAL
08 33 23	OVERHEAD COILING DOOR	FACTORY PAINTED	STANDARD GRAY

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
ARCHITECTURAL REGISTRATION BOARD 7859-R FRANKLYN L. LUCAS, JR. STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	TWA	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SCHEDULES - DOOR, HARDWARE, FINISHES, AND COLOR

A601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 73 OF 158 | DRAWING NO. GF-035-34061

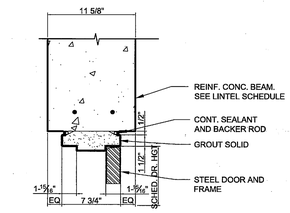
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010
FILE NAME: Schedules.dwg

FORM F 03-07-08

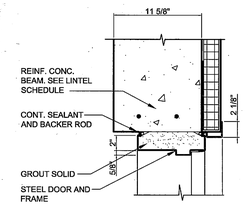
All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)

GENERAL NOTE:
REFER TO DETAILS BY PRE FAB BUILDING ENGINEER FOR ACTUAL FRAMING AND STRUCTURAL INFORMATION.

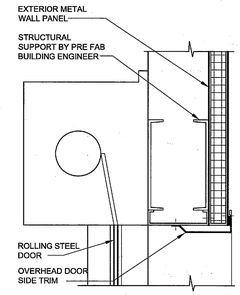
VERIFY DOOR FRAME SIZE AND PROFILE WITH PRE FAB BUILDING MANUFACTURER.



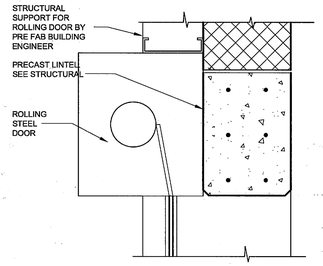
H1 INTERIOR HEAD DETAIL



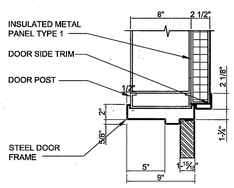
H2 EXTERIOR HEAD DETAIL



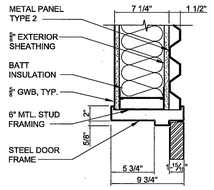
H3 HEAD DETAIL @ OVERHEAD DOOR



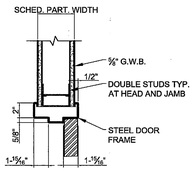
H4 HEAD DETAIL @ OVERHEAD DOOR



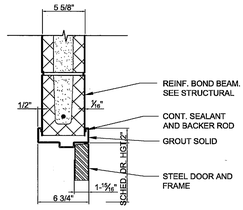
H5 HEAD DETAIL @ EXTERIOR DOOR



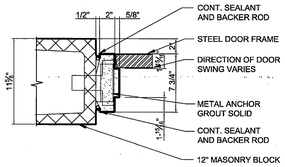
H6 HEAD DETAIL @ EXTERIOR DOOR LOW BAY



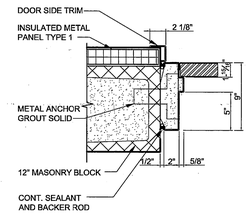
H7 TYP. INTERIOR HEAD DETAIL



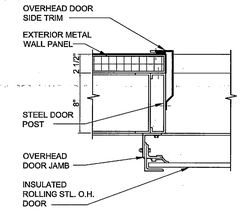
H8 INTERIOR HEAD DETAIL



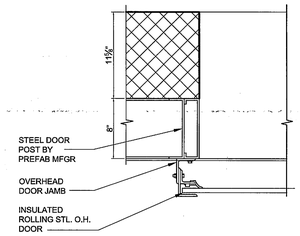
J1 INTERIOR JAMB DETAIL



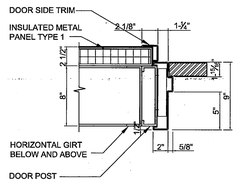
J2 EXTERIOR JAMB DETAIL



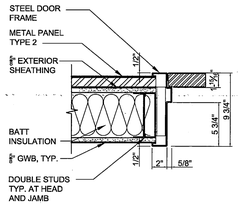
J3 JAMB DETAIL @ OVERHEAD DOOR



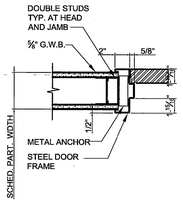
J4 JAMB DETAIL @ OVERHEAD DOOR



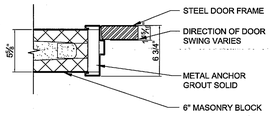
J5 JAMB DETAIL @ EXTERIOR DOOR



J6 JAMB DETAIL @ EXTERIOR DOOR LOW BAY



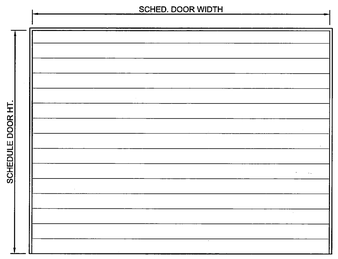
J7 TYP. INTERIOR JAMB DETAIL



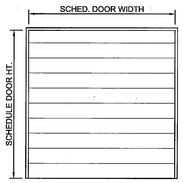
J8 INTERIOR JAMB DETAIL

1 A602 HEAD, AND JAMB DETAILS

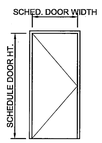
SCALE: 1 1/2" = 1'-0"



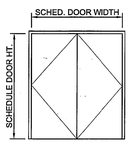
TYPE A
INSULATED ROLL-UP DOOR



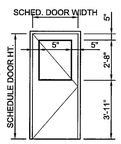
TYPE B
INSULATED ROLL-UP DOOR



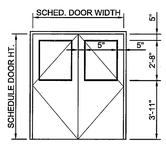
TYPE C
HOLLOW METAL SINGLE LEAF FLUSH



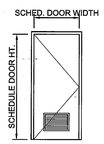
TYPE D
HOLLOW METAL DOUBLE LEAF FLUSH



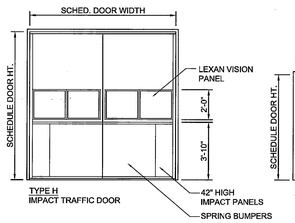
TYPE E
HOLLOW METAL SINGLE LEAF FLUSH W/ TEMP. GLASS INSERT



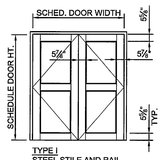
TYPE F
HOLLOW METAL DOUBLE LEAF FLUSH W/ TEMP. GLASS INSERT



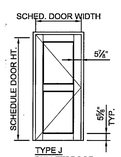
TYPE G
HOLLOW METAL SINGLE LEAF FLUSH WITH LOUVER VENT



TYPE H
IMPACT TRAFFIC DOOR



TYPE I
STEEL STILE AND RAIL DOUBLE LEAF DOORS W/ TEMP. GLASS INSERT

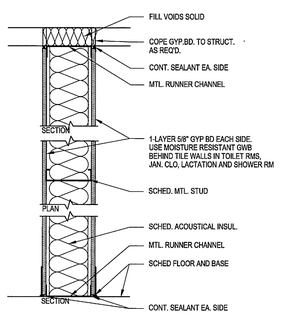


TYPE J
BULLETPROOF SINGLE LEAF W/ B.R. GLASS

TYPE K
K-9 KENNEL DOOR W/ OPERABLE LOUVER

2 A602 DOOR TYPES

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

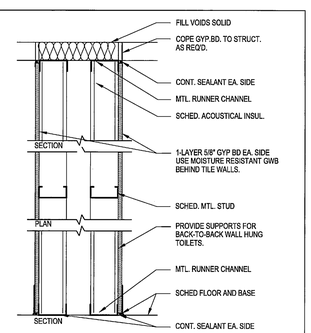


TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	WALL THKNESS	INSUL.	FIRE RATING	TEST NUMBER	STC RATING
A1	4"	25	16" OC	5 1/2"	3 1/2"	--	--	min. 45
A2	4"	25	16" OC	5 1/2"	--	--	--	--
A3	6"	25	16" OC	7 1/2"	--	--	--	--
A4	6"	25	16" OC	7 1/2"	5 1/2"	--	--	min. 45

* USE 20 GA. FOR WALLS SUPPORTING WALL HUNG ITEMS SUCH AS CABINETWORK, EQUIPMENT AND FIXTURES.

PARTITION TYPE 'A'

SCALE: 1-1/2" = 1'-0"

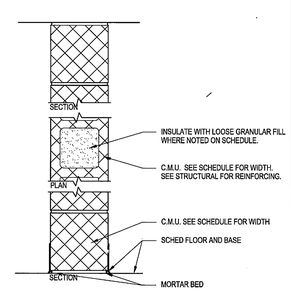


TYPE	STUD SIZE	STUD GAUGE	STUD SPACING	WALL THKNESS	INSUL.	FIRE RATING	TEST NUMBER	STC RATING
B1	4"	25*	16" OC	VARIES*	3 1/2"	--	--	min. 45

* USE 20 GA. FOR WALLS SUPPORTING WALL HUNG ITEMS SUCH AS CABINETWORK, EQUIPMENT AND FIXTURES.

PARTITION TYPE 'B'

SCALE: 1-1/2" = 1'-0"



TYPE	BLOCK SIZE	STUD GAUGE	STUD SPACING	WALL THKNESS	INSUL.	FIRE RATING	TEST NUMBER	STC RATING
C1	5 5/8"x15 5/8"	N/A	N/A	5 5/8"	NO	--	--	--
C2	11 5/8"x15 5/8"	N/A	N/A	11 5/8"	YES	--	--	--
C3	11 5/8"x15 5/8"	N/A	N/A	11 5/8"	YES	2 HR	--	--

PARTITION TYPE 'C'

SCALE: 1-1/2" = 1'-0"

PARTITION GENERAL NOTES

1. STUDS: GAUGE AND SPACING AS INDICATED, UNLESS NOTED OTHERWISE. PROVIDE MIN. 18 GA. STUDS AT 16" O.C. AT TILE WALL. PROVIDE 2 1/2" DEEP TOP RUNNER W/ STUDS TO BE FRICTION FIT IN RUNNER. TO ALLOW FOR DEFLECTION, CUT STUDS 1/2" SHORT AND DO NOT SECURE TO GYP.BD RUNNER. PROVIDE DBL STUDS AT DOOR JAMBS. FASTEN FLOOR RUNNERS AT 24" O.C. MAX.
2. GYPSUM BOARD: 5/8" STANDARD GWB UNLESS NOTED OTHERWISE. PROVIDE MOISTURE RESISTANT GYP.BD. BEHIND TILES, STONE, PLASTER AND FIBERGLASS REINFORCED PANELS. REFER TO FINISH PLAN FOR LOCATION(S).
3. SPECIFIED SEALANT: CONTINUOUS AT PARTITION PERIMETER AND ALL PENETRATIONS. AT ACOUSTICAL CEILINGS, PROVIDE ACOUSTICAL FOAM TAPE AT HEAD IN LIEU OF SEALANT. INSTALL SEALANT AT EDGE OF GYP. BD. COPE GYP BD. OR PROVIDE METAL SHEET CLOSURE. AT STRUCTURAL DECK VOIDS. FILL VOIDS SOLID W/ ACOUSTICAL INSULATION AT NON-RATED PARTITIONS AND WITH FIREPROOFING AT FIRE RATED PARTITIONS (MATCHING SCHEDULE RATING.)
4. EXTEND ALL 6" STUD WALLS TO ROOF DECK ABOVE AND ALL 4" STUD WALL TO UNDERSIDE OF STRUCTURE, TYP. PROVIDE INSULATION IN 6" STUD WALLS WHERE NOTED ON SCHEDULE.
5. BRACE ALL PARTITIONS THAT EXCEED MANUFACTURER'S RECOMMENDATION LIMITING HEIGHTS. BRACE PARTITIONS THAT STOP ABOVE FINISHED CEILING. BRACE AND PROVIDE STIFFENERS AT PARTITIONS WHERE STRAIGHT UNINTERRUPTED RUNS EXCEED 20 FT. BRACE DOOR JAMBS.
6. REFER TO PLANS FOR PARTITION TYPES USED. ALL PARTITIONS SHOWN MAY NOT BE USED.

PARSONS — Total Integrated Engineering & Technical Services — PKD-8 SFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — FRANKLIN L. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SCHEDULES / DETAILS - PARTITIONS, DOORS, HEAD & JAMBS

A602

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

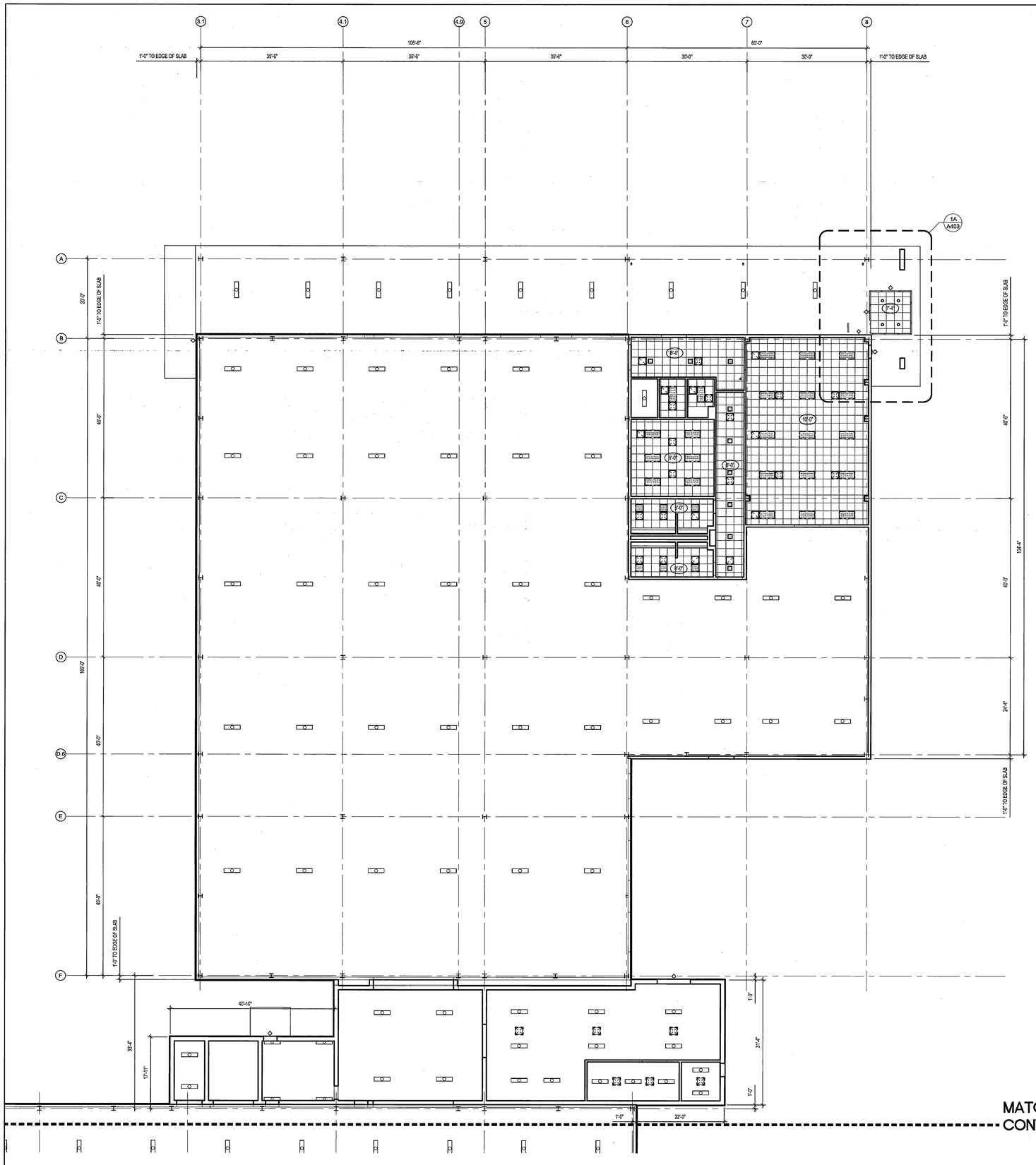
ARCHITECTURAL

DATE ISSUED	CoF CODE or W&J	SHEET	DRAWING NO.
03-01-10	A6890	74 OF 158	GF-035-34062

FORM F 05-07-08

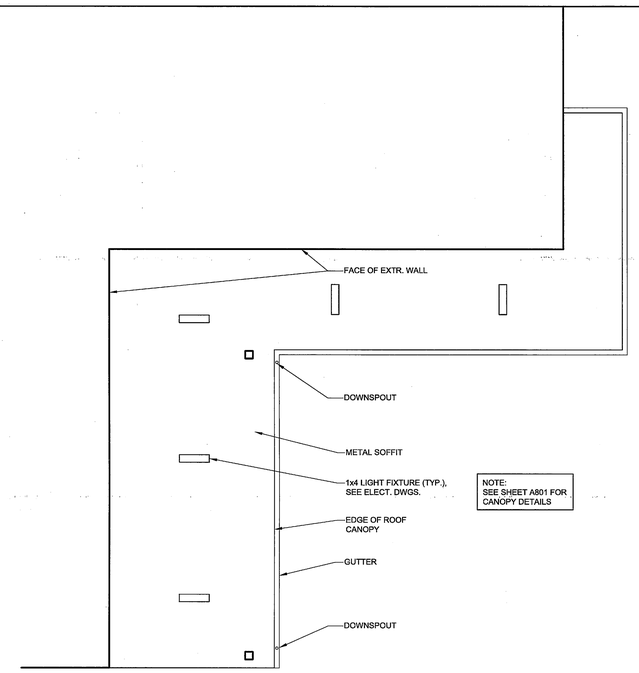
PLOT DATE: 2/25/2010
FILE DATE: 2/25/2010
FILE NAME: Schedules.dwg

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



1 A701 FIRST FLOOR REFLECTED CEILING PLAN - SHIPPING AND RECEIVING BUILDING

SCALE: 3/32" = 1'-0"

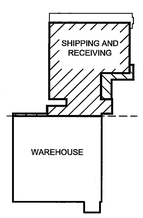


NOTE:
SEE SHEET A801 FOR CANOPY DETAILS

2 A701 CANOPY CEILING PLAN - SHIPPING AND RECEIVING BUILDING, BID ADD. 3

SCALE: 1/8" = 1'-0"

MATCH LINE
CONTINUATION ON A702



0 4'-0" 8'-0" 16'-0"

0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Pasadena Construction, Engineering, & Technical Services
FSDD-G SFC-NASA

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
7880-R
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	—	
PM	FHA	3/1/10
CUSTOMER	AK	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
REFLECTED CEILING PLAN

A701

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	75 OF 158	GF-035-34063

FILE NAME: Floor Plans-RCP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

FORM F 03-07-08

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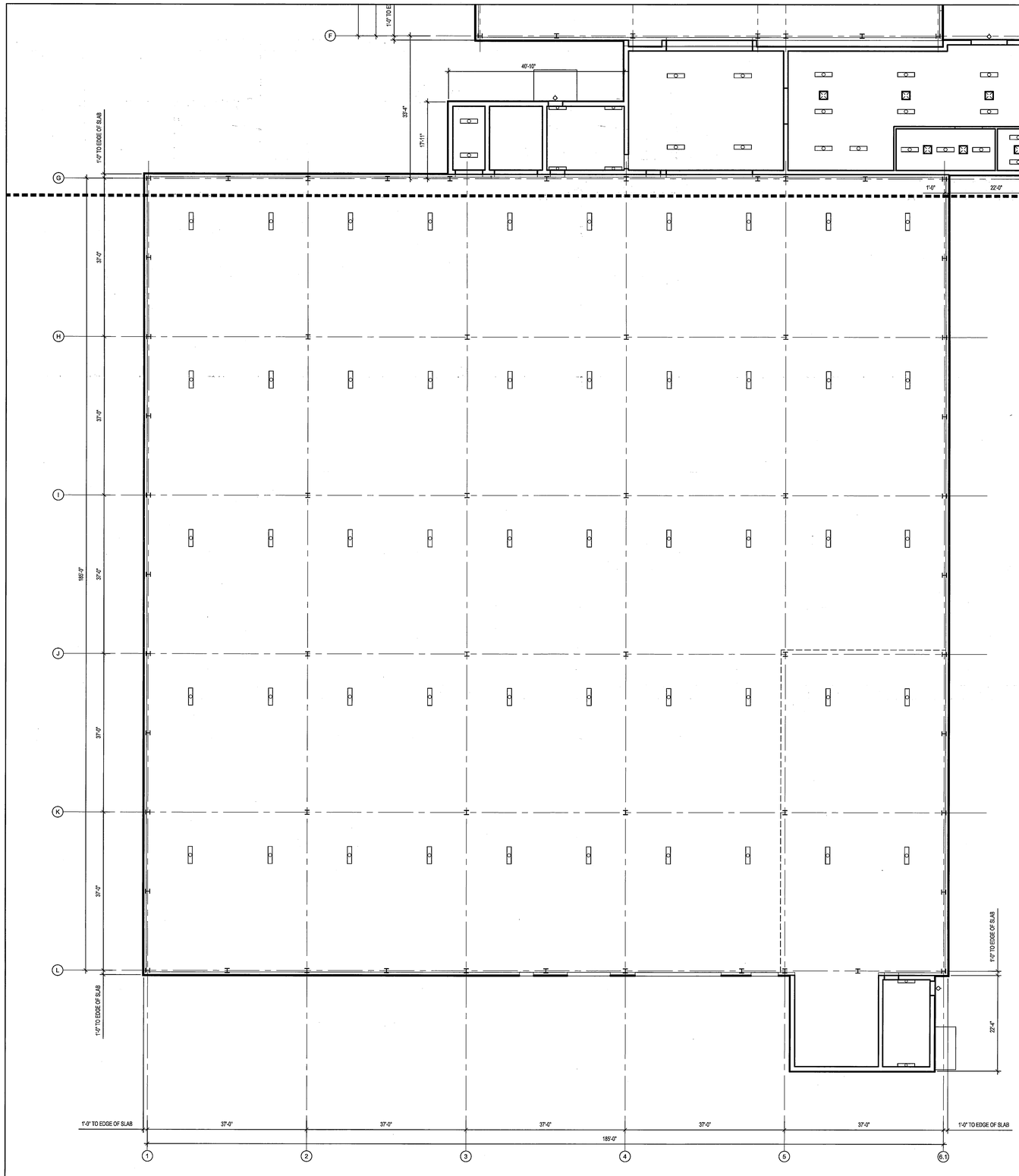
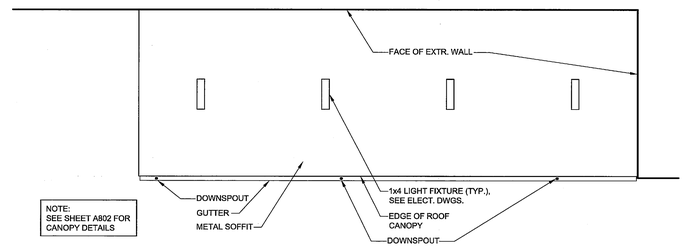


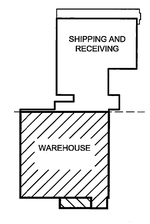
1 A702 FIRST FLOOR REFLECTED CEILING PLAN - WAREHOUSE BUILDING

SCALE: 3/32" = 1'-0"



2 A702 CANOPY REFLECTED CEILING PLAN - WAREHOUSE BUILDING, BID ADD. 4

SCALE: 1/8" = 1'-0"



0 4'-0" 8'-0" 16'-0"

0 4'-0" 8'-0" 16'-0"

NORTH

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
7550-R
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

PARSONS
Facilities, Construction, Engineering & Technical Services
FMD-GSFC-NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
REFLECTED CEILING PLAN - 1ST FLOOR

A702

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

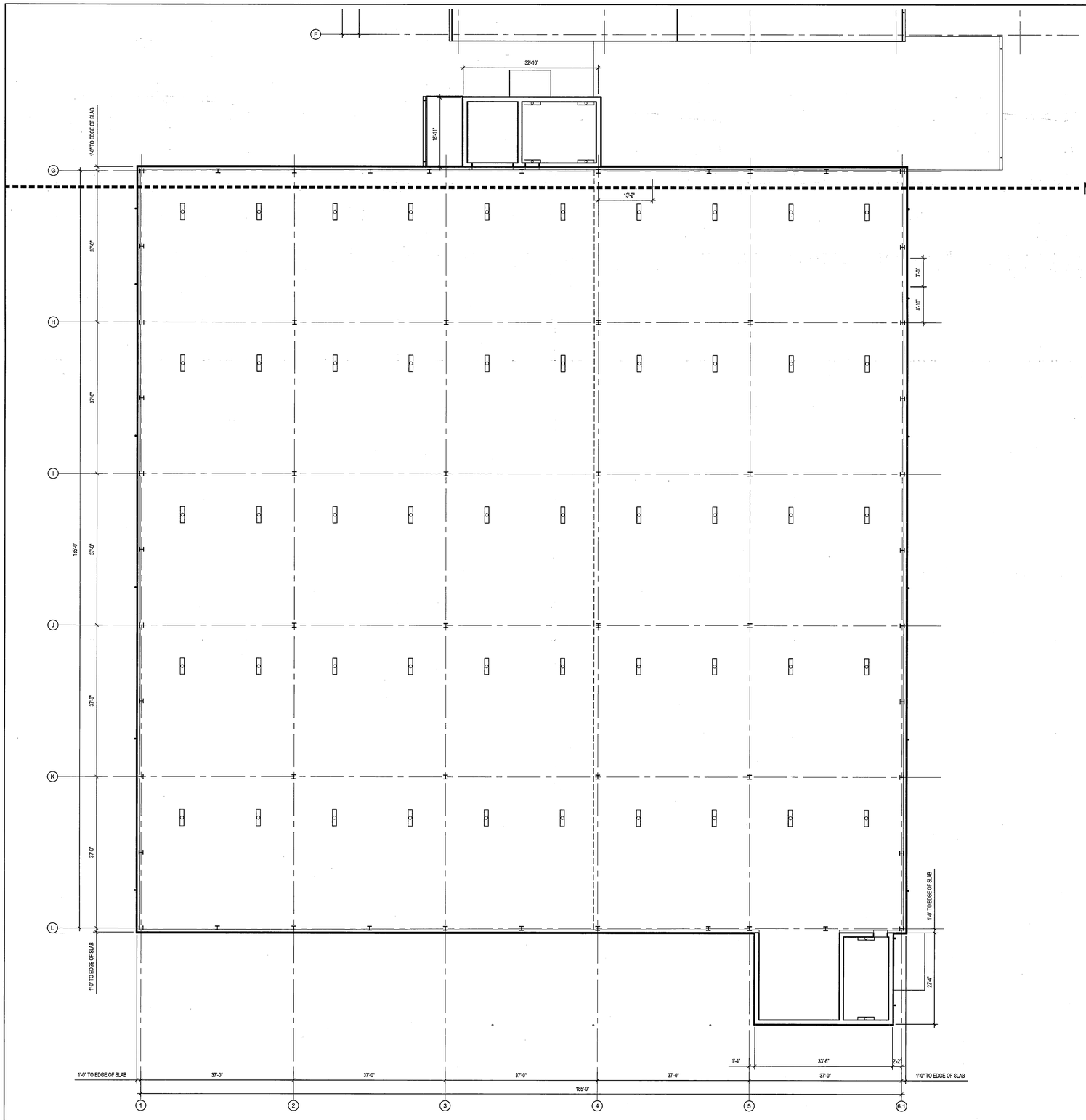
ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	76 OF 158	GF-035-34064

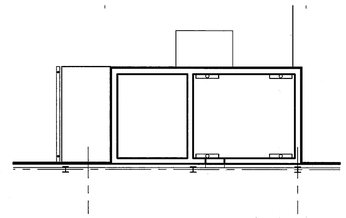
FILE NAME: Floor Plans-HCP.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-07-08

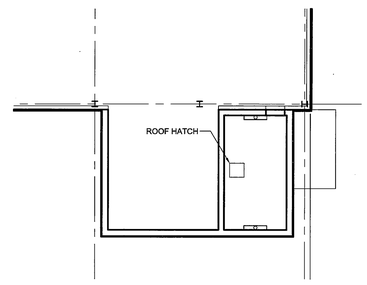
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



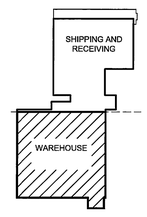
1 A703 SECOND FLOOR REFLECTED CEILING PLAN - WAREHOUSE BUILDING
SCALE: 3/32" = 1'-0"



1 A703 MEZZ. STAIR NO. 1 REFLECTED CEILING PLAN - WAREHOUSE BUILDING
SCALE: 3/32" = 1'-0"



1 A703 MEZZ. STAIR NO. 2 REFLECTED CEILING PLAN - WAREHOUSE BUILDING
SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

ARCHITECTURAL REGISTRATION BOARD
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JFH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE - REFLECTED CEILING PLAN - 2ND FLOOR & MEZZ. STAIRS

A703

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

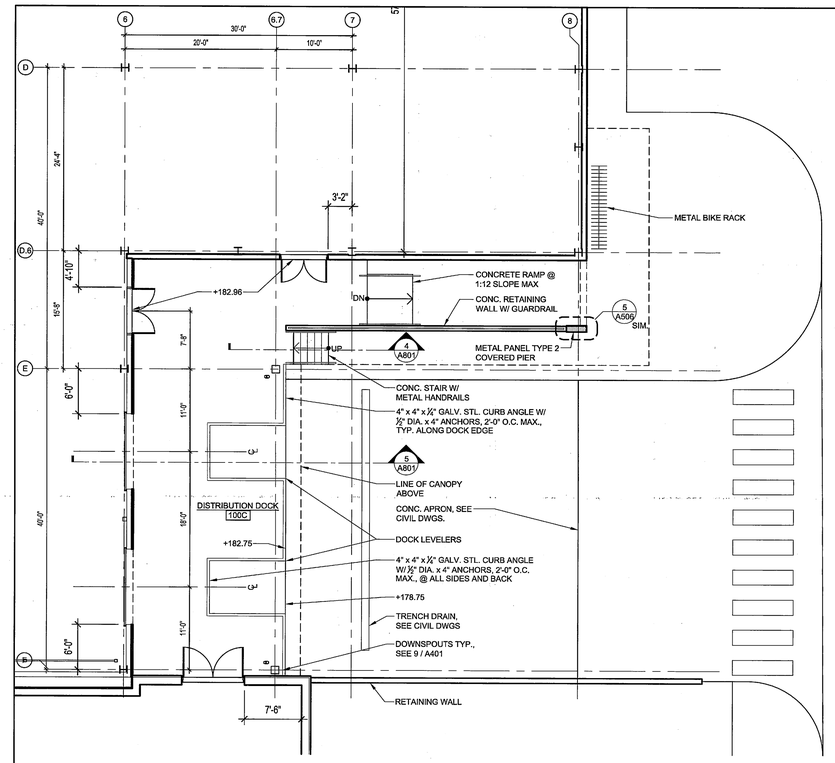
ARCHITECTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	77 OF 158	GF-035-34065

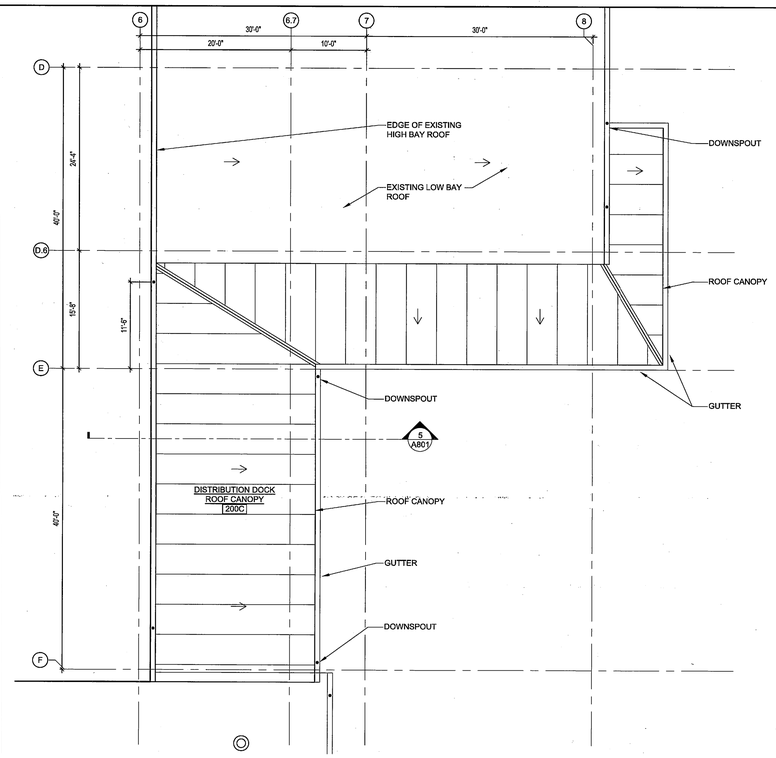
FORM F 03-07-08

FILE NAME: Floor Plans-RCP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

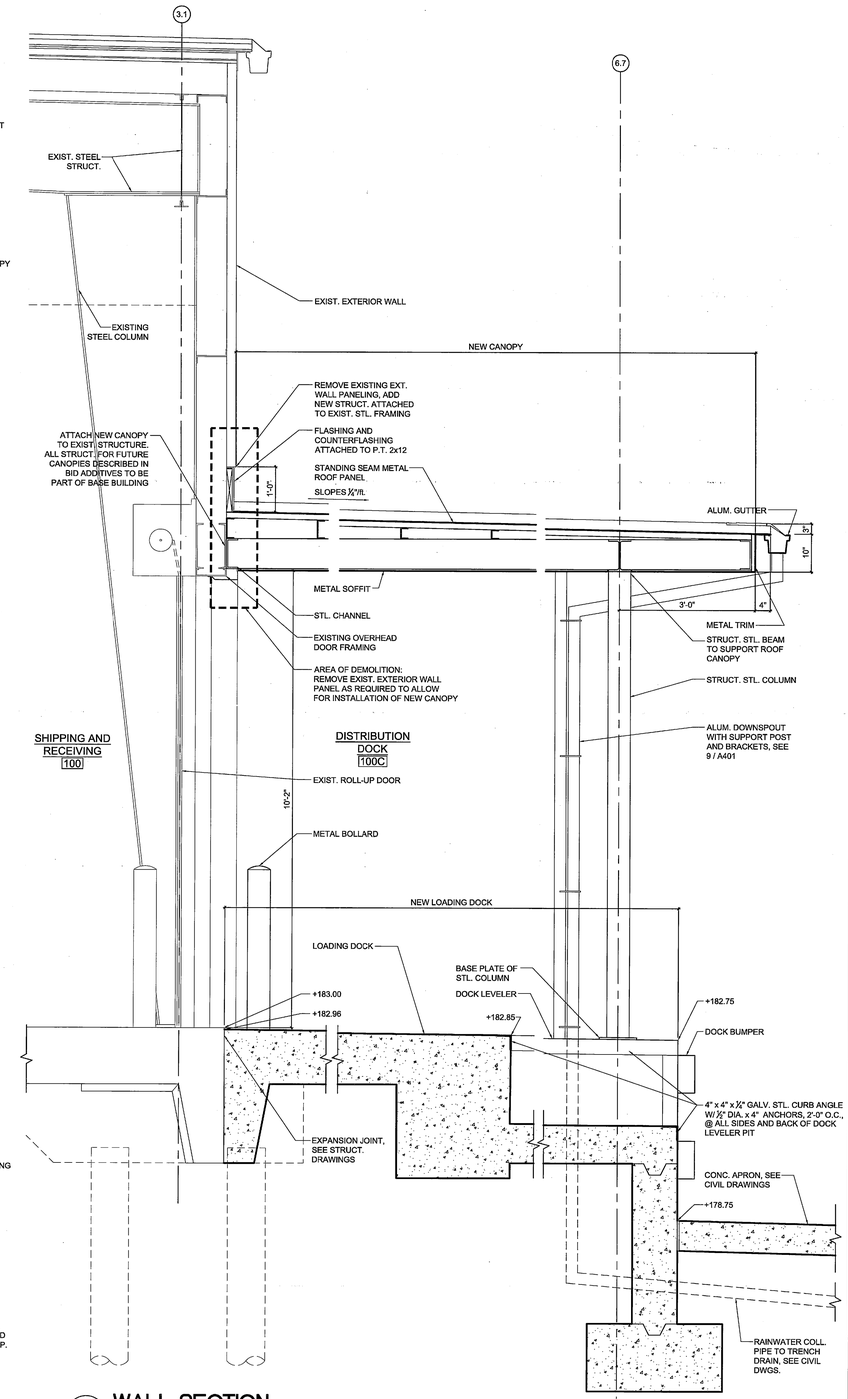
All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



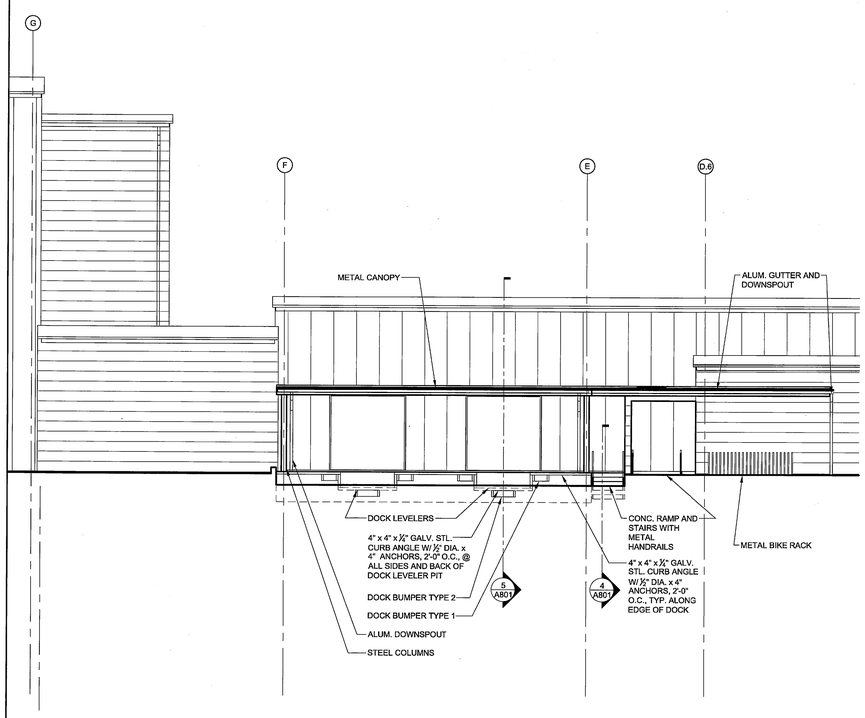
1 A801 ENLARGED FLOOR PLAN
SCALE: 1/8" = 1'-0"



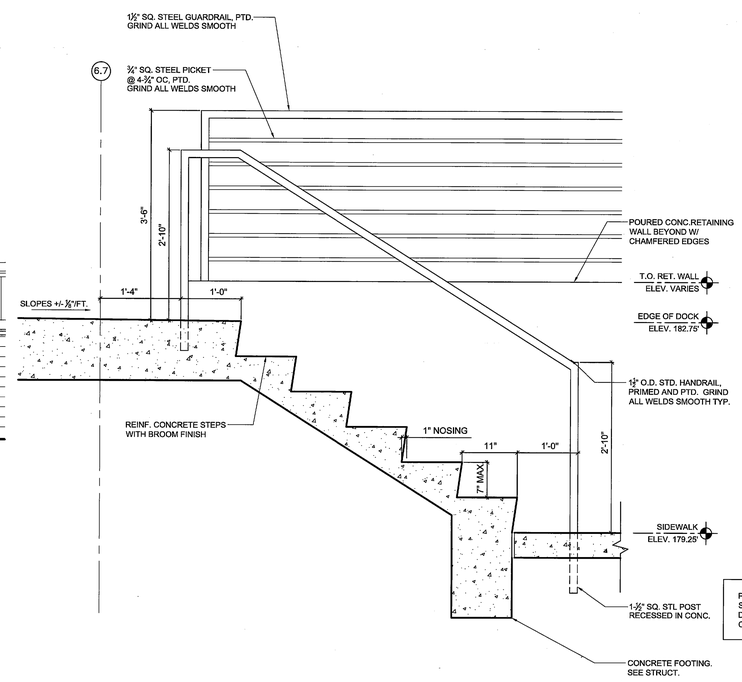
2 A801 ENLARGED ROOF PLAN
SCALE: 1/8" = 1'-0"



5 A801 WALL SECTION
SCALE: 3/4" = 1'-0"



3 A801 EAST ELEVATION
SCALE: 1/8" = 1'-0"



4 A801 EXTERIOR STAIL DETAIL
SCALE: 1" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

PARSONS — Pre-Fixed Construction Engineering & Technical Services — PKD-GSFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION BOARD — STANDLYN L. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	PL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TM	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
PLANS, SECTIONS, AND DETAILS
BID ADDITIVE 3

A801

BUILDING 035

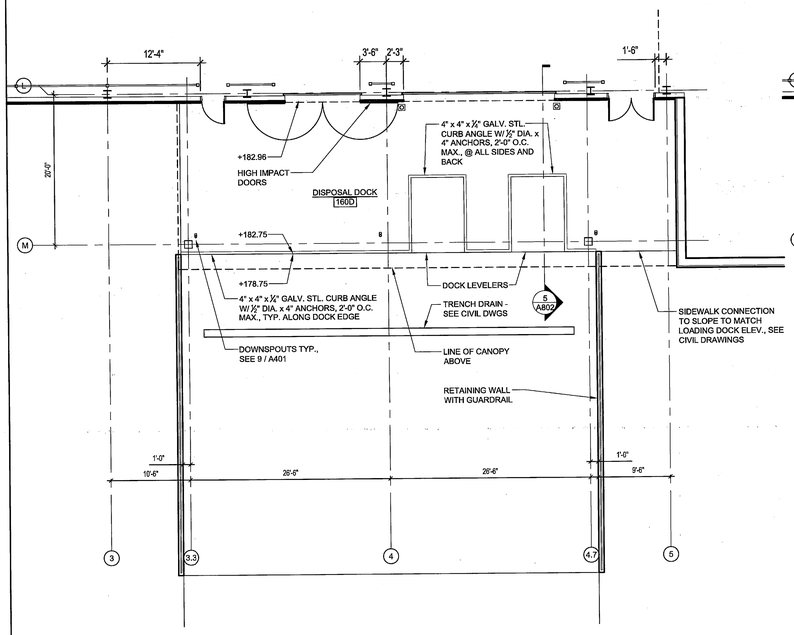
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GOODARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL	DATE ISSUED 03-01-10	Cof CODE or WBS A6890	SHEET 78 OF 158	DRAWING NO. GF-035-34066

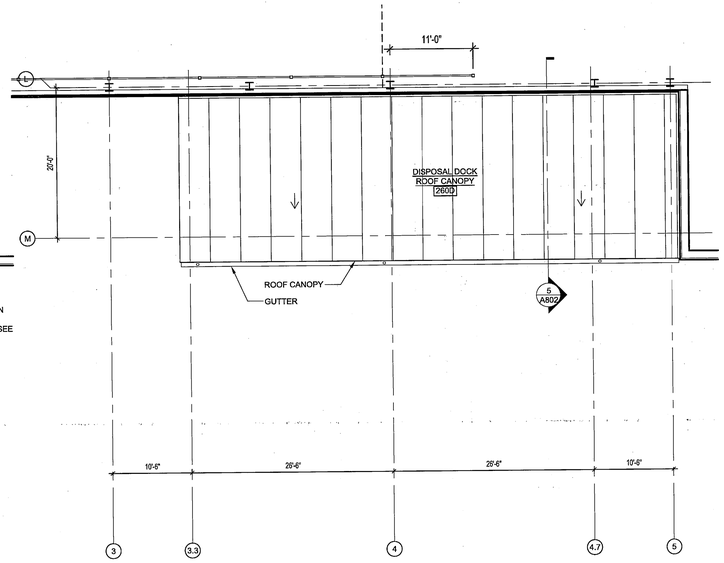
FORM F 03-03-08

FILE NAME: Floor Pieces-HRDP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 3/25/2010

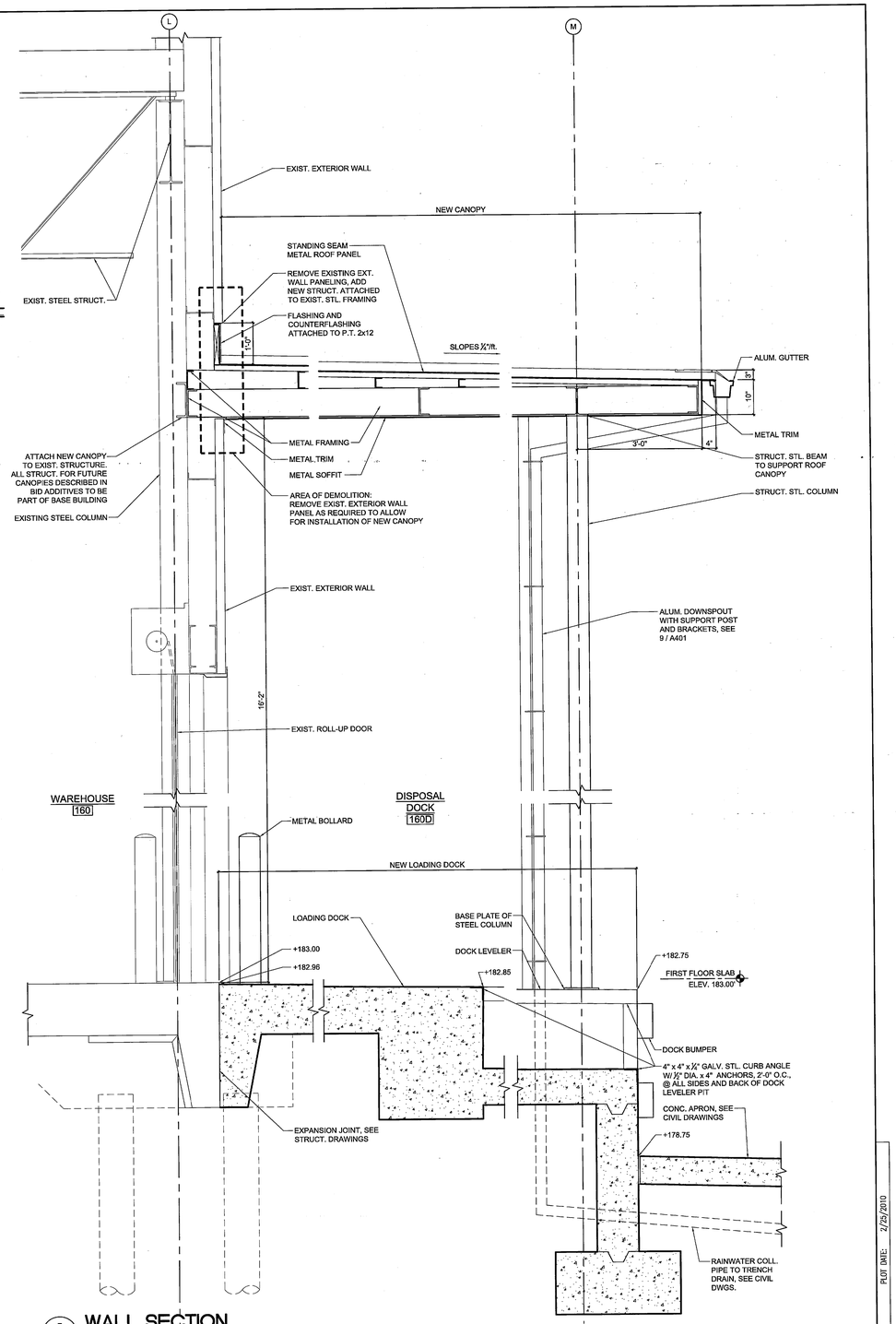
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



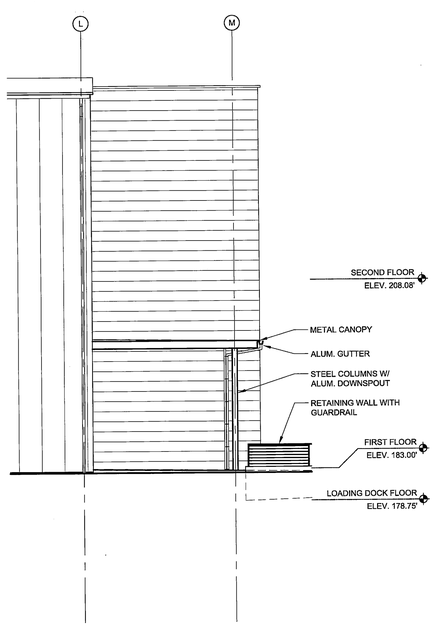
1 A802 **ENLARGED FLOOR PLAN**
SCALE: 1/8" = 1'-0"



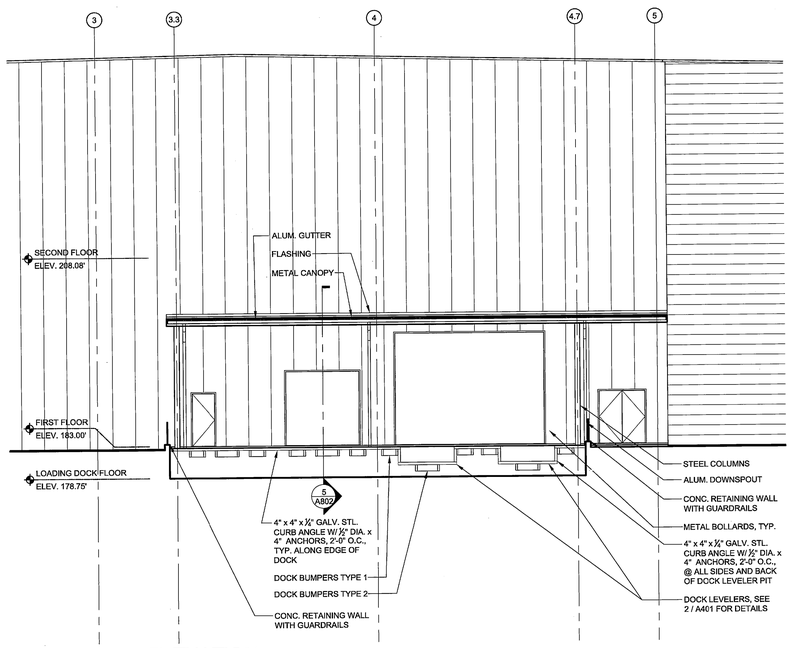
2 A802 **ENLARGED FLOOR PLAN**
SCALE: 1/8" = 1'-0"



5 A802 **WALL SECTION**
SCALE: 3/4" = 1'-0"



3 A802 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"



4 A802 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

0 1'-0" 2'-0" 3'-0"

0 4'-0" 8'-0" 16'-0"

PARSONS
Facilities Construction Engineering & Technical Svcs
PMO-G SFC-NASA

SEAL AREA
ARCHITECTURAL REGISTRATION BOARD
7559-R
FRANKLYN L. LUCAS, JR.
STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FAA	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

ARCHITECTURAL

LOGISTICS FACILITY
SITE AND SHELL

PLANS, SECTIONS, AND DETAILS
BID ADDITIVE 4

A802

BUILDING 035

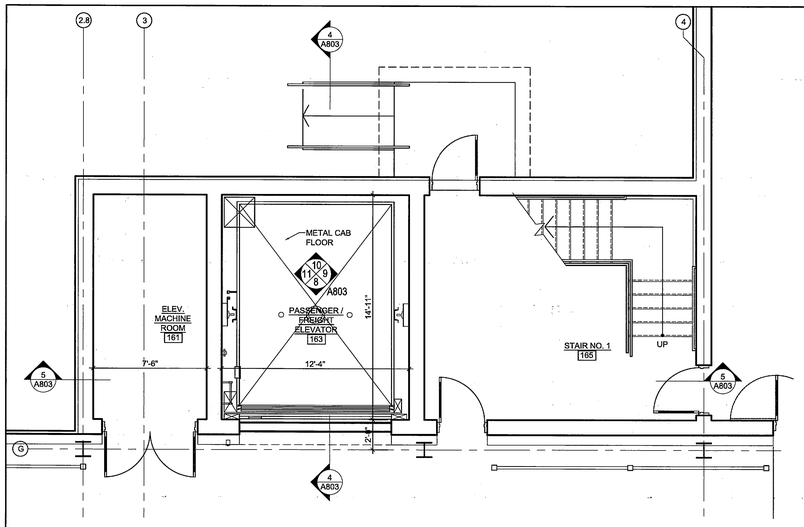
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WO#	SHEET	DRAWING NO.
03-01-10	A6890	79 OF 158	GF-035-34067

FILE NAME: Floor Plans+RCP.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

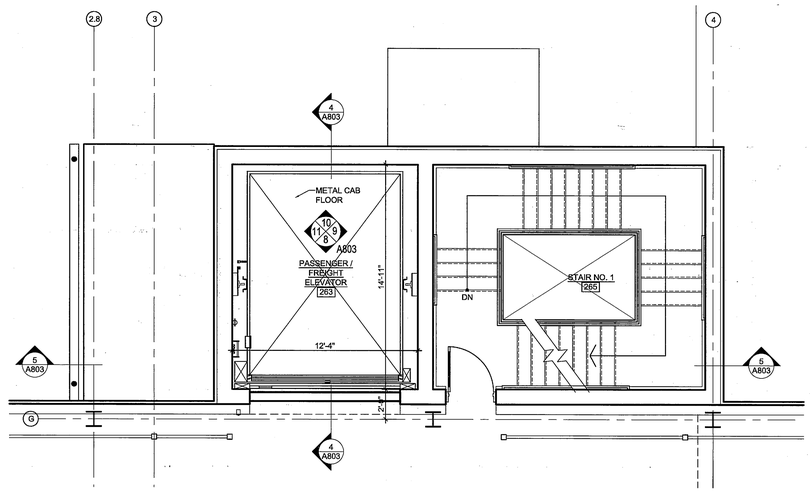
FORM F 03-07-05

All drawings containing utility information are to be considered Sensitive but Unclassified (SBU)



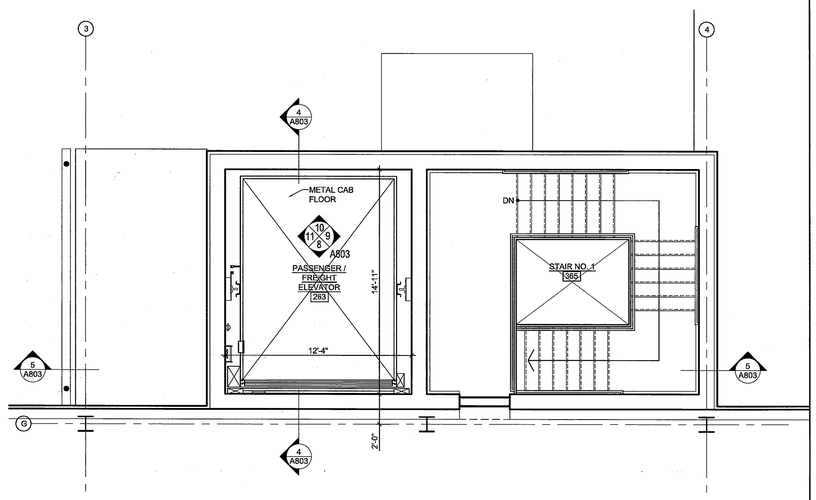
1 A803 ENLARGED FLOOR PLAN - FIRST FLOOR

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



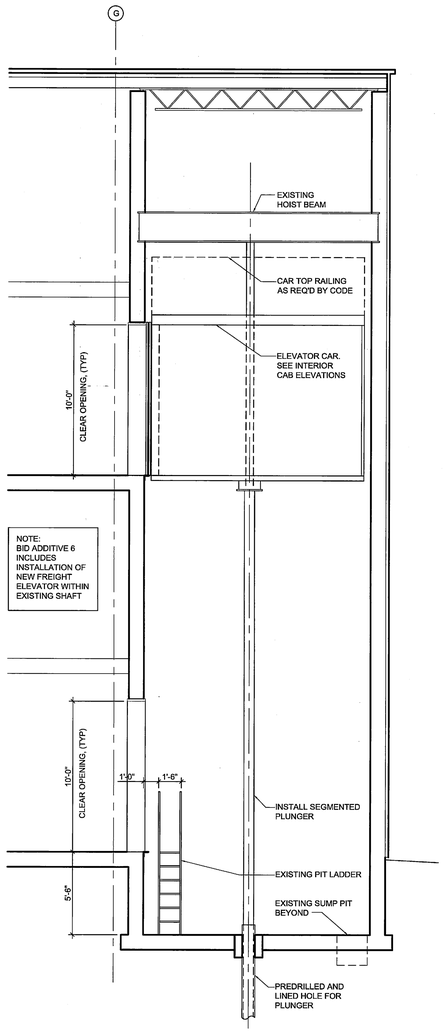
2 A803 ENLARGED FLOOR PLAN - SECOND FLOOR

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



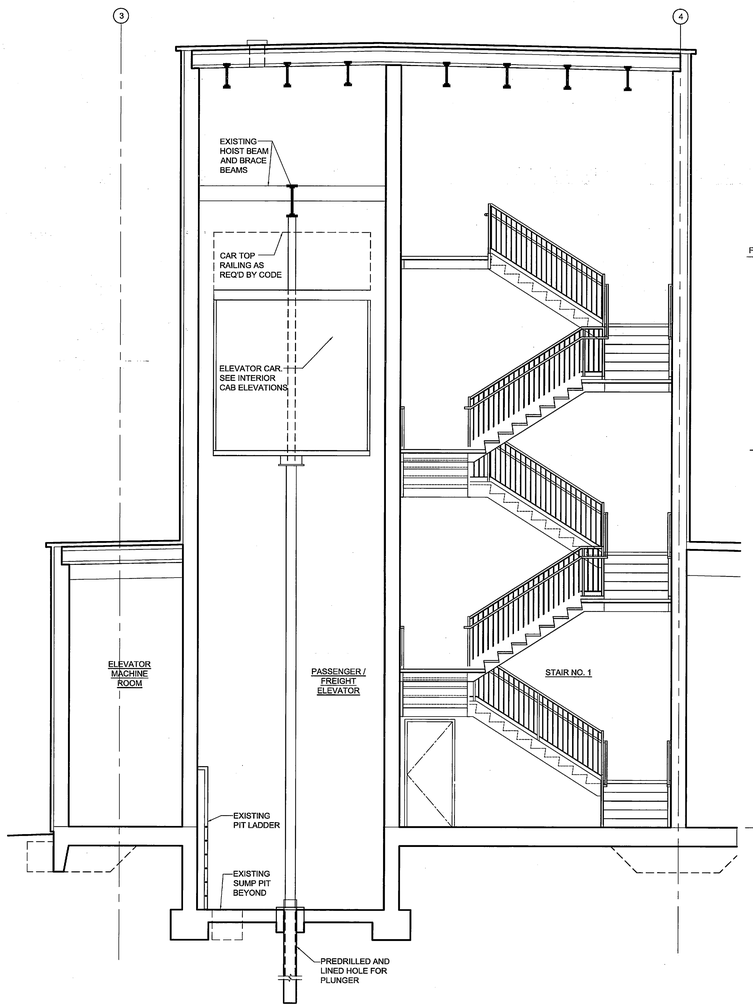
3 A803 ENLARGED FLOOR PLAN - FUTURE MEZZANINE LEVEL

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



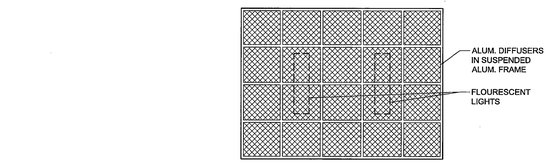
4 A803 SECTION THRU ELEVATOR SHAFT

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



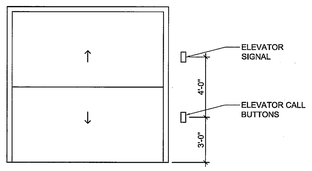
5 A803 SECTION THRU ELEVATOR SHAFT

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



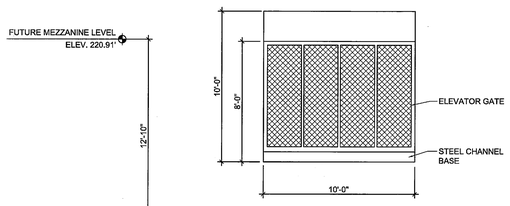
6 A803 ELEVATOR REFLECTED CLG. PLAN

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



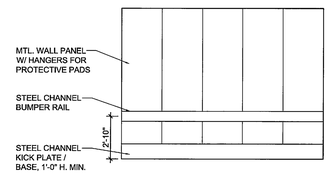
7 A803 WAREHOUSE ELEVATOR DOOR

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



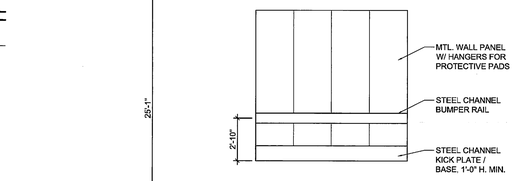
8 A803 ELEVATOR CAB ELEVATION

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



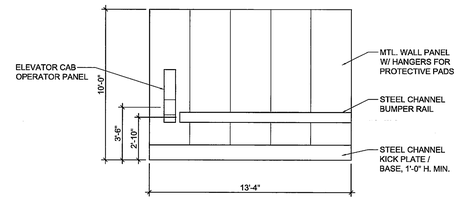
9 A803 ELEVATOR CAB ELEVATION

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



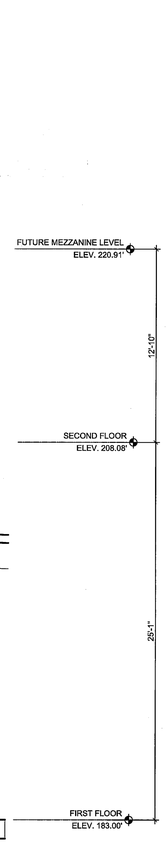
10 A803 ELEVATOR CAB ELEVATION

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



11 A803 ELEVATOR CAB ELEVATION

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



PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL VERIFY STRUCTURAL SYSTEM AND DETAILING. SEE SHEET A301 AND A302 FOR CLEARANCE REQUIREMENTS.

0 2'-0" 4'-0" 8'-0"

PARSONS — Facilities Construction Engineering & Technical Services — PAD-3 SFC-NASA

SEAL AREA — ARCHITECTURAL REGISTRATION JOB RU — FRANKLYN L. LUCAS, JR. — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	MH	02-25-10
A-E	MH	02-25-10
CHECKED BY	FL	02-25-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	—	
PM	FWW	3/1/10
CUSTOMER	AW	3-6-10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

PLANS, SECTIONS, AND DETAILS BID ADDITIVE 6

A803

BUILDING 035

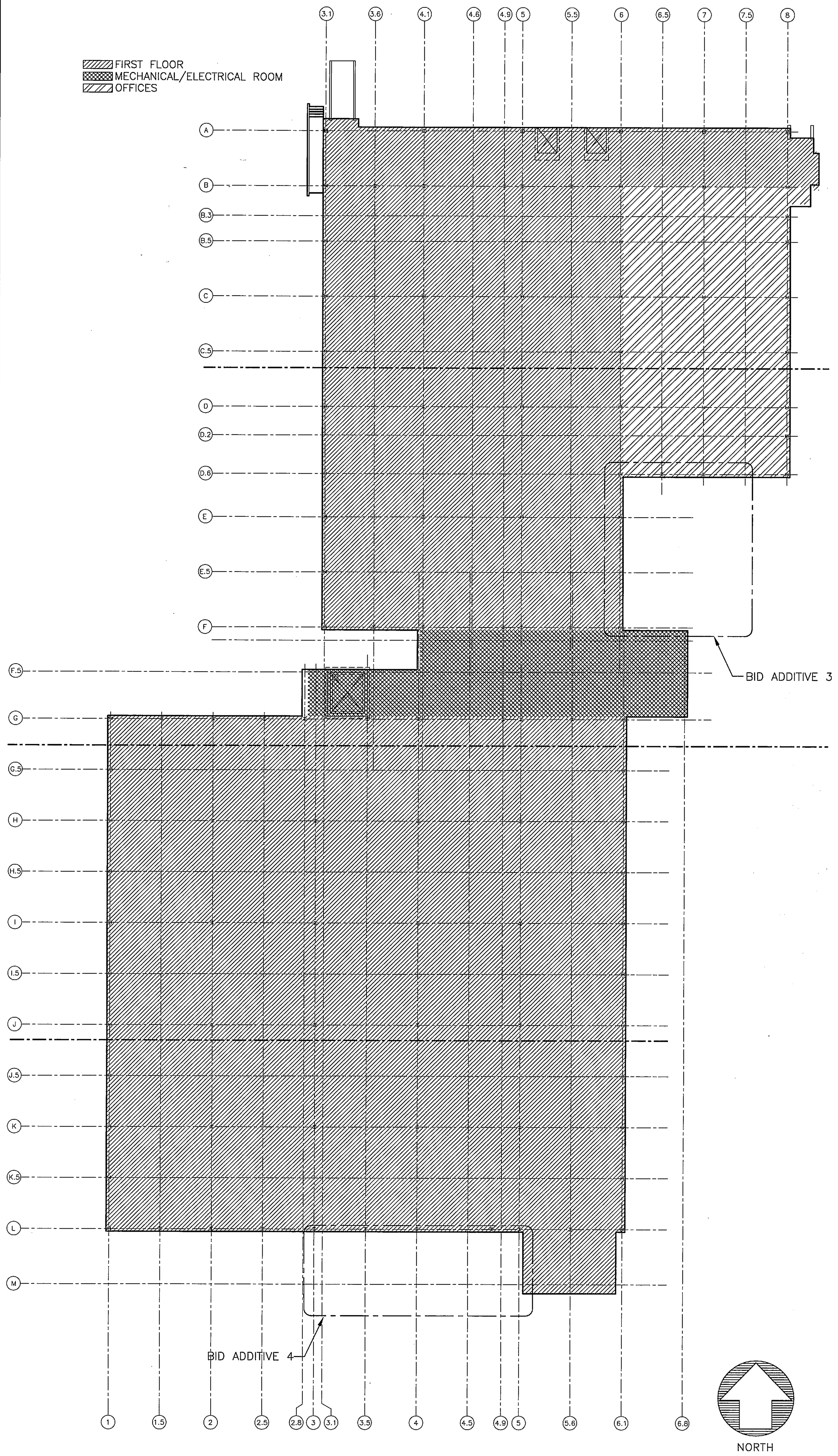
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ARCHITECTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	80 OF 158	GF-035-34068

FILE NAME: Floor Plans-HD2.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-02-08



LIVE LOAD DESIGN AREA

(NOT TO SCALE)

LAP SPLICE **				
BASED ON CLASS "B"-fy=60 KSI				
BAR	3,000 PSI CONCRETE		4,000 PSI CONCRETE	
	BASIC L	TOP BAR L *	BASIC L	TOP BAR L *
#3	1'-3"	1'-9"	1'-3"	1'-9"
#4	1'-10"	2'-4"	1'-8"	2'-0"
#5	2'-3"	3'-0"	2'-0"	2'-6"
#6	2'-9"	3'-6"	2'-4"	3'-0"
#7	3'-2"	4'-1"	2'-9"	3'-6"
#8	3'-7"	4'-8"	3'-2"	4'-0"
#9	4'-0"	5'-3"	3'-6"	4'-8"
#10	6'-3"	4'-10"	4'-3"	5'-3"
#11	8'-0"	6'-0"	5'-2"	6'-8"

* HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE BELOW.
** REFERENCE: CONCRETE REINFORCING STEEL INSTITUTE, CHAPTER 5, STRENGTH DESIGN OF FLEXURAL MEMBERS AND REBAR DEVELOPMENT AND SPLICE DATA.

1 / S001 TYPICAL LAP SPLICE
NO SCALE

GENERAL STRUCTURAL NOTES

1. THE APPLICABLE BUILDING SHALL BE BASED ON THE 2009 INTERNATIONAL BUILDING CODE.
2. THE STRUCTURAL DRAWINGS HEREIN REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE INVESTIGATION, DESIGN, SAFETY, ADEQUACY AND INSPECTION OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. FOR LOCATIONS AND DIMENSIONS OF SLEEVES, CURB, OPENINGS AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE ARCHITECTURAL, CIVIL/MECHANICAL, PLUMBING, HVAC AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENT FOR AND LOCATION OF ABOVE ITEMS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
4. EMBEDDED ITEMS, SUCH AS PIPE SLEEVES, CONDUITS AND INSERTS SHALL BE IN PLACE BEFORE CONCRETE IS POURED. SEE ARCHITECTURAL, CIVIL/MECHANICAL, PLUMBING, HVAC AND ELECTRICAL DRAWINGS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT SHOWN IN THE STRUCTURAL DRAWINGS.
5. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS.
6. COORDINATE WITH EQUIPMENT MANUFACTURERS FOR EXACT SIZE AND LOCATION OF PITS, SUPPORTS, CAST-IN ITEMS, WALLS, ETC. BEFORE ORDERING ANY MATERIAL OR COMMENCEMENT OF ANY WORK.
7. DIMENSIONS – ALL DIMENSIONS ARE MEASURED HORIZONTALLY AND VERTICALLY UNLESS NOTED OTHERWISE AT A NORMAL TEMPERATURE OF 60°F (15.6°C) ON ALL JOINT OPENINGS. ALL HORIZONTAL AND VERTICAL DIMENSIONS SHALL BE MEASURED IN A TRUE HORIZONTAL AND VERTICAL PLANES, RESPECTIVELY.
8. SEE CIVIL AND ARCHITECTURAL DRAWINGS FOR FINISH GRADE ELEVATIONS.
9. THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE DESIGN LOADS INDICATED IN THE DESIGN DATA ON THIS SHEET. CONTRACTOR SHALL PROVIDE SHORING AND BRACING DURING CONSTRUCTION FOR ACTUAL CONSTRUCTION LOADS.
10. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS, UNLESS OTHERWISE NOTED.
11. DO NOT SCALE DRAWINGS.
12. NO CHANGE IN SIZE, DIMENSION, OR POSITION OF STRUCTURAL ELEMENTS SHALL BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
13. DO NOT REPRODUCE ANY PORTION OF THE STRUCTURAL DRAWINGS FOR SUBMITTAL AS SHOP DRAWINGS. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED.
14. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AS WELL AS DRAWING SUPPORTING CALCULATIONS FOR CONNECTION DESIGN WHERE REQUIRED. SUCH SUBMITTALS SHALL BE DESIGNED, SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF MARYLAND.
15. SUBMIT DIMENSIONED, COORDINATED, SHOP DRAWINGS SHOWING THE SIZE AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED BY ALL TRADES THROUGH STRUCTURAL ELEMENTS. ANY ADDITIONAL OPENINGS NOT SHOWN ON THESE SHOP DRAWINGS WILL REQUIRE WRITTEN APPROVAL OF THE CONTRACTING OFFICER BEFORE INSTALLATION.
16. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
17. SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL. THE ENGINEER'S REVIEW IS TO BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.

STRUCTURAL DESIGN

1. DESIGN CRITERIA

A. CAST-IN-PLACE CONCRETE:

A.1. ACIP, PILE CAPS AND FLAT SLAB	f'c=4,000 PSI @ 28 DAYS
A.2. PILE CAPACITY	50kips, 75kips AND 100 kips (REFER TO S601 AND GEOTECH. REPORT FOR TIP ELEVATIONS)
A.3. SLAB ON GRADE	f'c=4,000 PSI

B. REINFORCING STEEL:

B.1. DEFORMED BARS ASTM A615 GRADE 60	fy=60,000 PSI
B.2. WELDED WIRE FABRIC ASTM A185	fy=65,000 PSI
STRUCTURAL STEEL ASTM A36	Fy=36 KSI

C. STRUCTURAL STEEL

C.1. STRCTURAL STEEL WIDE FLANGE SHAPE ASTM A992	Fy=50 KSI
C.2. ANGLES, CHANNELS, PLATES, ETC ASTM A36	Fy=36 KSI

D. COLD FORMED METAL FRAMING (CFMF) fs =33,000 PSI

2. DESIGN LOADS
DESIGN LOADS ARE BASED ON ALLOWABLE STRENGTH DESIGN METHOD (ASD)

A. DESIGN GRAVITY LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

A.1. ROOF, LIVE LOAD	30 PSF
A.2. LIVE LOADS	
• FIRST FLOOR	250 PSF
• MECHANICAL/ELECTRICAL ROOM	250 PSF
• SECOND FLOOR (WAREHOUSE)	250 PSF
• FUTURE OFFICE MEZZANINE (WAREHOUSE)	80 PSF
• CONCRETE RAMP	250 PSF
• STAIRS	100 PSF
• OFFICES	80 PSF + 20 PSF (PARTITION)
• WOOD PLATFORM/RAMP	100 PSF

B. DESIGN GRAVITY DEAD LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

MIN. LOADS/DENSITIES	ASCE 7-05 TABLE C3-1 AND C3-2
CEILING/HVAC/LIGHTING/SPRINKER	ASCE 7-05 TABLE C3-1
ROOF EQUIPMENT	ACTUAL WEIGHT

C. DESIGN LATERAL LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

WIND, MAIN SYSTEM	90 MPH, EXP. 'C' I=1.0, P=16.39 PSF
SEISMIC	GROUP 1, IMPORTANCE = 1.000, DESIGN CATEGORY B

D. DESIGN SNOW LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:
Pg (GROUND SNOW LOAD) = 30 PSF, Ce = 0.9, Ct = 1.2, I=1.0, Pf = 30.0 PSF
DESIGN SNOW (SLOPED) = 21 PSF
SNOW EXPOSURE CATEGORY (FACTOR) = 2 PARTIALLY
GROUND/ROOF CONVERSIONS = 0.70

MASONRY NOTES

ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH FOLLOWING STANDARDS:

1. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCURES – ACI 530/ASCE 5
2. SPECIFICATIONS FOR MASONRY STRUCTURES ACI 530.1/ASCE 6
3. SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF MASONRY PUBLISHED BY NATIONAL CONCRETE MASONRY ASSOCIATION DESIGN GUIDES.
4. THE MINIMUM NET COMPRESSIVE STRENGTH OF MASONRY (F'm) SHALL BE 2,000 PSI PER ACI 530.
5. HOLLOW AND SOLID LOAD BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND ASTM C145.
6. MORTAR AND GROUT SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM SPECIFICATIONS FOR MORTAR, FOR UNIT MASONRY, ASTM C270, TYPE S MORTAR. HOLLOW UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS AND WEBS. SOLID UNITS SHALL BE LAID WITH FULL HEAD AND BED JOINTS.
7. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. ALL VERTICAL MASONRY REINFORCING SHALL BE INSTALLED IN FULLY GROUTED CELLS AS SHOWN ON THE DRAWINGS WITH 48 BAR DIAMETER SPLICES.
8. PROVIDE JOINT REINFORCING, DUR-O-WALL OR EQUAL. EVERY BLOCK COURSE BELOW GRADE AND EVERY OTHER BLOCK COURSE ABOVE GRADE UNLESS OTHERWISE SHOWN ON ARCHITECTURAL WLL SECTIONS. JOINT REINFORCING SHALL BE CONTINUOUS AND SHALL BE PROVIDED IN ALL WALLS WITHOUT EXCEPTION. MASONRY JOINT REINFORCING SHALL BE TRUSS TYPE COLD STEEL WIRE CONFORMING TO ASTM A82 AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 AFTER FABRICATION. WHERE WALLS ABUT EACH OTHER, AND AT OUTSIDE CORNERS, PROVIDE PREFABRICATED TEE- TYPE AND CORNER TRUSS TIES. FIELD FABRICATED FOR CORNERS AND TEES WILL BE ALLOWED.
9. DISCONTINUE JOINT REINFORCING AT CONTROL JOINTS, CONTROL JOINTS SHALL BE SPACED PER THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS OR AT A MAXIMUM SPACING OF 24'-0" ON CENTER.
10. ALL MASONRY WALLS SHALL BE TEMPORARILY BRACED IN AN APPROVED MANNER DURING CONSTRUCTION UNTIL MORTAR HAS ATTAINED THE DESIGN STRENGTH AND FLOOR AND ROOF MEMBERS HAVE BEEN PLACED AND ANCHORED THERETO.

CAST IN PLACE CONCRETE NOTES

1. CONCRETE SHALL CONFORM TO ACI 318-2008
2. ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.
3. BACKFILL SHALL NOT BE PLACED UNTIL FOUNDATIONS AND WALLS HAVE ATTAINED MINIMUM 75% OF DESIGN CONCRETE STRENGTH.
4. REINFORCEMENT DETAILS SHALL CONFORM TO THE REQUIREMENTS OF ACI DETAILING MANUAL – 1980, SP-66.
5. ALL REINFORCING STEEL MARKED "CONTINUOUS" SHALL BE LAPPED AS REQUIRED WITH CLASS B TENSION SPLICES CONFORMING TO ACI 318-08. PROVIDE CLASS B TENSION SPLICES AT WALL CORNERS AT INTERSECTIONS WITH STANDARD 90 DEGREE BENT CORNER BARS. LAP WELDED WIRE MESH ONE FULL MESH AT SIDES AND END LAPS. WELDING OF REINFORCING BARS SHALL BE SHOWN ON THE SHOP DRAWINGS FOR APPROVAL.
6. MINIMUM CLEAR COVER OVER REINFORCING BARS SHALL CONFORM TO ACI 318-08.
7. ALL CONCRETE WORK REINFORCING PLACEMENT FORMWORK AND SHORING SHALL BE INSPECTED UNDER THE SUPERVISION OF THE SPECIAL INSPECTOR. CONCRETE QUALITY CONTROL INSPECTION AND TESTING SHALL BE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ACI 301.
8. FOR LAP SLICE SCHEDULE, SEE DETAIL 1 ON THIS SHEET.

FOUNDATION AND EARTHWORK NOTES

1. FOUNDATIONS HAVE BEEN DESIGNED FOLLOWING RECOMMENDATIONS PROVIDED IN A GEOTECHNICAL REPORT PREPARED BY EBA ENGINEERING, DATED AUGUST, 2008 (REVISED SEPTEMBER 2009). LOGS FROM THE REPORT ARE SHOWN ON THE CIVIL DRAWINGS.
2. PILE CAPS SHALL BE CENTERED ON THE COLUMN CENTERLINES, UNLESS SPECIFICALLY SHOWN OTHERWISE.
3. PREVENT WATER, FROST, OR ICE FROM COLLECTING ON OR PENETRATING ANY FOUNDATION OR SLAB SUBGRADE. DO NOT PLACE CONCRETE INTO OR AGAINST SLAB OR FOOTING SUBGRADES CONTAINING MUD, FREE WATER, FROST, OR ICE. FOUNDATION EXCAVATIONS SHALL NOT BE ALLOWED TO ACCUMULATE WATER. BEARING STRATA COMPROMISED BY ALLOWING CONTAMINATION BY WATER SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE BY OVERCUT AND RE-FILL WITH CONCRETE.
4. AFTER SUBGRADES ARE CLEANED OF LOOSE MATERIAL AND PRIOR TO PLACING CONCRETE, THE FOUNDATION AND SLAB SUBGRADES SHALL BE INSPECTED AND APPROVED IN THE FIELD BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
5. FOR ADDITIONAL REQUIREMENTS SEE TYPICAL DETAILS AND THE SPECIFICATIONS.
6. AUGERED CAST IN PLACE PILES SHALL BE INSTALLED IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL ENGINEER.
7. TWO AUGERED CAST IN PLACE PILES SHALL BE TESTED IN ACCORDANCE WITH ASTM D1143 STANDARD TEST METHODS FOR DEEP FOUNDATIONS UNDER STATIC AXIAL COMPRESSIVE LOAD. ONE PILE SHALL BE TESTED AT THE PILE INSTALLATION NEAREST BORING B-5 AND SECOND PILE SHALL BE TESTED AT A LOCATION TO BE DETERMINED. THESE TWO PILES SHALL BE TESTED PRIOR TO THE INSTALLATION OF REMAINING PILES.

STRUCTURAL STEEL NOTES

1. ALL STEEL SHALL BE IN ACCORDANCE WITH THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRENGTH DESIGN, BY THE AMERICAN INSITUTE OF STEEL CONSTRUCTION (AISC).
2. ROLLED STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992.
3. MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC SHALL CONFORM TO ASTM A36.
4. HOLLOW STRUCTURAL SHAPES SHALL CONFORM TO ASTM A500, GRADE B.
5. STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A501 OR ASTM A53. TYPE E OR S, GRADE B.
6. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36.
7. SHOP AND FIELD FASTENERS SHALL BE ASTM A325 HIGH STRENGTH BOLTS IN BEARING TYPE CONNECTIONS.
8. HOLES SHALL NOT BE CUT THROUGH BEAMS AND COLUMNS UNLESS INDICATED OR APPROVED BY THE STRUCTURAL ENGINEER.
9. WELDING SHALL BE DONE ONLY BY AWS CERTIFIED WELDERS. WELD IN ACCORDANCE WITH THE AWS 2008 D1.1. FOR ARC AND GAS WELDING AND BUILDING CONSTRUCTION. USE E70XX ELECTRODES.
10. STRUCTURAL STEEL SURFACES CAST INTO CONCRETE AND MASONRY AND STEEL TO RECEIVE FIREPROOFING SHALL BE UNPAINTED.
11. THE FABRICATOR IS RESPONSIBLE FOR THE SELECTION, DESIGN AND DETAILING OF ALL CONNECTIONS NOT FULLY DETAILED ON THE CONTRACT DOCUMENTS. TYPICAL CONNECTION DETAILS ARE INDICATED ON THE DRAWINGS FOR DESIGN INTENT ONLY. THE FABRICATOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER PREPARE THE CONNECTION DESIGNS, AND THE DESIGN SHALL BE SUBMITTED FOR REVIEW WITH THE SHOP DRAWINGS. THE CONNECTION SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION" FOR THE MEMBER SIZE AND SPAN INDICATED UNLESS A DESIGN REACTION IS INDICATED ON THE DRAWINGS.

PRE-ENGINEERED METAL BUILDING NOTES

1. THE ENTIRE PRE-ENGINEERED METAL BUILDING SHALL BE DESIGNED BY THE METAL BUILDING MANUFACTURER IN CONFORMANCE TO THE PROVISIONS OF THE 2009 INTERNATIONAL BUILDING CODE.
2. IT IS THE PRE-ENGINEERED METAL BUILDING MANUFACTURER'S RESPONSIBILITY TO DESIGN THE COMPLETE BUILDING SYSTEM (STEEL FRAMING, ANCHOR BOLTS, PURLINS, GIRTS, BRACINGS, CONNECTIONS, ROOFING, WALL PANELS, COMPONENTS, ATTACHMENTS, ETC.). THE MANUFACTURER SHALL SUBMIT A CERTIFICATION LETTER BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND STATING THAT THE BUILDING SYSTEM DESIGN MEETS THE INDICATED CODE, PERFORMANCE AND LOADING REQUIREMENTS.
3. THE PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL BE CERTIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION CATEGORY MB.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE ENTIRE BUILDING SYSTEM FOR REVIEW. THE CONTRACTOR SHALL SUBMIT A COMPLETE STRUCTURAL DESIGN ANALYSIS OF THE BUILDING SYSTEM (FOR RECORD PURPOSES ONLY). THE SHOP DRAWING SUBMITTAL SHALL INCLUDE ALL ANCHOR BOLT REQUIREMENTS AND FOUNDATION REACTIONS. ALL SHOP DRAWING AND CALCULATION SUBMITTAL SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND.

COLD FORMED METAL FRAMING NOTES

1. ALL COLD FORMED METAL FRAMING (CFMF) IS TO CONFORM TO AISI 2004, ASTM A653, CQ, GRADE 33 AND BE HOT-DIP GALVANIZED FOR A MINIMUM G90 COATING.
2. INSTALLATION OF CFMF IS TO BE IN STRICT ACCORDANCE WITH AISI AND MANUFACTURER'S RECOMMENDATIONS.
3. A MINIMUM OF TWO STUDS ARE TO BE PROVIDED AT THE EDGES OF ALL WALL OPENINGS.
4. CONNECTION OF ALL CFMF MEMBERS IS TO BE MADE PRIOR TO INSTALLATION OF GYPSUM WALLBOARD.
5. TRACK RUNNER MATERIAL THICKNESS SHALL BE AT LEAST EQUAL TO THE TYPICAL WALL STUD MEMBER THICKNESS.
6. NO DEAD LOAD OR LIVE LOAD SHALL BE DIRECTLY IMPOSED ON WALL TRACK OR RUNNER UNLESS SPECIFICALLY DESIGNED.
7. ALL LIGHT GAUGE STEEL MULTIPLE STUD MEMBERS SHALL BE CONNECTED AT 16" O.C. AT EACH FACE OF THE STUD FLANGE.
8. FRAMING MEMBERS SHALL BE INSTALLED ALIGN AND PLUMB.
9. SPLICES IN FRAMING MEMBERS SHALL NOT BE PERMITTED UNLESS SPECIFIED.
10. BOTH FLANGES OF STUDS SHALL BE CONNECTED TO THE TOP AND BOTTOM TRACK.
11. TYPICAL SCREW PATTERN FOR ATTACHMENT OF EXTERIOR GRADE GYPSUM SHEATHING TO LIGHT GAGE FRAMING TO BE 6" O.C. AT THE EDGE AND 8" O.C. WITHIN THE FIELD OF EACH SHEET. SCREWS TO BE GALVANIZED.
12. ALL WELDS AND OTHER CONNECTIONS ARE TO BE TOUCHED UP USING GALVANIZING PAINT (SEE SPECIFICATIONS).

SPECIAL INSPECTION NOTES

1. SPECIAL INSPECTIONS ARE REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE 2009 INTERNATIONAL BUILDING CODE (IBC). THE TERM SPECIAL INSPECTOR REFERS TO THE QUALIFIED PERSON EMPLOYED BY THE CONTRACTOR IN COMPLIANCE WITH IBC 2009. INSPECTIONS OF FOUNDATION SUBGRADES MUST BE CONDUCTED BY A LICENSED GEOTECHNICAL ENGINEER REFERRED TO HEREIN AS THE GEOTECHNICAL INSPECTOR. SPECIAL INSPECTIONS SHALL BE PERFORMED FOR BUT NOT LIMITED TO, THE FOLLOWING STRUCTURAL ITEMS:
A. FOUNDATION (FLAT SLAB) REINFORCING
B. ACIP REINFORCING
C. CONCRETE FORMWORK AND REINFORCING
D. CONCRETE MIX AND PLACEMENT
E. MASONRY REINFORCING

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREV.	DESCRIPTION
(solid line)		NEW WORK
(long dash line)		EXISTING WORK TO BE REMOVED
(dashed line)		NEW WORK HIDDEN
(thin line)		EXISTING WORK
(line)	℄	CENTER LINE
ø	DIA	DIAMETER
—— OR ●		STEEL REINFORCEMENT
	ACI	AMERICAN CONCRETE INSTITUTE
	ACIP	AUGER CAST IN PLACE PILE
	AFG	ABOVE FINISH GRADE
	AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
	ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	AWS	AMERICAN WELDING SOCIETY
	&	AND
	BLDG	BUILDING
	BOT	BOTTOM
	CLR	CLEAR
	CONC	CONCRETE
	CONN	CONNECTION
	CONST	CONSTRUCTION
	CONT	CONTINUOUS
	CONT'D	CONTINUED
	DL	DEAD LOAD
	DO	DITTO
	DWG	DRAWING
	EA	EACH
	EL	ELEVATION
	EQUIP	EQUIPMENT
	ETC	ETCETERA
	E-W	EAST-WEST
	EXIST	EXISTING
	FLR	FLOOR
	FT	FEET
	GALV	GALVANIZED
	HP	HIGH POINT
	HSS	HOLLOW STRUCTURAL SECTION
	ICRI	INTERNATIONAL CONCRETE REPAIR INSTITUTE
	INFO	INFORMATION
	JST	JOIST
	K	KIPS (1000 LB)
	KSF	KIPS PER SQUARE FOOT
	KSI	KIPS PER SQUARE INCH
	LB	POUNDS
	LL	LIVE LOAD
	MAX	MAXIMUM
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MIN	MINIMUM
	NO	NUMBER
	N-S	NORTH-SOUTH
	OC	ON CENTER
	PCF	POUNDS PER CUBIC FOOT
	PL	PLATE
	PSI	POUNDS PER SQUARE INCH
	PSF	POUNDS PER SQUARE FOOT
	REF	REFERENCE
	REINF	REINFORCING OR REINFORCEMENT
	RET	RETAINING
	REV	REVISION
	SJI	STEEL JOIST INSTITUTE
	SPEC	SPECIFICATIONS
	STAGG	STAGGERED
	STD	STANDARD
	STL	STEEL
	TEMP	TEMPORARY
	T/S	TOP OF SLAB
	T/C	TOP OF CONCRETE
	TS	STRUCTURAL TUBING
	TYP	TYPICAL
	VIF	VERIFY IN FIELD
	WWF	WELDED WIRE FABRIC

CONTRACTOR RESPONSIBILITIES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REDESIGN OF THE STRUCTURAL SUPPORTS OF EQUIPMENT WHEN THE OPERATING WEIGHTS OF THE EQUIPMENT PROVIDED (INCLUDING CURBS AND ACCESSORIES) EXCEEDS THE MAXIMUM DESIGN WEIGHTS NOTED ON THE STRUCTURAL DRAWINGS: SUBMIT STRUCTURAL CALCULATIONS AND DETAILS FOR THE REVISED EQUIPMENT SUPPORT FOR REVIEW. THE SUBMITTAL SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND.

STRUCTURAL DRAWING INDEX

S001	STRUCTURAL – NOTES, LEGEND AND ABBREVIATIONS
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S102	SHIPPING AND RECEIVING FOUNDATION PLAN 2
S103	WAREHOUSE FOUNDATION 1
S104	WAREHOUSE FOUNDATION 2
S105	SHIPPING AND RECEIVING BID ADDITIVE 3 – FOUNDATION PLAN
S106	SHIPPING AND RECEIVING BID ADDITIVE 3 – SECTIONS AND DETAILS
S107	WAREHOUSE BID ADDITIVE 4 – FOUNDATION PLAN
S108	WAREHOUSE BID ADDITIVE 4 – SECTIONS AND DETAILS
S201	SHIPPING AND RECEIVING FLOOR SLAB REINFORCEMENT LAYOUT 1
S202	SHIPPING AND RECEIVING FLOOR SLAB REINFORCEMENT LAYOUT 2
S203	WAREHOUSE FLOOR SLAB REINFORCEMENT LAYOUT 1
S204	WAREHOUSE FLOOR SLAB REINFORCEMENT LAYOUT 2
S601	PILE CAP SCHEDULE AND DETAILS
S602	PILES, PILE CAPS, AND FLOOR SLAB REINFORCING SECTIONS & DETAILS
S603	CONCRETE SECTIONS & DETAILS 1
S604	CONCRETE SECTIONS & DETAILS 2
S605	CONCRETE SECTIONS & DETAILS 3
S606	CONCRETE TYPICAL DETAILS
S607	CMU WALL PLAN
S608	CMU WALL SECTIONS & DETAILS

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	JHC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHK	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
STRUCTURAL - NOTES, LEGEND AND ABBREVIATIONS

S001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	81 OF 158	GF-035-34069

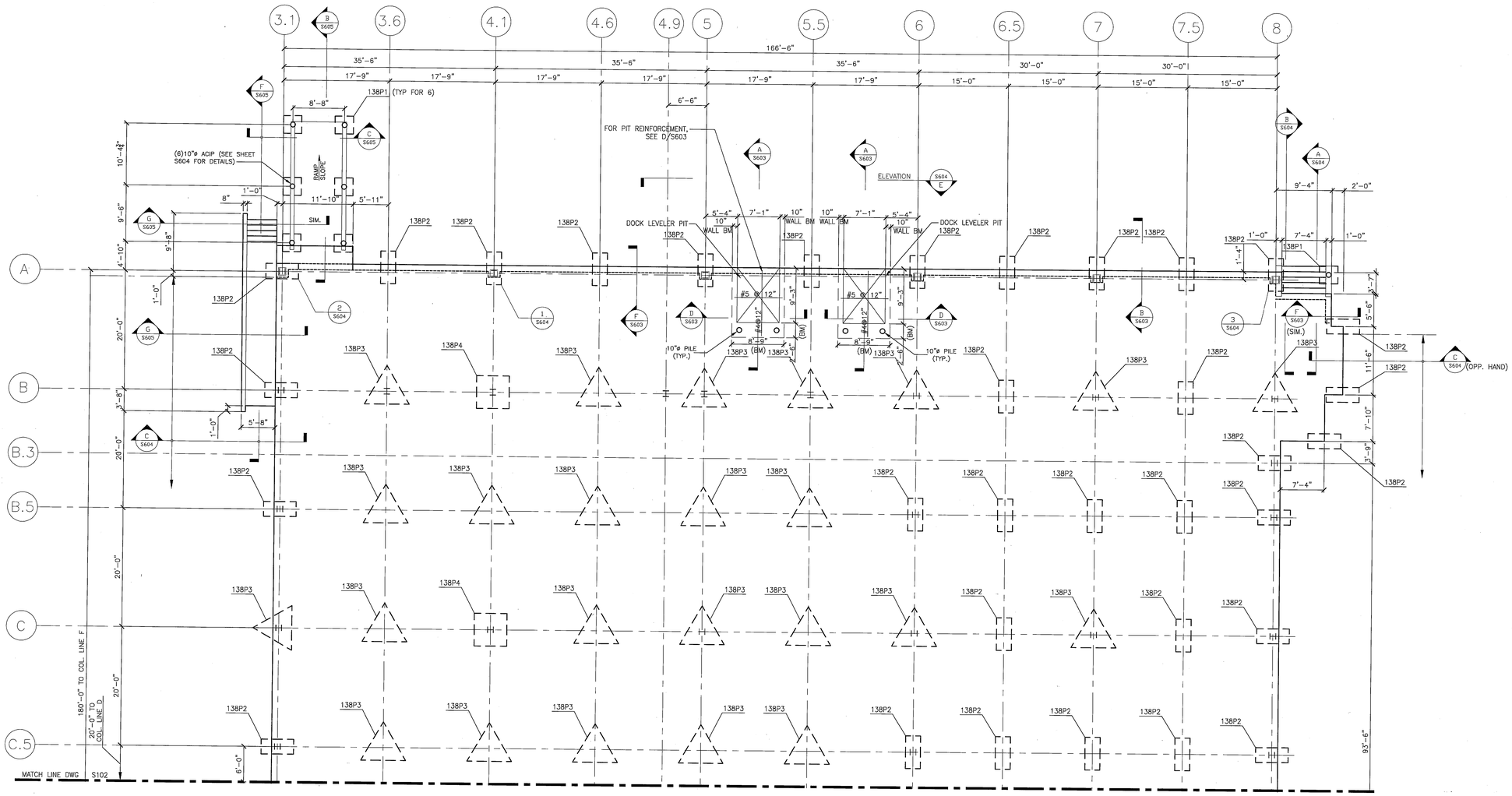
FILE NAME: S001.dwg FILE DATE: 2/26/2010 PLOT DATE: 2/26/2010

FORM F 03-07-08

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

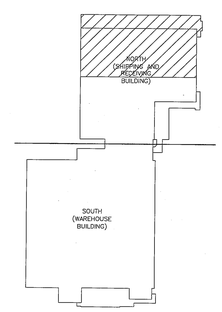
NOTES

1. FOR GENERAL STRUCTURAL NOTES, SEE DWG S001.
2. FOR ABBREVIATIONS & SYMBOLS, SEE DWG S001.
3. STEEL COLUMN SHOWN ON PLAN ARE PRE-ENGINEERED COLUMNS @ EL. 183.00 FOR CLARITY; SEE NOTE ON DWG S001.
4. P1 THRU P5 DENOTE PILE CAP TYPES. SEE DETAILS & SCHEDULE ON DWG S601.
5. PILES TO BE 10" NOMINAL DIAMETER AUGERED-CAST-IN-PLACE (ACIP) PILES. PRESSURE GROUTED PILES. SEE SPECIFICATIONS.
6. T/PILE CAP ALONG COL. LINE A = EL. 177.25



1 S101 PARTIAL FOUNDATION PLAN

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

PARSONS

Facilities Construction Engineering & Technical Services

FMD @ GFC - NASA

SEAL AREA

STATE OF MARYLAND

RUBEN CRUZ VINLUAN JR.

No. 15370

REGISTERED PROFESSIONAL ENGINEER

02/26/2010

REV.	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM	—	
PM		3/10/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
FOUNDATION PLAN 1

S101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	82 OF 158	GF-035-34070

FILE NAME: S101_CS.dwg

FILE DATE: 2/26/2010

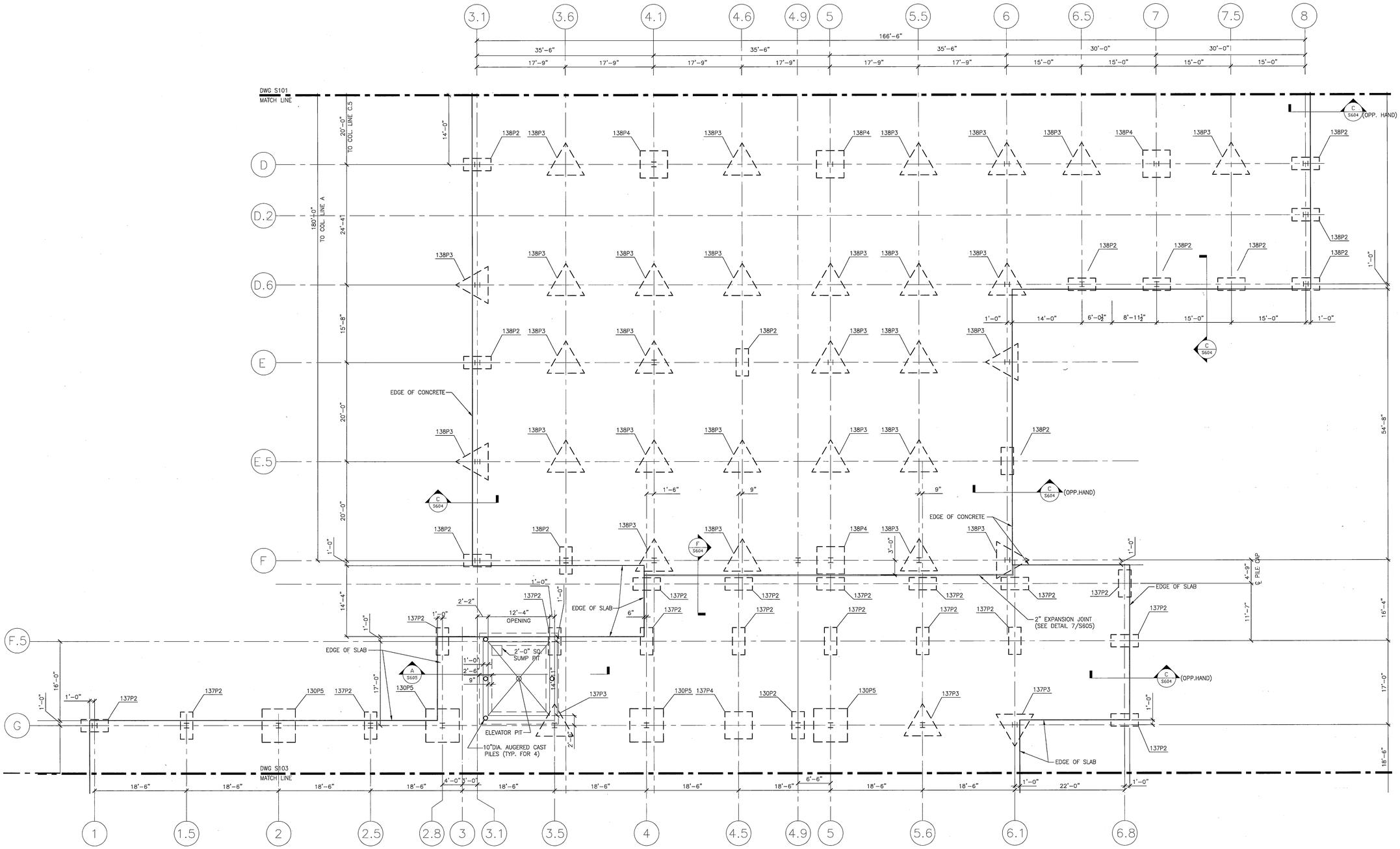
PLOT DATE: 2/26/2010

FORM # 03-07-48

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

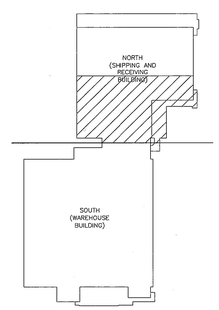
NOTES

1. SEE NOTES ON DWG S101.



1 / S102 **PARTIAL FOUNDATION PLAN**

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SAL	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM	—	
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

PARSONS — Facilities Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING
FOUNDATION PLAN 2

S102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
03-01-10	A6890	83 OF 158	GF-035-34071

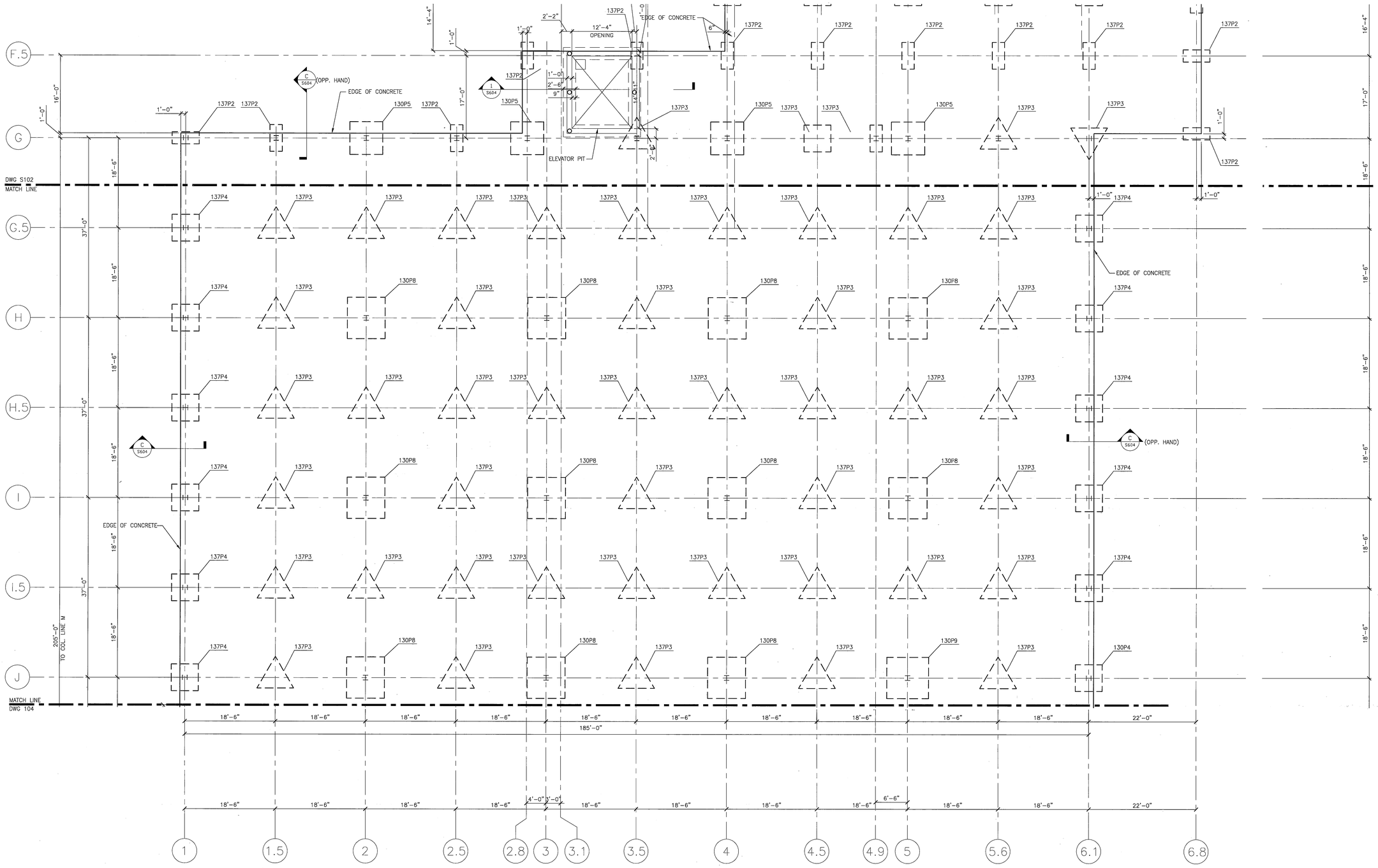
FILE DATE: 2/26/2010
PLOT DATE: 2/25/2010
FILE NAME: S101_CS.dwg

FORM F 03-07-05

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

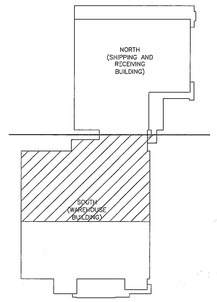
NOTES

1. SEE NOTES ON DWG S101.



1 / S103 **PARTIAL FOUNDATION PLAN**

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	JS	3/1/10
CM	—	
PM	JHK	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

PARSONS — Parsons Construction Engineering & Technical Services — PMO-GSFC-NASA

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
FOUNDATION PLAN 1

S103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	84 OF 158	GF-035-34072

FILE NAME: S101_CS.dwg

PLOT DATE: 2/26/2010

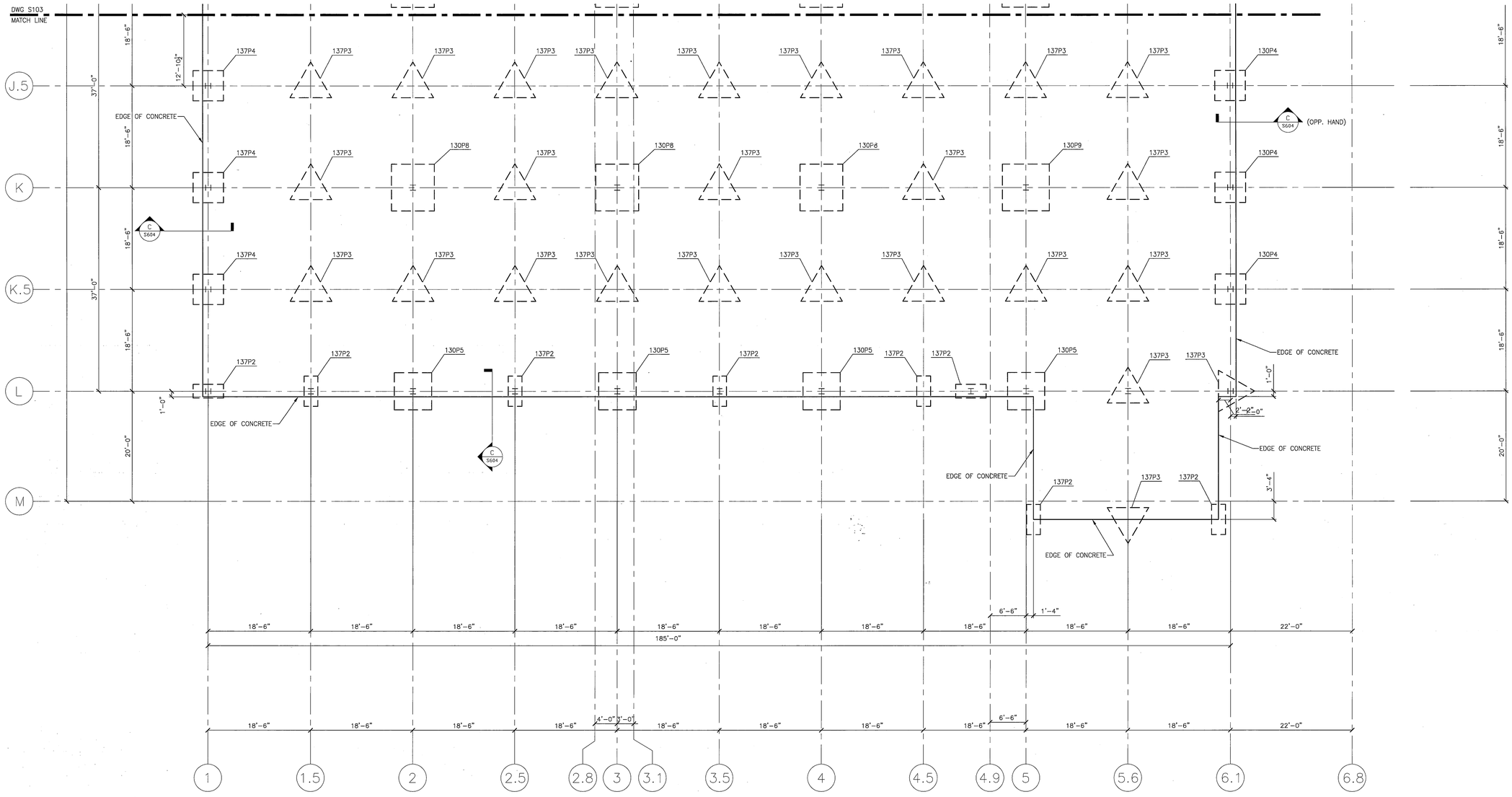
FILE DATE: 2/26/2010

FORM F 03-07-09

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

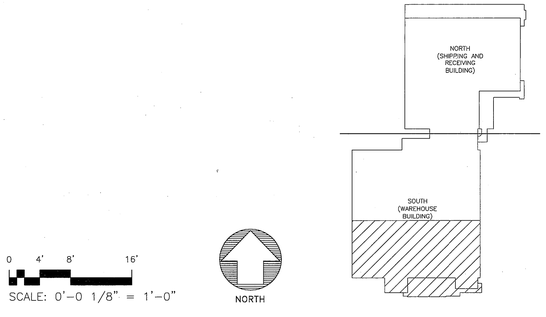
NOTES

1. SEE NOTES ON DWG S101.



1 / S104 **PARTIAL FOUNDATION PLAN**

SCALE: 1/8" = 1'-0"



REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SAK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JHH	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

STRUCTURAL

SEAL AREA

STATE OF MARYLAND
BOEING CRUZ VIRGINIA JR.
No. 15374
REGISTERED PROFESSIONAL ENGINEER
02/26/2010

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
FOUNDATION PLAN 2

S104

BUILDING 035

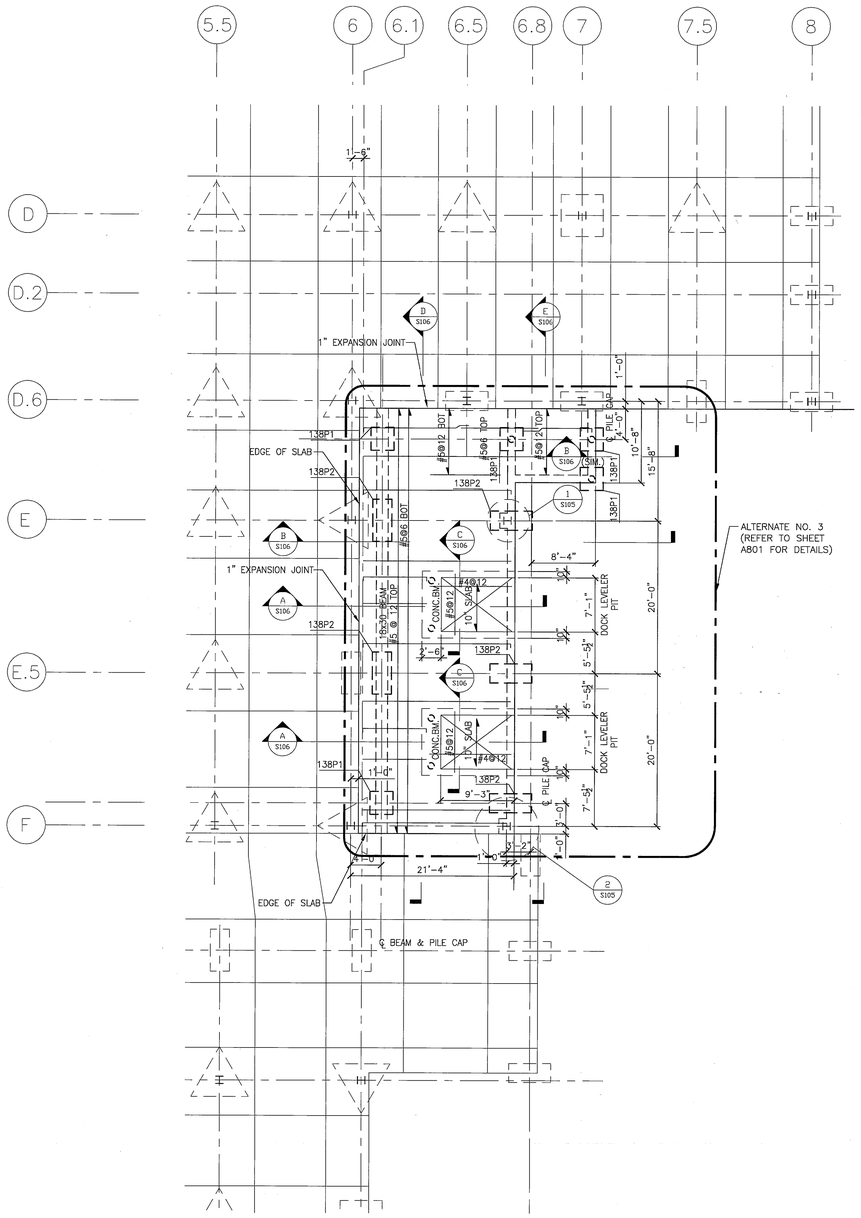
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	85 OF 158	GF-035-34073

FORM F 03-07-08

FILE NAME: S101_CS.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

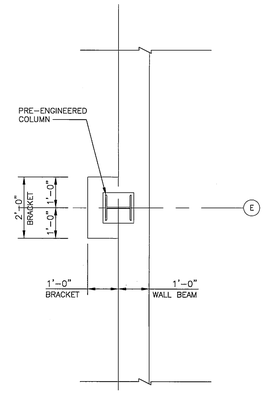


1 / S107 **LOADING DOCK PLANS-BID ADDITIVE NO. 3**

SCALE: 1/8" = 1'-0"

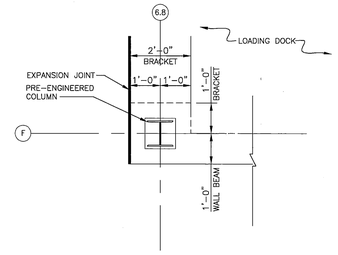
NOTE:

1. CENTER LINE OF PILE CAPS TO MATCH WITH CONCRETE BEAMS WALLS CENTER LINES IN BOTH DIRECTIONS.
2. SLAB TEMPERATURE REINF. NOT SHOWN FOR CLARITY. PROVIDE #4@12 TOP AND BOT. TEMPERATURE IN THE NORTH AND SOUTH DIRECTIONS.



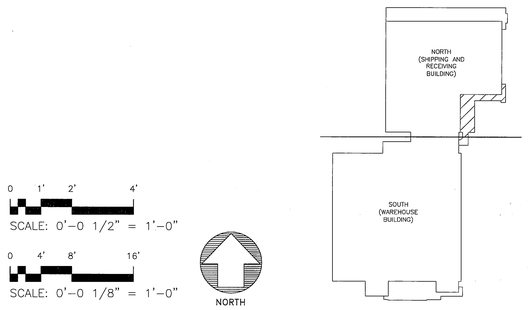
1 / S105 **BRACKET DETAIL**

SCALE: 1/2" = 1'-0"



2 / S105 **DETAIL**

SCALE: 1/2" = 1'-0"



PARSONS — Facilities Construction Engineering & Facilities Services — PMO-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — DAVID DUNE THOMAS JR. — PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMLC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JWA	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING
BID ADDITIVE 3 - FOUNDATION PLAN

S105

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

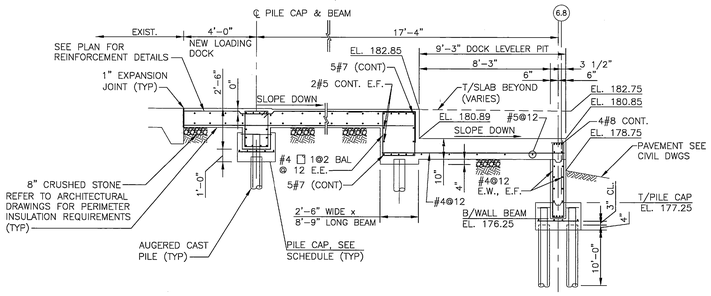
STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	86 OF 158	GF-035-34074

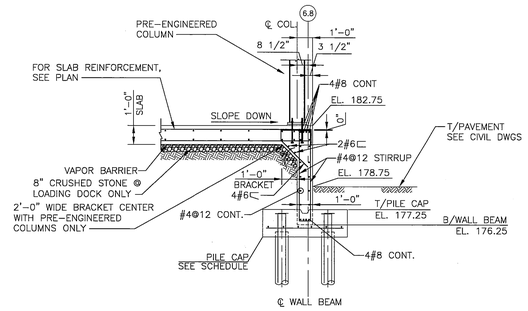
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010
FILE NAME: S105_ADDITIVE3.dwg

FORM F 03-01-06

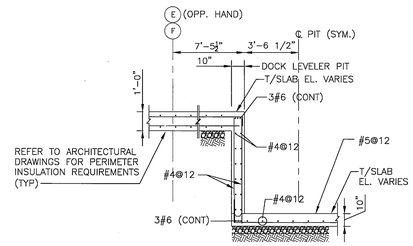
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



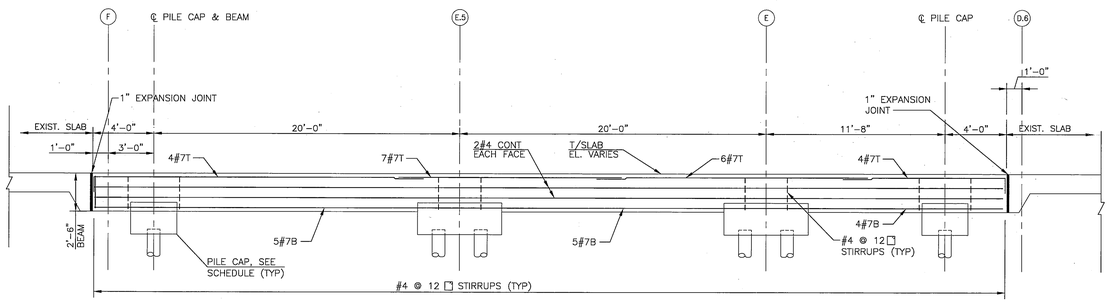
A S106 **SECTION**
SCALE: 1/4" = 1'-0"



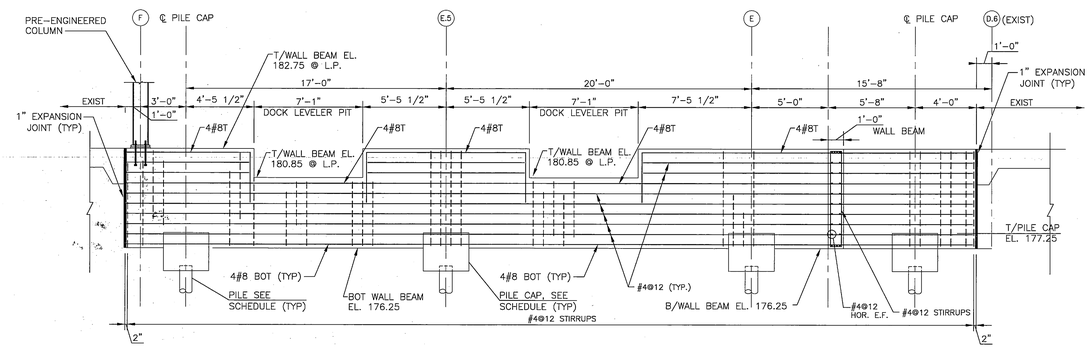
B S106 **SECTION**
SCALE: 1/4" = 1'-0"
NOTE: TOP & BOTTOM LAP SPLICE SEE DWG S001.



C S106 **SECTION**
SCALE: 1/4" = 1'-0"



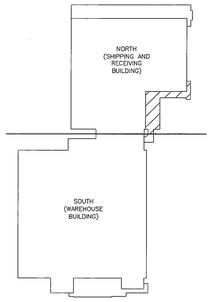
D S106 **SECTION**
SCALE: 1/4" = 1'-0"



E S106 **ELEVATION - REINFORCING STEEL DETAIL AT LOADING DOCK WALL BEAM TRANSITION**
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
SCALE: 0'-0 1/4" = 1'-0"

NORTH



PARSONS
Facilities Construction Engineering & Technical Services
PMO-G SFC-NASA

SEAL AREA

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM		
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING BID
ADDITIVE 3 -SECTIONS & DETAILS

S106

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

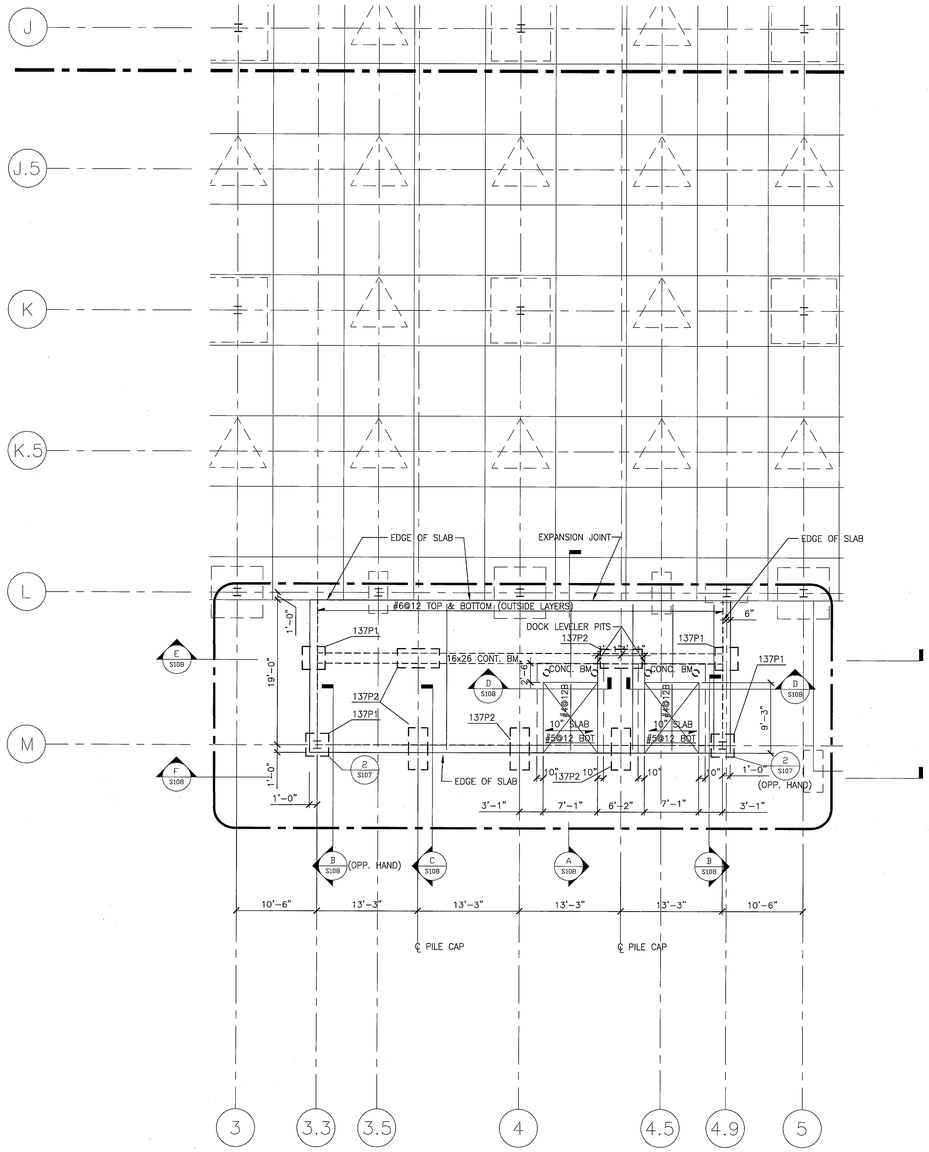
STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	87 OF 158	GF-035-34075

FORM F 03-07-05

FILE NAME: S106_ADDITIVES.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

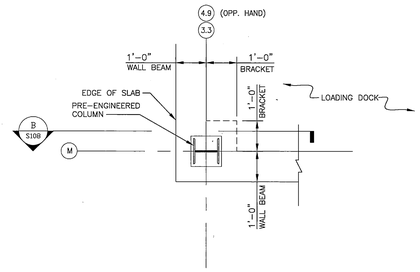


1 / S107 LOADING DOCK PLAN- BID ADDITIVE 4

SCALE: 1/8" = 1'-0"

NOTE:

1. CENTER LINE OF PILE CAPS TO MATCH CENTER LINES OF WALL BEAMS IN THE NORTH SOUTH DIRECTIONS.
2. PROVIDE #4@12 YOP & BOT (INSIDE LAYERS) AT LOADING DOCKS SLAB IN THE EAST & WEST DIRECTION U.N.O.



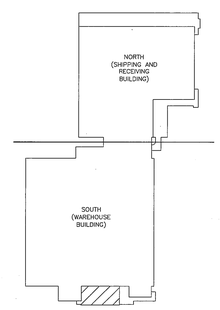
2 / S107 DETAIL

SCALE: 1/2" = 1'-0"

SCALE: 0'-0 1/2" = 1'-0"

SCALE: 0'-0 1/8" = 1'-0"

NORTH



SEAL AREA

STATE OF MARYLAND — PEDRO CRUZ VIZCARRO JR. — No. 19374 — REGISTERED PROFESSIONAL ENGINEER

02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM		
PM		3/1/10
CUSTOMER		2-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE BID ADDITIVE 4 - FOUNDATION PLAN

S107

BUILDING 035

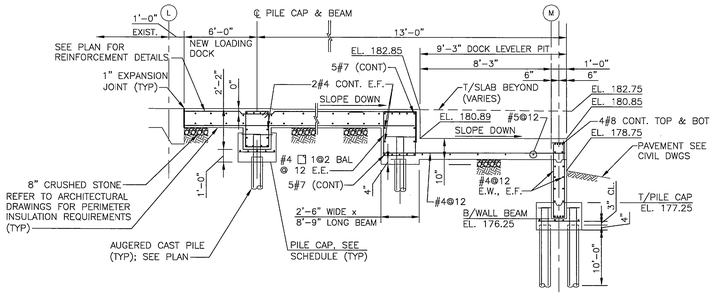
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL	DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
	03-01-10	A6890	88 OF 158	GF-035-34076

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S105_ADDITNCS.dwg

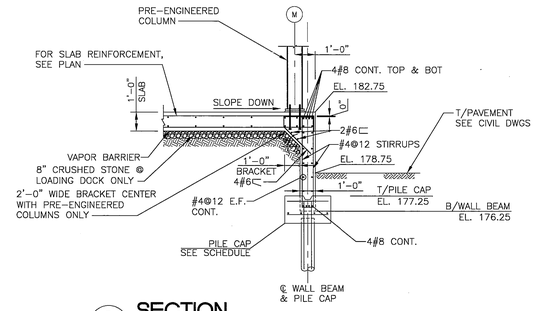
FORM F 03-07-08

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



A S108 **SECTION**

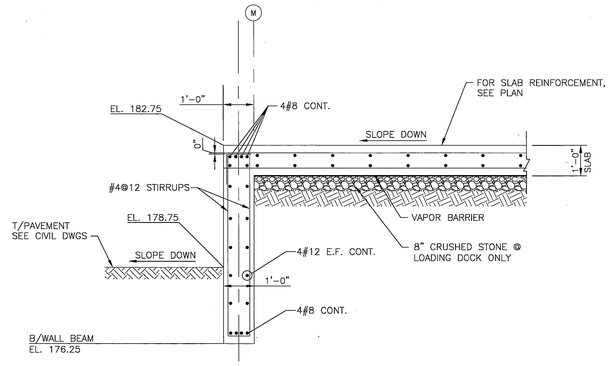
SCALE: 1/4" = 1'-0"



B S108 **SECTION**

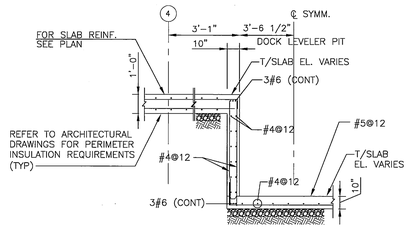
SCALE: 1/4" = 1'-0"

NOTE: TOP & BOTTOM LAP SPLICE SEE DWG S001.



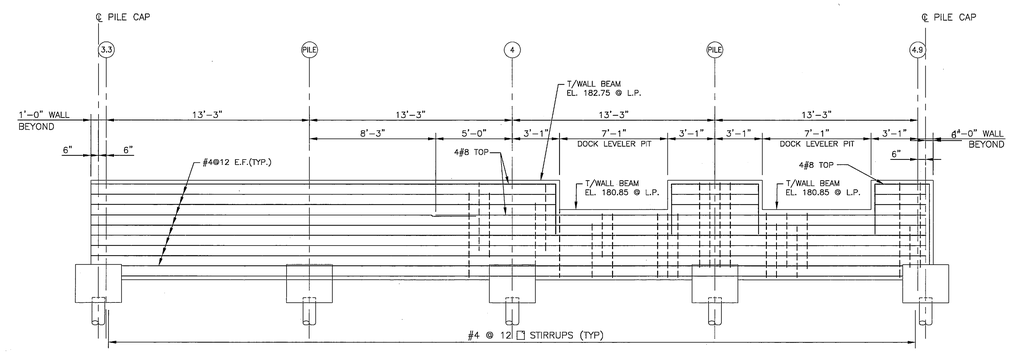
C S108 **SECTION**

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



D S108 **SECTION**

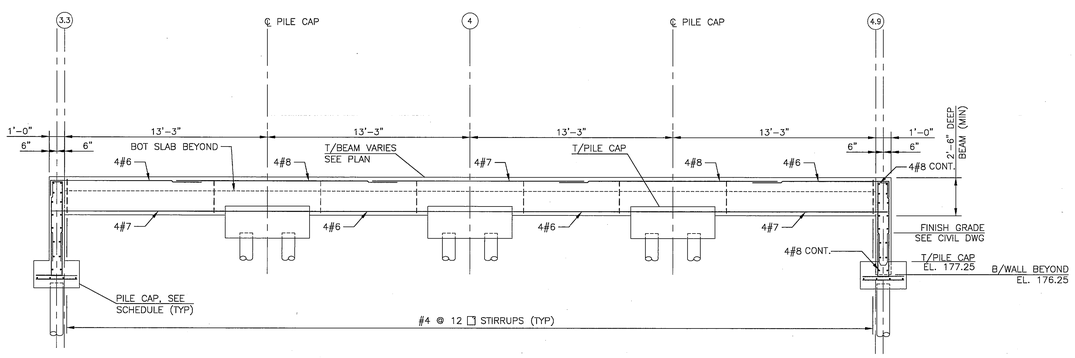
SCALE: 1/4" = 1'-0"



F S108 **ELEVATION - REINFORCING STEEL DETAIL AT LOADING DOCK BEAM TRANSITION**

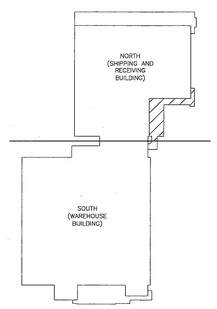
SCALE: 1/4" = 1'-0"

NOTE: SPLICE TOP BARS @ MID SPAN U.N.O.



E S108 **SECTION**

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



0 2' 4' 8'

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

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SKL	2-26-10
NASA A-E		
S&E BRANCH	JS	3/1/10
CM	–	
PM	JTM	3/1/10
CUSTOMER	RAW	3-1-10
SECTION HEAD		

Parsons Infrastructure Engineering & Technical Services — PARSONS — PMO-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — RUDOLPH CRUZ VINLUAN JR. — No. 15327 — PROFESSIONAL ENGINEER — 02/26/2010

LOGISTICS FACILITY SITE AND SHELL

WAREHOUSE BID ADDITIVE 4 - SECTIONS & DETAILS

S108

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or MR#	SHEET	DRAWING NO.
03-01-10	A6890	89 OF 158	GF-035-34077

FORM F 03-07-08

PLOT DATE: 2/26/2010

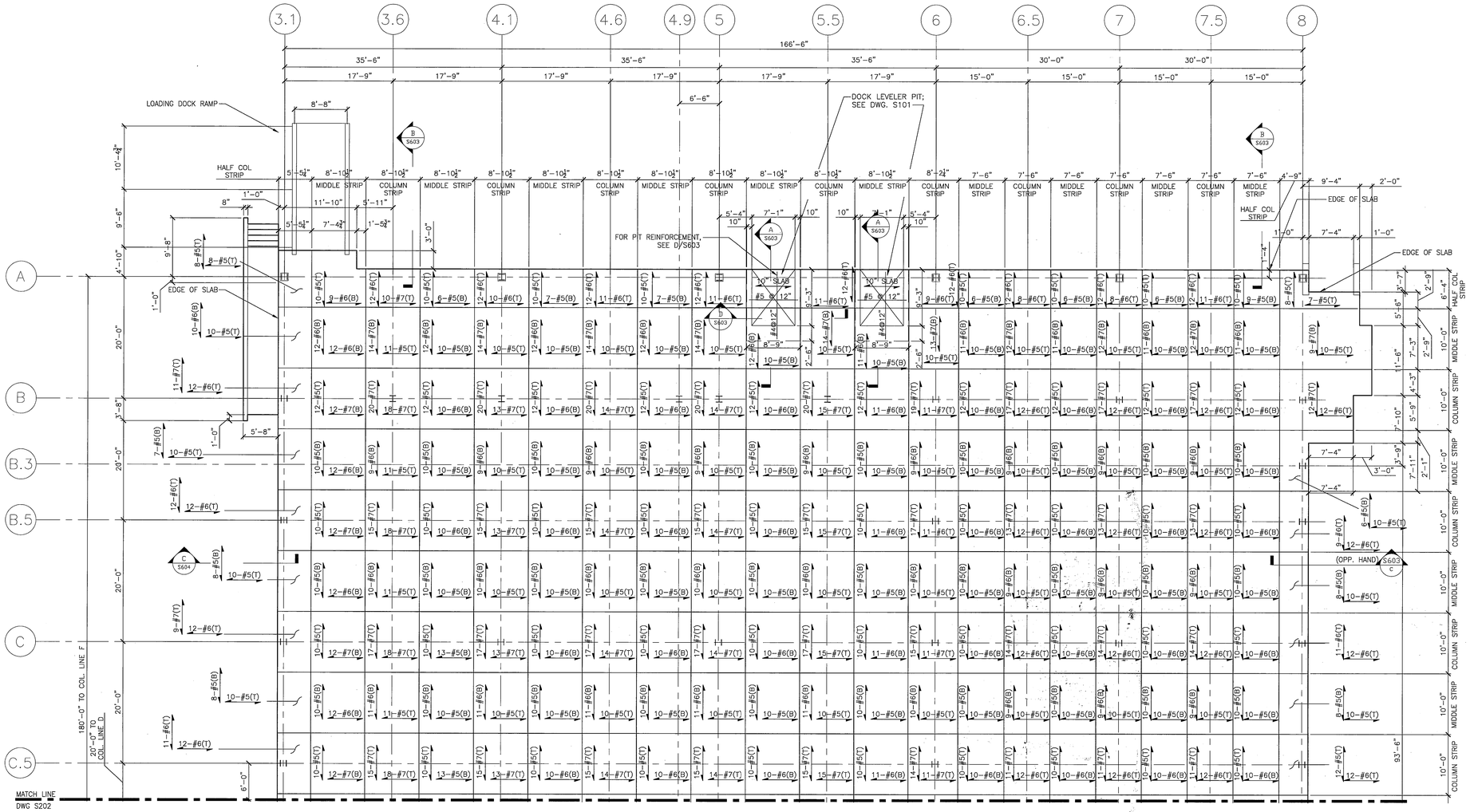
FILE DATE: 2/26/2010

FILE NAME: S105_ADDITIVES.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

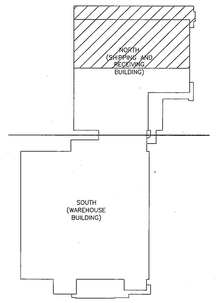
NOTES

1. SEE GENERAL STRUCTURAL NOTES ON DWG S001.
2. PRE-ENGINEERED STEEL COLUMNS NOT SHOWN FOR CLARITY. SEE DWGS S101 THROUGH S104 FOR LOCATIONS.
3. FOR CLARITY, CONCRETE PILES ARE NOT SHOWN.
4. CONCRETE SLAB SHALL BE 15" THICK UNLESS NOTED OTHERWISE.
5. TOP OF SLAB ELEVATION 183.0 UNLESS NOTED OTHERWISE.
6. ALL REINFORCING BARS SHALL BE EQUALLY SPACED IN THE COLUMNS AND MIDDLE STRIPS FOR WHICH THEY ARE SHOWN.
7. REINFORCEMENT ARRANGEMENT IN THE EAST-WEST DIRECTION SHALL BE SIMILAR TO NORTH-SOUTH DIRECTION.
8. REINFORCEMENTS SHOWN ARE FOR FULL WIDTH OF COLUMN AND MIDDLE STRIPS.
9. CONCRETE SLAB REINFORCEMENT SHOWN IN THE NORTH-SOUTH DIRECTION SHALL BE IN THE OUTER LAYERS.
10. FOR CONCRETE SLAB REINFORCEMENT DETAILS SEE DWG S602.



1 S201 PARTIAL FLOOR SLAB PLAN

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC-NASA

SEAL AREA — STATE OF MARYLAND — JEFFREY CROZE VIRGINIA JR. No. 12274 — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SW	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVNG FLOOR
SLAB REINFORCEMENT LAYOUT 1

S201

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

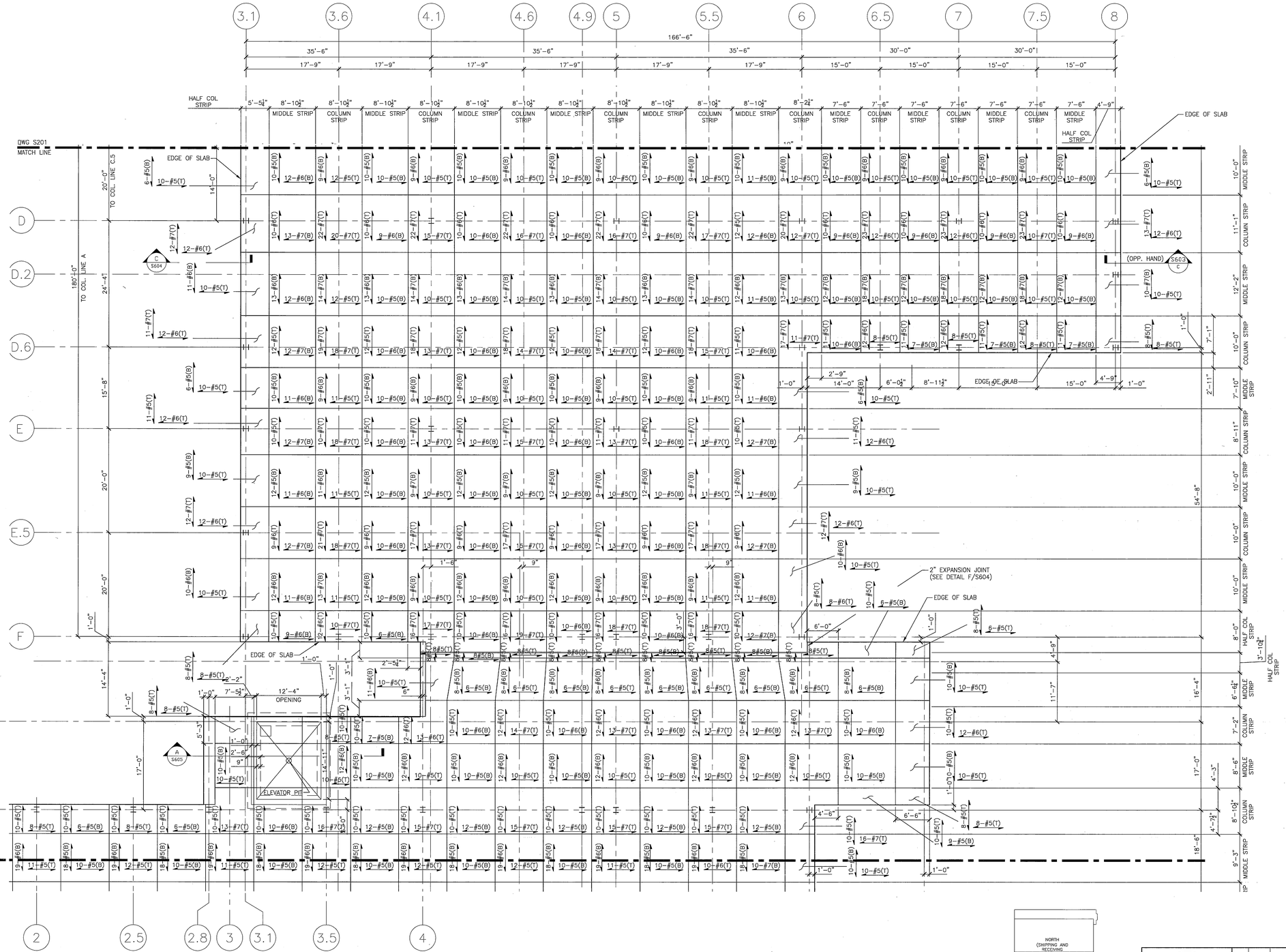
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	90 OF 158	GF-035-34078

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S101_CS.dwg
FORM F 03-07-09

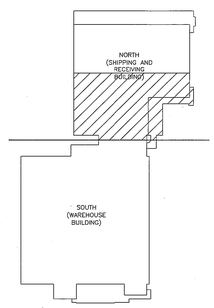
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

NOTES

1. SEE NOTES ON DWG S201.



1 S202 PARTIAL FLOOR SLAB PLAN
SCALE: 1/8" = 1'-0"



0 4' 8' 16'
SCALE: 0'-0 1/8" = 1'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	FH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

STRUCTURAL

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
JEFFREY CRAIG VINCENT JR.
PROFESSIONAL ENGINEER
02/26/2010

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVNG FLOOR
SLAB REINFORCEMENT LAYOUT 2

S202

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	91 OF 158	GF-035-34079

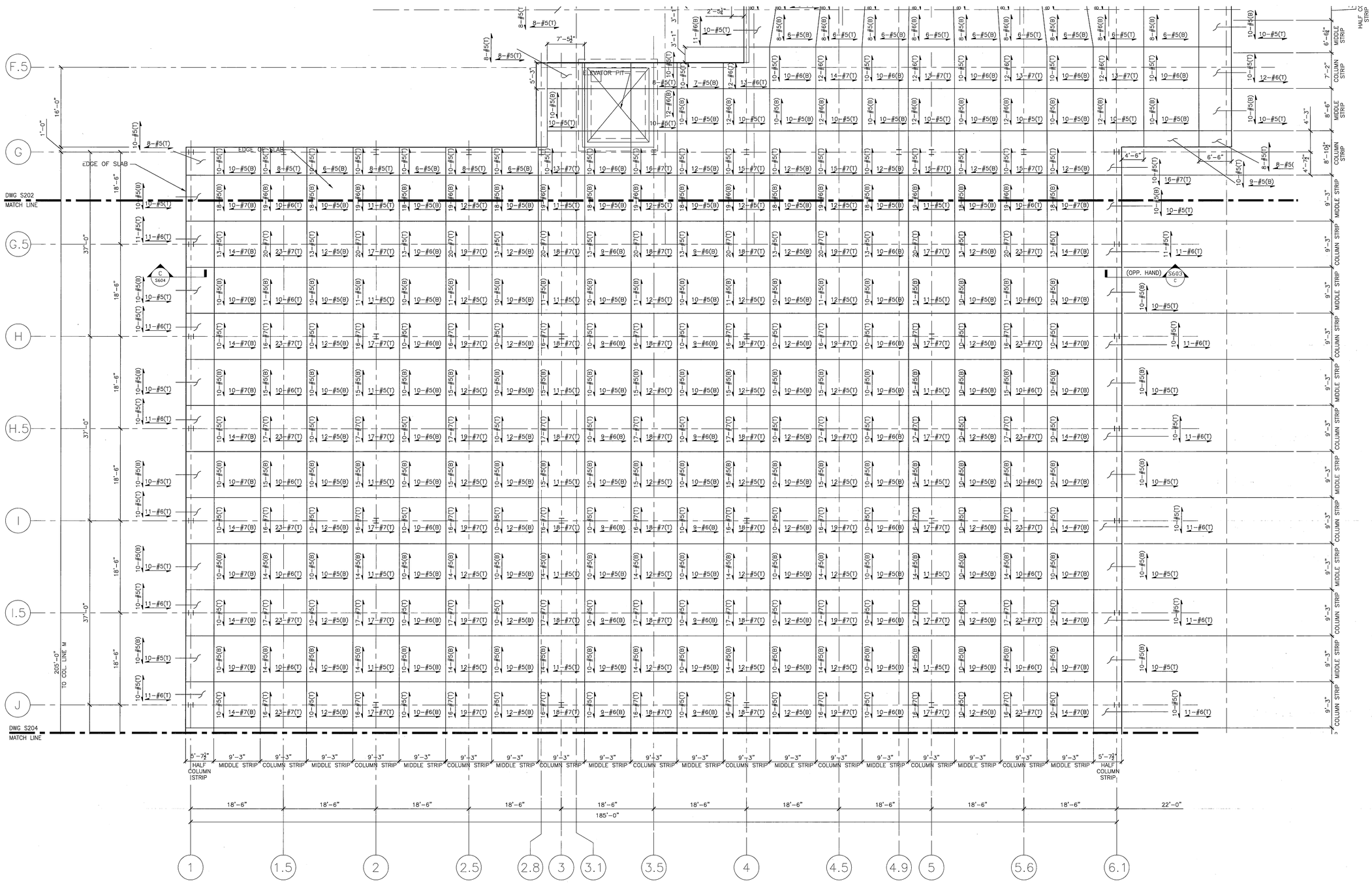
FORM F 03-07-09

FILE NAME: S101_CS.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

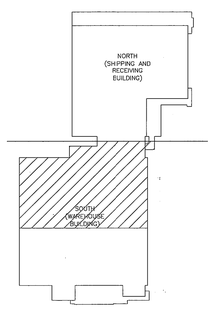
NOTES

1. SEE NOTES ON DWG S201.



1 / S203 PARTIAL FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

PARSONS

SEAL AREA

STATE OF MARYLAND — ROBERT CHUC VUONG III — No. 15214 — REGISTERED PROFESSIONAL ENGINEER

02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SHIC	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	—	
PM	JTM	3/1/10
CUSTOMER	BW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE FLOOR SLAB
REINFORCEMENT LAYOUT 1

S203

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 92 OF 158 | DRAWING NO. GF-035-34080

FILE DATE: 2/26/2010

PLOT DATE: 2/26/2010

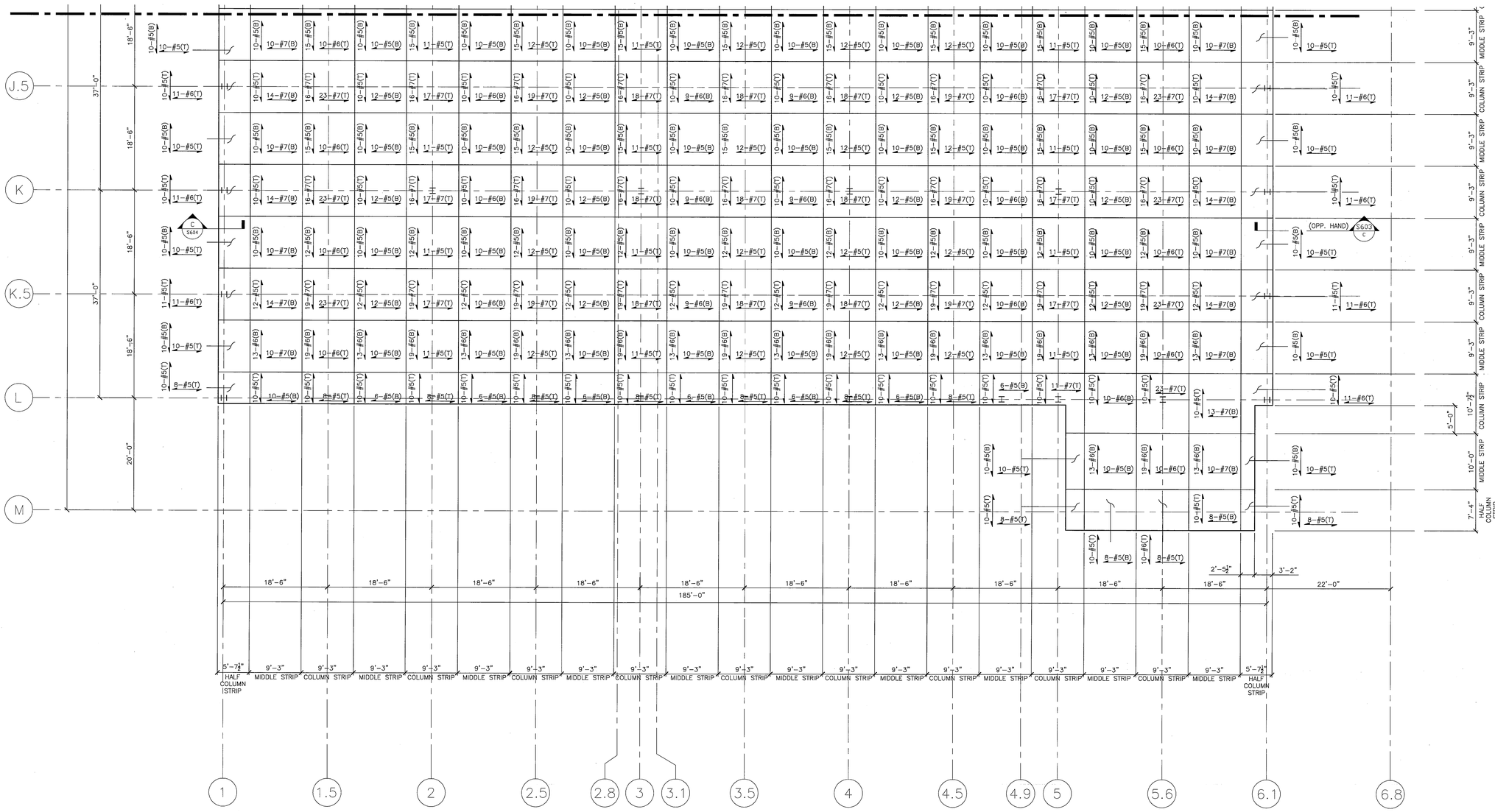
FILE NAME: S101_CS.dwg

FORM F 03-07-06

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

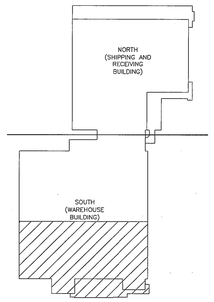
NOTES

1. SEE NOTES ON DWG S201.



1 / S204 PARTIAL FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



0 4' 8' 16'

SCALE: 0'-0 1/8" = 1'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
IND-G SFC-NASA

SEAL AREA
STATE OF MARYLAND
ERNEST SHEZ YORDAN III
No. 15374
CONSTRUCTION PROFESSIONAL ENGINEER
02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SHK	2.26.10
NASA A-E		
S&E BRANCH	RS	2/1/10
CM	—	
PM	JTM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE FLOOR SLAB
REINFORCEMENT LAYOUT 2

S204

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

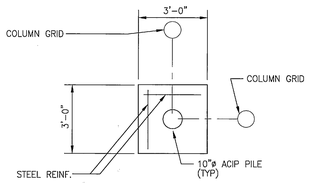
STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	93 OF 158	GF-035-34081

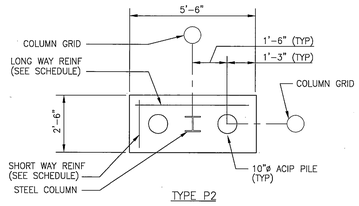
FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S101_CS.dwg

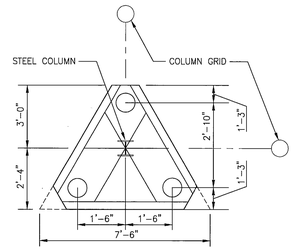
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



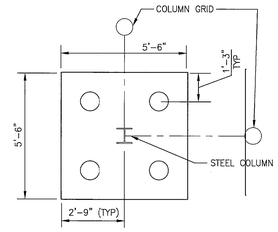
TYPE P1



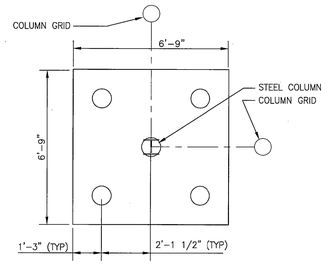
TYPE P2



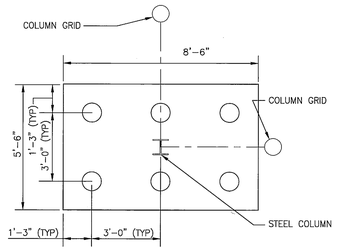
TYPE P3



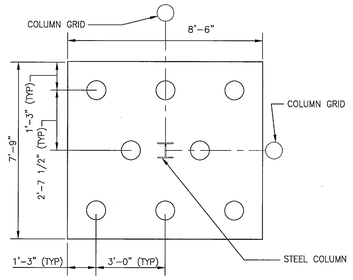
TYPE P4



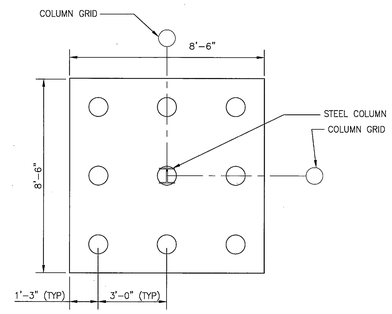
TYPE P5



TYPE P6



TYPE P8



TYPE P9

PILE CAP SCHEDULE

CAP TYPE	NO. OF PILES	SIZE		BOTTOM REINFORCING		REMARKS
		W x L	t (in)	SHORT WAY	LONG WAY	
P1	1	3'-0" X 3'-0"	24	5-#6	5-#6	SEE DETAIL 1 & 2/S602
P2	2	2'-6" x 5'-6"	24	8-#4	6-#7	SEE DETAIL 1 & 2/S602
P3	3	SEE PLAN	24	6-#6	5-#6	SEE DETAIL 1 & 2/S602
P4	4	5'-6" x 5'-6"	24	13-#6	13-#6	SEE DETAIL 1 & 2/S602
P5	5	6'-9" x 6'-9"	30	11-#8	11-#8	SEE DETAIL 1 & 2/S602
P6	6	8'-6" x 5'-6"	36	14-#8	14-#6	SEE DETAIL 1 & 2/S602
P8	8	8'-6" x 7'-9"	36	15-#8	16-#8	SEE DETAIL 1 & 2/S602
P9	9	8'-6" x 8'-6"	40	16-#8	16-#8	SEE DETAIL 1 & 2/S602

NOTE:
1. ALL AUGERED CAST-IN-PLACE (ACIP) PILES TO BE 10" DIAMETER.
2. ACIP PILE TIP ELEV. SHOWN IN "ACIP PILE SCHEDULE" TABLE.

ACIP PILE SCHEDULE

ALLOWABLE CAPACITY	TIP ELEVATION	
	SHIPPING & RECEIVING	WAREHOUSE
(kips)	(ft)	(ft)
75	138	137
100	132	130

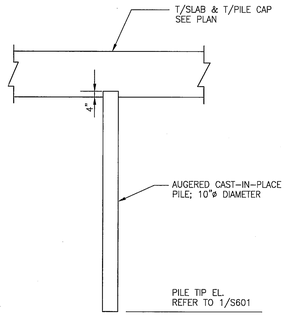
NOTE:
1. ON SHEETS S101 THROUGH S104, S107 AND S108, THE NUMBER BEFORE THE PILE CAP DESIGNATION REPRESENTS THE TIP ELEVATIONS AND THEIR RESPECTIVE ALLOWABLE CAPACITIES (i.e. 138P4 REPRESENTS A 4-PILE PILE CAP WITH TIP ELEVATION AT 138. THE CAPACITY OF THAT LOCATION IS EQUAL TO 4*75 kips = 300 kips).

1/S601 TYPES OF PILE CAPS DETAIL AND SCHEDULE

SCALE: NONE

NOTES:

1. SEE FOUNDATION PLANS DWG S101 THROUGH S104, S105 AND S107 FOR PILE CAP ORIENTATIONS.
2. STEEL COLUMN SHOWN ARE PRE-ENGINEERED COLUMNS. SEE PLANS DRAWING S101 THROUGH S104 FOR LOCATIONS.
3. PILE CAP DETAILS ARE CONCENTRIC WITH THE PILES. IF THE INSTALLED PILES ARE NOT CONCENTRIC WITH THE PILE CAPS, CONTRACTOR SHALL SUBMIT ACTUAL LOCATIONS OF SUCH PILES IN RELATION WITH PILE CAPS TO THE PROJECT ENGINEER FOR EVALUATION.



2/S601 TYPICAL PILE ELEVATION

SCALE: NONE

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JBK	3/1/10
CUSTOMER	RDW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
PILE CAPS
SCHEDULE AND DETAILS

S601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	94 OF 158	GF-035-34082

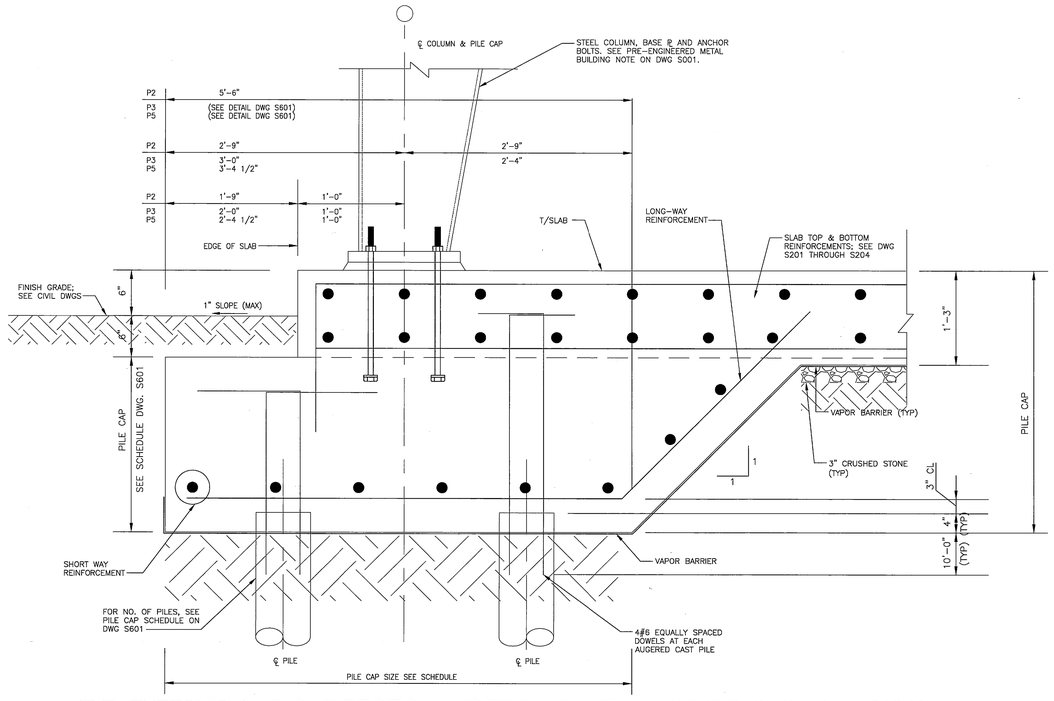
PARSONS — Facilities Construction Engineering & Inspection Services — PMO-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — RUFINO CRUZ VIRILLAN JR. — No. 15774 — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S601_DET.Dwg

FORM F 03-07-09

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

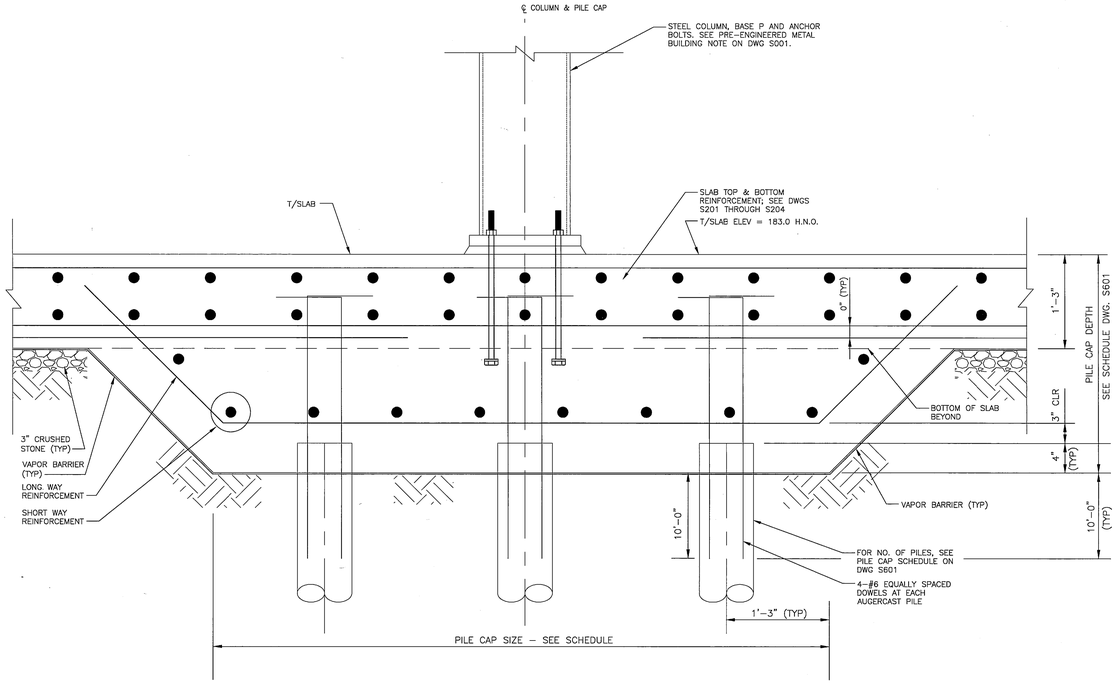


TYP. EXTERIOR PILE CAP SECTION UNDER SLAB WITH AUGERED CAST PILE ONLY (EXCLUDING COLUMN A)

1 / S602

SCALE: NONE

NOTE: SEE C/S604 FOR SLAB DETAIL BETWEEN PILES.

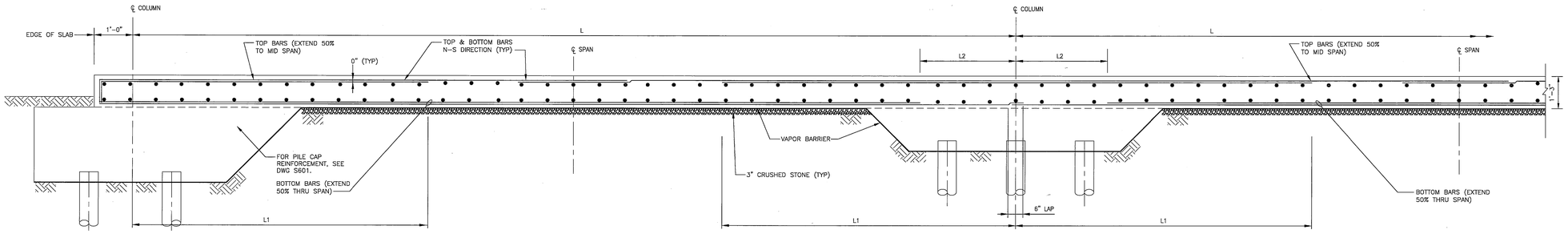


TYP. INTERIOR PILE CAP SECTION UNDER SLAB WITH AUGERCAST PILES

2 / S602

SCALE: NONE

NOTE: SEE PARTIAL PLANS DWG S101 THROUGH S104 FOR PILE CAP ORIENTATIONS.



TYPICAL COLUMN STRIP REINFORCEMENT ARRANGEMENT

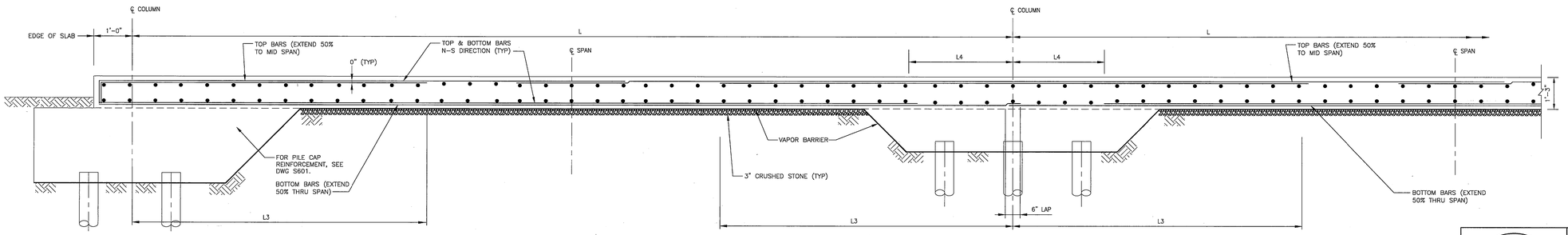
3 / S602

SCALE: NONE

NOTE: SEE NOTE ON 1/S602.

SLAB REINFORCEMENT – BAR CURTAILMENT				
SPAN (L) FT	COLUMN STRIP REINFORCEMENT		MIDDLE STRIP REINFORCEMENT	
	L1 (FT)	L2 (FT)	L3 (FT)	L4 (FT)
24'-4"	8'-8"	2'-4"	6'-4"	2'-6"
20'-0"	7'-0"	1'-9"	6'-0"	2'-3"
17'-9"	6'-3"	1'-6"	5'-3"	2'-0"
15'-0" TO 16'-6"	6'-0"	1'-3"	5'-0"	1'-9"

NOTE: WHERE ADJACENT SPANS AT A COLUMN LINE ARE UNEQUAL, L1 AND L3 SHALL BE BASED ON THE LONGER SPAN.



TYPICAL MIDDLE STRIP REINFORCEMENT ARRANGEMENT

4 / S602

SCALE: NONE

NOTE: SEE NOTE ON 1/S602.

PARSONS — Top Tier Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RK	3/1/10
CM	–	
PM	JHH	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

PILES, PILE CAPS, AND FLOOR SLAB REINFORCING SECTIONS & DETAILS

S602

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

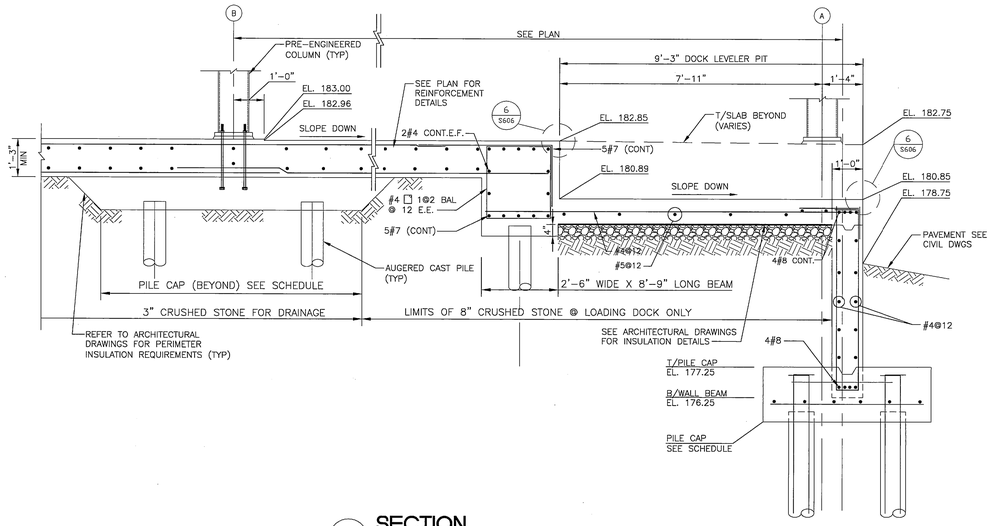
STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	95 OF 158	GF-035-34083

FILE NAME: S601_CAE.dwg PLOT DATE: 2/26/2010 FILE DATE: 2/26/2010

FORM F 03-01-08

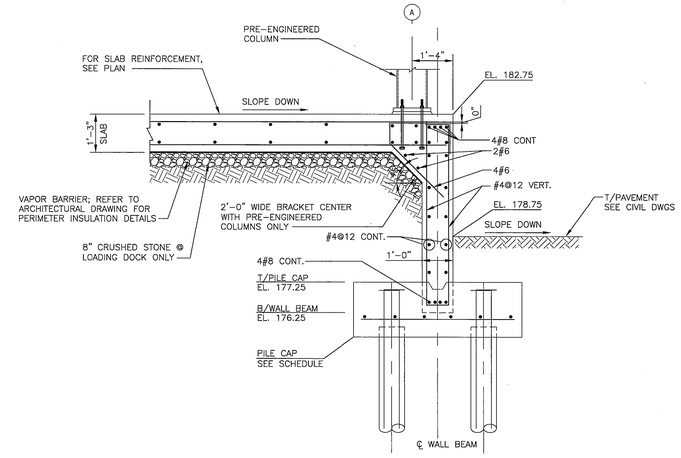
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



A S603 **SECTION**

SCALE: 1/2" = 1'-0"

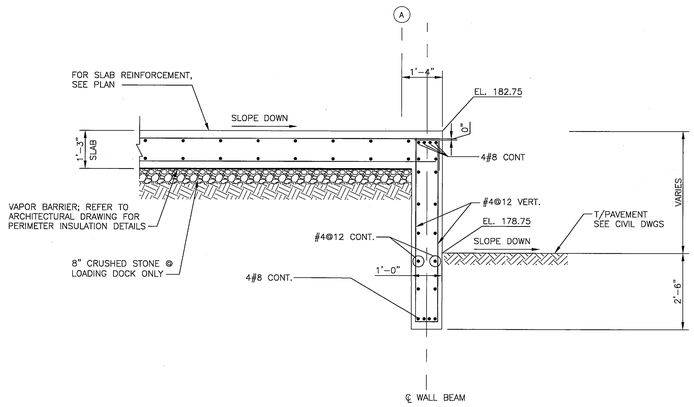
NOTE: TOP & BOTTOM LAP SPLICE SEE DWG S001.



B S603 **SECTION**

SCALE: 1/2" = 1'-0"

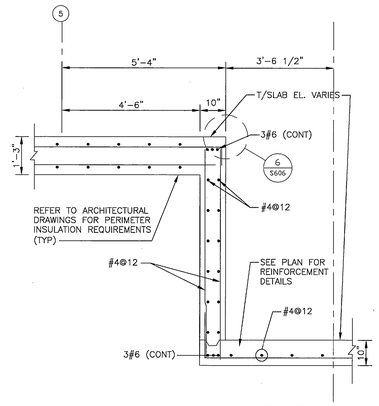
NOTE: TOP & BOTTOM LAP SPLICE SEE DWG S001.



C S603 **SECTION**

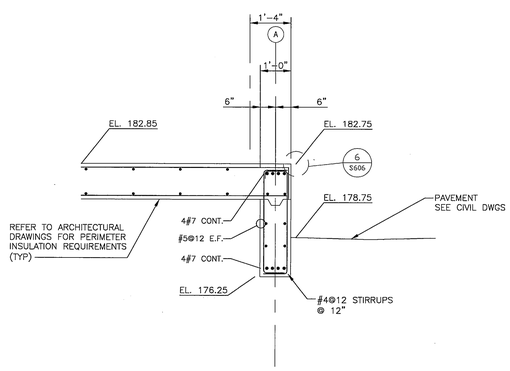
SCALE: 1/2" = 1'-0"

NOTE: TOP & BOTTOM LAP SPLICE SEE DWG S001.



D S603 **SECTION**

SCALE: 1/2" = 1'-0"



E S603 **SECTION**

SCALE: 1/2" = 1'-0"

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

PARSONS — Parsons Construction Engineering & Technical Services — PMC-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — WILLIAM CRAIG VOHLAND JR. — No. 15214 — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SMK	2.26.10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JAM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

CONCRETE
SECTIONS AND DETAILS 1

S603

BUILDING 035

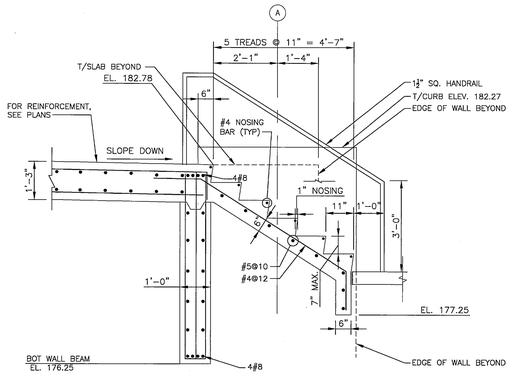
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL | DATE ISSUED 03-01-10 | CoF CODE or WBS A6890 | SHEET 96 OF 158 | DRAWING NO. GF-035-34084

FORM F 05-07-09

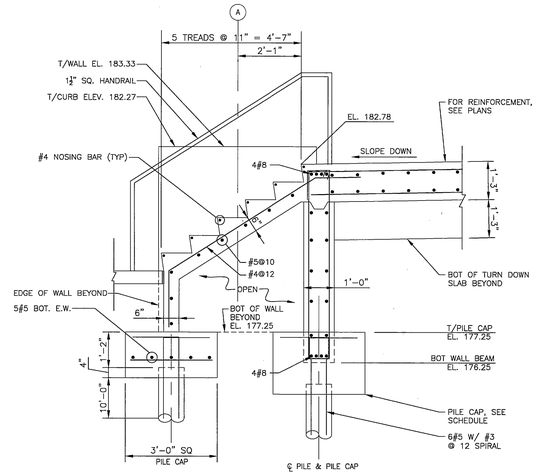
FILE NAME: S001_DET.dwg | FILE DATE: 2/26/2010 | PLOT DATE: 2/26/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



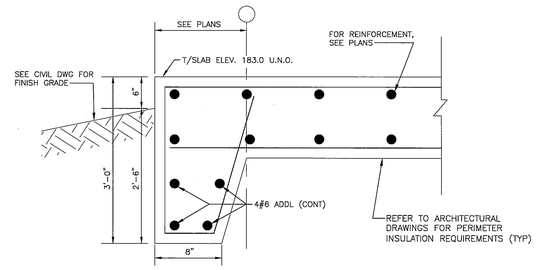
A S604 **SECTION**

SCALE: 1/2" = 1'-0"



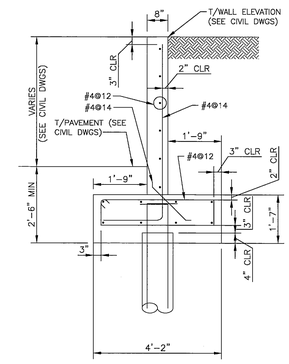
B S604 **SECTION**

SCALE: 1/2" = 1'-0"



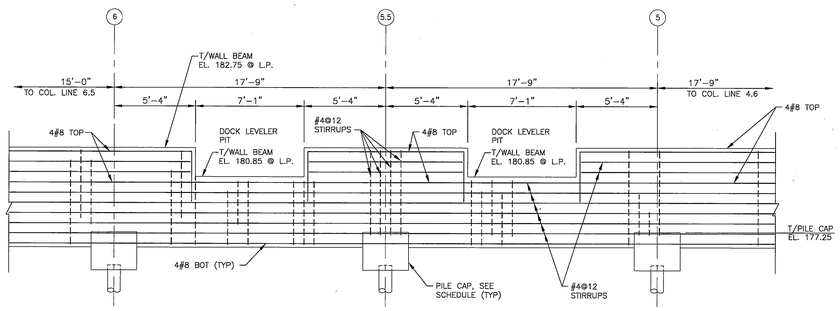
C S604 **TYP. PERIMETER TURN-DOWN SLAB**

SCALE: NONE



D S604 **TYPICAL RETAINING WALL DETAIL**

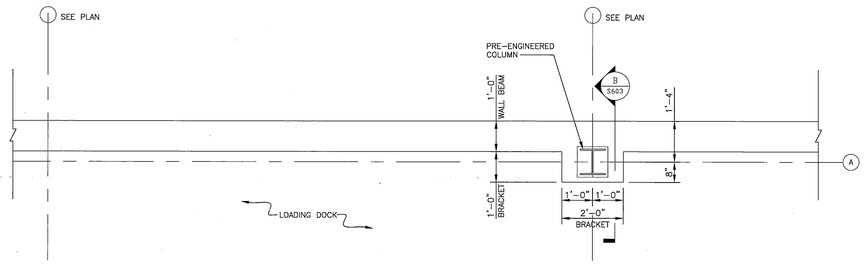
SCALE: 1/2" = 1'-0"



E S604 **ELEVATION - REINFORCING STEEL DETAIL AT LOADING DOCK WALL BEAM TRANSITION**

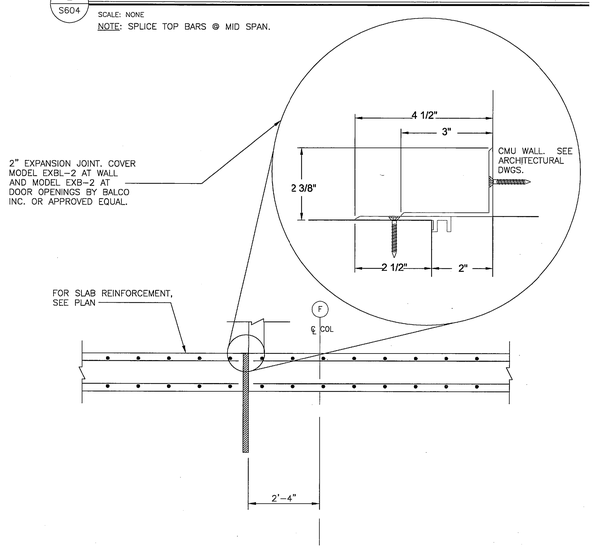
SCALE: NONE

NOTE: SPLICE TOP BARS @ MID SPAN.



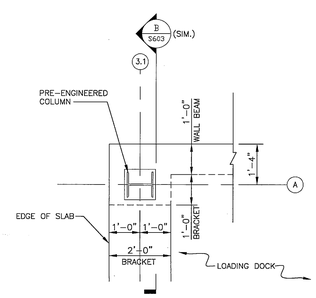
1 S604 **TYP BRACKET DETAIL AT INTERIOR PRE-ENGINEERED COL**

SCALE: 1/2" = 1'-0"



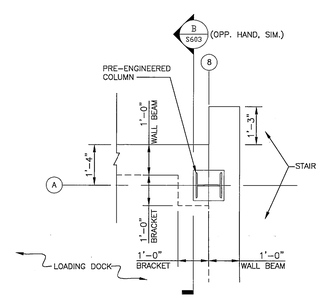
F S604 **SECTION**

SCALE: 1/2" = 1'-0"



2 S604 **DETAIL**

SCALE: 1/2" = 1'-0"



3 S604 **DETAIL**

SCALE: 1/2" = 1'-0"

NOTE: CURB NOT SHOWN FOR CLARITY.

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — GUERRO CRUZ VIRGINIO JR. — No. 15274 — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM	—	
PM		3/1/10
CUSTOMER		2-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
CONCRETE
SECTIONS AND DETAILS 2

S604

BUILDING 035

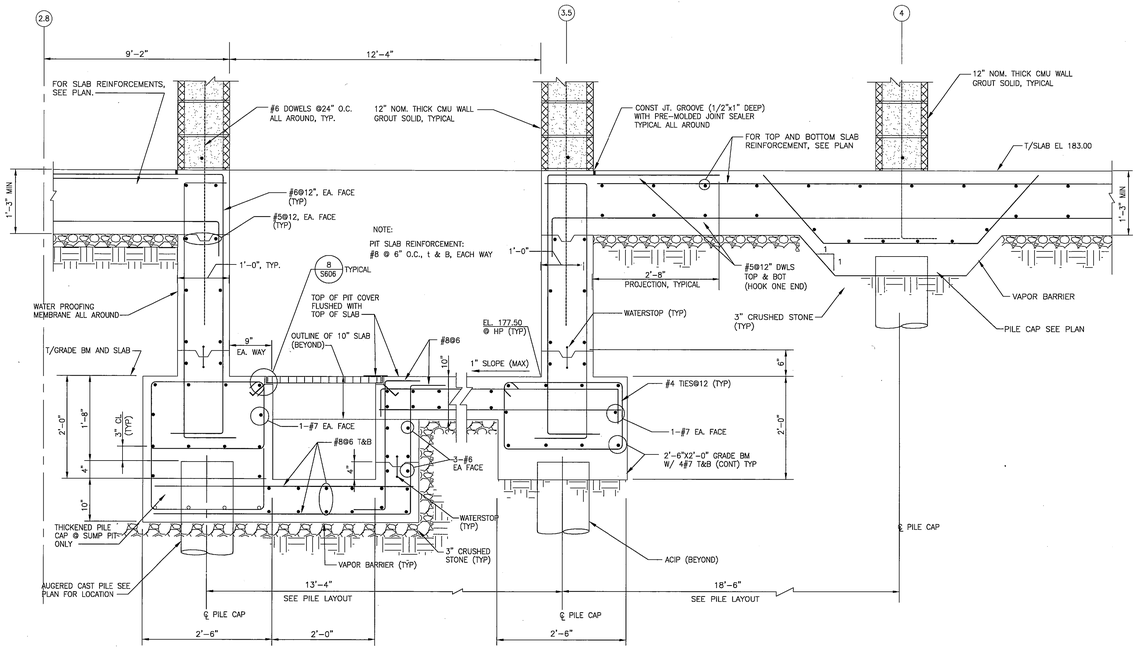
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL | DATE ISSUED 03-01-10 | CoF CODE or WBS A6890 | SHEET 97 OF 158 | DRAWING NO. GF-035-34085

FORM F 03-01-00

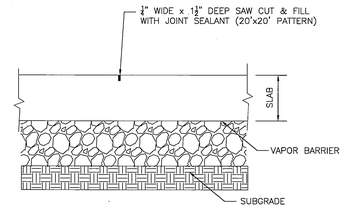
PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S603_DET.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



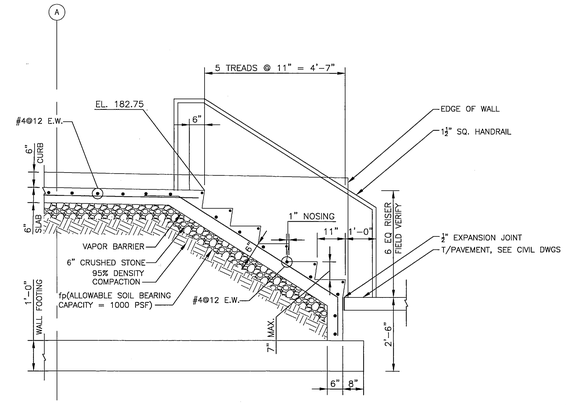
A S605 ELEVATOR PIT SECTION

SCALE: NONE



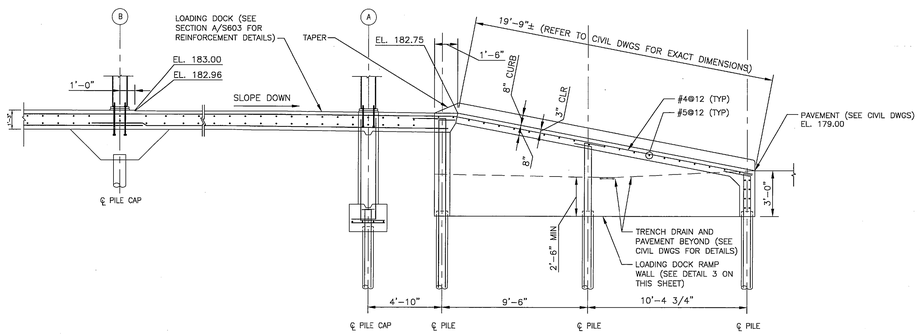
E S605 CONTROL JOINT SECTION

SCALE: NONE



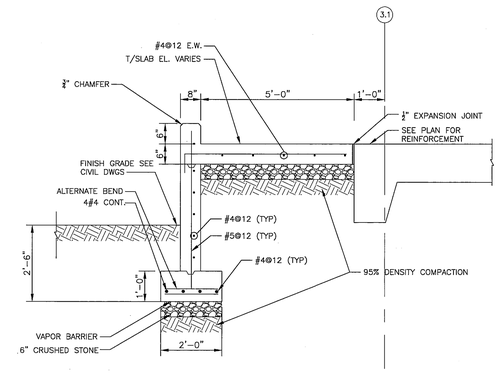
F S605 SECTION

SCALE: 1/2" = 1'-0"



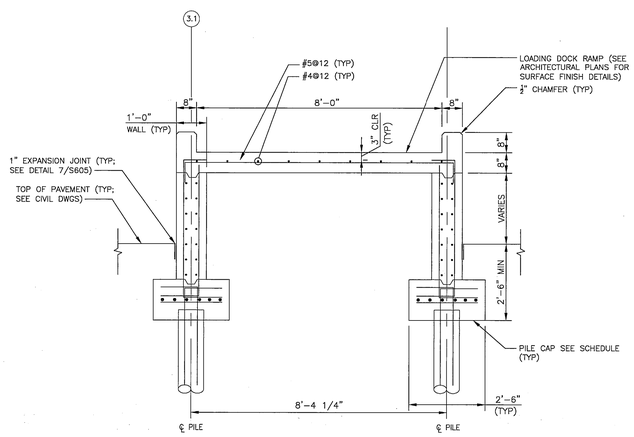
B S605 LOADING DOCK RAMP SECTION

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



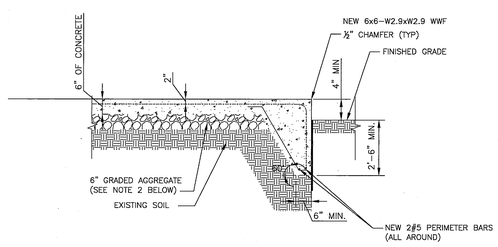
G S605 SECTION

SCALE: 1/2" = 1'-0"



C S605 LOADING DOCK RAMP SECTION

SCALE: 1/2" = 1'-0"



NOTES:

1. SEE ELECTRICAL DWGS FOR PAD DIMENSIONS AND LOCATION
2. THE TOP 6" OF SOIL AT THE LOCATION OF THE PAD SHALL BE REMOVED AND REPLACED WITH 6" OF DENSE GRADED AGGREGATE SUCH AS GRADED AGGREGATE BASE OR CR–6; THE DENSE GRADED AGGREGATE SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D1557
3. ALLOWABLE SOIL BEARING fp = 1,000 PSF
4. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS, fc'(MIN) = 3,000 psi

D S605 TYPICAL HOUSEKEEPING PAD SECTION

SCALE: 1/2" = 1'-0"

PARSONS — Facilities Construction Engineering & Technical Services — PMO-G SFC-NASA

SEAL AREA — STATE OF MARYLAND — RUEBEN CRUZ VALDIAN III — No. 15174 — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	BMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
CONCRETE
SECTIONS AND DETAILS 3

S605

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

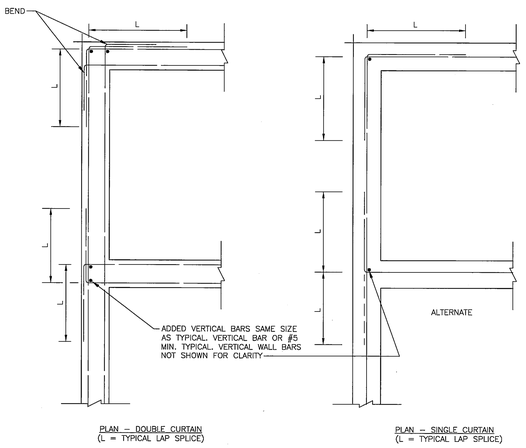
STRUCTURAL

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	98 OF 158	GF-035-34086

FILE NAME: S601_DET.dwg FILE DATE: 2/26/2010 PLOT DATE: 2/26/2010

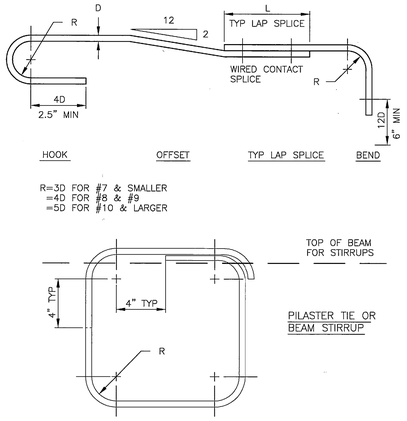
FORM F 03-07-09

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



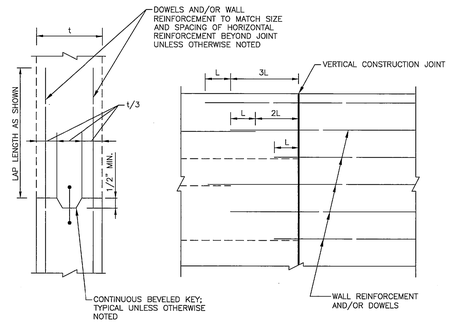
1 S606 TYPICAL WALL CORNERS AND INTERSECTIONS

SCALE: NONE



3 S606 TYPICAL REINFORCING DETAILS

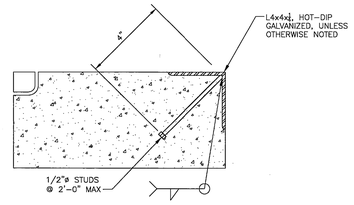
SCALE: NONE



5 S606 JOINTS AT CONCRETE WALLS TYPICAL VERTICAL CONSTRUCTION

SCALE: NONE

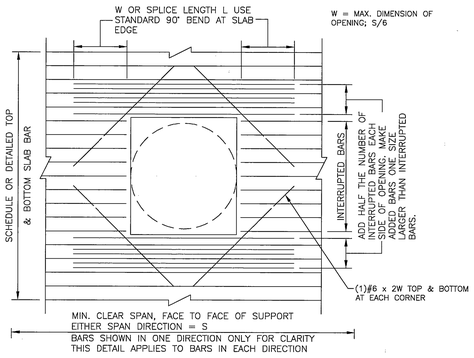
NOTES:
STAGGER TYPICAL LAP SPLICES AS SHOWN FOR ALL WALLS



6 S606 EMBEDDED CORNER ANGLE

SCALE: NONE

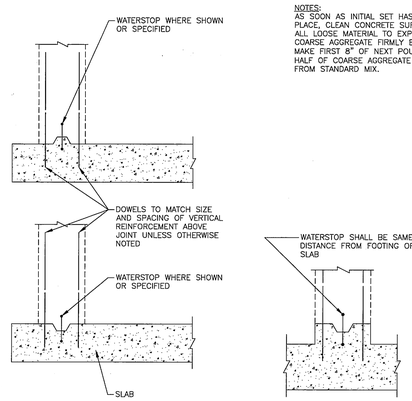
NOTES:
STAGGER TYPICAL LAP SPLICES AS SHOWN FOR ALL WALLS



2 S606 TYPICAL SLAB OPENING

SCALE: NONE

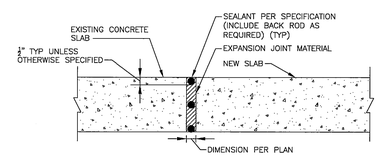
NOTES:
REINFORCING DETAIL (WALL OPENING SIMILAR UNLESS OTHERWISE NOTED).



4 S606 TYPICAL WALL CORNERS AND INTERSECTIONS

SCALE: NONE

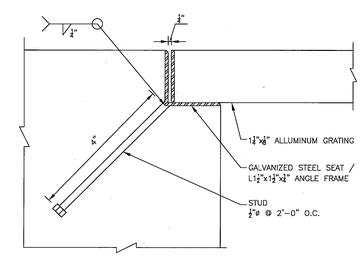
NOTES:
AS SOON AS INITIAL SET HAS TAKEN PLACE, CLEAN CONCRETE SURFACE OF ALL LOOSE MATERIAL TO EXPOSE CLEAN COARSE AGGREGATE FIRMLY EMBEDDED. MAKE FIRST 8" OF NEXT POUR WITH HALF OF COARSE AGGREGATE OMITTED FROM STANDARD MIX.



NOTES:
1. INSTALL WATERSTOP AT TIME OF POUR.
2. INSTALL EXPANSION JOINT MATERIAL JUST PRIOR TO START OF ADJOINING POUR.
3. PROVIDE KEYED JOINT WHEREVER INDICATED ON THE DRAWINGS.

7 S606 EXPANSION JOINT DETAIL

SCALE: NONE



8 S606 GRATING DETAIL

SCALE: NONE

NOTES:
ALL CONTACT SURFACES OF DISSIMILAR METAL SHALL BE PROTECTED BY BITUMINOUS COATINGS.

PARSONS — Facilities Construction Engineering & Inspection Services — FMO-G SFC-NASA

SEAL AREA — STATE OF MARYLAND — VICTOR CRUZ YORDAN JR. — PROFESSIONAL ENGINEER — 02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	DMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TTM	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
CONCRETE
TYPICAL DETAILS

S606

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

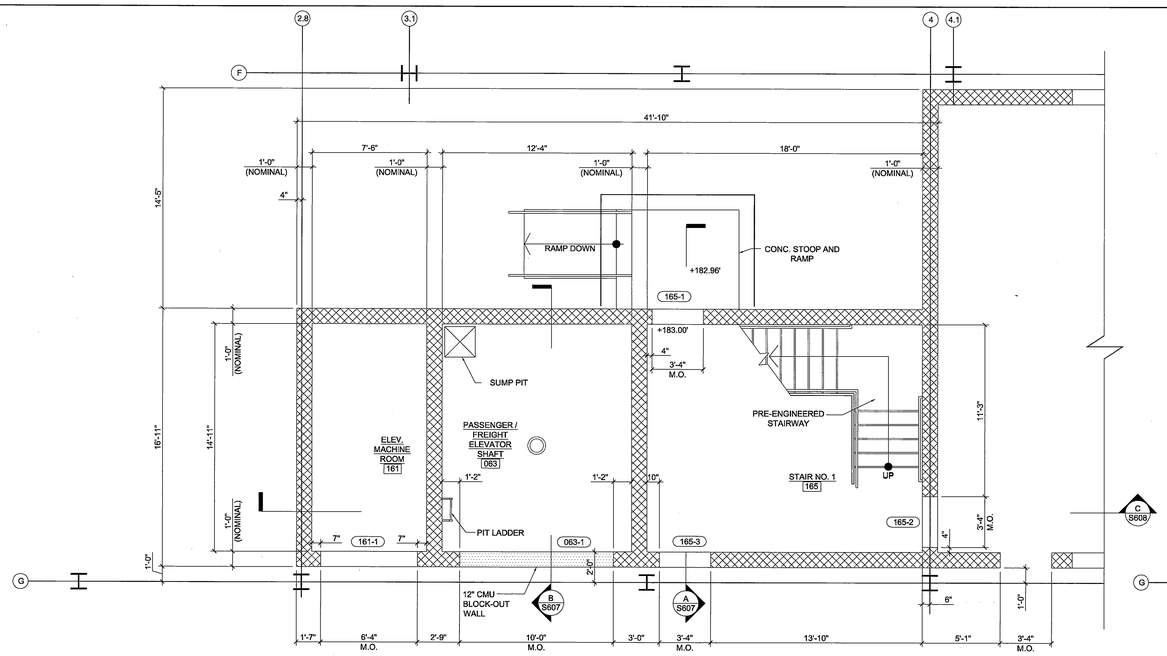
STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	99 OF 158	GF-035-34087

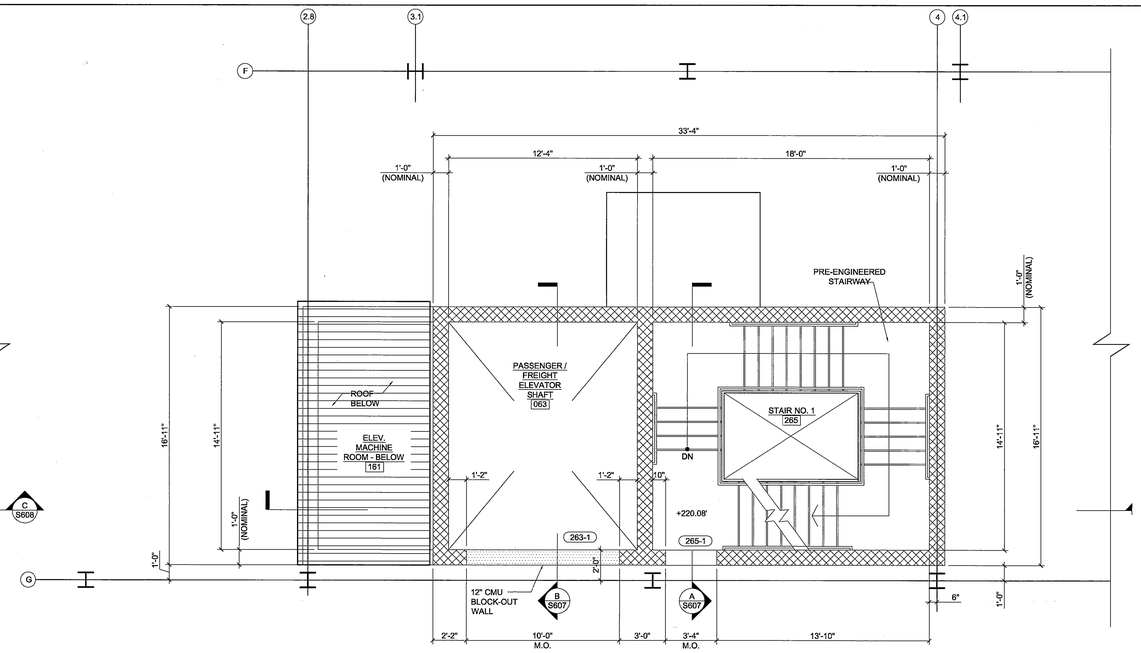
FORM F 03-07-09

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: S601_DET.dwg

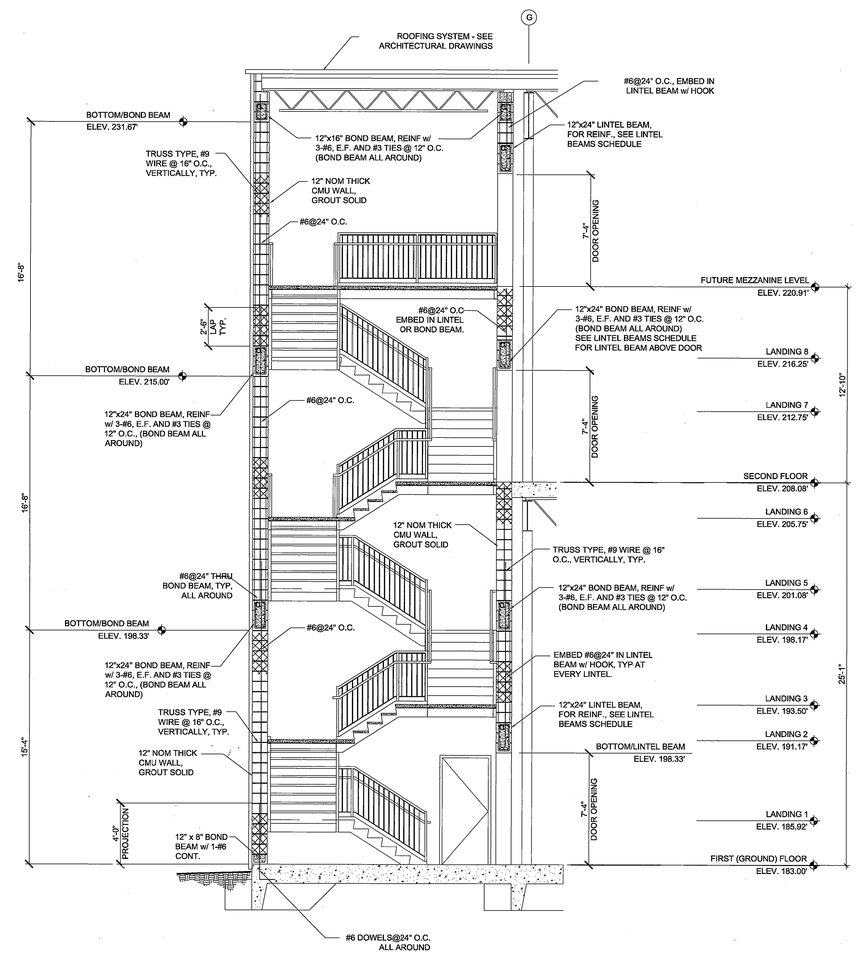
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



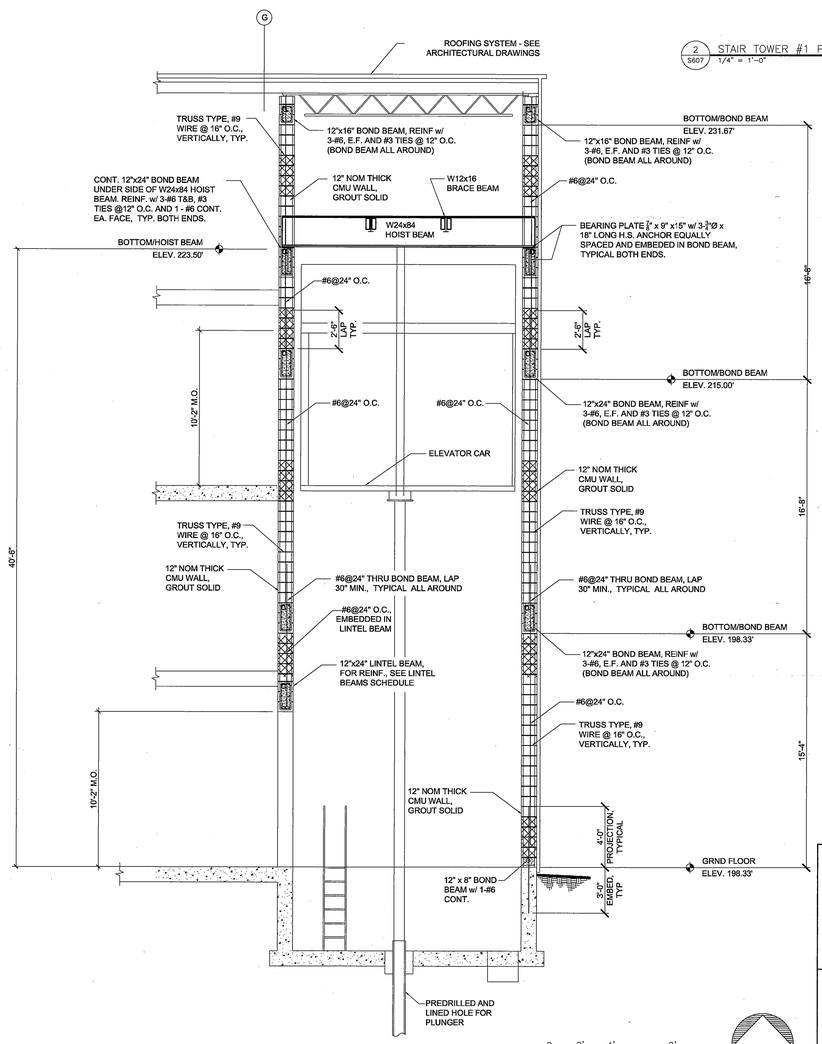
1 S607 STAIR TOWER #1 PLAN AT EL. 183.00'
1/4" = 1'-0"



2 S607 STAIR TOWER #1 PLAN AT EL. 208.08'
1/4" = 1'-0"



A S607 SECTON
1/4" = 1'-0"



B S607 SECTON
1/4" = 1'-0"

0 2' 4' 8'
SCALE: 0'-0 1/4" = 1'-0"

NORTH

PARSONS
Partners in Construction Engineering & Technical Services
PMO-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
BRUNO CRUZ VIRILLAMO JR.
No. 19339
REGISTERED PROFESSIONAL ENGINEER
02/26/2010

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	BMC	2-26-10
NASA A-E		
S&E BRANCH	BS	3/1/10
CM	–	
PM	TMT	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
CMU
WALL PLAN & SECTIONS

S607

BUILDING 035

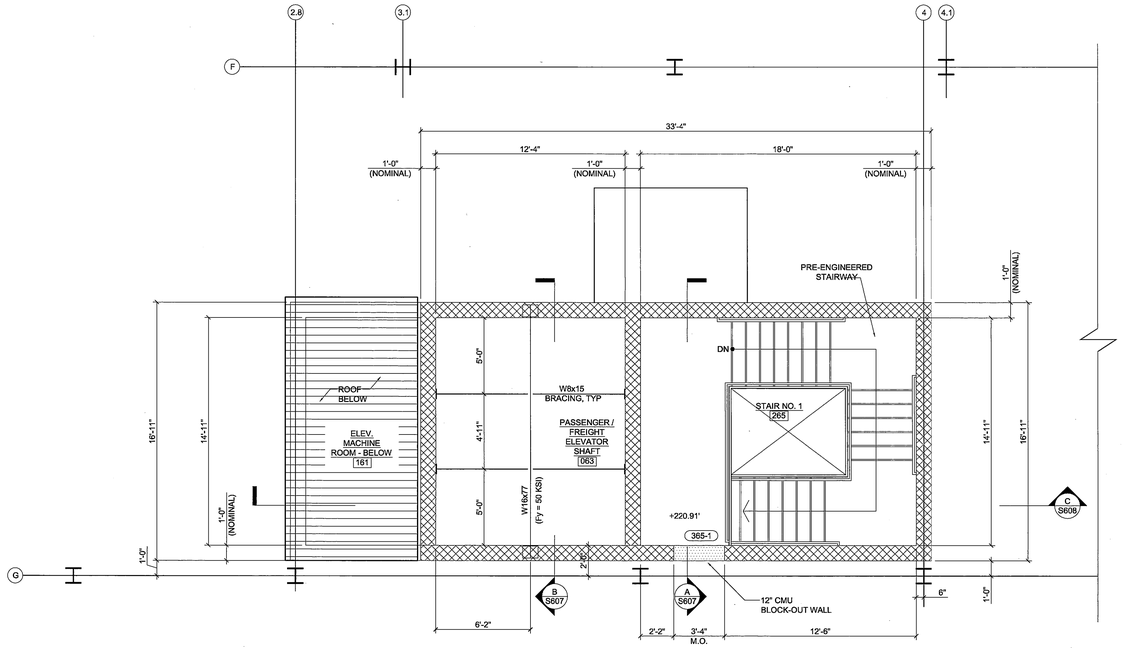
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

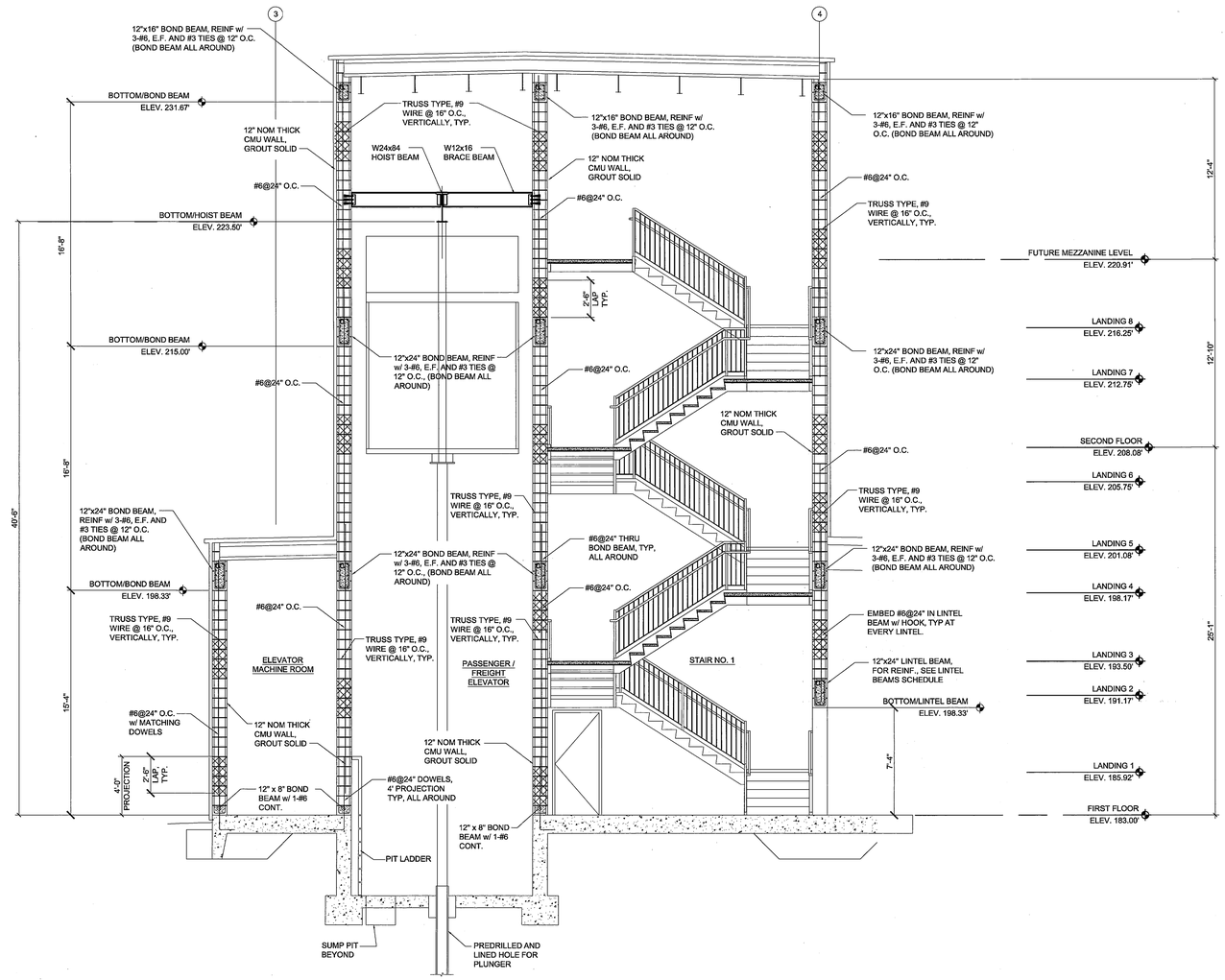
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	100 OF 158	GF-035-34088

FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010
FILE NAME: S607_CET.dwg
FORM F 03-07-08

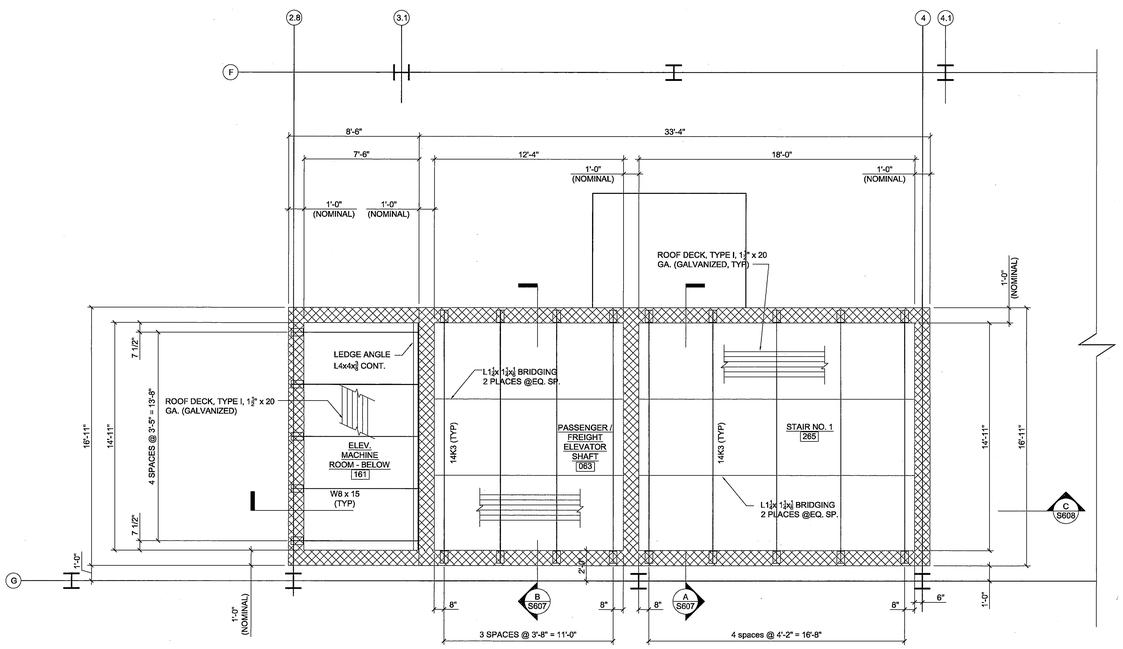
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



3 S608 STAIR TOWER #1 PLAN AT EL. 220.91'
1/4" = 1'-0"



C S608 SECTON
1/4" = 1'-0"



4 S608 STAIR TOWER #1 ROOF FRAMING PLAN
1/4" = 1'-0"

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

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ACT	11-05-09
A-E	ACT	11-05-09
CHECKED BY	RV	12-23-09
A-E MANAGER	JHC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	THM	3/1/10
CUSTOMER	RV	3-1-10
SECTION HEAD		

PARSONS — Fast Time Construction Engineering & Technical Services — PMO-3 SFC-MASA

SEAL AREA — STATE OF MARYLAND — DUANE CHRIS VOLLMUS INC. — REGISTERED PROFESSIONAL ENGINEER — 02/26/2010

LOGISTICS FACILITY SITE AND SHELL
CMU WALL PLAN & SECTIONS

S608

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

STRUCTURAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	101 of 158	GF-035-34089

FILE NAME: S607_DET.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

FORM F 03-07-08

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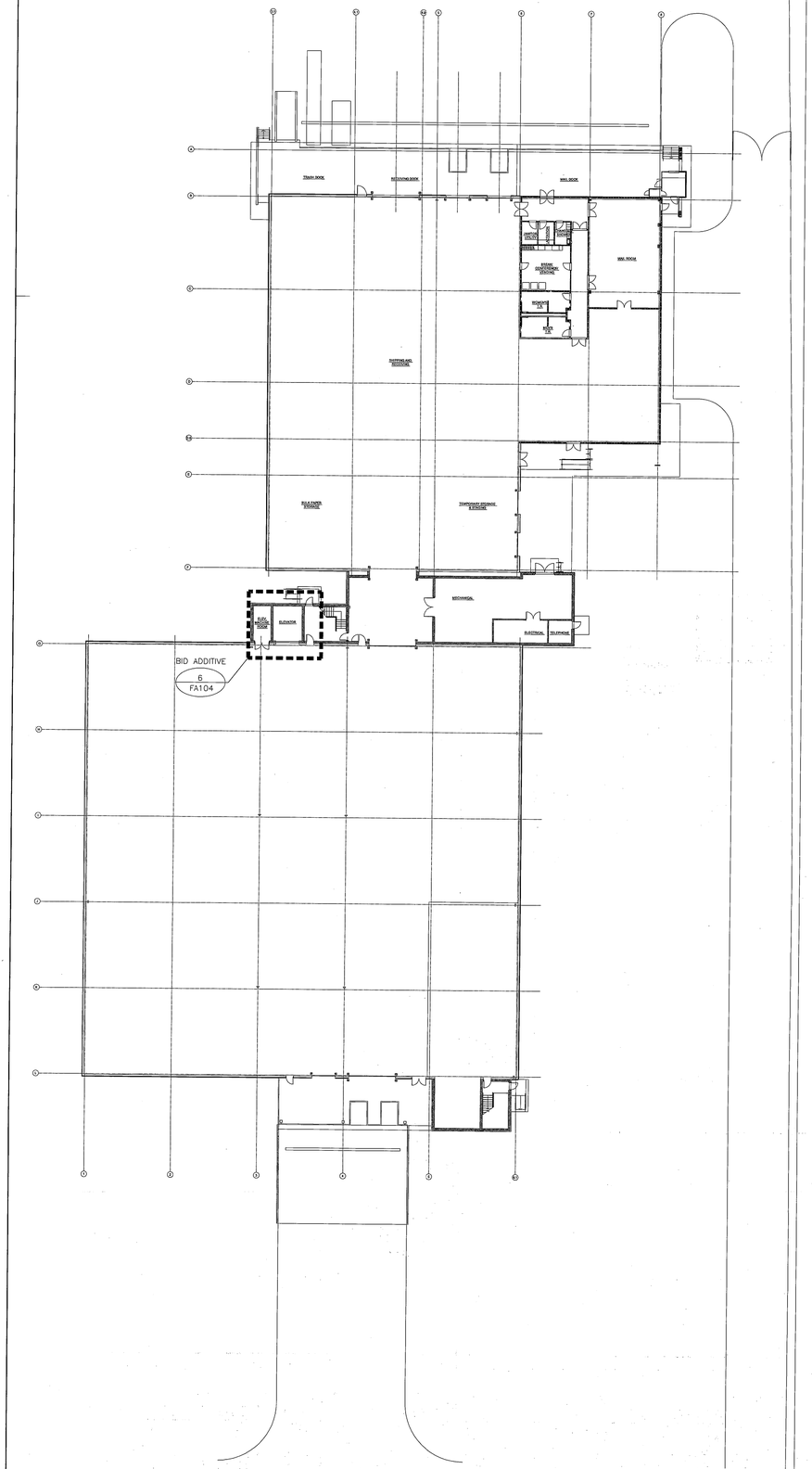


1 FA001 **REFERENCE PLAN (BID ADDITIVE 6)**

NOT TO SCALE

STANDARD MOUNTING HEIGHTS

80", UON	FIRE ALARM HORN/STROBE
4' TO OPERABLE PART OF STATION	FIRE ALARM MANUAL PULL STATIONS
0'-0"	FINISHED FLOOR

ABBREVIATIONS

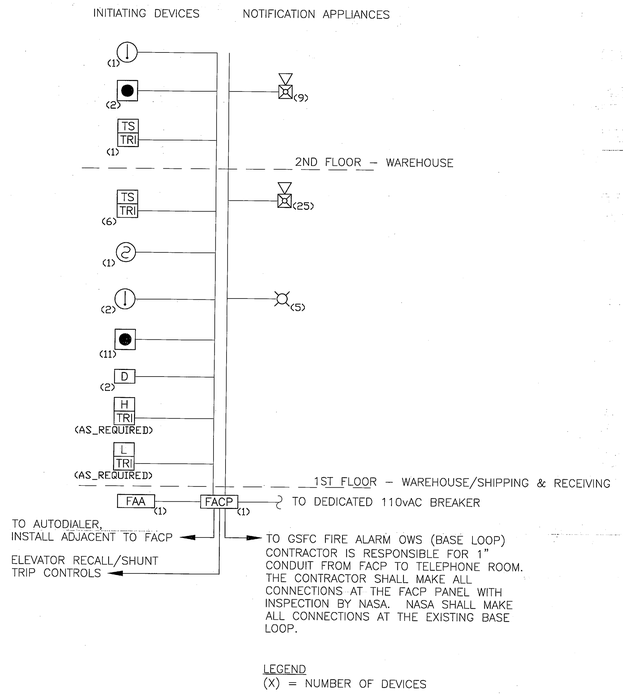
AFF	ABOVE FINISHED FLOOR
FACP	FIRE ALARM CONTROL PANEL
OWS	OPERATORS' WORK STATION
PAD	POWER AMPLIFIER DEVICE
U.O.N.	UNLESS OTHERWISE NOTED

FIRE ALARM LEGEND

- FIRE ALARM MANUAL PULL STATION, W=WEATHERPROOF
- STROBE LIGHT, NEW — XX = INDICATES CANDELA RATING
- FIRE ALARM SPEAKER/STROBE UNIT — XX = INDICATES CANDELA RATING
- PHOTOELECTRIC SMOKE DETECTOR
- HEAT DETECTOR – COMBINATION RATE OF RISE AND FIXED TEMPERATURE
- D — PHOTOELECTRIC DUCT SMOKE DETECTOR
- FACP — FIRE ALARM CONTROL PANEL
- JB — JUNCTION BOX
- TRI — ADDRESSABLE INTERFACE MODULE(RELAY)
- TS — TAMPER SWITCH
- (X) — NUMBER OF DEVICES
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- L — LOW AIR PRESSURE SWITCH
- H — HIGH PRESSURE SWITCH

GENERAL FIRE ALARM NOTES

1. THE FIRE ALARM DEVICES LAYOUT IS FOR GENERAL PURPOSES ONLY. THE FINAL LAYOUT IS THE RESPONSIBILITY OF THE FIRE ALARM CONTRACTOR AND SHALL BE IN ACCORDANCE WITH 2005 ABA ACCESSIBILITY STANDARD FOR FEDERAL FACILITIES, NFPA 72 AND NASA STANDARDS.
2. WALL MOUNT SPEAKER/STROBE UNITS, U.O.N.
3. COORDINATE ALL ASPECTS OF THE PROJECT WITH COTR PRIOR TO INITIATION OF ANY WORK.
4. CONTRACTOR TO PROVIDE ALL OTHER NECESSARY LABOR, WIRING AND MATERIALS FOR A COMPLETE AND OPERABLE FIRE ALARM SYSTEM. SYSTEM PROGRAMMING/FIRE ALARM SOFTWARE SHALL BE PROVIDED BY THE MANUFACTURER.
5. CONDUIT ROUTING SHALL BE DETERMINED BY CONTRACTOR IN THE FIELD. PROVIDE BENDS, OFFSETS, ETC. AS REQUIRED TO AVOID INTERFERENCES.
6. AS NEW COMPONENTS ARE INSTALLED, CLEARLY MARK THEM "NOT IN SERVICE" UNTIL THE NEW SYSTEM IS ACCEPTANCE TESTED AND PLACED IN OPERATION. ONCE THIS HAS BEEN COMPLETED, REMOVE ALL SIGNS AND PLACE SYSTEM IN SERVICE.
7. PROVIDE VISUAL LABELS FOR ALL SMOKE DETECTORS, HEAT DETECTORS, ADDRESSABLE INPUT/CONTROL (HTRI) MODULES, MANUAL PULLSTATIONS, AND EVERY OTHER ADDRESSABLE DEVICE, IDENTIFYING DEVICE ADDRESS. LOCATE THE VISUAL LABEL ON THE SIDE OF DETECTOR'S BASE AND ON THE TOP EDGE OF MANUAL PULLSTATION, AND EVERY OTHER ADDRESSABLE DEVICE, IDENTIFYING DEVICE AND ADDRESS. FOR ALL THE OTHER DEVICES LOCATE THE VISUAL LABEL NEAR THE DEVICE WHERE IT IS IDENTIFIABLE.
8. SIGNALING LINE AND INITIATING DEVICE CIRCUITS SHALL RUN THROUGH SEPARATE, DEDICATED CONDUITS.
9. FINAL CONNECTIONS TO FIRE ALARM PANELS SHALL BE MADE BY THE MANUFACTURER'S AUTHORIZED SERVICE TECHNICIAN.
10. THE RETURN CONDUCTORS FOR ALL CLASS A FIRE ALARM CIRCUITS/LOOPS SHALL BE INSTALLED IN SEPARATE, DEDICATED CONDUITS FROM OUTGOING CONDUCTORS.
11. ALL NEW CONDUIT, WIRE AND CABLES SHALL BE CONCEALED IN WALLS, CEILING SPACES, ELECTRICAL SHAFTS OR CLOSETS UNLESS OTHERWISE NOTED. CONDUIT MAY BE EXPOSED AND PAINTED RED IN UNFINISHED AREAS WITH CONCRETE/MASONRY WALLS AND CEILING, STAIRWAYS, OR CORRIDORS WITHOUT SUSPENDED CEILINGS. PAINT TO MATCH EXISTING ADJACENT AREAS.
12. PROVIDE ADDRESSABLE INTERFACES FOR NON–ADDRESSABLE DEVICES. PROVIDE RELAY INTERFACES BETWEEN INITIATING DEVICES AND CONTROLS; DOOR HOLD OPEN DEVICES, ELEVATORS, AND AHU'S AS INDICATED.
13. PRIOR TO CONSTRUCTION, SUBMIT ALL PROPOSED MATERIALS FOR GOVERNMENT REVIEW, TESTING, AND APPROVAL. (REFER TO SPECIFICATIONS AND GENERAL NOTES FOR ADDITIONAL INFORMATION REGARDING GOVERNMENT TESTING/APPROVAL PROCEDURES AND LIST UNACCEPTABLE MATERIAL. ADDITIONAL MATERIALS MAY ALSO BE DEEMED UNACCEPTABLE AT GOVERNMENT'S DISCRETION.)
14. SEAL ALL PENETRATIONS THROUGH WALLS WITH A LISTED FIRE–RATED SEALANT ASSEMBLY, PROVIDING 2–HOUR MINIMUM FIRE RATING. SEAL ALL PENETRATIONS THROUGH FLOORS WITH A LISTED FIRE–RATED SEALANT, PROVIDING 2–HOUR MINIMUM FIRE RATING. SEAL ALL PENETRATIONS THROUGH SMOKE BARRIERS WITH A SEALANT APPROVED FOR THE USE. ALL SEALANT UTILIZED FOR THIS PROJECT MUST FIRST BE TESTED AND APPROVED BY THE GOVERNMENT.
15. COORDINATE CONDUIT RUNS WITH COTR AND ON–GOING CONSTRUCTION PROJECTS TO INSURE THAT THERE ARE NO CONFLICTS.
16. PROVIDE ADDRESSABLE INTERFACES FOR NON–ADDRESSABLE DEVICES. PROVIDE RELAY INTERFACES BETWEEN INITIATING DEVICES AND CONTROLS; ELEVATOR AND AHUs AS INDICATED.
17. MOUNT SPEAKERS ON WALLS OR CEILING IN ACCORDANCE WITH NFPA 72.
18. SET SPEAKERS AT 1 WATT, EXCEPT FOR MECHANICAL ROOMS, WHERE SPEAKERS ARE TO BE SET AT 2 WATTS.
19. LOCATE VISIBLE ALARM DEVICES IN MECHANICAL AND ELECTRICAL ROOMS SUCH THAT THEY ARE DIRECTLY VISIBLE FROM AS MUCH OF THE ROOM AS POSSIBLE. COORDINATE LOCATIONS WITH THE GOVERNMENT.
20. PROVIDE A PAD PANEL, WHEN REQUIRED, TO PROVIDE POWER TO NOTIFICATION DEVICES.



2 FA001 **FIRE ALARM RISER DIAGRAM**

SCALE: NTS

FIRE ALARM SYSTEM FUNCTIONAL MATRIX

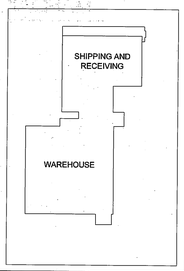
SYSTEM OUTPUTS → / SYSTEM INPUTS ↓	Control Functions: Return Elevator to 2nd Floor	Control Functions: Return Elevator to 1st Floor	Control Functions: Cause Shunt-Trip Operators at Elevator Circuit Breakers to Operate, De-energizing the Equipment	Control Functions: De-energize AHU Fan Motors	Notification: Alarm at FACP and OWS	Notification: Supervisory at FACP and OWS	Notification: Trouble at FACP and OWS	Notification: Initiate General Evacuation Alarm (i.e. Operate All Audible/Visible Notification Appliances)	Notification: Broadcast Voice Message and Interrupt Audible Alarm
Duct Detector Activated				X		X			
1st Floor Heat Detector Activated	X		X		X			X	
2nd Floor Heat Detector Activated		X	X		X			X	
Manual Pull Station Activated					X			X	
Water Flow Switch Activated					X			X	
Valve Tamper Switch Activated						X			
Voice Input at FACP									X
System Trouble							X		
Smoke Detector in Elevator Machine Room or Shaft		X			X				

3 FA001 **FIRE ALARM FUNCTIONAL SYSTEM MATRIX**

SCALE: NONE

FIRE ALARM DRAWING INDEX

FA001	FIRE ALARM – NOTES, LEGEND, SCHEMATIC, AND MATRIX
FA101	SHIPPING AND RECEIVING FIRE ALARM PLAN
FA102	WAREHOUSE FIRE ALARM PLAN – 1ST FLOOR
FA103	WAREHOUSE FIRE ALARM PLAN – 2ND FLOOR
FA104	FIRE ALARM PLANS BID ADDITIVES 4 AND 6



PARSONS — Facilities Construction Engineering & Technical Services — FMD @ SFC - NASA

SEAL AREA

STATE OF MARYLAND — GRAHAM CLARKE — No. 35346 — PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	JHR	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM		
PM	FWA	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		
FIRE ALARM		

LOGISTICS FACILITY
SITE AND SHELL
FIRE ALARM -
NOTES, LEGEND, SCHEMATIC
AND MATRIX

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	102 OF 158	GF-035-34090

FA001

PLOT DATE: 2/23/2010
FILE DATE: 2/23/2010
FILE NAME: A6890-FA.dwg

FORM F 03-07-08

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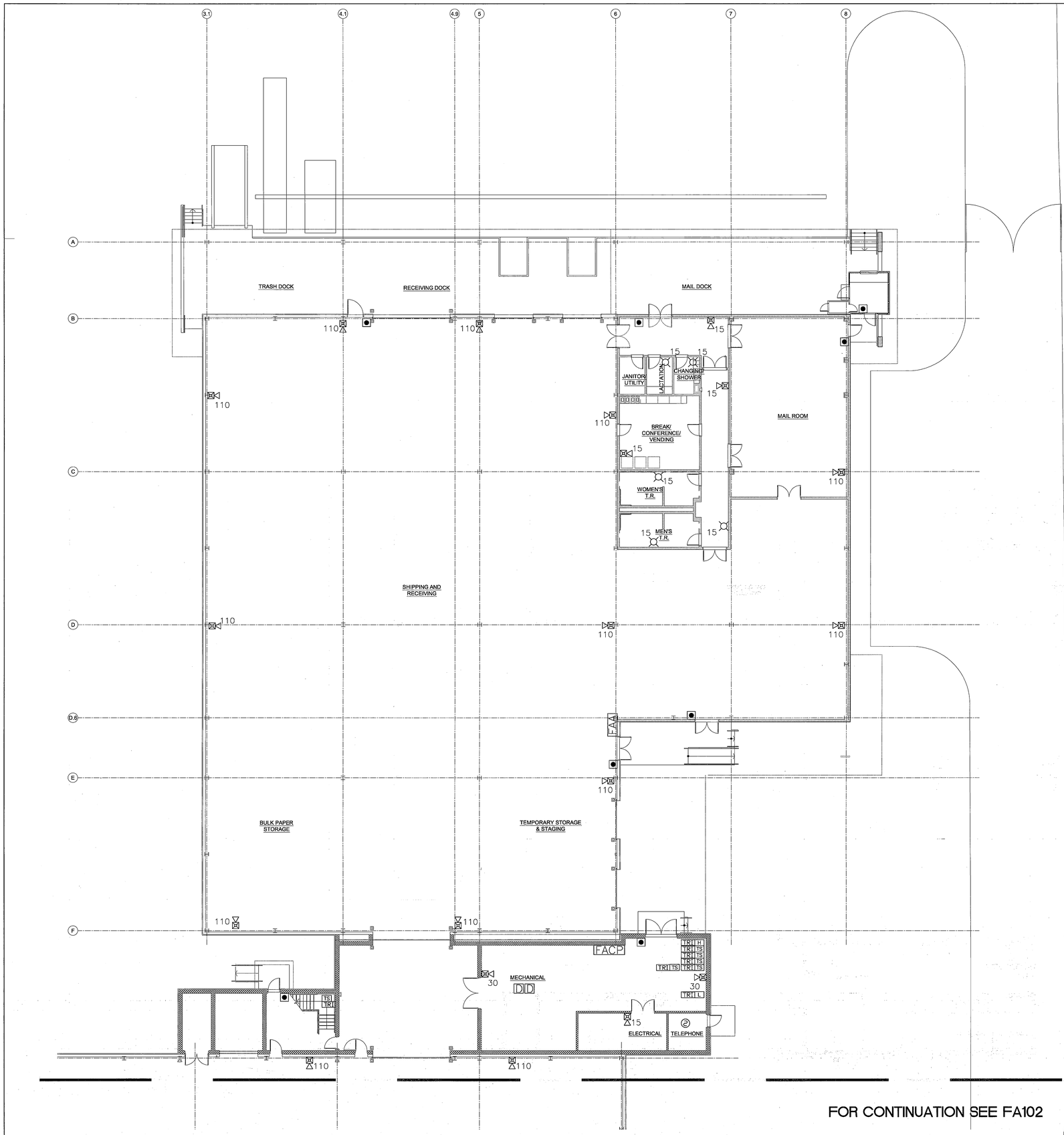
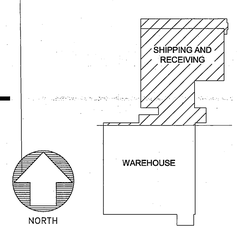


1 FA101 SHIPPING AND RECEIVING - FIRE ALARM PLAN

SCALE: 3/32" = 1'-0"

FOR CONTINUATION SEE FA102

0 4'-0" 8'-0" 16'-0"



FIRE ALARM NOTES

1. THE FIRE ALARM RISER DIAGRAM IS DIAGRAMMATIC ONLY. IT IS NOT INTENDED TO REPRESENT CONDUIT OR WIRING CONFIGURATION. ALL CIRCUITS SHALL BE CLASS A.
2. ALL WIRE TO BE IN CONDUIT.
3. DEVICE LOCATIONS ARE APPROXIMATE.

PARSONS — Facilities Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA — STATE OF MARYLAND — GRAHAM CLARKE — No. 35046 — PROFESSIONAL ENGINEER — 2-26-10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	[illegible]	2-26-10
NASA A-E		
S&E BRANCH	[illegible]	3/1/10
CM	—	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
FIRE ALARM PLAN

FA101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

FIRE ALARM	DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
	03-01-10	A6890	103 OF 158	GF-035-34091

PLOT DATE: 2/23/2010
FILE DATE: 2/23/2010
FILE NAME: A6890-FA.dwg

FORM F 03-07-08

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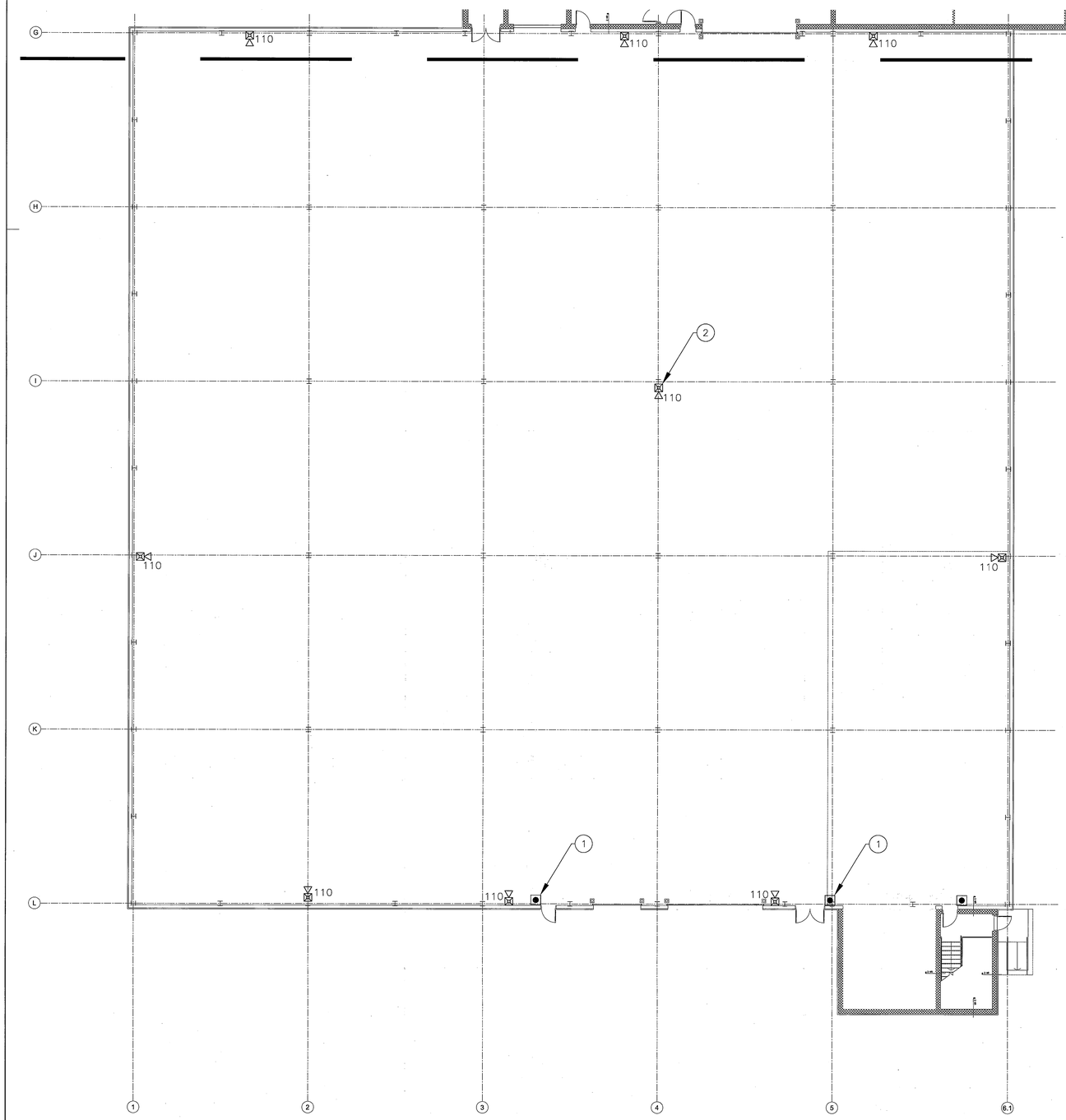


FOR CONTINUATION SEE FA101

CONSTRUCTION NOTES

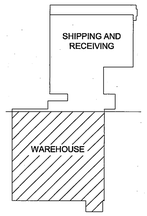
1. "BAG" PULLSTATIONS IF BID ADDITIVE 4 IS NOT AWARDED.
2. THE HORN/STROBE AT COLUMN LINE 1/4 IS COLUMN MOUNTED. INSTALL DEVICE 18' HIGH AFF. DEVICE SHALL BE VISIBLE ABOVE THE FUTURE STORAGE RACKS; FIELD COORDINATE FINAL LOCATION.

1 / FA102 **WAREHOUSE 1ST FLOOR - FIRE ALARM PLAN**

SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH



Facilities Construction Engineering & Technical Services — PARSONS — FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND — GRAHAM CLARKE — No. 35046 — PROFESSIONAL ENGINEER

S.Clark 2-24-10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JHH	3/1/10
CUSTOMER	RV	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
FIRE ALARM PLAN - 1ST FLOOR

FA102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

FIRE ALARM

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	104 OF 158	GF-035-34092

FILE NAME: A6890-FA.dwg FILE DATE: 2/23/2010 PLOT DATE: 2/23/2010

FORM F 03-07-08

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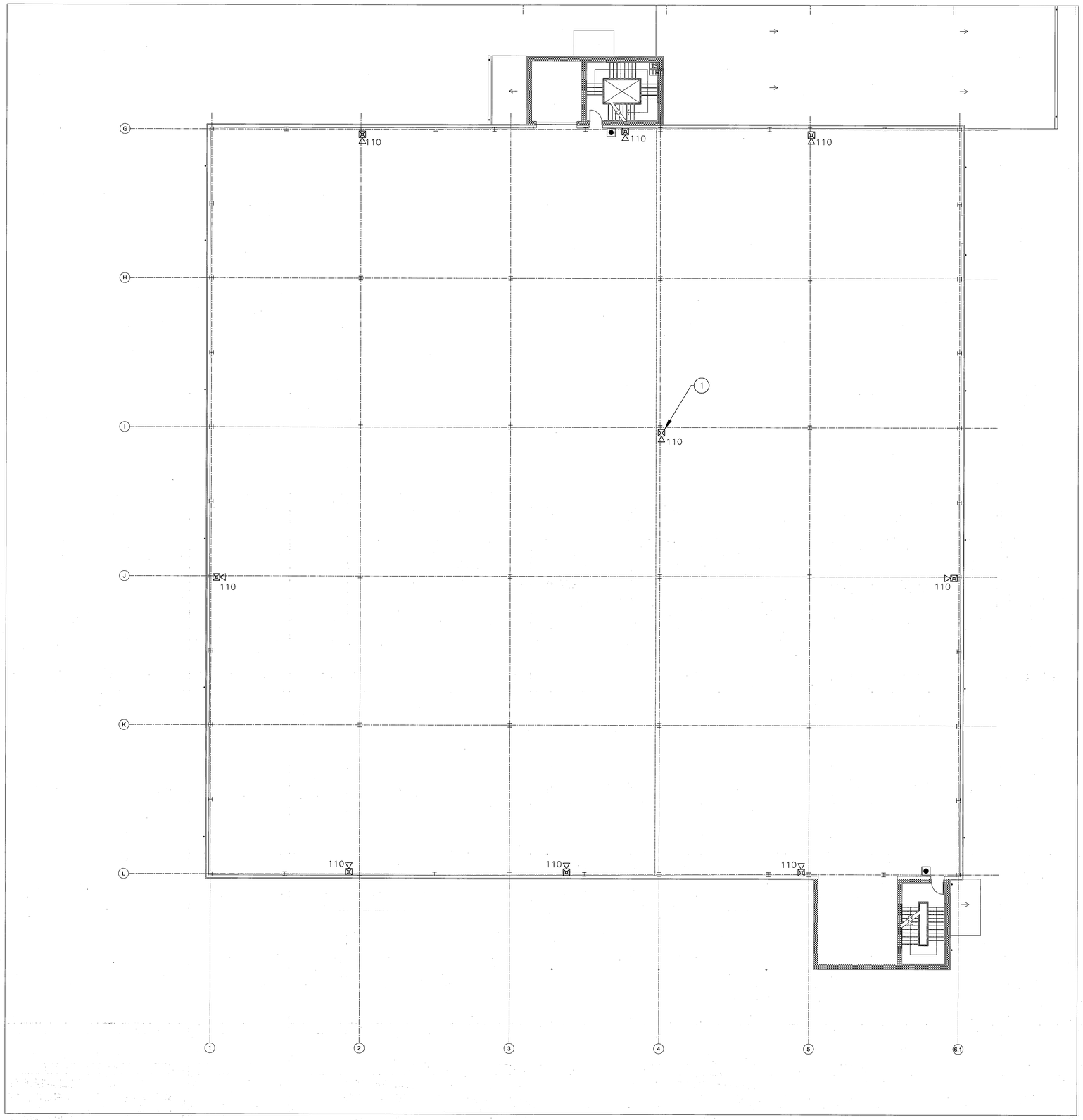
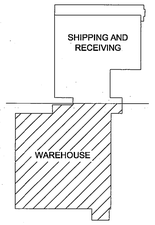


1 FA103 WAREHOUSE 2ND FLOOR - FIRE ALARM PLAN
SCALE: 3/32" = 1'-0"

CONSTRUCTION NOTES

1. THE HORN/STROBE AT COLUMN LINE I/4 IS COLUMN MOUNTED. INSTALL DEVICE 18' AFF. DEVICE SHALL BE VISIBLE ABOVE THE FUTURE STORAGE RACKS; FIELD COORDINATE FINAL LOCATION.



0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
GRAHAM CLARKE
No. 35046
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SHR	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JTM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

FIRE ALARM

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
FIRE ALARM PLAN - 2ND FLOOR

FA103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	105 OF 158	GF-035-34093

FORM F 03-07-08

FILE NAME: A6890-FA.dwg
FILE DATE: 2/23/2010
PLOT DATE: 2/23/2010

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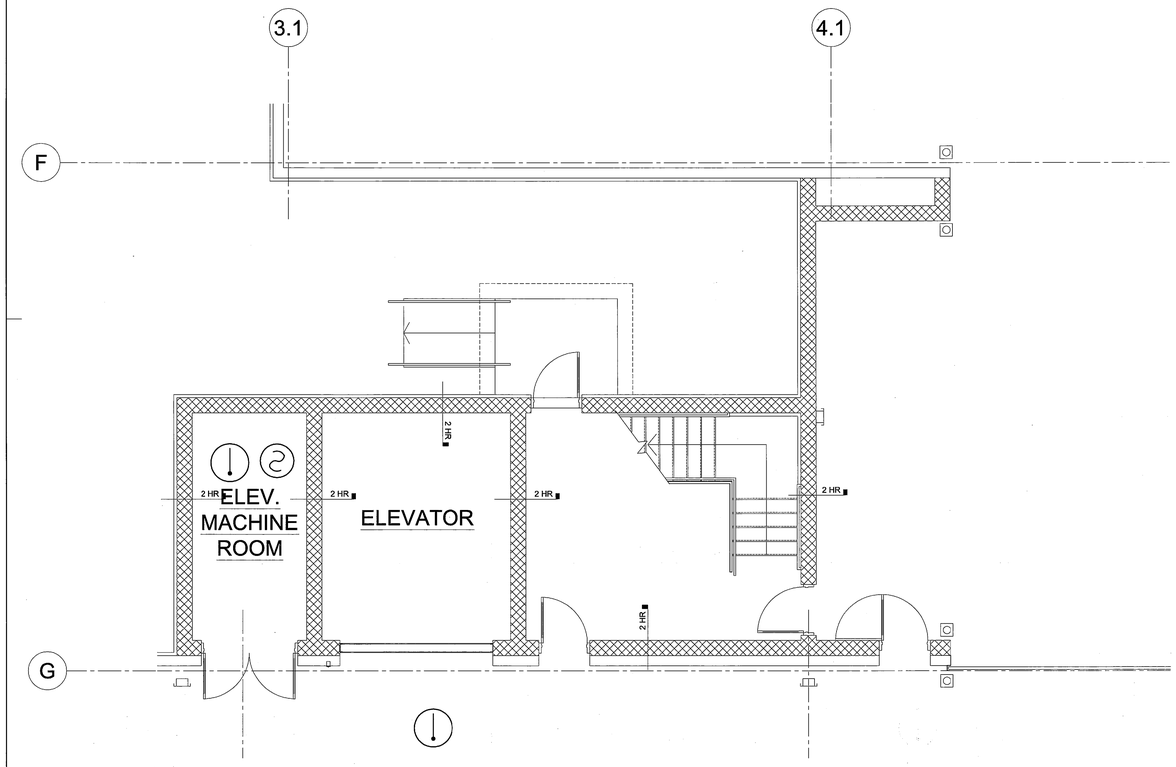
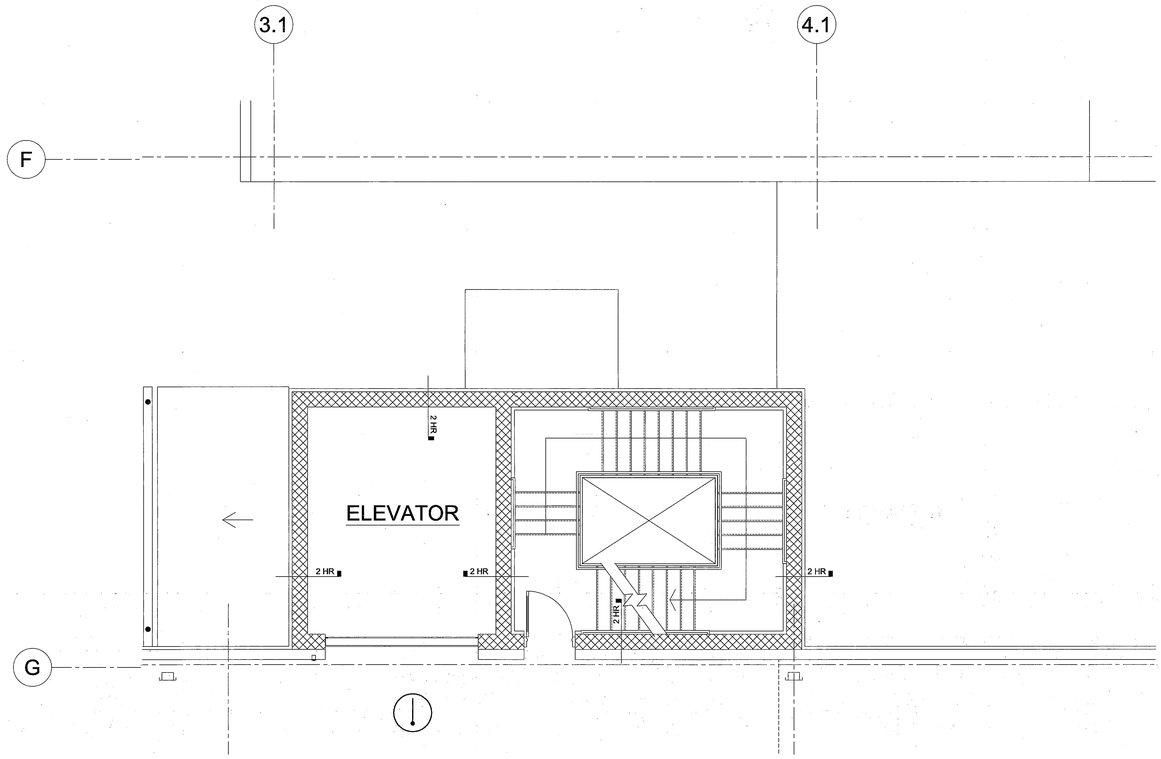


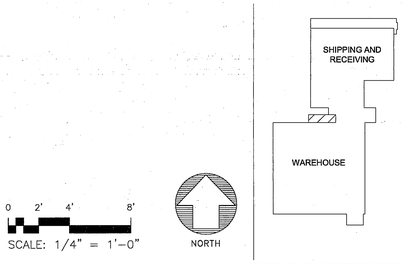
1 FA104 FIRE ALARM 1ST FLOOR - ELEVATOR BID ADDITIVE #6
SCALE: 1/4" = 1'-0"



2 FA104 FIRE ALARM 2ND FLOOR - ELEVATOR BID ADDITIVE #6
SCALE: 1/4" = 1'-0"

FIRE ALARM NOTES

1. ALL WIRE TO BE IN CONDUIT.
2. DEVICE LOCATIONS ARE APPROXIMATE.
3. PROVIDE A SHUNT TRIP BREAKER FOR POWER TO THE ELEVATOR.



PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
STATE OF MARYLAND
GRAHAM CLARKE
No. 35049
PROFESSIONAL ENGINEER
2-24-10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JJM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

FIRE ALARM PLANS
BID ADDITIVE 6

FA104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

FIRE ALARM

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	106 OF 158	GF-035-34094

FORM F 03-07-06

FILE NAME: A6890-FA.dwg
FILE DATE: 2/23/2010
PLOT DATE: 2/23/2010

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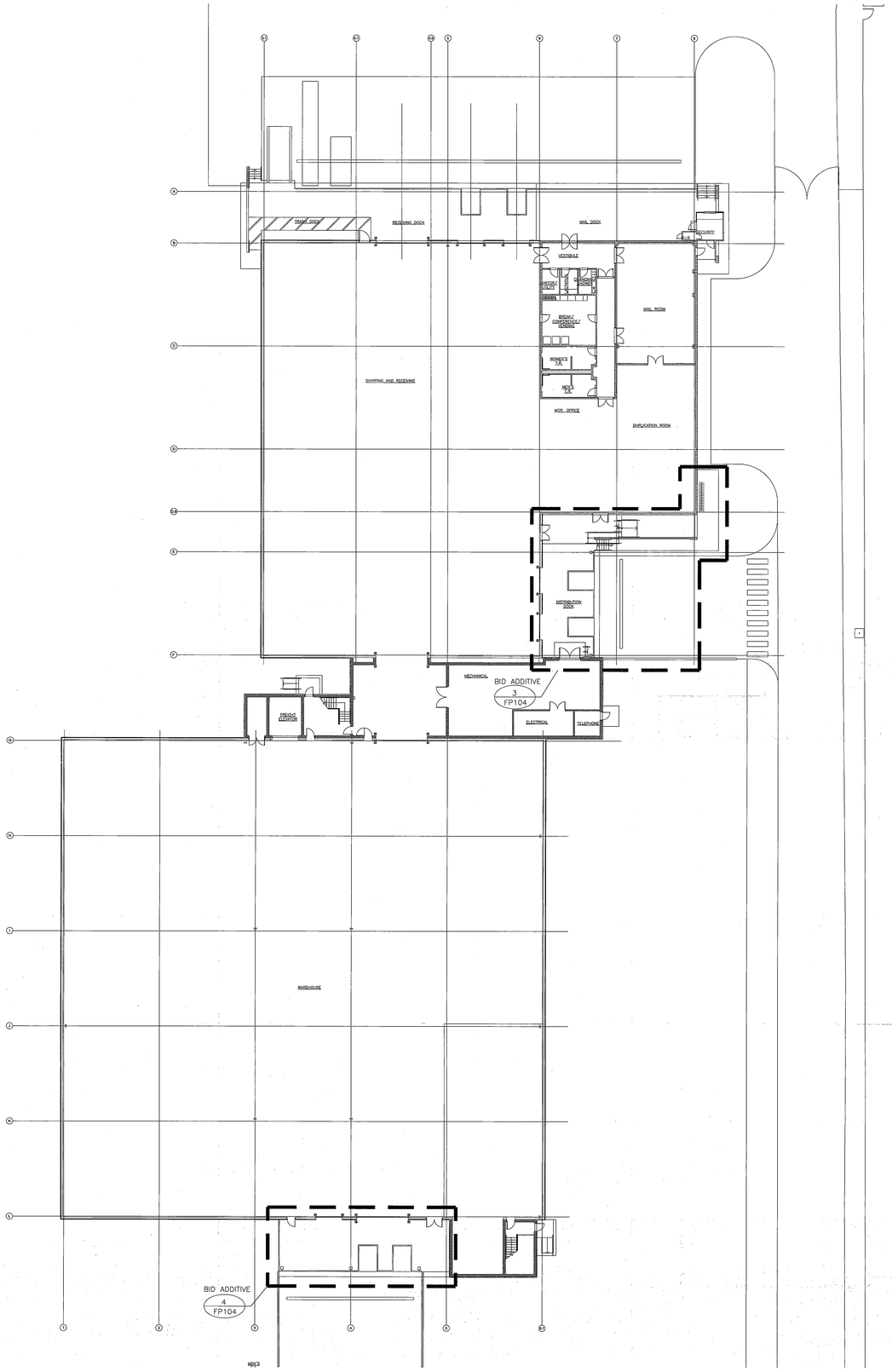


1 FP001 FIRE PROTECTION REFERENCE PLAN (BID ADDITIVE #3 AND #4)

SCALE: NONE

FIRE PROTECTION NOTES

1. ALL BUILDING AREAS SHALL BE COMPLETELY PROTECTED BY SPRINKLERS, EXCEPT ELEVATOR SHAFTS.
2. LOADING DOCK TO BE PROTECTED BY DRY TYPE HORIZONTAL SPRINKLERS CONNECTED TO THE DRY PIPE SPRINKLER SYSTEM.
3. ALL VALVES ARE NORMALLY OPEN, U.O.N.
4. ALL DRY PIPE VALVES REQUIRE A LOW AIR PRESSURE SWITCH.

FIRE PROTECTION LEGEND

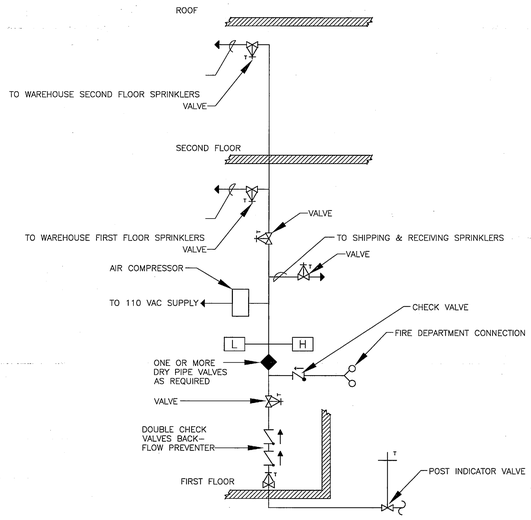
- GATE VALVE (T–TAMPER SWITCH)
- CHECK VALVE
- ELECTRIC BELL
- SIAMESE FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE (T–TAMPER SWITCH)
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- DRY PIPE VALVE
- H — HIGH PRESSURE SWITCH
- L — LOW AIR PRESSURE SWITCH

ABBREVIATIONS

N.C.	NORMALLY CLOSED
F.D.	FIRE DEPARTMENT
N.O.	NORMALLY OPEN
U.O.N.	UNLESS OTHERWISE NOTED

FIRE PROTECTION DRAWING INDEX

FP001	FIRE PROTECTION NOTES, LEGEND, AND SCHEMATIC
FP101	SHIPPING AND RECEIVING FIRE PROTECTION PLAN
FP102	WAREHOUSE FIRE PROTECTION PLAN – 1ST FLOOR
FP103	WAREHOUSE FIRE PROTECTION PLAN – 2ND FLOOR
FP104	FIRE PROTECTION PLANS BID ADDITIVE 3 AND 4



2 FP001 SPRINKLER RISER SCHEMATIC

SCALE: NTS
* SOME ELEMENTS ROTATED FOR CLARITY

0 8' 16' 32'
SCALE: 1/16" = 1'–0"
NORTH

SEAL AREA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01–10–10
A–E	GC	01–10–10
CHECKED BY	GC	01–10–10
A–E MANAGER		2-26-10
NASA A–E		
S&E BRANCH		3/1/10
CM		
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

FIRE PROTECTION
NOTES, LEGEND, AND SCHEMATIC

FP001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

FIRE PROTECTION	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03–01–10	A6890	107 OF 158	GF–035–34095

PLOT DATE: 2/23/2010
FILE DATE: 2/23/2010
FILE NAME: A6890-FP.dwg

FORM F 03-07-09

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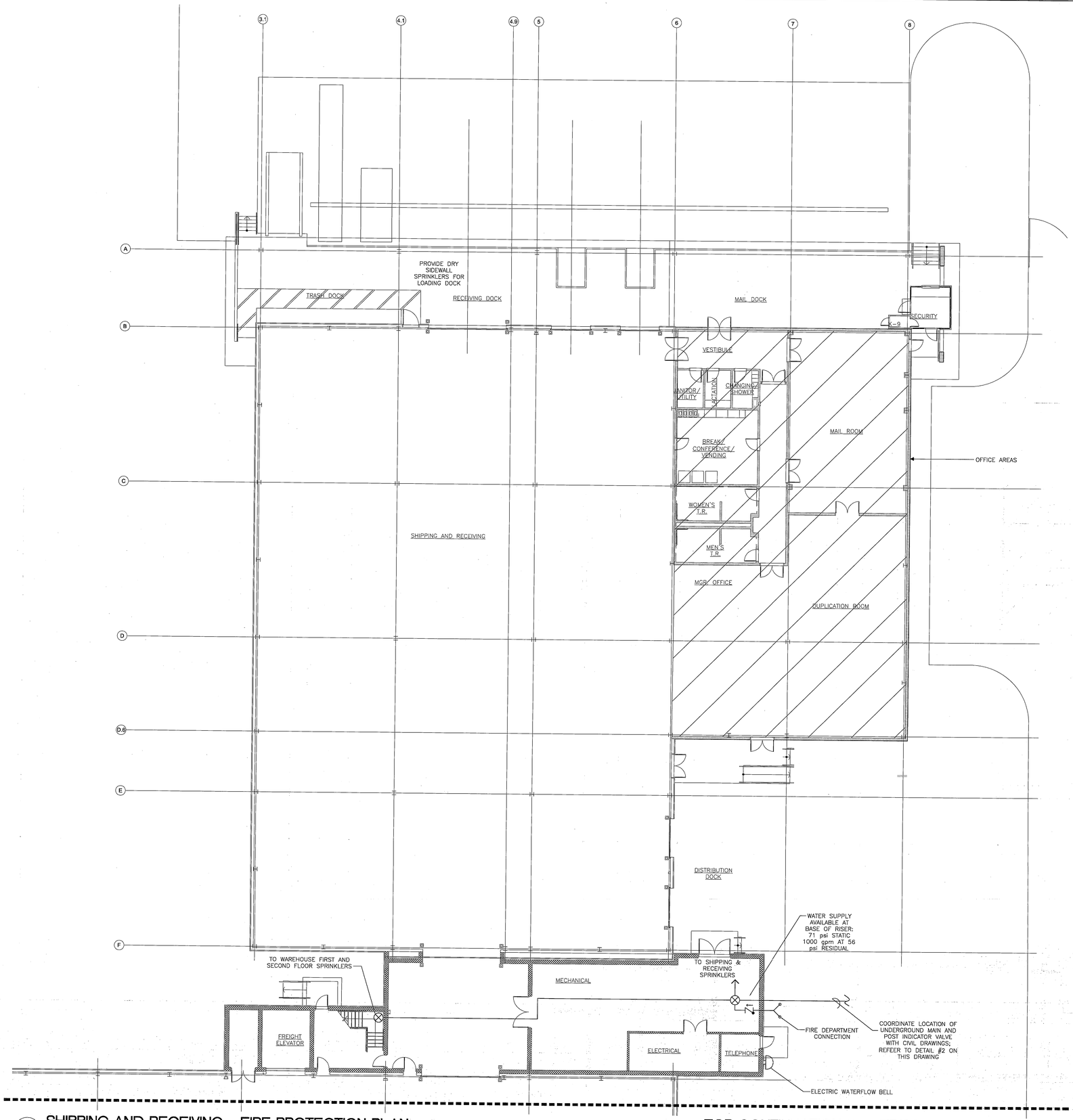


1 FP101 SHIPPING AND RECEIVING - FIRE PROTECTION PLAN

SCALE: 3/32" = 1'-0"

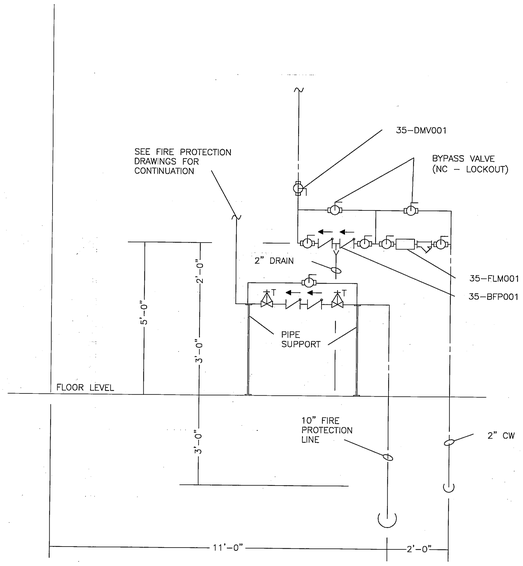
FOR CONTINUATION SEE FP102

0 4'-0" 8'-0" 16'-0"

NORTH

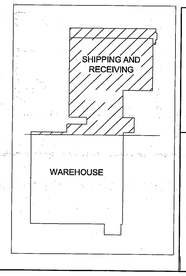
FIRE PROTECTION NOTES

1. DESIGN BASIS FOR OFFICE: 0.1 gpm/1950 sq-ft, (INCLUDES DRY PIPE SYSTEM ADJUSTMENT). HATCHED AREAS ARE OFFICE AREAS AS SHOWN ON THIS DRAWING; ALL OTHER AREAS ARE CONSIDERED WAREHOUSE AREAS.
2. DESIGN BASIS FOR WAREHOUSE: ORDINARY HAZARD GROUP II, 500 gpm COMBINED INSIDE AND OUTSIDE DEMAND.
3. USE HIGH TEMPERATURE RATED, LARGE ORIFICE STANDARD SPRINKLERS.
4. PROVIDE SMALL HOSE STATIONS. MOUNT HOSE RACKS ON COLUMNS AT ENDS OF RACKS.
5. DO NOT PROVIDE IN-RACK SPRINKLERS.



2 FIRE PROTECTION 10" WATER LINE DETAIL

NTS



Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
GRAHAM CLARKE
No. 25049
PROFESSIONAL ENGINEER
2-24-10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	CAH	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	JHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHK	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

FIRE PROTECTION

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING - FIRE PROTECTION PLAN

FP101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	108 OF 158	GF-035-34096

FORM F 03-07-06

FILE NAME: A6890-FP.dwg
FILE DATE: 2/23/2010
PLOT DATE: 2/23/2010

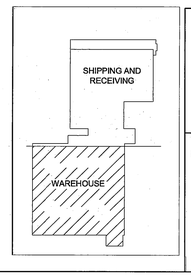
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

FIRE PROTECTION NOTES

1. SEE FIRE PROTECTION NOTES ON SHEET FP101.

1 FP102 WAREHOUSE 1ST FLOOR - FIRE PROTECTION PLAN

SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
GRAHAM CLARKE
No. 35046
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	CAH	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JJM	3/1/10
CUSTOMER	RW	3-1-10
SECTION HEAD		

STRUCTURAL

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
FIRE PROTECTION PLAN - 1ST FLOOR

FP102

BUILDING 035

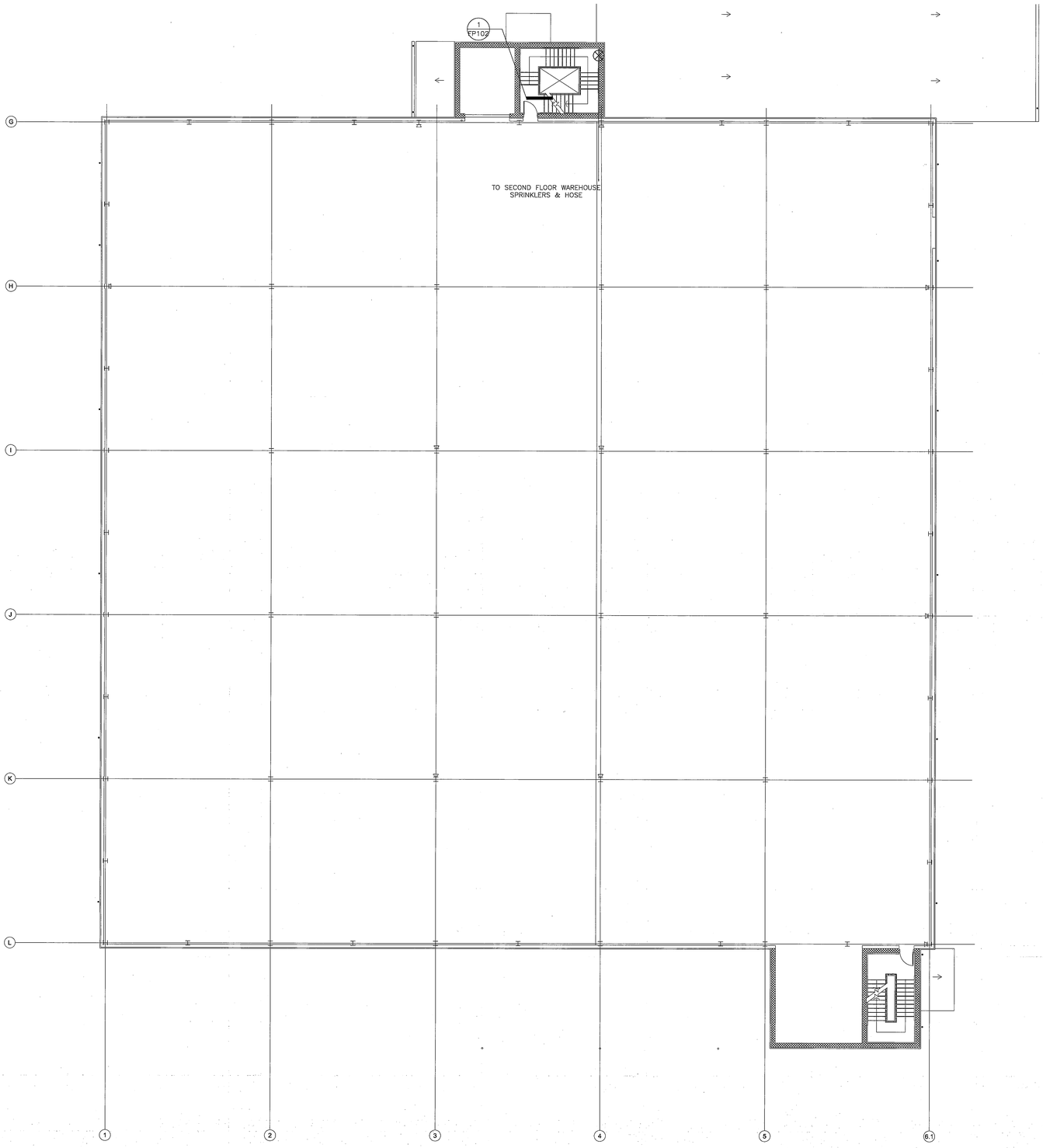
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	109 OF 158	GF-035-34097

FORM F 03-07-06

FILE NAME: A6890-FP.dwg FILE DATE: 2/23/2010 PLOT DATE: 2/23/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



FIRE PROTECTION NOTES

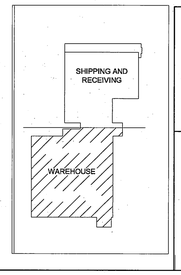
1. SEE FIRE PROTECTION NOTES ON SHEET FP101.

1 / FP103 WAREHOUSE 2ND FLOOR - FIRE PROTECTION PLAN

SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH



SEAL AREA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	CAH	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

FIRE PROTECTION

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
FIRE PROTECTION PLAN - 2ND FLOOR

FP103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	110 OF 158	GF-035-34098

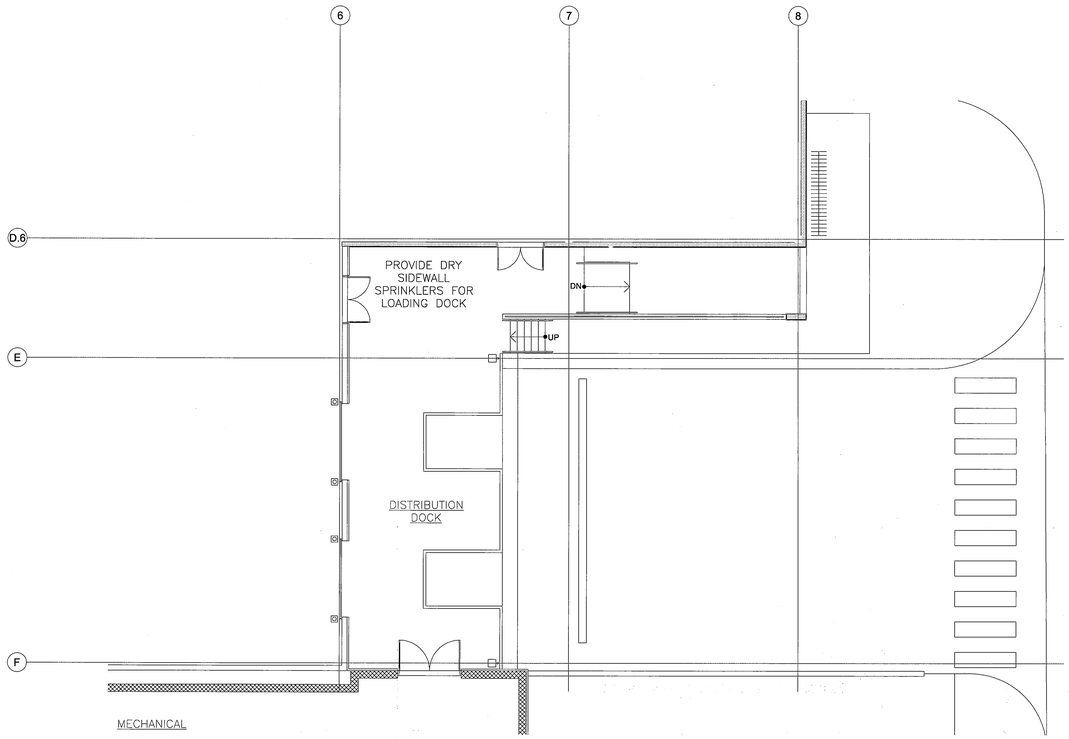
FILE NAME: A6890-FP.dwg

FILE DATE: 2/23/2010

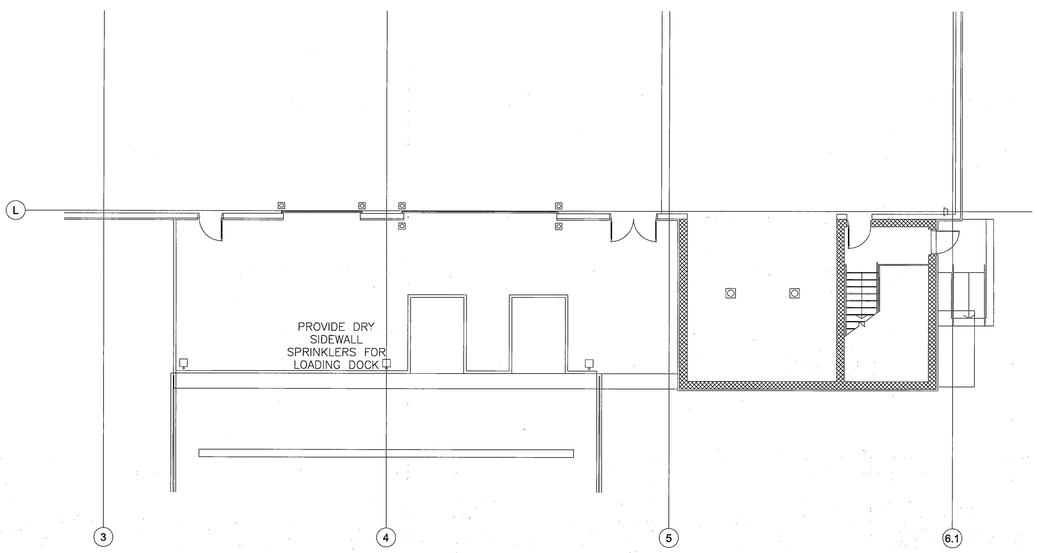
PLOT DATE: 2/23/2010

FORM F 03-07-08

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



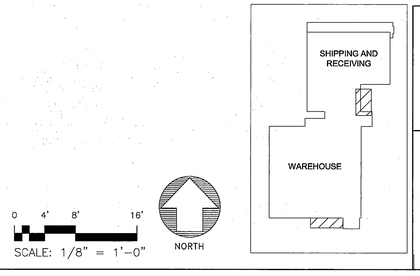
1 FP104 FIRE PROTECTION - LOADING DOCK BID ADDITIVE #3
SCALE: 1/8" = 1'-0"



2 FP104 FIRE PROTECTION - LOADING DOCK BID ADDITIVE #4
SCALE: 1/8" = 1'-0"

FIRE PROTECTION NOTES

1. SEE FIRE PROTECTION NOTES ON SHEET FP101.



0 4' 8' 16'
SCALE: 1/8" = 1'-0"
NORTH

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

STATE OF MARYLAND
GRAHAM CLARKE
No. 35046
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	CAH	01-10-10
A-E	GC	01-10-10
CHECKED BY	GC	01-10-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JHM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

FIRE PROTECTION PLANS
BID ADDITIVE 3 AND 4

FP104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

FIRE PROTECTION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	111 OF 158	GF-035-34099

FORM F 03-07-06

FILE NAME: A6890-FP.dwg FILE DATE: 2/23/2010 PLOT DATE: 2/23/2010

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

MECHANICAL LEGEND

- RECTANGULAR DUCT – SUPPLY AIR UP, DOWN
- RECTANGULAR DUCT – EXHAUST/RETURN AIR UP, DOWN
- ROUND DUCT – SUPPLY AIR UP, DOWN
- ROUND DUCT – EXHAUST/RETURN AIR UP, DOWN
- RADIUS DUCT ELBOW
- RECTANGULAR DUCT ELBOW WITH TURNING VANES
- DUCT TRANSITION UP
- DUCT TRANSITION DOWN
- DUCT TRANSITION – RECTANGULAR TO ROUND
- DUCT TRANSITION – ECCENTRIC
- BRANCH TAP (ANGLED) W/VOLUME DAMPER
- RECT. BRANCH TAP W/VOLUME DAMPER
- BRANCH TAP (STRAIGHT) W/VOLUME DAMPER
- BRANCH TAP (FLARED) W/VOLUME DAMPER
- DUCT PRESSURE CLASSIFICATION
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTION
- CAPPED DUCT
- DUCT ACCESS DOOR
- SIDE MOUNTED REGISTER/GRILLE
- ø ROUND DUCT DELIMITER
- / FLAT OVAL DUCT DELIMITER
- CEILING MOUNTED SA DIFFUSER INDICATION FLOW DIRECTION IF NOT 4–WAY
- CEILING MOUNTED RA GRILLE/REGISTER
- VOLUME DAMPER
- DL DOOR LOUVER
- TRANSFER AIR DUCT W/ BELL MOUTH
- CP CONTROL PANEL PROVIDE BY UCS CONTRACTOR
- S EMERGENCY SHUT DOWN SWITCH.
- T THERMOSTAT BY AIR CONDITIONING UNIT'S MANUFACTURER
- TC TIME CLOCK WITH OVERRIDE CAPABILITY
- TS TEMPERATURE SENSOR PROVIDED BY UCS CONTRACTOR
- CWP FUTURE CHILLED WATER PUMP
- HWP FUTURE HOT WATER PUMP
- ET FUTURE EXPANSION TANK

- WALL MOUNTED REGISTER/GRILLE
- TRANSFER GRILLE
- SUPPLY AIR FLOW ARROWS
- RETURN AIR FLOW ARROWS
- MVD MANUAL VOLUME DAMPER
- FD FIRE DAMPER
- GRAVITY BACKDRAFT DAMPER
- ROOF–MOUNTED EXHAUST FAN
- LOUVER
- AIR DEVICE TAG (SEE SCHEDULE)
  - TAG NUMBER
  - DESIGN CFM
- CD–1 / 100
- CD CEILING DIFFUSER
- RD ROUND DIFFUSER
- SWR SIDE WALL RETURN GRILLE
- CR CEILING RETURN
- CE CEILING EXHAUST
- CG CEILING GRILL
- HWP HOT WATER PUMP
- CWP CHILLED WATER PUMP
- ET EXPANSION TANK
- CP CONTROL PANEL
- S EMERGENCY SHUT DOWN SWITCH.
- T THERMOSTAT
- TC TIME CLOCK
- TS TEMPERATURE SENSOR
- CS CO2 SENSOR

ABBREVIATIONS

– A –

A	AMPERES
ABV	ABOVE
AC	AIR CONDITIONING
ACU	AIR CONDITIONING UNIT
ACV	AUTOMATIC CONTROL VALVE
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL

– B –

BDD	BACKDRAFT DAMPER
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR

– C –

CC	COOLING COIL
CE	CEILING EXHAUST
CFM	CUBIC FEET PER MINUTE
CD	CEILING DIFFUSER
CLG	CEILING
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CR	CEILING REGISTER
CU FT	CUBIC FEET
CU IN	CUBIC INCHES

– D –

D	DROP
DB	DRY BULB
DIAM	DIAMETER
DMPR	DAMPER
DN	DOWN
DWG	DRAWING
DL	DOOR LOUVER

– E –

(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING

– F –

°F	DEGREES FAHRENHEIT
FA	FREE AREA (SQ.FT.)
FCU	FAN COIL UNIT
FCV	FLOW CONTROL VALVE
FD	FIRE DAMPER
FG	FINISHED GRADE
FIN FL	FINISHED FLOOR
FLA	FULL LOAD AMPERES
F.O.	FLAT OVAL
FPM	FEET PER MINUTE
FT	FEET

– G –

GA	GAUGE
GAL	GALLON
GD	GRAVITY BACKDRAFT DAMPER
GPM	GALLONS PER MINUTE

– H –

H	HEIGHT
HD	HEAD
HP	HORSEPOWER
HR	HOUR

– I –

ID	INSIDE DIAMETER
INCH	INCH OR INCHES

– K –

KW	KILOWATT

– L –

L	LENGTH
(L)	LINED DUCTWORK
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LDB	LEAVING DRY BULB TEMPERATURE
LIN FT	LINEAR FEET
LVG	LEAVING
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE

– M –

MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MER	MECHANICAL EQUIPMENT ROOM
MIN	MINIMUM
MVD	MANUAL VOLUME DAMPER

– N –

(N)	NEW
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

– O –

OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OPNG	OPENING
OSA	OUTSIDE AIR

– P –

PD	PRESSURE DROP
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GAUGE

– R –

RA	RETURN AIR
RH	RELATIVE HUMIDITY
RHC	REHEATING COIL
RM	ROOM
RPM	REVOLUTIONS PER MINUTE

– S –

SA	SUPPLY AIR
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ.FT.	SQUARE FOOT

– T –

TAB	TRANSFER AIR BOOT
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TR	TOP REGISTER
TRF	TRANSFER FAN
TRD	TRANSFER DUCT
TX	TOILET EXHAUST
TYP	TYPICAL

– U –

UON	UNLESS OTHERWISE NOTED

– V –

V	VOLTS
VD	VOLUME DAMPER

– W –

W/	WITH
W/O	WITHOUT
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

MECHANICAL NOTES

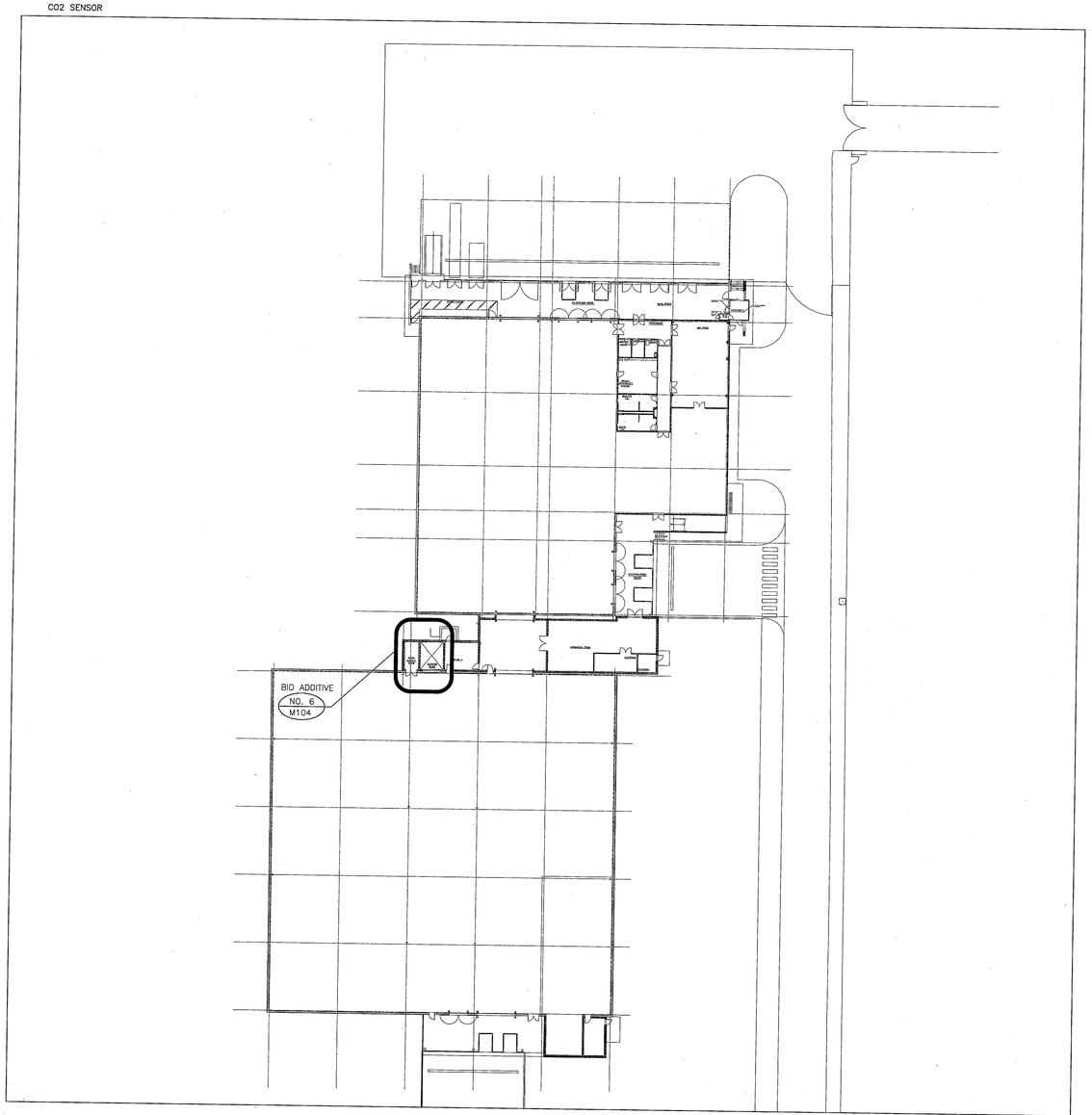
1. PROVIDE WORK IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS, THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL PLUMBING CODE (IPC), NATIONAL FIRE PROTECTION ASSOCIATION(NFPA), INTERNATIONAL FIRE CODE AND INTERNATIONAL ENERGY CONSERVATION CODE.
2. ALL LOCATIONS OF MECHANICAL COMPONENTS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS.
3. COORDINATE WORK WITH ALL OTHER TRADES.
4. PERFORM ALL WORK IN AN ORDERLY MANNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY STRUCTURAL ELEMENTS OR ARCHITECTURAL SYSTEM DAMAGES THAT MAY OCCUR AS A RESULT OF OR DURING CONSTRUCTION.
5. PROVIDE PIPE SLEEVES AT ALL WALL, FLOOR, AND ROOF PENETRATIONS, PER CONTRACT SPECIFICATIONS.
6. ALL DUCT SIZES ARE IN INCHES AND INDICATE INSIDE CLEAR DIMENSIONS.
7. ALL PIPE SIZES ARE IN INCHES AND INDICATE NOMINAL DIAMETER.
8. INSTALL DUCT BRANCH TAKE–OFFS NO CLOSER TOGETHER THAN 4 TIMES THE EQUIVALENT DIAMETER OF THE MAIN.
9. PROVIDE DUCTWORK TRANSITION ANGLES PER CONTRACT SPECIFICATION.
10. DUCTWORK SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST VERSION OF THE SMACNA STANDARDS. SEAL ALL JOINTS AND SEAMS AS PER CONTRACT SPECIFICATION.
11. PROVIDE INSULATION AS PER CONTRACT SPECIFICATIONS ON SUPPLY AND RETURN AIR DUCTWORK LOCATED IN MECHANICAL EQUIPMENT ROOMS, CHASES, AND NON–RETURN AIR CEILING PLENUMS.
12. FLEXIBLE DUCT SHALL BE NO LONGER THAN 5 FEET LENGTH.
13. COORDINATE ALL GRILLES, REGISTERS AND OR DIFFUSER LOCATIONS WITH LIGHTING FIXTURES, SPRINKLER HEADS, SMOKE DETECTORS, CEILING MOUNTED EQUIPMENT, AND CEILING GRID AS REQUIRED. (SEE REFLECTED CEILING PLAN)
14. COORDINATE DUCTWORK ROUTING WITH PIPING, ELECTRICAL CONDUITS, COMMUNICATION LINES, STRUCTURAL ELEMENTS AND CEILING.
15. FIRE DAMPERS SHALL BE STEEL CURTAIN TYPE AS PER CONTRACT SPECIFICATION WITH 100% FREE AREA. CONTRACTOR SHALL FIELD VERIFY AND NOTIFY ENGINEER WHERE THE HAT HEIGHT CLEARANCE IS INSUFFICIENT. UNLESS PRECLUDED BY DUCT SIZE, PROVIDE HINGED ACCESS DOOR WITH CAM FASTENER AND NEOPRENE GASKET AT ALL FIRE DAMPERS, AS PER CONTRACT SPECIFICATION.
16. INSTALL ALL REMOTE THERMOSTATS AT WALLS WHERE INDICATED.
17. PROVIDE VIBRATION ISOLATION FOR ALL NEW EQUIPMENT PER CONTRACT SPECIFICATIONS.
18. PROVIDE LEAK TESTING FOR ALL PIPING SYSTEMS AS PER CONTRACT SPECIFICATION, AND PROVE TIGHT BEFORE PLACING IN USE.
19. PROVIDE LEAK TESTING FOR ALL DUCTWORK SYSTEMS AS PER CONTRACT SPECIFICATION.
20. PERFORM AIR BALANCING ON ALL HVAC SYSTEMS AND EQUIPMENT PER CONTRACT SPECIFICATIONS.
21. PROVIDE GOMAR TAGS FOR SPECIFIED EQUIPMENT (AND COLOR–CODED CEILING MARKERS FOR EQUIPMENT LOCATED ABOVE CEILING). SEE GOMAR NOTES THIS DRAWING.
22. PROVIDE PIPE LABELS PER CONTRACT SPECIFICATIONS.
23. PROVIDE LABELS FOR SUPPLY AIR, RETURN AIR, AND OTHER HVAC DUCTS INCLUDING NON–HAZARDOUS EXHAUSTS AS PER THE STANDARD SPECIFICATION. LABELS SHALL BE WHITE LETTERING ON A BLUE BACKGROUND. HAZARDOUS EXHAUST DUCTWORK SHALL BE LABELED WITH BLACK LETTERING ON A YELLOW BACKGROUND.
24. PROVIDE ADEQUATE MAINTENANCE SPACE FOR TUBE PULLS AND THE REMOVAL OF COILS AND FILTERS.
25. INSTALL ALL DUCTWORK SO VALVES AND DAMPERS ARE ACCESSIBLE.
26. MAINTAIN A MINIMUM OF 7' CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, AND SUSPENDED EQUIPMENT THROUGHOUT ACCESS ROUTES IN MECHANICAL AND ELECTRICAL ROOMS.

GOMAR NOTES

ROOFTOP AIR CONDITIONING:
035–ACU001
035–ACU002
035–ACU003
035A–ACU001

SPLIT SYSTEM AIR CONDITIONING (SERVING ELEVATOR MACHINE ROOM)
035–ACD001
035–AHU001

EXHAUST FAN:
035–EXH001
035–EXH002



REFERENCE PLAN (BID ADDITIVE NO. 6)

SCALE: NONE

HVAC DRAWING INDEX

M001	MECHANICAL – NOTES, LEGEND, AND ABBREVIATIONS
M101	MECHANICAL – SITE PLAN
M102	SHIPPING AND RECEIVING HVAC PLAN
M103	SHIPPING AND RECEIVING HVAC ROOF PLAN
M104	SHIPPNG AND RECEIVING BID ADDTIVE 6 – HVAC PLAN
M501	HVAC EQUIPMENT DETAILS
M502	HVAC CONTROL
M601	HVAC SCHEDULES

PARSONS — Facilities Construction Engineering & Technical Services — PMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	RB	11–05–09
A–E	RB	11–05–09
CHECKED BY	DRO	12–23–09
A–E MANAGER		
NASA A–E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TWK	3/1/10
CUSTOMER	Pen	3–1–10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
MECHANICAL - NOTES
LEGEND AND ABBREVIATIONS

M001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL

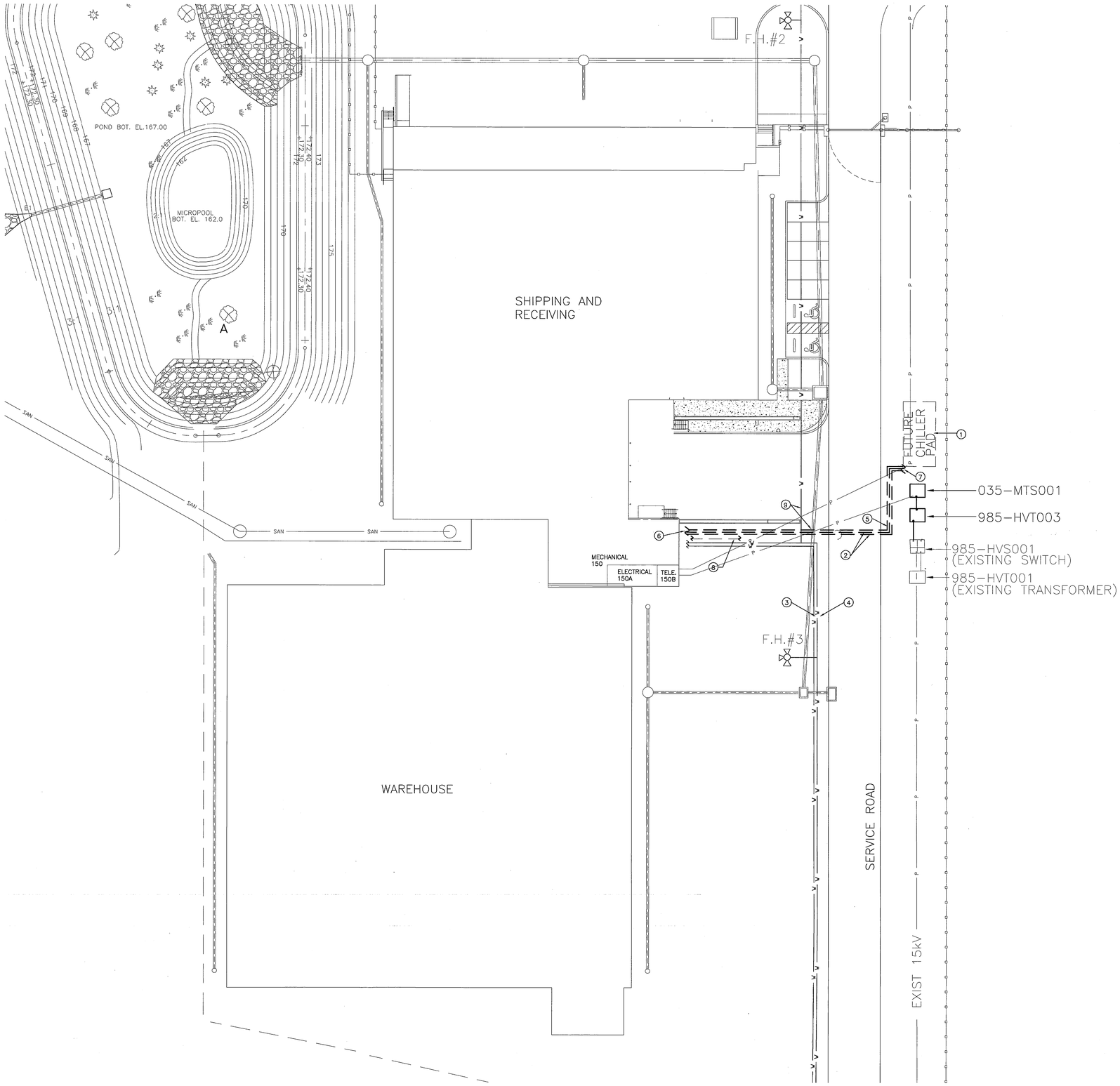
DATE ISSUED	Cof CODE or WR#	SHEET	DRAWING NO.
03–01–10	A6890	112 OF 158	GF–035–34100

FILE NAME: M10.dwg
FILE DATE: 2/26/2010
PLOT DATE: 3/1/2010
FORM F 03–07–06

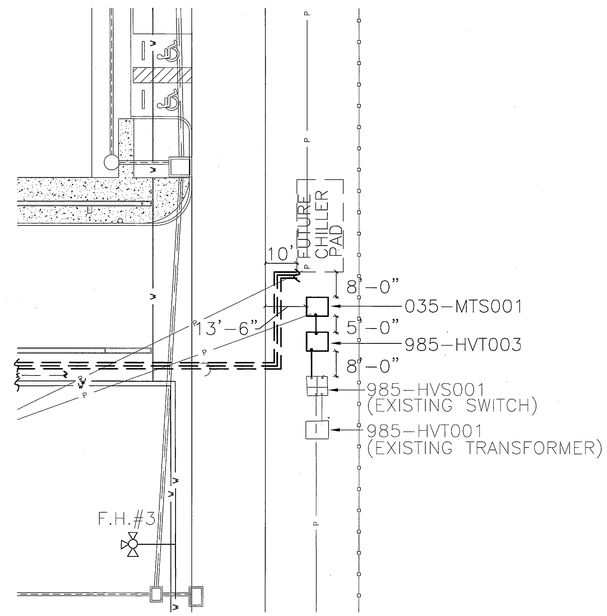
All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

MECHANICAL NOTES

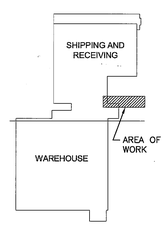
1. 30' X 15' CONCRETE HOUSE KEEPING PAD FOR FUTURE AIR COOLED CHILLER NOT PART OF THIS CONTRACT
2. 8" UNDERGROUND PREFABRICATED CHILLED WATER SUPPLY AND RETURN PIPES TO THE MECHANICAL ROOM. COORDINATE THE ROUTING WITH THE EXISTING UNDERGROUND UTILITIES.
3. NEW 2" DOMESTIC WATER LINES, SEE CIVIL DRAWINGS.
4. NEW 10" WATER LINE FOR FIRE PROTECTION, SEE CIVIL DRAWINGS.
5. PROVIDE 1" CONDUIT WITH PULL STRING FOR CONTROL WIRING.
6. FOR CONTINUATION SEE DRAWING M102
7. CHILLED WATER SUPPLY & RETURN AND CONTROL CONDUIT UP THROUGH THE GROUND. CAP THE PIPE AND CONDUIT 12" ABOVE GRADE. THE PIPE AND CONDUIT SHALL BE 36" BELOW THE GROUND. SEE CIVIL DRAWING C114 FOR TRENCH REQUIREMENTS.
8. FUTURE GAS LINE NOT PART OF THIS CONTRACT.
9. CONTRACTOR SHALL PROVIDE THE REQUIRE OFFSETS FOR THE CHILLED WATER SUPPLY AND RETURN IN ORDER TO CROSS THE NEW STORM DRAIN AND FIRE HYDRANT LINES



1 M101 **MECHANICAL SITE PLAN**
SCALE: 1" = 20'-0"



2 M101 **ENLARGE PLAN**
SCALE: 1" = 20'-0"



20 10 0 20 40
GRAPHIC SCALE: 1"=20'

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
PMO-@ SFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARINO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	RB	11-05-09
A-E	RB	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RJS	3/1/10
CM	—	
PM	JSH	3/1/10
CUSTOMER		3-1-11
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

MECHANICAL SITE PLAN

M101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL

DATE ISSUED	CoF CODE or WRJ	SHEET	DRAWING NO.
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PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: M1.0.dwg

FORM F 03-01-08

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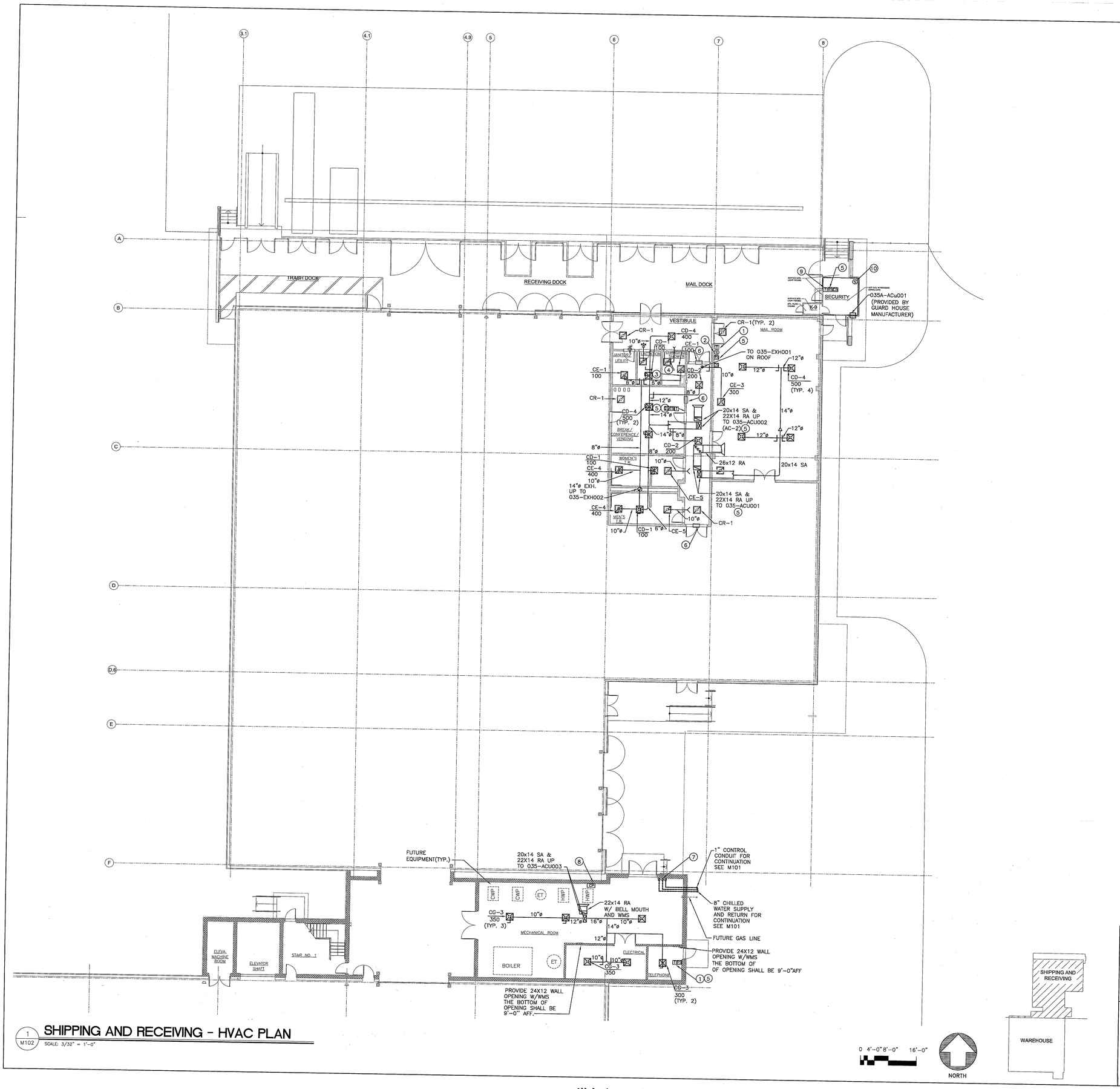

1 M102 SHIPPING AND RECEIVING - HVAC PLAN

SCALE: 3/32" = 1'-0"

MECHANICAL NOTES

1. MANUFACTURER PROVIDED THERMOSTAT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. EMERGENCY SHUT OFF SWITCH WITH AUDIBLE ALARM LOCATED IN THE ADJACENT CORRIDOR (SEE ELECTRICAL DRAWING E102).
3. PROVIDE ALUMINUM EXHAUST REGISTER AND MINIMUM OF 10' OF ALUMINUM DUCTWORK DOWN STREAM OF EXHAUST REGISTER. SLOPE THE DUCTWORK TOWARD THE REGISTER.
4. THE TRANSFER AIR REGISTER SHALL BE ALUMINUM.
5. ROOM TEMPERATURE SENSOR CONNECTED TO METASYS CONTROL PANEL IN THE MECHANICAL ROOM 150.
6. PROVIDE 24" X 12" RETURN AIR OPENING ABOVE THE CEILING
7. PROVIDE SHUT OFF VALVE ON THE SUPPLY AND RETURN LINES, CAP THE PIPES FOR FUTURE USE (SEE DETAIL #8 ON M501).
8. METASYS CONTROL PANEL.
9. FACTORY PROVIDE THERMOSTAT BY PRE-FABRICATED SECURITY ROOM MANUFACTURER. FINAL LOCATION BY PRE-FABRICATED SECURITY ROOM'S MANUFACTURER.
10. EMERGENCY SHUT OFF SWITCH TO SHUT DOWN THE AC UNIT AND EXHAUST FAN IN THE MAIL ROOM. SEE ARCHITECTURAL & ELECTRICAL DRAWINGS.

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

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A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

MECHANICAL

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
HVAC PLAN

M102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
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FILE NAME: M1.0.dwg FILE DATE: 2/26/2010 PLOT DATE: 2/26/2010

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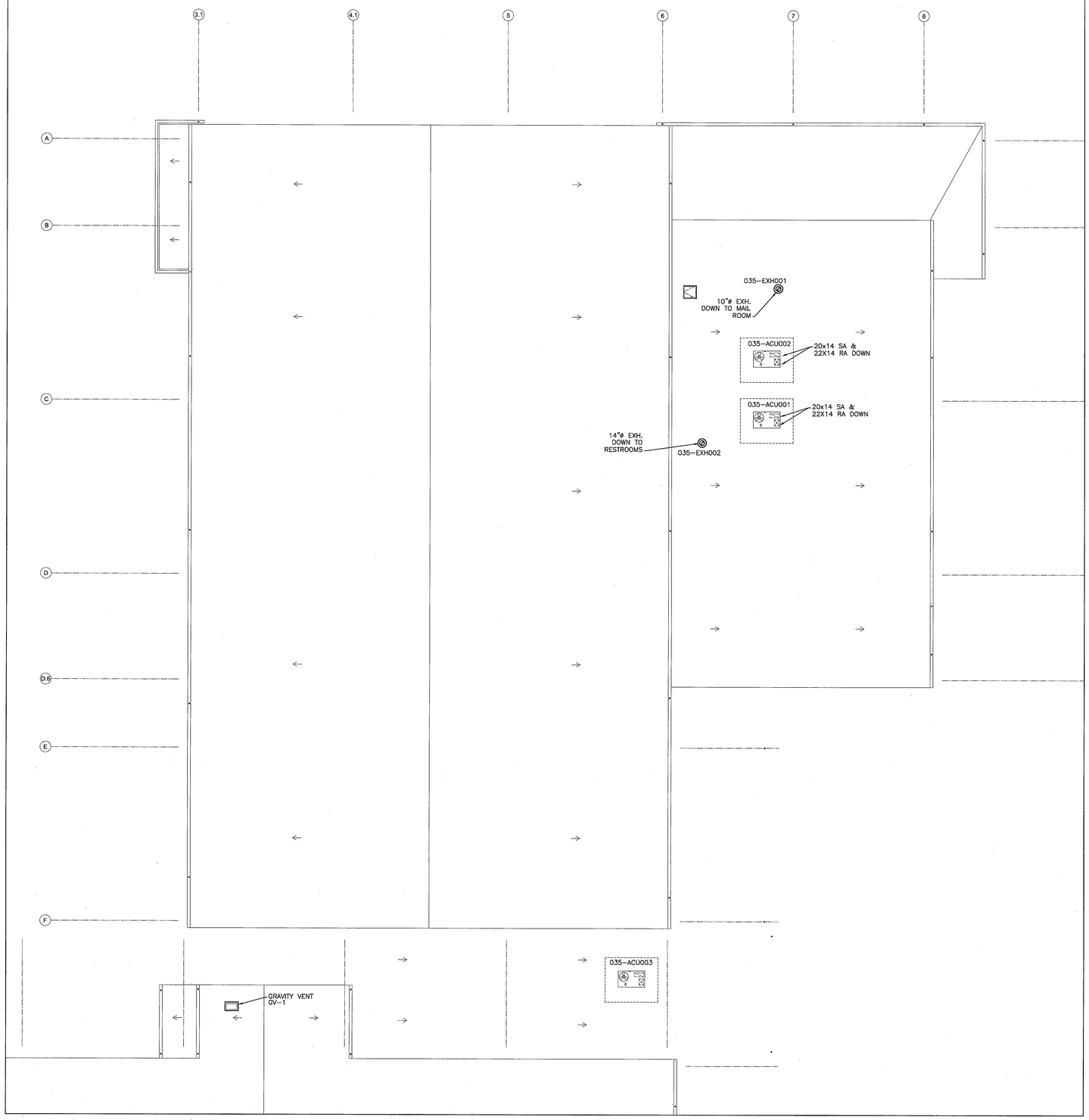
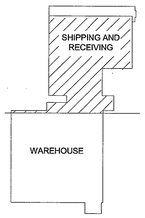


1 M103 SHIPPING AND RECEIVING ROOF - HVAC PLAN

SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH



PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARINO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

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NASA A-E		
S&E BRANCH	RS	3/1/10
CM		
PM	JMA	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
HVAC ROOF PLAN

M103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL

DATE ISSUED	CoF CODE or WO#	SHEET	DRAWING NO.
03-01-10	A6890	115 of 153	GF-035-34103

FILE NAME: M103.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

FORM F 03-03-08

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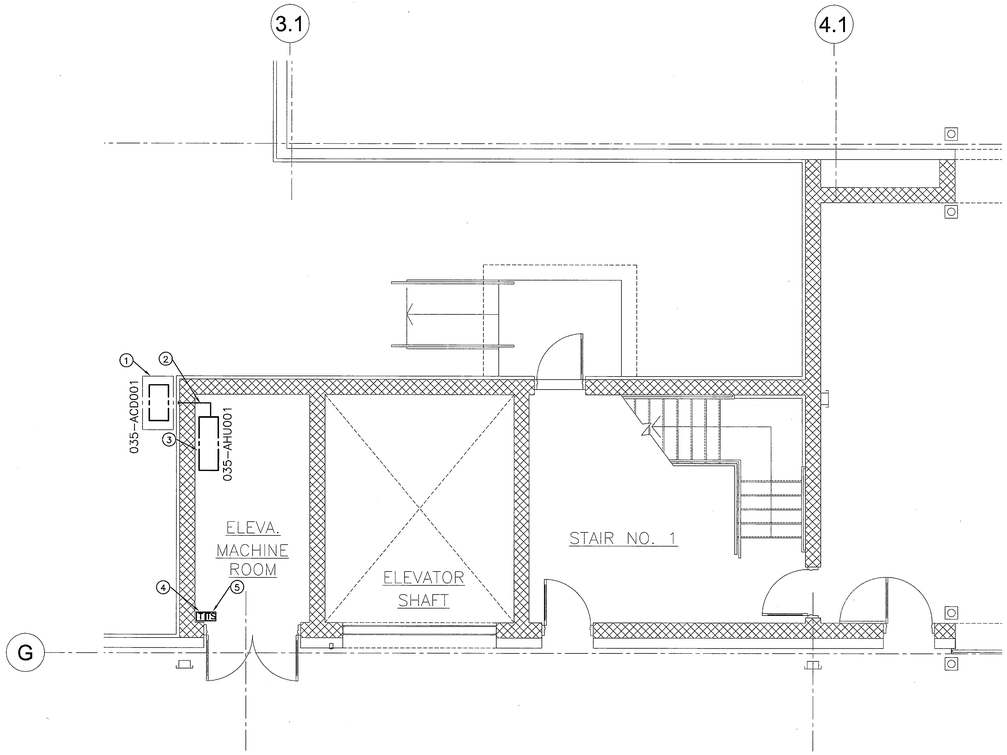


1 / M104 **SHIPPING AND RECEIVING - BID ADDITIVE 6, HVAC PLAN**

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

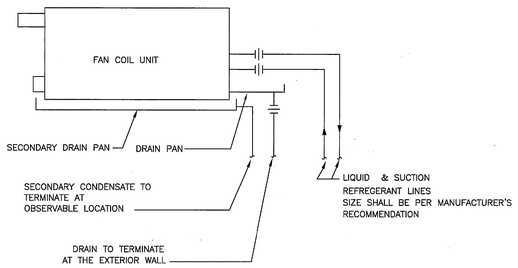
MECHANICAL NOTES

1. OUTDOOR CONDENSING UNIT WITH 4"LX2"WX6"H CONCRETE HOUSE KEEPING PAD
2. TERMINATE CONDENSATE LINE AT THE EXTERIOR WALL.
3. FAN COIL UNIT SHALL NOT BE LOCATED OVER THE ELEVATOR EQUIPMENT.
4. ROOM THERMOSTAT PROVIDE BY AC UNIT'S MANUFACTURER
5. ROOM TEMPERATURE SENSOR CONNECTED TO METASYS CONTROL PANEL IN THE MECH. ROOM.

SPLIT TYPE HEATPUMP UNIT

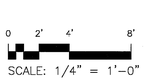
GOMAR #	BASIS OF DESIGN MANUFACTURER & MODEL NO. SIMILAR TO	LOCATION	SERVICE	TONNAGE	EVAPORATOR DATA				AUXILIARY ELECTRIC HEATING		UNIT ELECTRICAL DATA								COOLING COIL DATA					HEATING CAPACITY		OPERATING WEIGHT (LBS.) INDOOR/OUTDOOR	REMARKS
					CFM	EXT. S.P. (IN. WG)	MOTOR				INDOOR (FC)				OUTDOOR (SHP)				AIR-SIDE			CAPACITY (BTUH)		EDB (°F)	OUTPUT (BTUH)		
							# OF	HP EACH	KW	STAGE	HEATER AMP.	MCA	MOP	V/PH/HZ	FLA	MCA	MFS	V/PH/HZ	EDB (°F)	EWB (°F)	RH (%)	TOTAL	SENSIBLE				
035-AHUXXX 035-ACDXXX	CARRIER FX4C018 (INDOOR) 38QRR018 (OUTDOOR) (OR APPROVED EQUAL)	ELEVATOR RM. OUTSIDE ELE. RM.	ELEVATOR ROOM	1.5	600	0.5	1	1/3	5	3	20	28.5	30	208/1/60	9.8	12.1	20	208/1/60	80	67	50	16,500	16,500	55	3,600	110/167	SEE NOTES BELOW

1. WIRING POWER & CONTROL PIPING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE WITH WATER SWITCH/SENSOR IN THE SECONDARY DRAIN PAN AND SET TO SHUT DOWN UNIT UPON DETECTION OF WATER.
3. REFRIGERANT PIPING SHALL BE RIGID COPPER. USE LONG RADIUS ELBOWS.
4. PROVIDE FILTER DRIER, REFRIGERANT SIGHT GLASS, LIQUID LINE SOLENOID VALVE, EXTERNALLY EQUALIZED EXPANSION VALVES.
5. PROVIDE WITH SECONDARY DRAIN PAN BELOW EVAPORATOR UNIT (CEILING TYPE).
6. PROVIDE CONDENSING UNIT WITH HOT GAS BYPASS AND 93 DEGREE F AMBIENT.
7. RUN THE CONDENSATE LINE TO OUTSIDE WALL.
8. PROVIDE WITH LOW AMBIENT OPERATION. INCLUDE LOW AMBIENT CONTROLLER FOR PURON, COMPRESSOR START ASSIST CAPACITOR & RELAY, CRANKCASE HEATER, EVAPORATOR FREEZE THERMOSTAT, AND ISOLATION RELAY.
9. PROVIDE WITH ELECTRIC HEAT PER MANUFACTURERS RECOMMENDATION.
10. PROVIDE UNIT WITH CEILING MOUNTED HANGERS

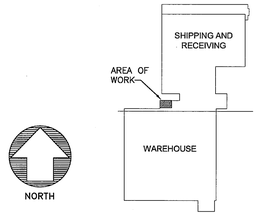


1 / M104 **DX FAN COIL PIPING**

NO SCALE



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



PARSONS — Facilities Construction, Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

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A-E	RB	11-05-09
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NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JWA	3/1/10
CUSTOMER	AR	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
BID ADDITIVE 6 - HVAC PLAN

M104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	116 OF 158	GF-035-34104

FILE NAME: M1.0.dwg — FILE DATE: 2/26/2010 — PLOT DATE: 2/26/2010

FORM F 02-07-06

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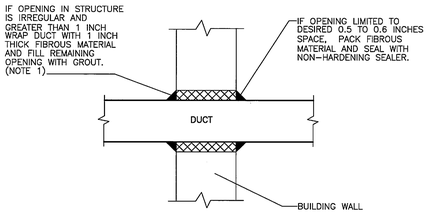
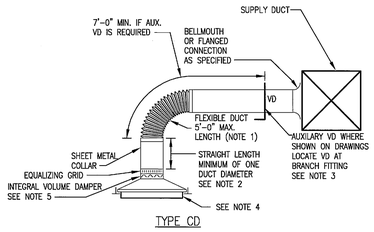


1 / M501 WALL DUCT PENETRATION DETAIL

NOT TO SCALE

NOTES:

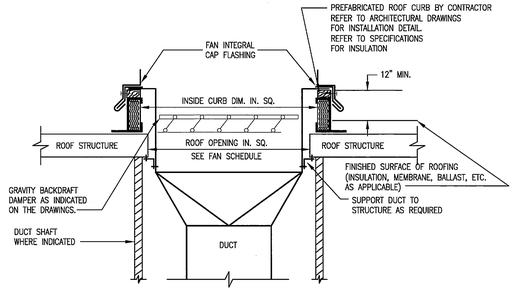
1. SEAL ALL DUCT PENETRATIONS THROUGH 1-HOUR FIRE RATED WALLS WITH AN APPROVED U.L. LISTED FIRE-STOPPING MATERIAL.
2. FOR FIRE RATED WALLS 2-HOUR AND GREATER, SEE FIRE DAMPER DETAIL.



2 / M501 DIFFUSER INSTALLATION

NOTES:

1. FLEXIBLE DUCT SHALL BE SUPPORTED FROM STRUCTURE ABOVE TO PREVENT KINKING AND SAGGING
2. MAY BE REDUCED ONLY WHEN REQUIRED BY SPACE LIMITATION. PROVIDE SHEET METAL TRANSITION AS REQUIRED BETWEEN FLEXIBLE DUCT AND SHEET METAL COLLAR IF DIFFUSER DOES NOT HAVE ROUND CONNECTION.
3. PROVIDE CONCEALED CEILING DAMPER REGULATOR OR CEILING ACCESS DOOR WHERE VD IS LOCATED ABOVE INACCESSIBLE CEILING.
4. PROVIDE BORDER STYLE AND DIFFUSER FACE COMPATABLE WITH CEILING SYSTEM.
5. OMIT INTEGRAL VOLUME DAMPER WHERE SPECIFIED.
6. ATTACH FLEXIBLE DUCT TO DIFFUSER AND BRANCH DUCT WITH SCREW WORM GEAR BAND CLAMP. PLASTIC TIE STRAPS NOT ACCEPTABLE.

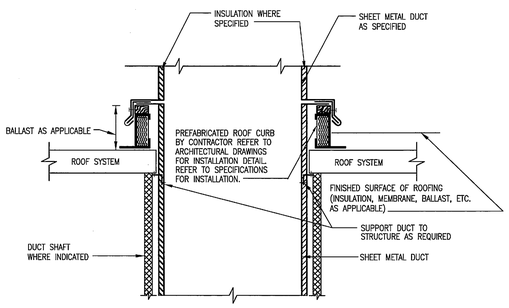


3 / M501 PREFABRICATED ROOF CURB FOR FAN

NO SCALE

NOTES:

1. FOR ROOF FLASHING SEE ARCHITECTURAL DRAWINGS.



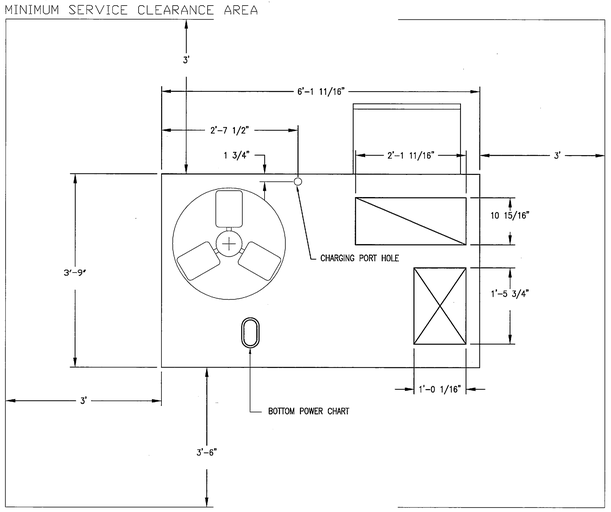
4 / M501 PREFABRICATED ROOF CURB - DUCT THRU ROOF

NOT TO SCALE

NOTES:

1. FOR ROOF FLASHING SEE ARCHITECTURAL DRAWINGS.

MINIMUM SERVICE CLEARANCE AREA

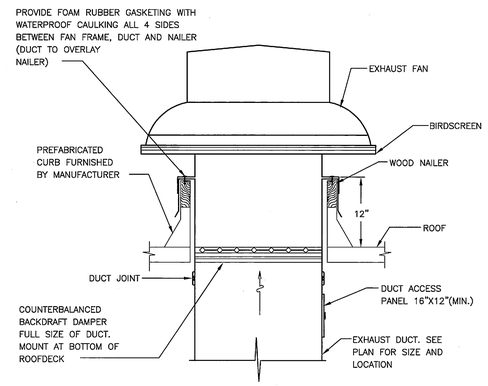


5 / M501 TYPICAL 5-TON ROOFTOP HEATPUMP UNIT PLAN

NOT TO SCALE

NOTES:

THE ABOVE DIMENSIONS ARE PER THE BASE DESIGN. THE DIMENSIONS FOR THE ACTUAL SUBMITTED EQUIPMENT MAY VARY.

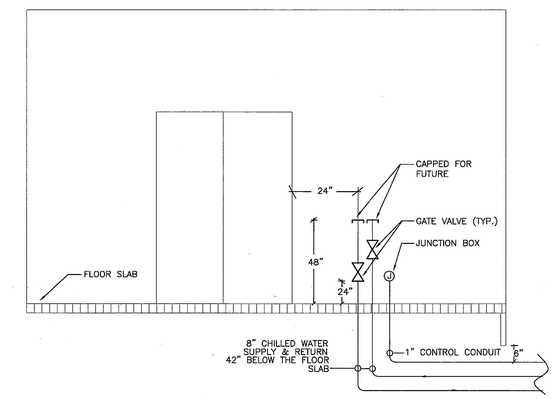


6 / M501 EXHAUST FAN DETAIL

NO SCALE

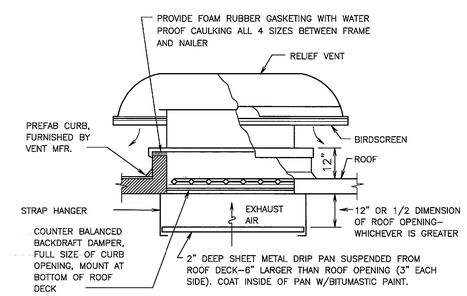
NOTES:

1. FOR ROOF FLASHING SEE ARCHITECTURAL DRAWINGS.



7 / M501 CHILLED WATER LINES AND CONTROL CONDUIT ENTERING THE MECH. ROOM

NO SCALE

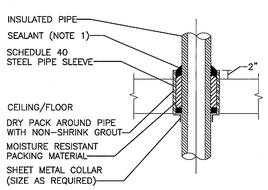


11 / M501 GRAVITY VENT DETAIL

NO SCALE

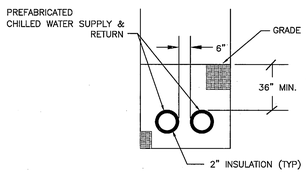
NOTES:

1. FOR ROOF FLASHING SEE ARCHITECTURAL DRAWINGS.



8 / M501 PIPE PENETRATION THROUGH FLOOR DETAIL

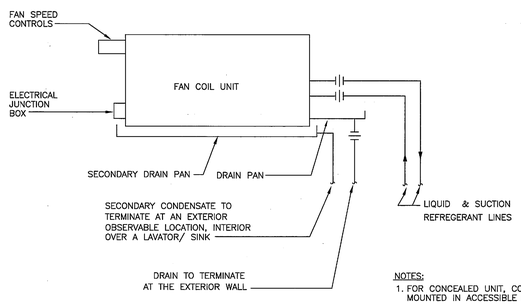
NO SCALE



NOTE: SEE CIVIL DRAWING C114 FOR TRENCHING.

9 / M501 UNDERGROUND CHILLED WATER PIPING

NO SCALE



NOTES:

1. FOR CONCEALED UNIT, CONTROL TO BE MOUNTED IN ACCESSIBLE LOCATION

10 / M501 DX FAN COIL PIPING

NO SCALE

Facilities Construction Engineering & Technical Services
PARSONS
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SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

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NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FMM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
HVAC
EQUIPMENT DETAILS

M501

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL

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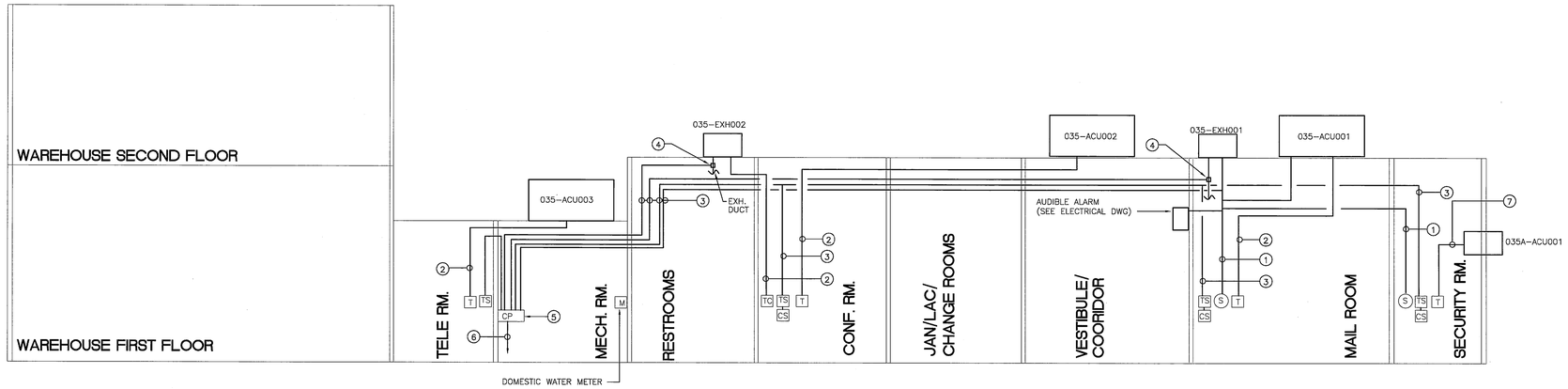

1 M502 HVAC CONTROL DIAGRAM
NOT TO SCALE

MECHANICAL NOTES

1. PROVIDE CONTROL WIRING.
2. INSTALL FACTORY PROVIDED CONTROL WIRING.
3. CONTROL WIRING BY CONTROL CONTRACTOR
4. AIR FLOW SENSOR BY CONTROL CONTRACTOR
5. CONTROL PANEL BY CONTROL CONTRACTOR
6. TO BUILDING 25 BY OTHERS. THE CONTROL CONTRACTOR SHALL TIE THE CONNECTION TO THE EXISTING JOHNSON CONTROL PANEL IN BUILDING 25 AND PROVIDE THE REQUIRED PROGRAMMING.
7. FACTORY PROVIDED AND INSTALLED CONTROL WIRING BY PRE-FAB SECURITY ROOM.

SEQUENCE OF OPERATION:

ROOFTOP PACKAGE HEAT PUMP(TYP.)

THE CONTROL PACKAGE SHALL BE PROVIDED BY THE UNIT MANUFACTURER. A FACTORY PROGRAMMABLE HEATING/COOLING THERMOSTAT SHALL, IN COOLING MODE, ON A RISE IN SPACE TEMPERATURE ABOVE A PREDETERMINED ADJUSTABLE SETTING (74°F) ENERGIZE THE ROOFTOP UNIT. ON A DROP IN SPACE TEMPERATURE BELOW THE SETTING, THE ROOFTOP UNIT SHALL BE DE-ENERGIZED (FAN SHALL CONTINUE TO RUN). IN HEATING MODE, ON DROP IN SPACE TEMPERATURE BELOW A PREDETERMINED ADJUSTABLE SETTING (70°F) ENERGIZE THE ROOFTOP UNIT IN HEATING MODE AND UPON FURTHER DROP IN THE TEMPERATURE, MODULATE THE ELECTRIC HEATING COIL STAGE TO MAINTAIN TEMPERATURE SET POINT. ON A RISE IN SPACE TEMPERATURE ABOVE THE SETTING, THE ELECTRIC HEATING COIL SHALL TURN OFF AND UPON FURTHER TEMPERATURE RISE THE ROOFTOP UNIT SHALL BE DE-ENERGIZED FROM HEATING MODE(FAN SHALL CONTINUE TO RUN). SCHEDULE THE OPERATION OF THE UNIT PER USER'S REQUIREMENT AND PROVIDE SETBACK TEMPERATURE(85 °F FOR COOLING AND 65 °F FOR HEATING, FIELD ADJUSTABLE) FOR AFTER HOURS.

EXHAUST FAN (TYP.)

PROVIDE TIME CLOCK AND SCHEDULE THE FAN TO OPERATE DURING NORMAL HOURS PER USER'S REQUIREMENT. PROVIDE OVERRIDE FOR AFTER HOURS OPERATION. PROVIDE LOCKABLE COVER.

DURING EMERGENCY SHUT DOWN:

UPON MANUAL ACTIVATION OF THE EMERGENCY SHUT OFF SWITCH LOCATED IN MAIL ROOM (131) OR SECURITY ROOM (101), THE EXHAUST FAN(035-EXH001) AND ROOFTOP AC UNIT(035-ACU001) SHALL BE SHUT DOWN AND THE AUDIBLE ALARM LOCATED IN THE CORRIDOR SHALL BE SET OFF. IN ADDITION, AN ALARM SIGNAL SHALL BE GENERATED AND TRANSMITTED TO THE CENTER'S EMERGENCY CONSOLE LOCATED IN BUILDING 031 VIA COMMUNICATION LINES.

UCS POINT LIST

PROJECT: WR A6890

POINT DESCRIPTION:	HARDWARE * OUTPUT DIGITAL: CONTROL RELAY	ON/OFF/AUTO	MANUAL ON-OFF OVERRIDE	OUTPUT ANALOG: MANUAL SET POINT ADJUSTMENT	POSITION ADJUSTMENT	4-20 MA RESET SIGNAL	MANUAL GRADUAL SWITCH OVERRIDE	INPUT DIGITAL: LEVEL SWITCH	DIFF. PRESS. SWITCH	AUXILIARY CONTACT	END SWITCH	FLOW SWITCH	SWITCH STATUS	CURRENT RELAY SW	INPUT ANALOG: TEMPERATURE	RELATIVE HUMIDITY	STATIC PRESSURE	FLOW	KW	SOFTWARE ALARMS DIGITAL: DIFFERENTIAL PRESSURE	CONTACT CLOSURE	HIGH LIMIT	LOW LIMIT	ALARMS ANALOG: HIGH LIMIT	LOW LIMIT	RUN TIME	LOW LEVEL	APPLICATION PROGRAMS: SCHEDULE START/STOP	DDC CONTROL	DUTY CYCLING	DEMAND MANAGEMENT	OSA RESET	ANALOG POINT HISTORY (24HOUR HISTORY)	BINARY POINT HISTORY (LAST 10 EVENTS)	OCCUPT/UNOCCUPY	CHILLER SELECTION	CHILLER-WATER RESET	CONDENSER WATER RESET	CHILLER DEMAND LIMIT	LIGHTING CONTROL	BUMP LESS TRANSFER FROM HAND TO AUTO	SUMMATION OF FLOW	OTHERS: GRAPHICAL DISPLAY	APPLICATION SPECIFIC CONTROLLER	COMMAND FROM GRAPHICS	NETWORK CONTROL UNIT	NETWORK EXPANSION UNIT
TEMPERATURE SENSOR(MAIL ROOM)															X						X	X																												
CO2 SENSOR(MAIL ROOM)															X						X																													
TEMPERATURE SENSOR(CONF. ROOM)															X						X	X																												
CO2 SENSOR(CONF. ROOM)															X						X																													
TEMPERATURE SENSOR(TELE ROOM)															X						X	X																												
TEMPERATURE SENSOR(SECURITY ROOM)															X						X	X																												
CO2 SENSOR(SECURITY ROOM)															X						X																													
AIR FLOW SENSOR FOR THE EXHAUST FAN 035-EXH001 SERVING THE MAIL ROOM.												X										X																												
AIR FLOW SENSOR FOR THE EXHAUST FAN 035-EXH002 SERVING THE REST ROOMS.												X										X																												
ALARM FOR EMERGENCY SHUTDOWN OF MECH. EQUIPMENT SERVING MAIL ROOM																				X																													
TEMPERATURE SENSOR(ELEVATOR MACHINE ROOM, BID ADDITIVE #6)															X						X	X																												
DOMESTIC WATER METER(SEE PLUMBING DRAWINGS)																		X														X									X									

* NUMBERS UNDER HARDWARE COLUMNS INDICATE ITEM QUANTITIES.

PARSONS — Facilities Construction Engineering & Technical Services — PMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARINO — No. M 27734 — Exp. 6/1/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	RB	11-05-09
A-E	RB	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SMe	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER	AW	2-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
HVAC
CONTROLS

M502

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	118 OF 158	GF-035-34106

FILE NAME: M1.0.dwg FILE DATE: 2/26/2010 PLOT DATE: 2/26/2010

FORM F 03-07-06

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

ROOFTOP PACKAGE HEAT PUMP W/ AUXILIARY ELECTRIC HEAT

GOMAR #	AREA SERVED	LOCATION	NOMINAL CAPACITY (TONS)	FAN DATA				COOLING COIL DATA						HEATING PERFORMANCE					ELECTRCIAL DATA					FILTER TYPE	TOTAL WEIGHT (INCLUDING ROOF CURB & ECONOMIZER) (LBS)	BASIS OF DESIGN	UNIT DIMENSIONS (FT. IN.) (L X W X H W/CURB)	REMARKS
				CFM	MIN OSA (CFM)	ESP (IN WG)	RPM	TOTAL MBH	SENSIBLE MBH	EDB (F)	EWB (F)	LDB (F)	LWB (F)	AIR			AUXILIARY HEAT		V	PH	MCA	MOCP	MIN. DIS. FLA					
														MBH	EDB (F)	LDB (F)	KW	SP										
035-ACU001	MAIL ROOM	ROOF	5	2000	300	0.4	1,200	60.71	46.94	78.6	65.8	56.7	56	59.58	61.2	88.9	12.9	0.17	480	3	39	40	38	2"-THICK FIBERGLASS THROW-AWAY	975	CARRIER- 50TCQA06 OR APPROVED EQUAL	6'-2" X 3'-11" X 4'-7"	PROVIDE THE UNIT WITH THE FOLLOWING ACCESSORIES: PREMIER 7-DAY PROGRAMMABLE T-STAT(W/ LOCKABLE COVER), VERTICAL ECONOMIZER IV W/SOLID STATE CONTROLLER, LOUVERED CONDENSER COIL HAIL GUARD, LOW AMBIENT CONTROL KIT, THRU-THE BOTTOM POWER AND CONTROL CONNECTIONS, 12.9 kW ELECTRIC HEATER, ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, UNPOWERED CONVENIENCE OUTLET, NON-FUSED DISCONNECT AND 14" HIGH EQUIPMENT ROOF CURB.
035-ACU002	BATH ROOMS, VESTIBULE CONFERENCE/VENDING	ROOF	5	2000	300	0.4	1,200	60.71	46.94	78.6	65.8	56.7	56	59.58	61.2	88.9	12.9	0.17	480	3	39	40	38	2"-THICK FIBERGLASS THROW-AWAY	975	CARRIER- 50TCQA06 OR APPROVED EQUAL	6'-2" X 3'-11" X 4'-7"	PROVIDE THE UNIT WITH THE FOLLOWING ACCESSORIES: PREMIER 7-DAY PROGRAMMABLE T-STAT(W/ LOCKABLE COVER), VERTICAL ECONOMIZER IV W/SOLID STATE CONTROLLER, LOUVERED CONDENSER COIL HAIL GUARD, LOW AMBIENT CONTROL KIT, THRU-THE BOTTOM POWER AND CONTROL CONNECTIONS, 12.9 kW ELECTRIC HEATER, ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, UNPOWERED CONVENIENCE OUTLET, NON-FUSED DISCONNECT AND 14" HIGH EQUIPMENT ROOF CURB.
035-ACU003	MECHANICAL ROOM	ROOF	5	2000	300	0.4	1,200	60.71	46.94	78.6	65.8	56.7	56	59.58	61.2	88.9	12.9	0.17	480	3	39	40	38	2"-THICK FIBERGLASS THROW-AWAY	975	CARRIER- 50TCQA06 OR APPROVED EQUAL	6'-2" X 3'-11" X 4'-7"	PROVIDE THE UNIT WITH THE FOLLOWING ACCESSORIES: PREMIER 7-DAY PROGRAMMABLE T-STAT(W/ LOCKABLE COVER), VERTICAL ECONOMIZER IV W/SOLID STATE CONTROLLER, LOUVERED CONDENSER COIL HAIL GUARD, LOW AMBIENT CONTROL KIT, THRU-THE BOTTOM POWER AND CONTROL CONNECTIONS, 12.9 kW ELECTRIC HEATER, ENTHALPY ECONOMIZER W/ BAROMETRIC RELIEF, UNPOWERED CONVENIENCE OUTLET, NON-FUSED DISCONNECT AND 14" HIGH EQUIPMENT ROOF CURB.

AIR DEVICE SCHEDULE

MARK	CFM RANGE	TYPE	FRAME SIZE (IN.)	NECK SIZE (IN.)	MAX N.C.	BASIS OF DESIGN	REMARK
CD-1	0 - 100	SQUARE	24X24	6"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CD-2	101 - 220	SQUARE	24X24	8"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CD-3	221- 350	SQUARE	24X24	10"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CD-4	351 - 500	SQUARE	24X24	12"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CD-5	501 - 750	SQUARE	24X24	16"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CD-6	751 - 900	SQUARE	24X24	18"ø	25	TITUS MODEL PMC, PERFORATED SUPPLY, MODULAR CORE	
CR-1	0 - 1000	SQUARE	24X24	-	25	TITUS MODEL PXP, NON-DUCTED PERFORATED RETURN	
CE-1	0 - 100	SQUARE	24X24	6"ø	25	TITUS MODEL PAR-AA, DUCTED PERFORATED EXHAUST /RETURN	
CE-2	101 - 220	SQUARE	24X24	8"ø	25	TITUS MODEL PAR-AA, DUCTED PERFORATED EXHAUST /RETURN	
CE-3	221 - 350	SQUARE	24X24	10"ø	25	TITUS MODEL PAR-AA, DUCTED PERFORATED EXHAUST /RETURN	
CE-4	351 - 500	SQUARE	24X24	12"ø	25	TITUS MODEL PAR-AA, DUCTED PERFORATED EXHAUST /RETURN	
CE-5	501 - 750	SQUARE	24X24	16"ø	25	TITUS MODEL PAR-AA, DUCTED PERFORATED EXHAUST /RETURN	
CG-1	0 - 100	SQUARE	24X24	6"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	
CG-2	101 - 220	SQUARE	24X24	8"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	
CG-3	221- 350	SQUARE	24X24	10"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	
CG-4	351 - 500	SQUARE	24X24	12"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	
CG-5	501 - 750	SQUARE	24X24	16"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	
CG-6	751 - 900	SQUARE	24X24	18"ø	25	TITUS MODEL MCD, PERFORATED SUPPLY, MODULAR CORE	

NOTES:

1. COORDINATE DIFFUSER BORDER TYPE WITH REFLECTED CEILING PLAN.

EXHAUST FAN SCHEDULE

GOMAR #	SERVING	LOCATION	FAN					MOTOR			DRIVE TYPE	BASIS OF DESIGN	TOTL WEIGHT (LBS)	REMARK
			TYPE	CFM	SP (IN WG)	BHP	RPM	HP	RPM	V/Ph				
035-EXH001	MAIL ROOM	ROOF	CENTRIF. ROOF EXH.	300	0.5			1/4	1150	120/1	BELT DRIVE	GREENHECK, GB-081 OR APPROVED EQUAL	40	PROVIDE W/ 12" ROOF CURB, TIME CLOCK AND BACK DRAFT DAMPER
035-EXH002	REST ROOMS	ROOF	CENTRIF. ROOF EXH.	1,000	1.0			1/4	1200	120/1	BELT DRIVE	GREENHECK, GB-121 OR APPROVED EQUAL	80	PROVIDE W/ 12" ROOF CURB, TIME CLOCK AND BACK DRAFT DAMPER

GRAVITY VENTILATION SCHEDULE

MARK NO.	SERVING	BASES OF DESIGN: MANUFACTURER MODEL NO.	CFM RANGE @ 400 FPM	THROAT SIZE (IN)	HOOD SIZE (IN)	REMARKS
GV-1	ELEVATOR SHAFT	GREENHECK FGI	0-2000	12 x 24	24 X 36 X 14"H	ALUMINUM INTAKE VENTILATION WITH ROOF CURB AND BACKDRAFT DAMPER

PARSONS — Facilities, Construction, Engineering & Technical Services — FAD-G SFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARINO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	RB	11-05-09
A-E	RB	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SWL	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JWK	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
HVAC
SCHEDULES

M601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

MECHANICAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 119 OF 153 | DRAWING NO. GF-035-34107

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PLOT DATE: 2/26/2010
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FILE NAME: M1.0.dwg

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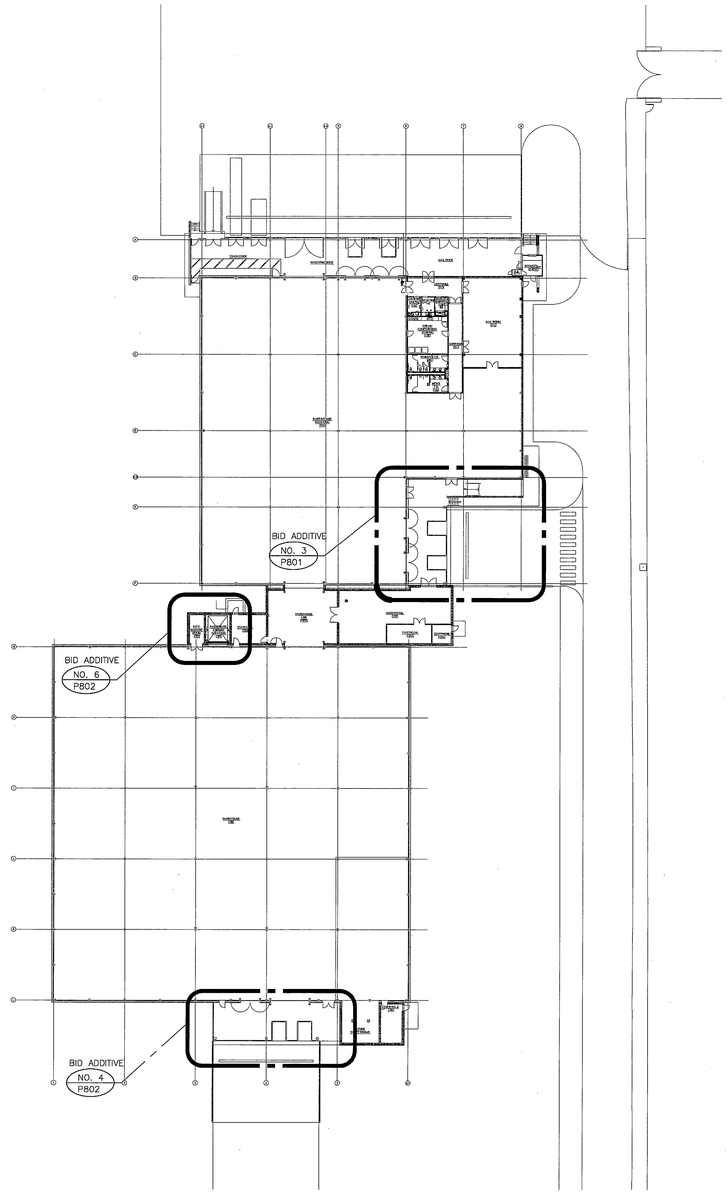
PLUMBING LEGEND

AFF	ABOVE FINISH FLOOR
ABV	ABOVE
BFP	BACK FLOW PREVENTER
BLW	BELOW
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BV	BALL VALVE
CAP	CAPACITY (SHOWN ON PIPING TABLE)
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHK	CHECK VALVE
CO	CLEANOUT
CONN	CONNECTION
CONT	CONTINUOUS
COTG	CLEANOUT TO GRADE
D	DRAIN
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DR	DRAIN (ABOVE FLOOR)
DS	DOWN SPOUT
DWG	DRAWING
(E)	EXISTING
E	EAST
EA	EACH
EL	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
ET	EXPANSION TANK
EXIST	EXISTING
EXT	EXTERIOR
FCO	FLOOR CLEANOUT
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FIN	FINISH
FL OR FLR	FLOOR
FLG	FLANGE
FPM	FEET PER MINUTE
FPWH	FREEZE PROOF WALL HYDRANT
FS	FLOOR SINK
FT	FEET
GCO	GROUND CLEANOUT
GND OR GRND	GROUND
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HW	HOT WATER
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INSUL	INSULATION
INT	INTERIOR
LAV	LAVATORY
LBS	POUNDS
MAX	MAXIMUM
MR	MOP RECEPTOR
NTS	NOT TO SCALE
PLBG	PLUMBING
PRV	PRESSURE RELIEF VALVE
RD	ROOF DRAIN
REF	REFERENCE
RPBP	REDUCED PRESSURE BACK FLOW PREVENTER
RV	RELIEVE VENT
RWL	RAIN WATER LEADER
SA	SHOCK ABSORBER
SAN	SANITARY DRAINAGE
SANV	SANITARY VENT
SCH	SCHEDULE
SECT	SECTION
SD	STORM DRAIN
SH	SHOWER
SK	SINK
SP	STATIC PRESSURE
SS	STAINLESS STEEL, SERVICE SINK
STM	STORM WATER
SQFT	SQUARE FOOT
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
TOS	TOP OF STEEL SUPPORT
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
V	VALVE, VENT
VAC	VACUUM
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET, WATER COLUMN
WCO	WALL CLEANOUT
WH	WATER HEATER, WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WM	WATER METER
WT	WEIGHT

BFP	BACK FLOW PREVENTER
	BALANCE VALVE ARRAIGNMENT
	BALL VALVE
	CHECK VALVE
	GATE VALVE
	PRESSURE RELIEF VALVE
	THREE WAY VALVE
	STRAINER WITH DRAIN VALVE
	SHOCK ABSORBER/WATER HAMMER ARRESTOR
	CAP OR PLUG
	CONNECTION – DOWN
	CONNECTION – UP
	ELBOW DOWN
	ELBOW IN PLAN
	ELBOW UP
	EXPOSED CLEAN OUT
	FLOOR CLEAN OUT
	FLOOR DRAIN
	FLOOR DRAIN
	FLOOR SINK
	HOSE BIBB
	INDIRECT WASTE
	FUTURE FLOOR DRAIN – CAPPED
	POINT OF CONNECTION
	TEE DOWN
	TEE UP
	UNION
	WALL CLEANOUT
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
SAN	SANITARY
V	SANITARY VENT
SD	STORM DRAIN
D	DRAIN
UF , BS	IDENTIFIES PIPES UNDERFLOOR & BELOW SLAB INCLUDE SYMBOL WITH PIPE SIZE



1 P001 REFERENCE PLAN (BID ADDITIVE N0. 3,4 AND 6)

NOT TO SCALE

PLUMBING GENERAL NOTES

1. PROVIDE A COMPLETE PLUMBING SYSTEM FOR ALL AREAS IN SCOPE OF WORK INCLUDING PLUMBING FIXTURE ROUGH–INS AND ALL UTILITY PIPING.
2. PROVIDE ROUGH–INS, EXTEND ALL PIPING (WASTE, VENT, COLD WATER, HOT WATER, ETC.) TO ALL FIXTURES AND APPLIANCES AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
3. PROVIDE ISOLATION VALVES AT EACH PLUMBING FIXTURE AND EACH EQUIPMENT.
4. DURING CONSTRUCTION, PROVIDE CAPS IN OPEN DRAINS TO PREVENT DAMAGE TO LOWER FLOORS. ALL WATER PIPING LOCATED ABOVE CEILINGS, REQUIRING TEMPORARY OR PERMANENT CAPPED CONNECTIONS, SHALL BE PROVIDED WITH LINE–SIZE SHUT–OFF VALVES.
5. A MINIMUM 1/2" CLEARANCE SHALL BE PROVIDED AROUND PIPES AT ALL PENETRATIONS THROUGH WALLS AND ROOF. THE GAP SHALL BE PACKED TIGHTLY WITH LOOSE, LIGHTWEIGHT INSULATION THROUGH NON RATED WALLS, AND APPROVED U.L. LISTED FIRE SAFING MATERIAL RATED WALLS TO MATCH WALL RATING.
6. PROVIDE PIPING ISOLATION ON STUD WALL USING 1/4" FELT OR NEOPRENE ISOLATION, OR APPROVED ISOLATOR.
7. PROVIDE ACCESS PANELS IN WALLS AND HARD LID CEILINGS FOR SHUT–OFF VALVES, TRAP PRIMERS AND WATER HAMMER ARRESTORS. CONTRACTOR IS ADVISED THAT ITEMS REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE THE AREAS OF GYPSUM BOARD CEILING WITHOUT APPROVAL. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED ACCESS PANELS. LOCATIONS SHALL BE COORDINATED WITH GOVERNMENT PRIOR TO INSTALLATION.
8. ALL REQUIRED SHUT–OFF VALVES, WATER HAMMER ARRESTORS AND TRAP PRIMERS SHALL BE ACCESSIBLE.
9. RUN ALL PLUMBING PIPES AS HIGH AS POSSIBLE TO STRUCTURE AND COORDINATE ROUTING WITH OTHER TRADES.
10. ALL CLEAN OUTS SHALL BE ACCESSIBLE. CLEAN OUTS SHALL BE INSTALLED PER LATEST EDITION OF INTERNATIONAL PLUMBING CODE.
11. PROVIDE WALL CLEANOUT ACCESS COVERS.
12. HANGING, SUPPORT OF PLUMBING PIPING SHALL COMPLY TO GUIDELINES FOR OF PLUMBING SYSTEMS PER SMACNA LATEST EDITION.
13. ACCESSIBLE PLUMBING FIXTURES SHALL BE MOUNTED AT REQUIRED HEIGHTS AND WITH ALL RELATED ACCESSORIES AS REQUIRED BY THE ABA ACCESSIBILITY STANDARD FOR FEDERAL FACILITIES. ALL EXPOSED FIXTURE TRAPS, PIPING AND VALVES UNDER THE FIXTURE SHALL BE INSULATED WITH A FACTORY PERFORMED INSULATION.
14. SLOPE OF SANITARY SEWER PIPES SHALL NOT BE LESS THAN 2% UNLESS OTHERWISE INDICATED.
15. ALL FLOOR DRAINS AND FLOOR SINKS WHICH WILL NOT RECEIVE SUFFICIENT WATER TO KEEP THE P–TRAP FULL SHALL BE PROVIDED WITH CODE–APPROVED ACCESSIBLE TRAP PRIMER.
16. ALL VENTS THRU ROOF SHALL BE MINIMUM OF THREE FEET VERTICALLY AND TEN FEET HORIZONTALLY FROM AIR CONDITIONING EQUIPMENT FRESH AIR INTAKES, WINDOWS, DOORS OR OTHER OPENINGS, AND SHALL COMPLY WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE.
17. PROVIDE AND INSTALL WATER HAMMER ARRESTORS WITH ACCESS PANELS OF REQUIRED SIZE AT ALL QUICK CLOSING VALVES.
18. SEE P501 DRAWING FOR DETAILS ON ADDITIONAL STRUCTURAL ATTACHMENTS FOR PIPE SUPPORTS AS REQUIRED.
19. ROOF CONTRACTOR SHALL PROVIDE WATER TIGHT SEAL AROUND ALL PENETRATIONS THRU ROOF. REFER TO ARCHITECTURAL DWGS. FOR DETAILS OF ALL PENETRATIONS THRU ROOF.
20. POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN THE INTERNATIONAL PLUMBING CODE. WHENEVER POSSIBLE, DISCHARGE WATER FROM FLUSHING DOMESTIC WATER DISTRIBUTION LINES TO SANITARY SEWER. WHEN NOT POSSIBLE, ENSURE THAT THE WATER IS DIRECTED TO AN AREA THAT ALLOWS INFILTRATION AND IN A MANNER TO PREVENT SEDIMENT EROSION. FOLLOW BEST MANAGEMENT PRACTICES FROM TABLE 17 OF GSFC'S STORM WATER POLLUTION PREVENTION PLAN, AVAILABLE AT http://ems.gsfc.nasa.gov/SWPPT/Shared%20Documents/storm%20Water%20Pollution%20Prevention%20Plan%202009.docx

TABLE 17: BMP'S FOR FLUSHING DOMESTIC WATER DISTRIBUTION LINES

SUGGESTED BMP	DESCRIPTION
VOLUME CONTROLS	FLUSH NO MORE WATER THAN IS NECESSARY TO ACHIVE MAINTENANCE GOAL
DECHLORINATION DEVICES	DECHLORINATION DEVICES SHOULD BE USED FOR VOLUMES EXPECTED TO BE GREATER THAN 1,000 GALLONS.
REDIRECT WATER	WHENEVER POSSIBLE, DISCHARGE WATER FROM FLUSHING DOMESTIC WATER DISTRIBUTION LINES TO SANITARY SEWER. WHEN NOT POSSIBLE, ENSURE THAT THE WATER IS DIRECTED TO AN AREA THAT ALLOWS INFILTRATION AND IN A MANNER TO PREVENT SEDIMENT EROSION.

21. PROVIDE AND INSTALL CHROME PLATED ANGLE STOPS AT ALL FIXTURES.
22. COORDINATE NEW WASTE PIPING BELOW FLOOR.

GOMAR NOTES

035–BFP001	BACKFLOW PREVENTER
035–BFP002	BACKFLOW PREVENTER
035–DWV001	DOMESTIC WATER DISTRIBUTION VALVE
035–FLM001	DOMESTIC WATER METER
035–GTR001	GREASE TRAP (OIL SEPARATOR)
035–HWT001	DOMESTIC HOT WATER HEATER
035–HWT002	DOMESTIC HOT WATER HEATER
035–HWT003	DOMESTIC HOT WATER HEATER
035–HWT004	DOMESTIC HOT WATER HEATER
035–HWT005	DOMESTIC HOT WATER HEATER
035–SUP001	SUMP PUMP
035–WAC001	WATER COOLER
035–WAC002	WATER COOLER

PLUMBING DRAWING INDEX

P001	PLUMBING NOTES, LEGEND, AND ABBREVIATIONS
P101	SHIPPING AND RECEIVING PLUMBING PLAN
P102	WAREHOUSE PLUMBING PLAN – 1ST FLOOR
P103	WAREHOUSE PLUMBING PLAN – 2ND FLOOR
P104	SHIPPING AND RECEIVING PLUMBING PLAN – ROOF
P105	WAREHOUSE PLUMBING PLAN – ROOF
P401	SHIPPING AND RECEIVING AND WAREHOUSE ENLARGED BATHROOM PLAN
P402	SHIPPING AND RECEIVING ENLARGED PLUMBING PLANS
P501	PLUMBING DETAILS
P601	PLUMBING SCHEDULES
P701	PLUMBING WATER & SANITARY RISER DIAGRAMS
P702	PLUMBING STORM WATER RISER DIAGRAMS
P801	PLUMBING BID ADDITIVE NO. 3
P802	PLUMBING BID ADDITIVE NO. 4 & 6

NORTH

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER MOHAMMAD REZA BAHARINO No. M 27734 Exp. 6/10 MECHANICAL STATE OF MARYLAND

REV	DATE	DESCRIPTION	S&E BR	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	JC	3/1/10
CM	—	
PM	TBM	3/1/10
CUSTOMER	HC	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

PLUMBING - NOTES, LEGEND AND ABBREVIATIONS

P001

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 120 OF 158	DRAWING NO. GF-035-34108

FORM T 03-01-08

PLOT DATE: 2/26/2010
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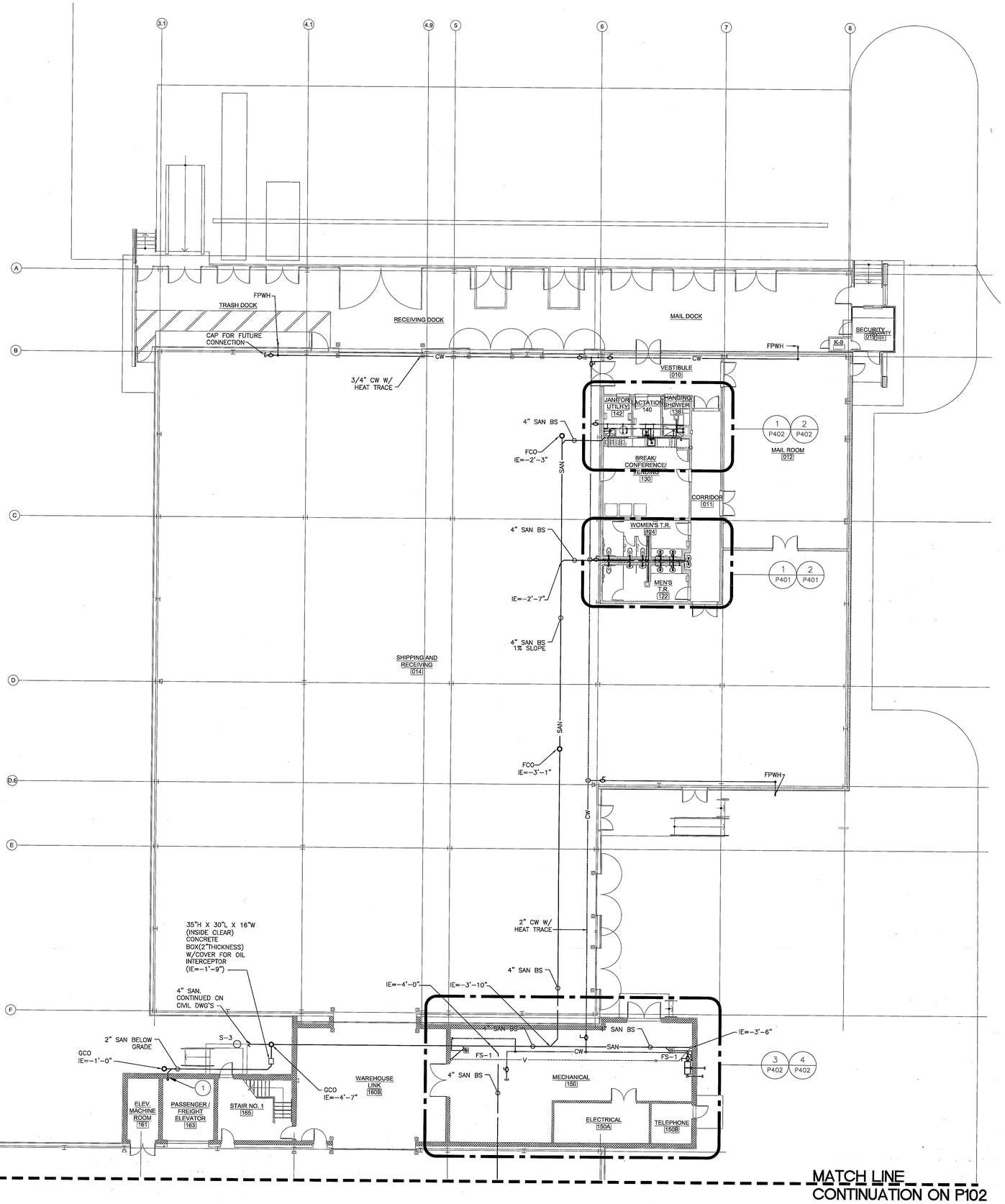
FILE NAME: P1.0.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)



1 P101 SHIPPING AND RECEIVING 1ST FLOOR - PLUMBING PLAN

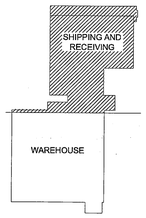
SCALE: 3/32" = 1'-0"

PLUMBING NOTES

1. PROVIDE HEAT TRACING AND INSULATION FOR CW PIPING FROM MECHANICAL ROOM 150 TO TOILETS, UTILITY ROOM AND WALL HYDRANTS.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE 2" DRAIN PIPE FROM SUMP PIT TO OIL INTERCEPTOR BOX AND CONNECT FROM BOX TO SANITARY MAINS. THE INTERCEPTOR SHALL BE PROVIDED AND INSTALLED UNDER BID ADDITIVE #6.



0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TM	3/1/10
CUSTOMER	AW	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
PLUMBING PLAN

P101

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	121 OF 158	GF-035-34109

FORM F 03-07-08

FILE NAME: P1.0.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

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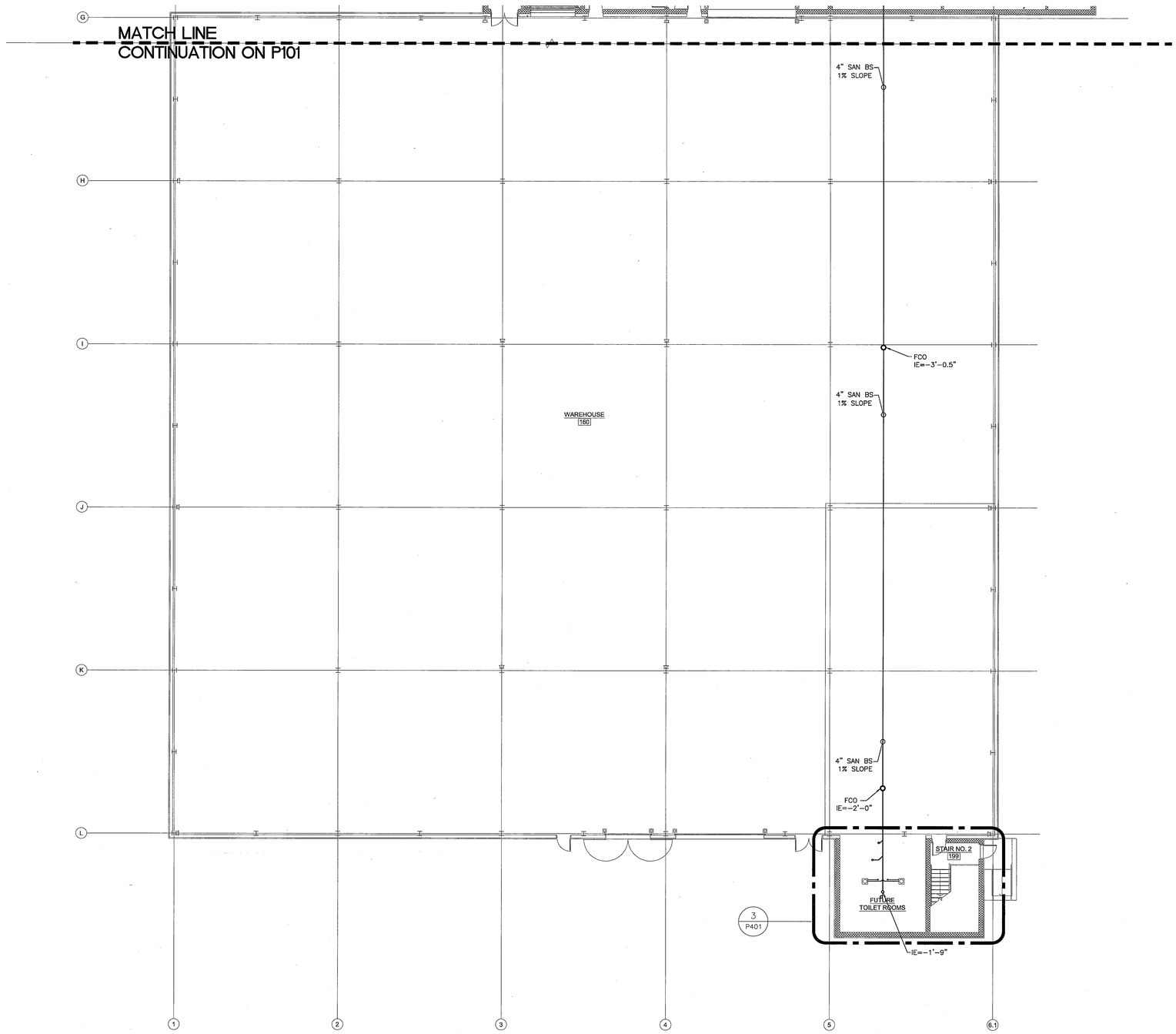
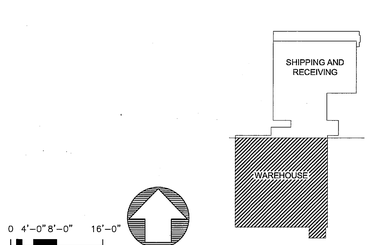


1 P102 WAREHOUSE 1ST FLOOR - PLUMBING PLAN

SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
PMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARINO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

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A-E MANAGER	SHB	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	DAT	3/1/10
CUSTOMER	AL	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
PLUMBING PLAN -1ST FLOOR

P102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6690	122 of 158	GF-035-34110

PLOT DATE: 2/26/2010

FILE DATE: 2/26/2010

FILE NAME: P1.0.dwg

FORM F 03-07-06

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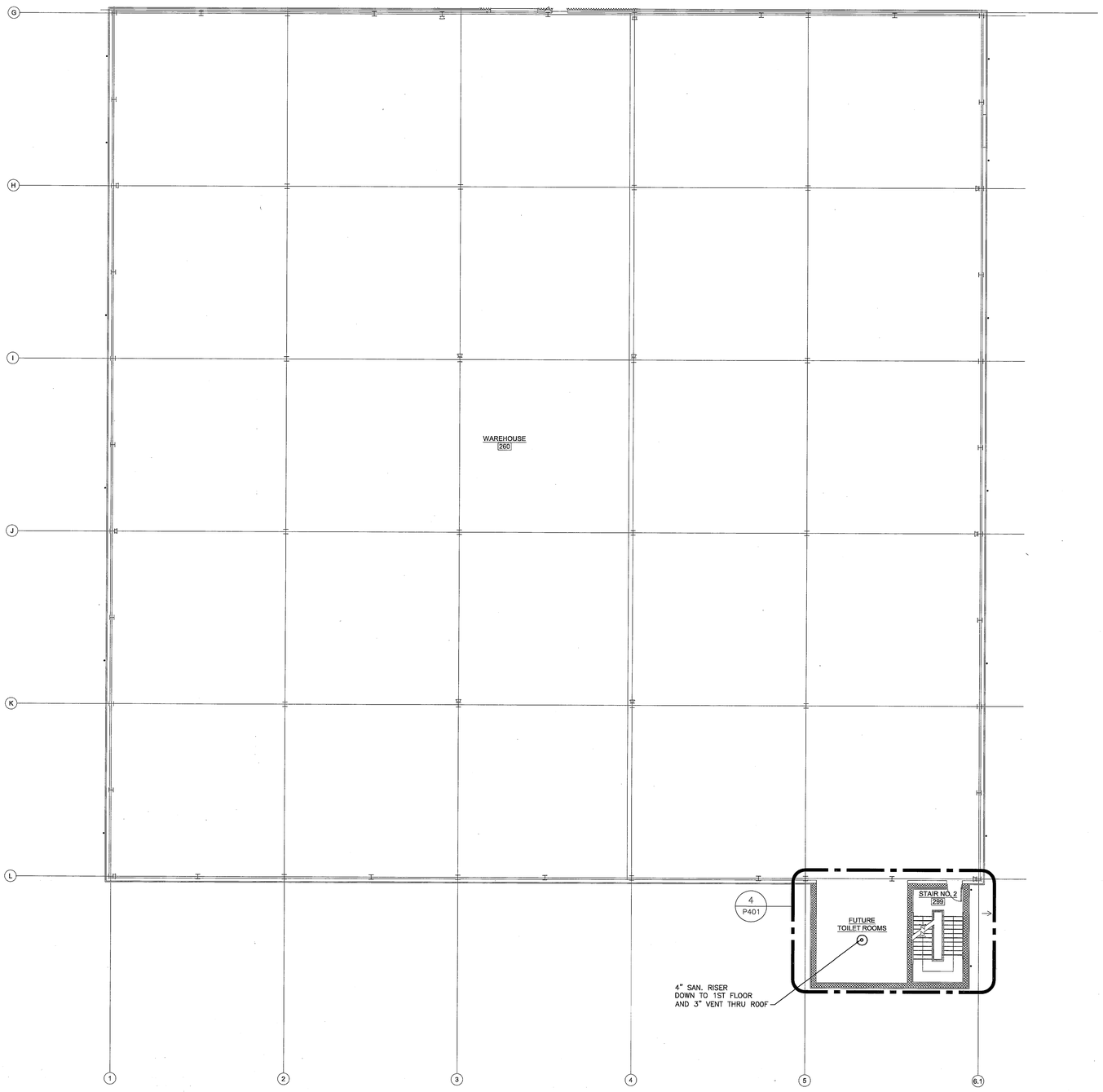
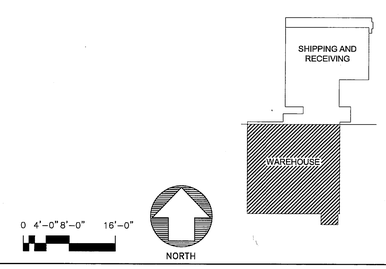


1
P103
WAREHOUSE PLUMBING PLAN - 2ND FLOOR
SCALE: 3/32" = 1'-0"



Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
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A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3/1/10
SECTION HEAD		

PLUMBING

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
PLUMBING PLAN - 2ND FLOOR

P103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	123 OF 158	GF-035-34111

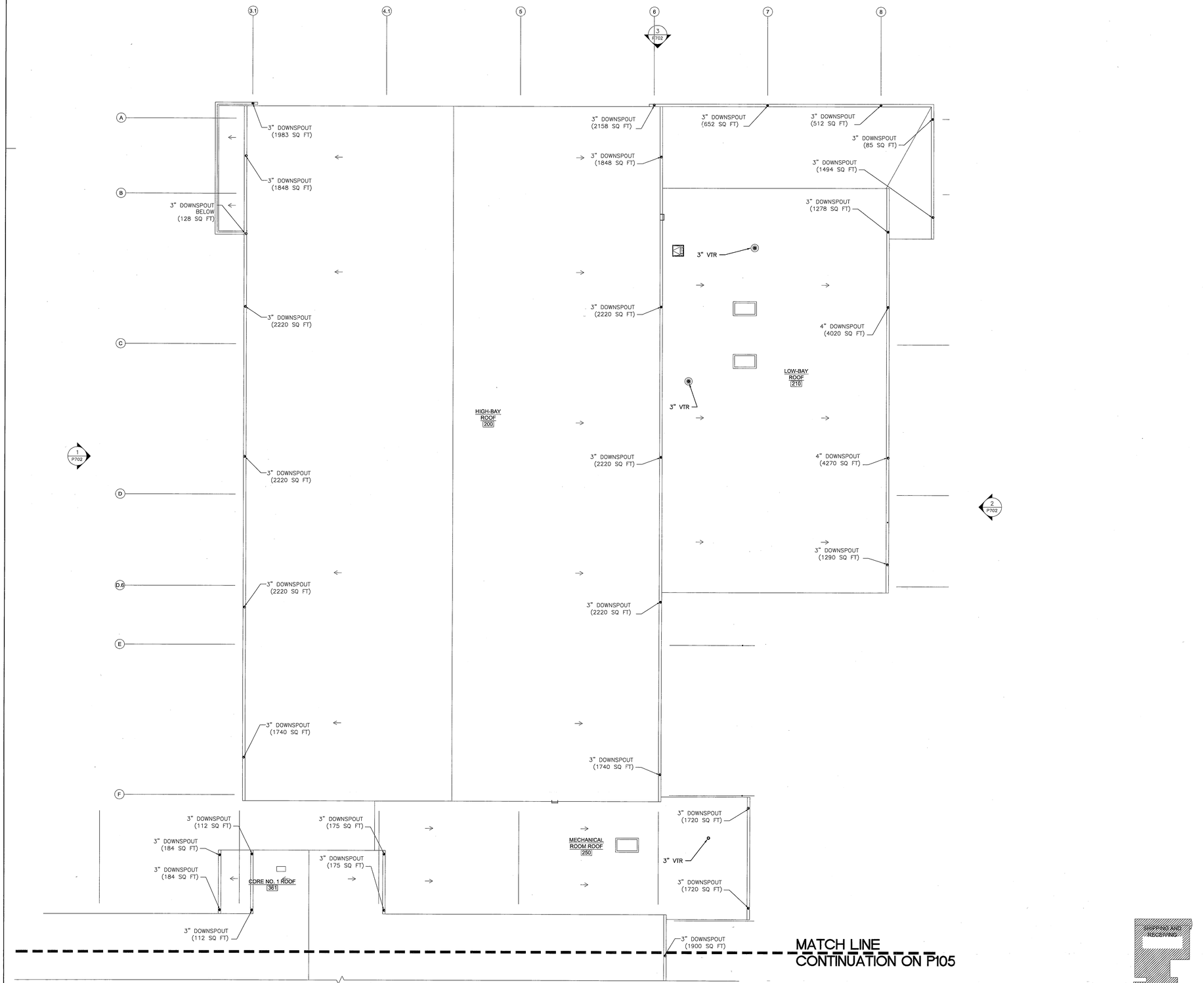
FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

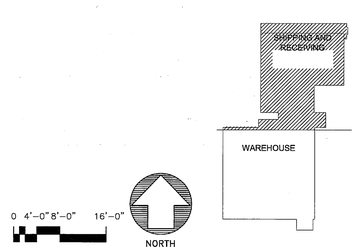
PLUMBING NOTES

1. DOWNSPOUT AREAS INDCATED ARE CIRCULAR AND OTHER SHAPES ARE ACCEPTABLE PROVIDED THE AREA ENCLOSES THE LISTED CIRCULAR SHAPE.



1 P104 SHIPPING AND RECEIVING ROOF - PLUMBING PLAN

SCALE: 3/32" = 1'-0"



PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
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A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JJH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

PLUMBING

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
PLUMBING PLAN - ROOF

P104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	124 of 158	GF-035-34112

FORM F 03-07-06

FILE NAME: P1.0.dwg
FILE DATE: 2/26/2010
PLOT DATE: 2/26/2010

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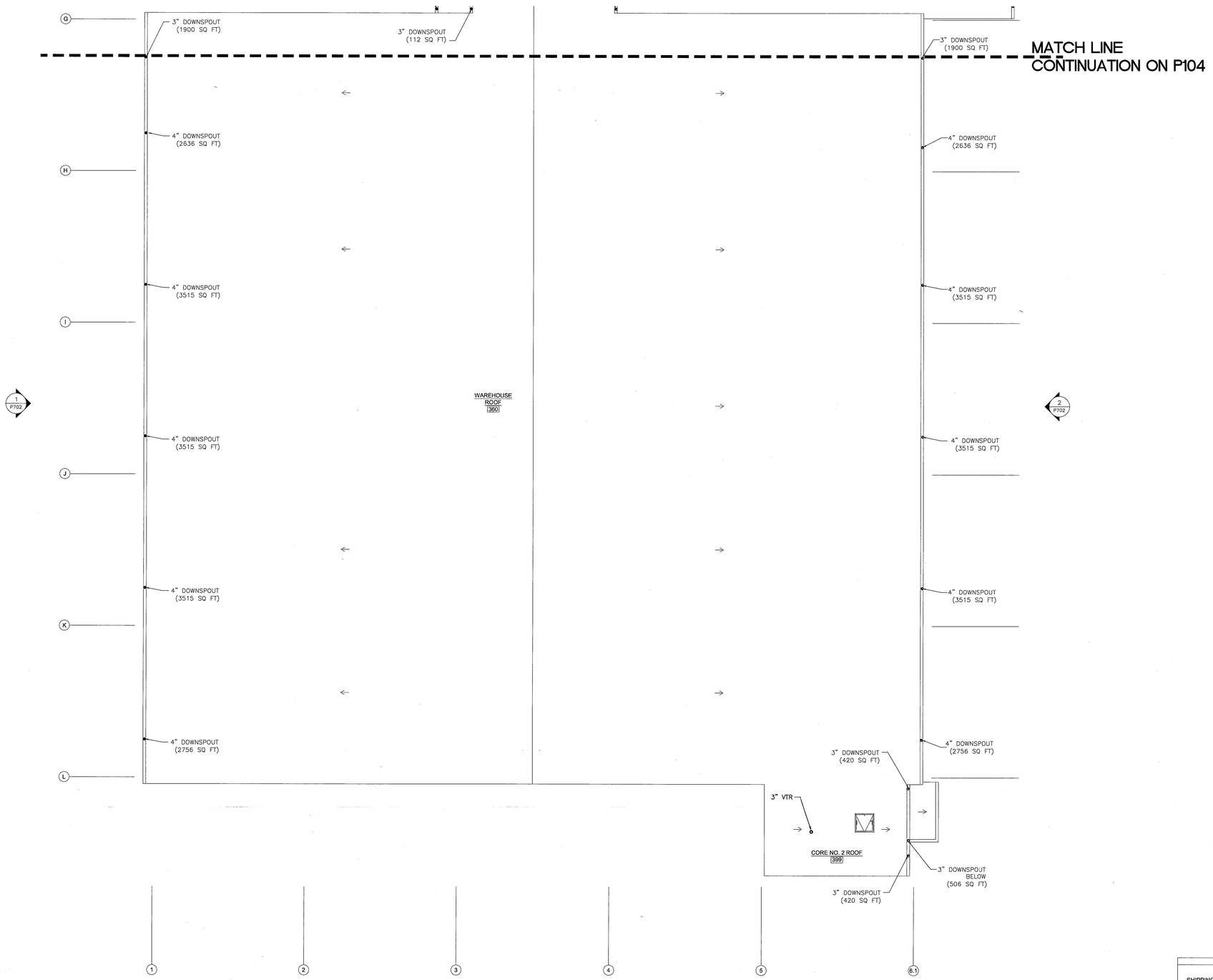
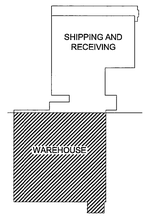


PLUMBING NOTES

1. DOWNSPOUT AREAS INDCATED ARE CIRCULAR AND OTHER SHAPES ARE ACCEPTABLE PROVIDED THE AREA ENCLOSES THE LISTED CIRCULAR SHAPE.



0 4'-0" 8'-0" 16'-0"

NORTH

1 P105 **WAREHOUSE ROOF - PLUMBING PLAN**

SCALE: 3/32" = 1'-0"

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/30/11 — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FMK	3/1/10
CUSTOMER		3/1/10
SECTION HEAD		

PLUMBING

LOGISTICS FACILITY
SITE AND SHELL

WAREHOUSE
PLUMBING PLAN - ROOF

P105

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	125 OF 158	GF-035-34113

PLOT DATE: 2/26/2010

FILE DATE: 2/26/2010

FILE NAME: P1.D.dwg

FORM F 03-07-08

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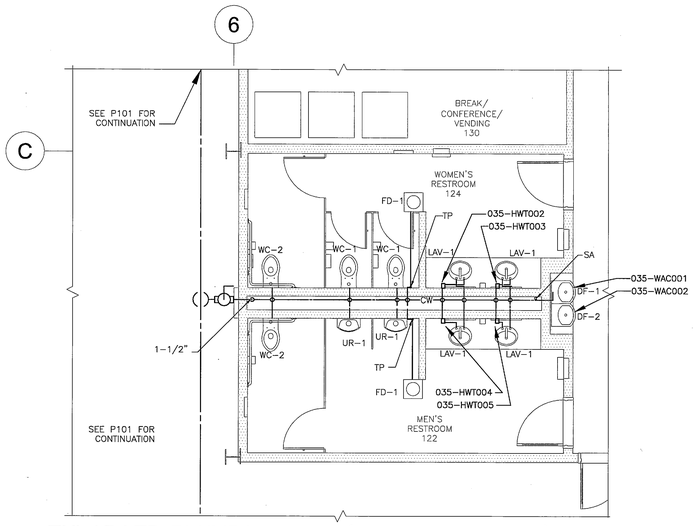
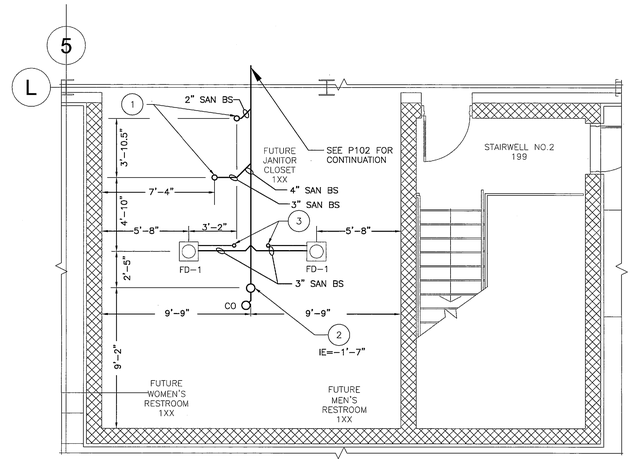


ENLARGED PLUMBING PLAN (DOMESTIC WATER) RESTROOMS 122 AND 124

1 / P401 SCALE: 1/4" = 1'-0"



ENLARGED PLUMBING PLAN (SANITARY) FUTURE FIRST FLOOR RESTROOMS

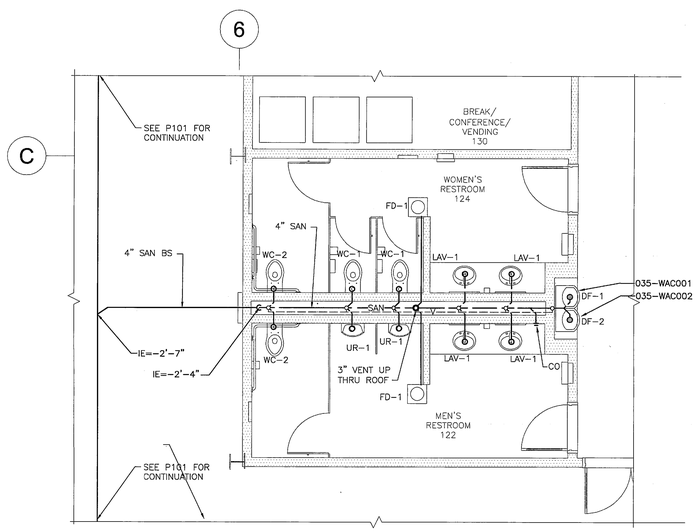
3 / P401 SCALE: 1/4" = 1'-0"

PLUMBING NOTES

1. PROVIDE THERMOSTATIC MIXING VALVE AT LAVATORY SINKS IN RESTROOMS.
2. PROVIDE THERMOSTATIC MIXING VALVE AT MR-1 IN JANITOR CLOSETS.
3. PROVIDE SHOCK ABSORBER (SA) AT COLD WATER PIPE UPSTREAM OF LAST FIXTURE ON EACH SECTION OF BRANCH PIPE.
4. PROVIDE TRAP PRIMER (TP) AT CHASE WALL NEAREST RESTROOM FLOOR DRAIN.
5. REFER TO RISER DIAGRAMS ON DRAWING P701 FOR ADDITIONAL PIPE SIZES.

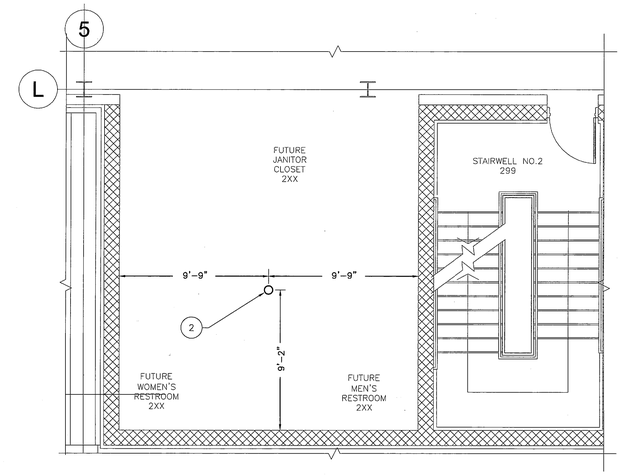
CONSTRUCTION NOTES

1. CONTRACTOR SHALL PROVIDE ROUGH-IN FOR THE SANITARY LINES FOR THE PLUMBING FIXTURE AND CAPPED FOR FUTURE USE. TYPICAL OF ALL THE PLUMBING FIXTURES WITH FLOOR PENETRATION. SEE RISER DIAGRAMS ON DRAWING P701.
2. CONTRACTOR SHALL PROVIDE MAIN RISER AND VENT THRU ROOF AS SHOWN AND CAP FUTURE CONNECTION STUBS. SEE RISER DIAGRAM ON DRAWING P701
3. CONTRACTOR SHALL PROVIDE 1/2" TRAP PRIMER CONNECTIONS TO FLOOR DRAINS. STUB OUT NEAR WALL AND CAP.



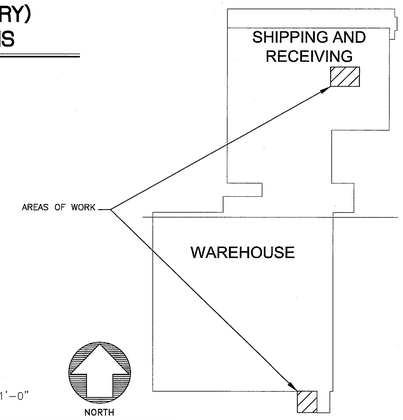
ENLARGED PLUMBING PLAN (SANITARY AND VENT) RESTROOMS 122 AND 124

2 / P401 SCALE: 1/4" = 1'-0"



ENLARGED PLUMBING PLAN (SANITARY) FUTURE SECOND FLOOR RESTROOMS

4 / P401 SCALE: 1/4" = 1'-0"



0 2' 4' 8'
SCALE: 0'-0 1/4" = 1'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SALC	2-26-10
NASA A-E		
S&E BRANCH	RC	3/1/10
CM	—	
PM	JIM	3/1/10
CUSTOMER		
SECTION HEAD		

PARSONS — Total Quality Construction Engineering & Technical Services — EMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING RECEIVING & WAREHOUSE
ENLARGED BATHROOM PLANS

P401

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	126 OF 158	GF-035-34114

FILE NAME: P1.0.dwg FILE DATE: 2/26/2010 PLOT DATE: 2/26/2010

FORM F 03-07-08

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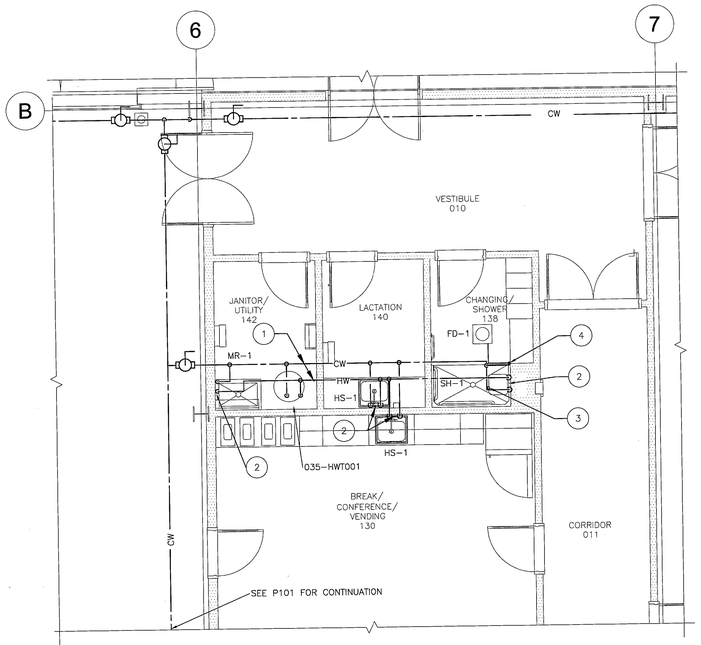
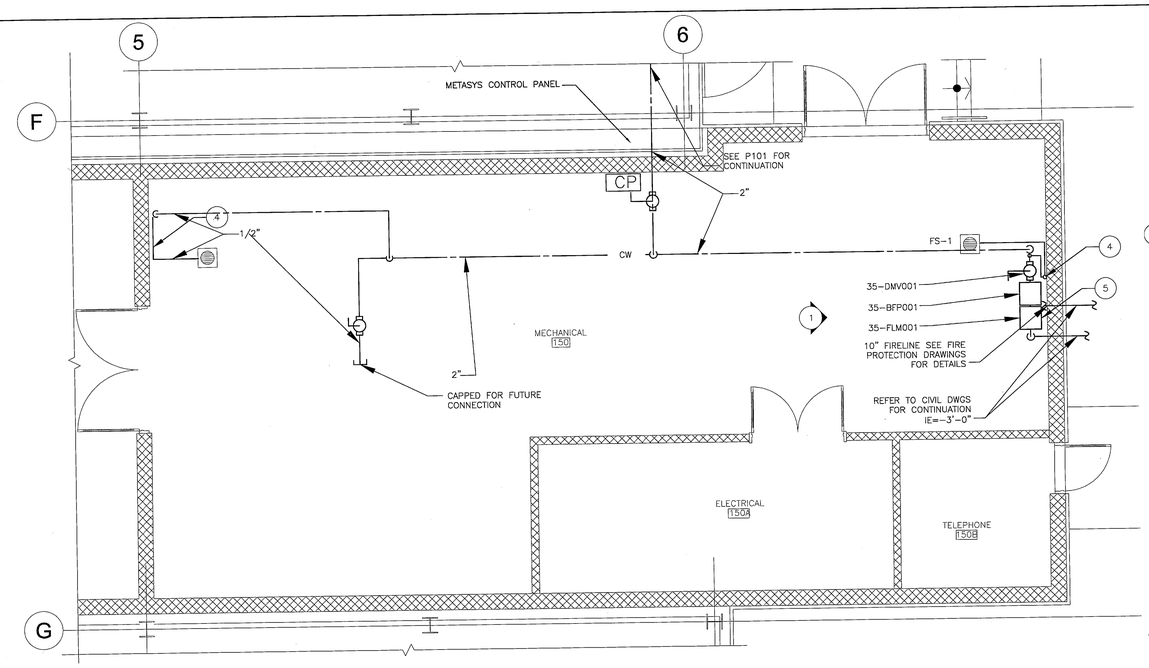


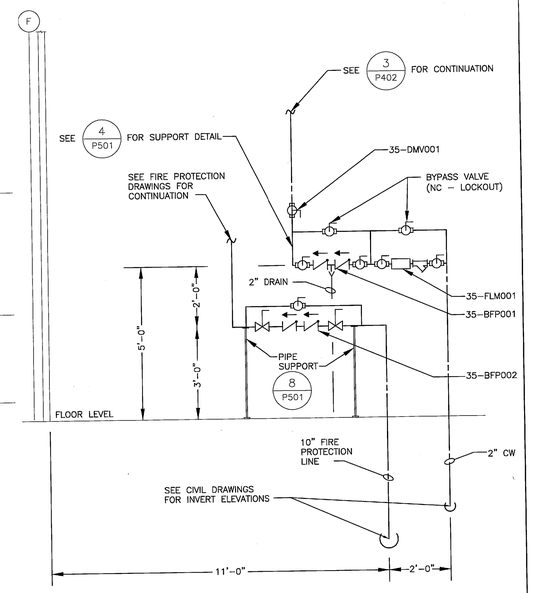
ENLARGED PLUMBING PLAN (DOMESTIC WATER) JANITOR UTILITY RM 142, LACTATION RM 140 AND SHOWER RM 138

1 P402 SCALE: 1/4" = 1'-0"



ENLARGED PLUMBING PLAN (DOMESTIC WATER) - MECHANICAL RM 150

3 P402 SCALE: 1/4" = 1'-0"



ELEVATION

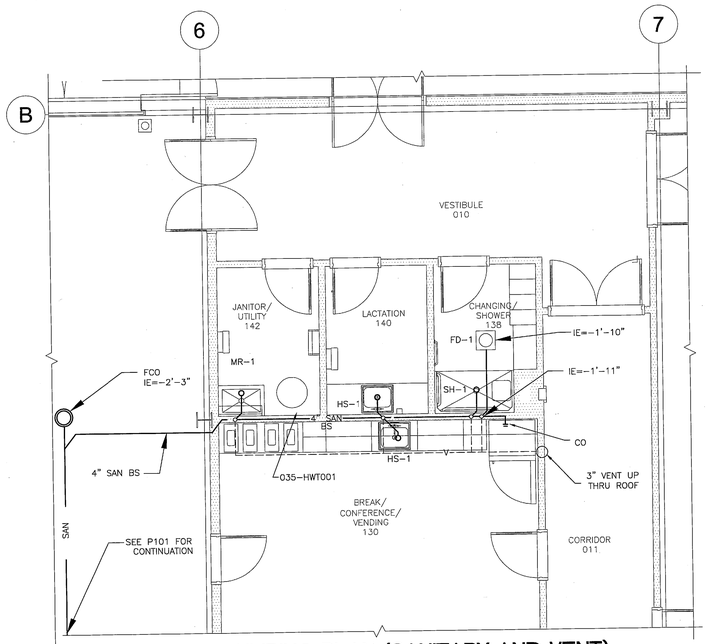
1 NTS

PLUMBING NOTES

1. REFER TO RISER DIAGRAMS ON DRAWING P701 FOR PIPE SIZES.

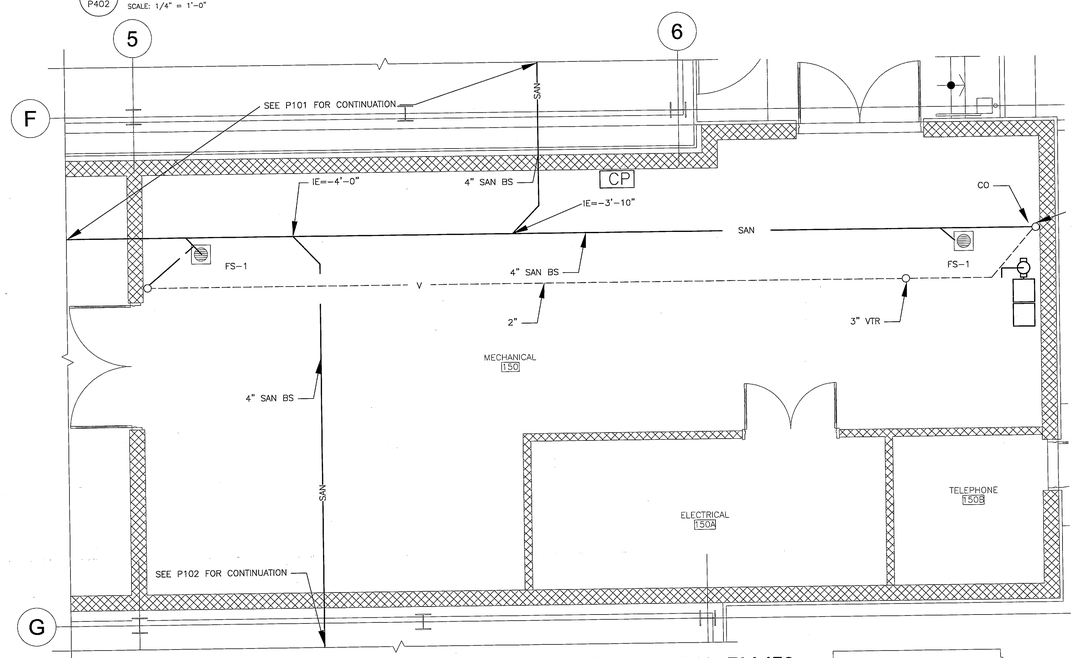
CONSTRUCTION NOTES

1. RACK VERTICALLY CW, HW ON WALL.
2. PROVIDE THERMOSTATIC MIXING VALVE AT LAVATORY SINKS. AND JANITOR CLOSETS.
3. PROVIDE SHOCK ABSORBER AT COLD WATER PIPE UPSTREAM OF THE LAST FIXTURE ON EACH SECTION OF BRANCH PIPE.
4. PROVIDE TRAP PRIMER TO FLOOR DRAIN.
5. CONNECT THE FLOW METER TO METASYS CONTROL PANEL.



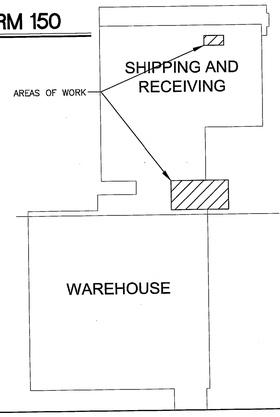
ENLARGED PLUMBING PLAN (SANITARY AND VENT) JANITOR UTILITY RM 142, LACTATION RM 140 AND SHOWER RM 138

2 P402 SCALE: 1/4" = 1'-0"



ENLARGED PLUMBING PLAN (SANITARY AND VENT) - MECHANICAL RM 150

4 P402 SCALE: 1/4" = 1'-0"



0 2' 4' 8'
SCALE: 0'-0 1/4" = 1'-0"

NORTH

Facilities Construction Engineering & Technical Services
PARSONS
PMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

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	INITIALS	DATE
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A-E	AAP	11-05-09
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A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER	AL	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING
ENLARGED PLUMBING PLANS

P402

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	127 of 158	GF-035-34115

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

FORM F 03-07-08

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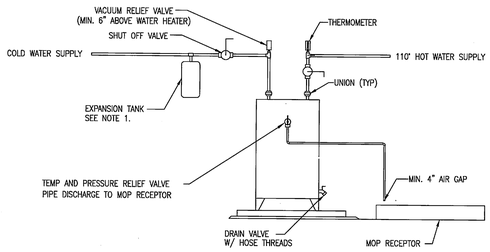
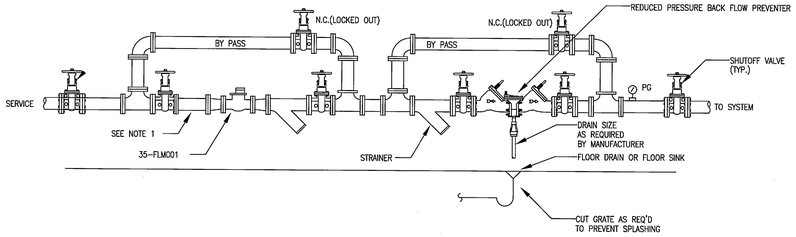


1 P501 ELECTRIC WATER HEATER -FLOOR MOUNTED

SCALE: NONE

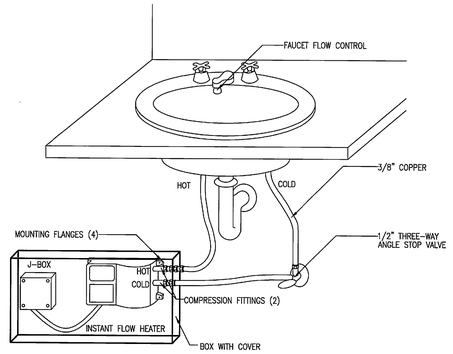
NOTES:
1. EXPANSION TANK BY AMTROL, MODEL ST-12. EXPANSION TANK TO BE PRESSURIZED TO WATER PRESSURE.



2 P501 DOMESTIC WATER METER AND BACKFLOW PREVENTER

SCALE: NONE

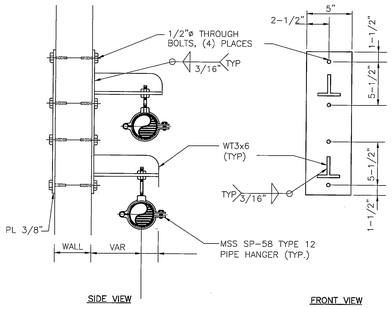
NOTES:
1. PROVIDE STRAIGHT PIPE UPSTREAM OF WATER METER PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE BYPASS PIPES OF DIAMETER EQUAL TO MAIN PIPES.



3 P501 ELECTRIC WATER HEATER (INSTANTANEOUS)

SCALE: NONE

NOTE:
1. SEE ARCHITECTURAL DRAWING 6/A402 FOR MOUNTING.



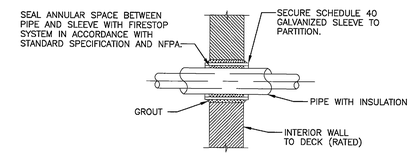
4 P501 BRACKET DETAIL - TYPE II

SCALE: NONE

NOTES:
1. PROVIDE FIRESTOP SYSTEMS FOR THROUGH-PENETRATIONS OF FIRE-RATED CONSTRUCTION IN ACCORDANCE WITH STANDARD SPECIFICATION AND NFPA.

5 P501 PIPE PENETRATION THROUGH FLOOR DETAIL

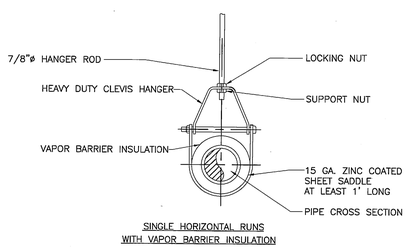
SCALE: NONE



6 P501 PIPE PENETRATION THROUGH INTERIOR WALL DETAIL

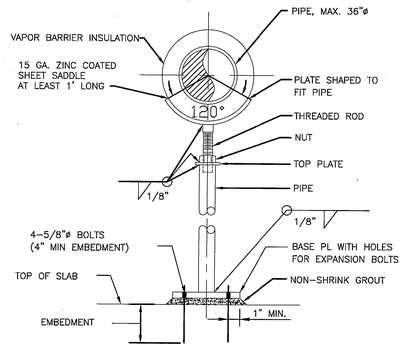
SCALE: NONE

NOTES:
1. PACK ANNULAR SPACE WITH 1 LB. DENSITY FIBERGLASS AT PENETRATION OF UN-RATED WALLS TO DECK.
2. WHERE PIPING IS EXPOSED AT FINISHED WALLS, PROVIDE FLUSH MOUNTED SLEEVE AND ESCUTCHEON PLATES.
3. TYPICAL FOR UNINSULATED PIPE.



7 P501 TYPICAL PIPE HANGER DETAIL

SCALE: NONE

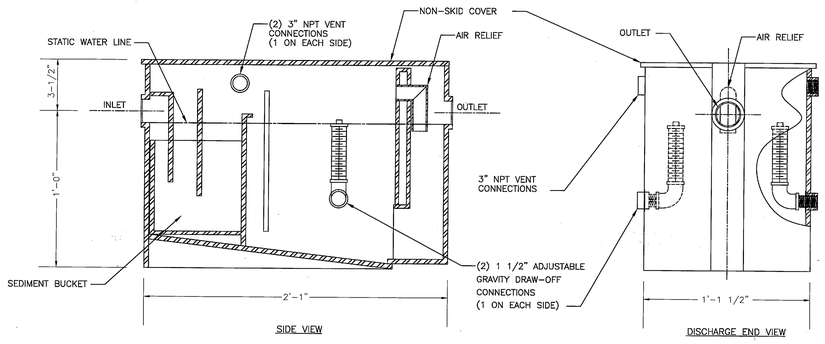


PIPE SIZE	PIPE SUPPORT	TOP PLATE	BASE PLATE	ANCHORS
4"ø TO 12"ø	3"ø	PL 3/4"x4 1/2"ø	PL 5/8"x8 1/2"ø	4-1/2"ø EXP BOLTS W/ 5" EMBEDMENT MIN

8 P501 TYPICAL ADJUSTABLE PIPE SUPPORT DETAIL

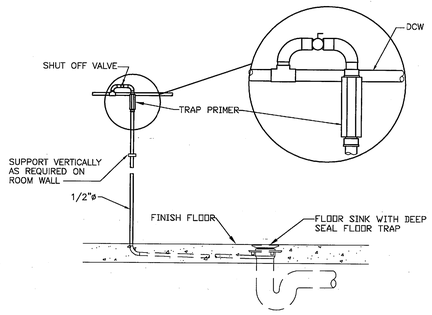
SCALE: NONE

NOTES:
1. ALTERNATE - GRINNEL FIG. 264 OR APPROVED EQUAL.



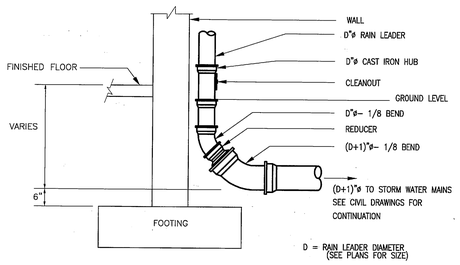
9 P501 OIL INTERCEPTOR DETAIL

SCALE: NONE



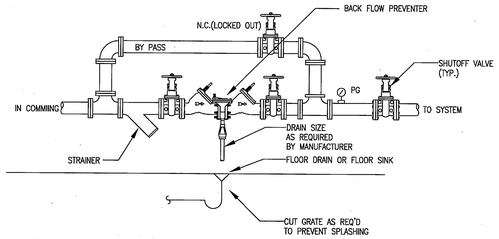
10 P501 TRAP PRIMER DETAIL

SCALE: NONE



11 P501 TYPICAL RAIN LEADER DROP

SCALE: NONE



12 P501 FIRE LINE BACKFLOW PREVENTER

SCALE: NONE

NOTES:
1. PROVIDE BYPASS PIPES OF DIAMETER EQUAL TO MAIN PIPES.

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	JHC	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM	-	
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

PARSONS — Facilities, Construction, Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — EXP. 6/10 — MECHANICAL — STATE OF CALIFORNIA

LOGISTICS FACILITY
SITE AND SHELL
PLUMBING
DETAILS

P501

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	128 OF 158	GF-035-34116

FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

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PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CONNECTION					PRODUCT			REMARKS
		CW	TW	HW	DRAIN	VENT	FIXTURE	FAUCET/FLUSH VALVE	ACCESSORIES	
WC-1	WATER CLOSET	1"	–	–	4"	2"	AMERICAN STANDARD AFWALL FLOWISE	AMERICAN STANDARD SELECTRONIC FLOWISE 1.28 GPF	SEAT: CHURCH 9500C	FIXTURE MOUNTED AT STANDARD HEIGHT
WC-2	WATER CLOSET (ADA COMPLIANT)	1"	–	–	4"	2"	AMERICAN STANDARD AFWALL FLOWISE	AMERICAN STANDARD SELECTRONIC FLOWISE 1.28 GPF	SEAT: CHURCH 9500C	FIXTURE MOUNTED AT ADA HEIGHT
UR-1	URINAL (ADA COMPLIANT)	3/4"	–	–	2"	1 1/4"	AMERICAN STANDARD WASHBROOK FLOWISE	AMERICAN STANDARD SELECTRONIC FLOWISE 0.125 GPF	–	SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT
LAV-1	LAVATORY (ADA COMPLIANNT)	1/2"	–	–	1 1/4"	1 1/4"	ELKAY ELUH1511	AMERICAN STANDARD SELECTRONIC 0.5 GPM	SLOAN: EL-154 OR EL-208, ELKAY: LK174	ONE TRANSFORMER PER 3 OR 6 FAUCETS, GRID STRAINER
DF-1	DRINKING FOUNTAIN (ADA COMPLIANT)	1/2"	–	–	1 1/4"	1 1/4"	HALSEY TAYLOR OVL-II SER-Q	–	–	ELECTRIC REFRIGERATED, BI-LEVEL, STAINLESS STEEL
DF-2	DRINKING FOUNTAIN (ADA COMPLIANT)	1/2"	–	–	1 1/4"	1 1/4"	HALSEY TAYLOR OVL-II SER-Q	–	–	ELECTRIC REFRIGERATED, BI-LEVEL, STAINLESS STEEL
MR-1	MOP RECEPTOR	1/2"	–	1/2"	3"	1 1/2"	FIAT MSB-2424 (24"X24")	T&S BRASS B-0665-BSTP	FIAT 889 CC, 1453 BB, MSG 2424, 832 AA	MOP BRACKET, STRAINER, S.S. WALL GUARDS, HOSE AND BRACKET
SH-1	SHOWER (ADA COMPLIANT)	1/2"	–	1/2"	2"	1 1/4"	FIAT WTR-4990 (36"x36")	LEONARD 6700-F	HAND SPRAY: LEONARD 500P VB: EVB	PRESSURE ACTUATED, ANGLE STOPS, COPPER TUBE CONNECTIONS
HS-1	HAND SINK	1/2"	–	1/2"	1 1/2"	1 1/4"	ADVANCE 7-PS-50	ADVANCE K-59	ADVANCE K-6, K-26, 7-PS-14	BASKET STRAINER, LEVER DRAIN STOP, P-TRAP

DRAIN SCHEDULE

SYMBOL	TYPE	MANUFACTURER	MODEL (OR APPROVED (EQUAL)	OUTLET	LOCATION	REMARKS
FD-1	FLOOR DRAIN	JR SMITH	2010-P050	3"	TOILET ROOMS	WITH 1/2" TRAP PRIMER CONNECTION
FD-2	FLOOR DRAIN	JR SMITH	2110-B	4"	MECHANICAL ROOMS	WITH SEDIMENT BUCKET
FS-1	FLOOR SINK	JR SMITH	3160	4"	MECHANICAL ROOM	WITH DOME BOTTOM STRAINER
	OIL INTERCEPTOR	JR SMITH	8515	2"	ADJACENT ELEVATOR WELL	15 GPM FLOW RATE

MIXING VALVE SCHEDULE

SYSTEM	FLOW RATE	PRESSURE DROP	MANUFACTURER	MODEL (OR APPROVED (EQUAL)	TEMP. SETTING	LOCATION	REMARKS
POINT OF USE	0.5 – 7 GPM	20 PSI @ 5.3 GPM	LEONARD	210-SB	90° F	TOILET ROOMS	WITH LOCKED TEMP. ADJUST., DIAL PLATE, CHECK STOPS

SUMP PUMP SCHEDULE (BID ADDITIVE 6)

GOMAR NO.	CAPACITY	HEAD	MANUFACTURER	MODEL (OR APPROVED (EQUAL)	MOTOR DATA				REMARKS
					W	VOLTS	PHASE	Hz	
35-SUP001	17GPM	10 FT.	LITTLE GIANT	5-MSP(505025)	380	115	1	60	WITH DIAPHRAGM LOW LEVEL SWITCH AND 25' CORD RS-5-LL(599019)

ELECTRIC WATER HEATER SCHEDULE

GOMAR NO.	SYSTEM	TYPE	LOCATION	STORAGE GALLONS	TANK DIMENSIONS	RECOVERY RATE	WATER TEMP		ELECTRICAL DATA			BASIS OF DESIGN (OR APPROVED EQUAL)
							°F IN	° F OUT	KW	VOLTS	PHASE	
035-HWT001	DOMESTIC HOT WATER	STORAGE	JANITOR CLOSET	30	24" DIA X 46" HIGH	18 GPH	40	140	4.5	208	1	BRADFORD WHITE 30 GALLON TANK WITH 4.5KW HEATER INPUT
035-HWT002	DOMESTIC HOT WATER	TANKLESS	RESTROOMS	–	6-1/4"Hx9-5/8"W x2-3/4"D	–	60	110	3.6	120	1	CHRONOMITE LAB. INC., INSTANT FLOW MODEL SR-30L
035-HWT003	DOMESTIC HOT WATER	TANKLESS	RESTROOMS	–	6-1/4"Hx9-5/8"W x2-3/4"D	–	60	110	3.6	120	1	CHRONOMITE LAB. INC., INSTANT FLOW MODEL SR-30L
035-HWT004	DOMESTIC HOT WATER	TANKLESS	RESTROOMS	–	6-1/4"Hx9-5/8"W x2-3/4"D	–	60	110	3.6	120	1	CHRONOMITE LAB. INC., INSTANT FLOW MODEL SR-30L
035-HWT005	DOMESTIC HOT WATER	TANKLESS	RESTROOMS	–	6-1/4"Hx9-5/8"W x2-3/4"D	–	60	110	3.6	120	1	CHRONOMITE LAB. INC., INSTANT FLOW MODEL SR-30L

PLUMBING SPECIALTIES SCHEDULE

ITEM	LOCATION	TECHNICAL DATA	MANUFACTURER / MODEL (OR APPROVED EQUAL)	REMARKS
FREEZE PROOF WALL HYDRANT	SEE PLANS	3/4" CW	JR SMITH / 5509QT	EXTERIOR, MOUNT 3'-0" ABOVE GRADE
SHOCK ABSORBER	SEE PLANS	SIZE PER PDI STANDARDS	PPP INC. / SC-500A THRU SC-2000F	INSTALL IN AN ACCESSIBLE LOCATION
TRAP PRIMER	SEE PLANS	1/2" CW	PPP INC. / PR-500	PROVIDE DISTRIBUTION UNIT FOR MULTIPLE FLOOR DRAINS

BACKFLOW PREVENTER SCHEDULE

GOMAR	DESCRIPTION	LOCATION	SIZE	PRESSURE DROP	MANUFACTURER/MODEL (OR APPROVED EQUAL)	REMARKS
035-BFP001	DOMESTIC WATER SERVICE	MECHANICAL RM.	2"	10 PSI @ 25 GPM	WATTS GOLDEN EAGLE 919	PROVIDE AIR GAP FITTING 909AG-K, PIPE DISCHARGE TO DRAIN

WATER METER SCHEDULE

GOMAR	DESCRIPTION	LOCATION	SIZE	PRESSURE DROP	MANUFACTURER/MODEL (OR APPROVED EQUAL)	REMARKS
035-FLM001	DOMESTIC WATER METER	MECHANICAL RM.	2"	6 PSI	HERSEY - METERS, 500 SERIES IIS	PROVIDE ISOLATION VALVE - "USE REMOVABLE TYPE"

PLUMBING NOTES

1. MANUFACTURERS LISTED ARE "BASIS OF DESIGN OR APPROVED EQUAL."
2. PROVIDE 4" HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED EQUIPMENT. LENGTH AND WIDTH TO EXTEND 4" BEYOND EQUIPMENT EXTENT. DOWEL TO SLAB.

Facilities Construction Engineering & Technical Services
PARSONS
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SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARNO
No. M 27734
Exp. 6/11/10
MECHANICAL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SKK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JH	3/1/10
CUSTOMER	RM	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
PLUMBING
SCHEDULES

P601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING

DATE ISSUED	CoF CODE or WBS	SHEET	DRAWING NO.
03-01-10	A6890	129 OF 158	GF-035-34117

FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

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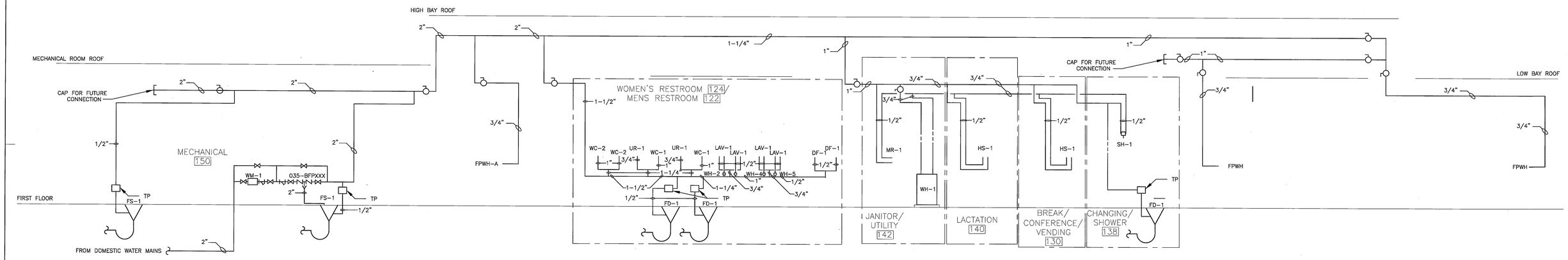
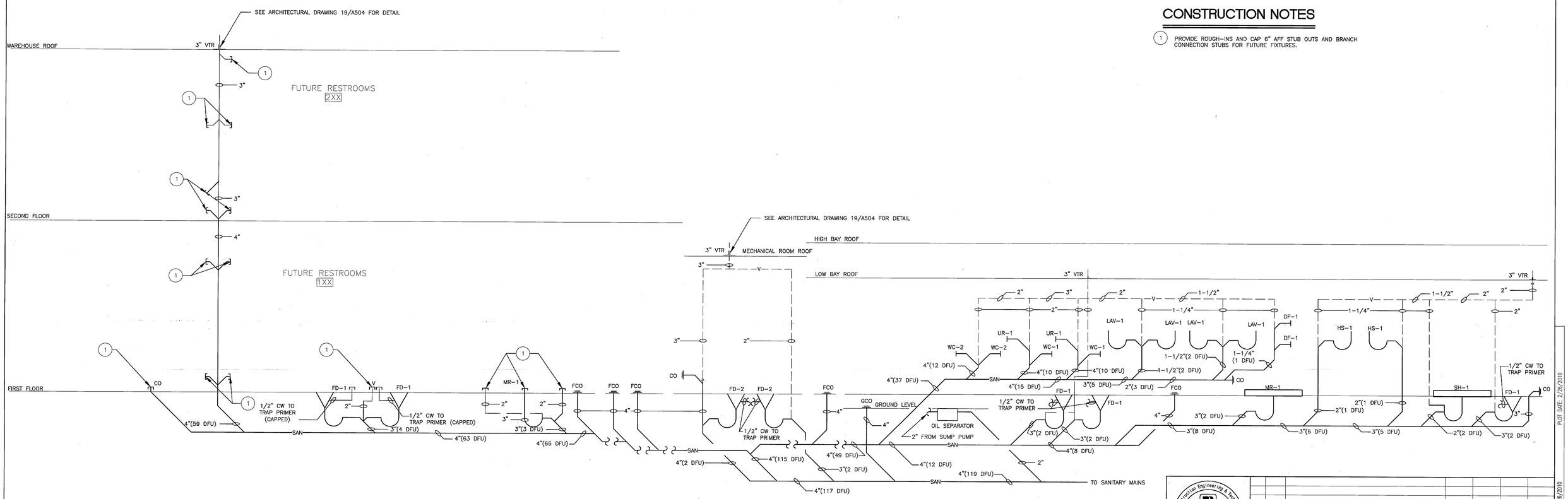


1 P701 **DOMESTIC WATER RISER DIAGRAM**
N.T.S.



2 P701 **SANITARY RISER DIAGRAM**
N.T.S.

CONSTRUCTION NOTES

1. PROVIDE ROUGH-INS AND CAP 6" AFF STUB OUTS AND BRANCH CONNECTION STUBS FOR FUTURE FIXTURES.

PARSONS — Facilities Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARINO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
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CHECKED BY	DRO	12-23-09
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NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	JAM	3/1/10
CUSTOMER	[illegible]	3/1/10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
PLUMBING - WATER & SANITARY RISER DIAGRAMS

P701

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 130 OF 158	DRAWING NO. GF-035-34118

FILE NAME: P1.0.dwg
PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FORM F 03-07-08

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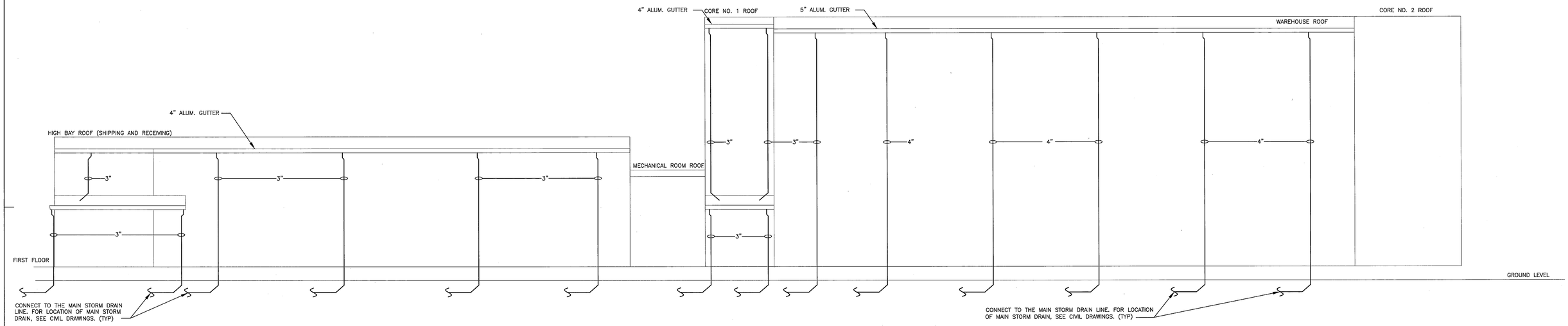
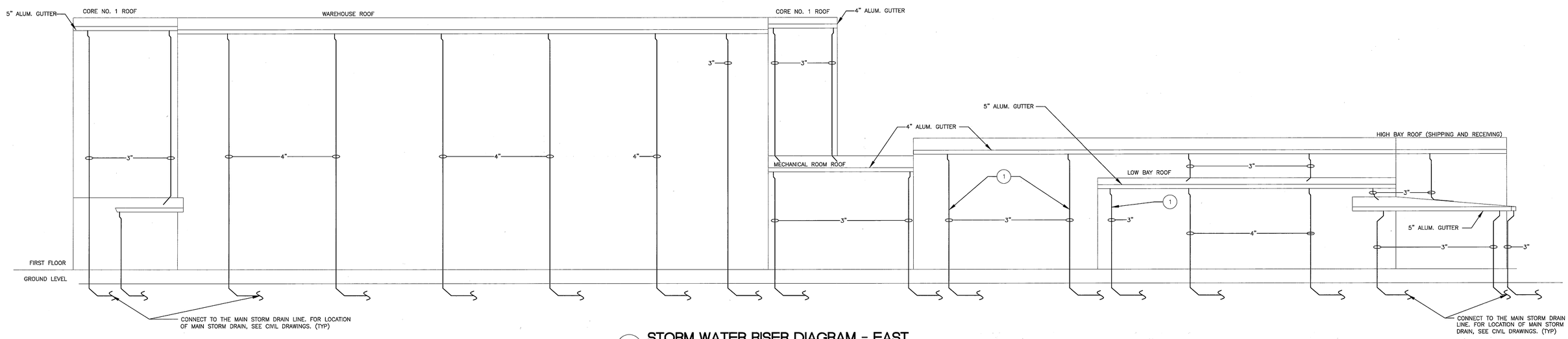
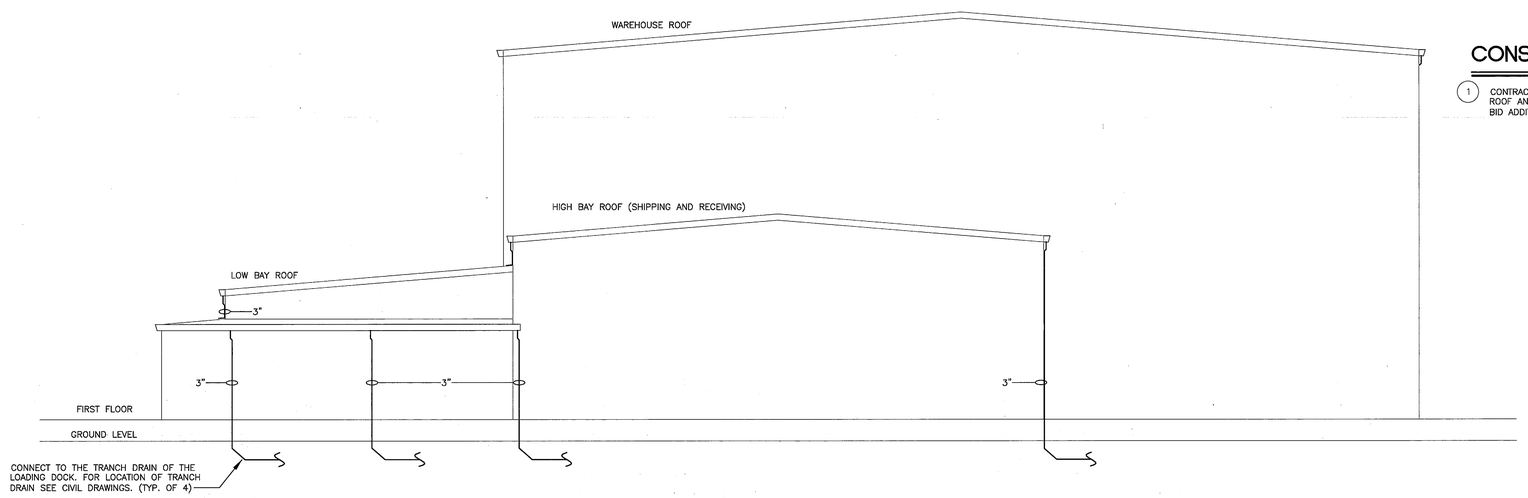


1 / P702 **STORM WATER RISER DIAGRAM - WEST**
N.T.S.



2 / P702 **STORM WATER RISER DIAGRAM - EAST**
N.T.S.



3 / P702 **STORM WATER RISER DIAGRAM - NORTH**
N.T.S.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL REMOVE PART OF RAIN LEADER FROM HIGH BAY ROOF AND LOW BAY ROOF OF THE SHIPPING AND RECEIVING FOR BID ADDITIVE 3 AND SPILL TO CANOPY. (TYPICAL OF 3)

GENERAL NOTES:

1. SEE DRAWING P501 DETAIL #11 FOR TRANSITION BETWEEN ABOVE GROUND/BELOW GRADE DOWNSPOT.

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARNO — No. M 27734 — Exp. 6/10 — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
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A-E	AAP	11-05-09
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NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
PLUMBING - STORM WATER RISER DIAGRAMS

P702

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

PLUMBING | DATE ISSUED 03-01-10 | CoF CODE or WRS A6890 | SHEET 131 of 158 | DRAWING NO. GF-035-34119

FORM F 03-07-08

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

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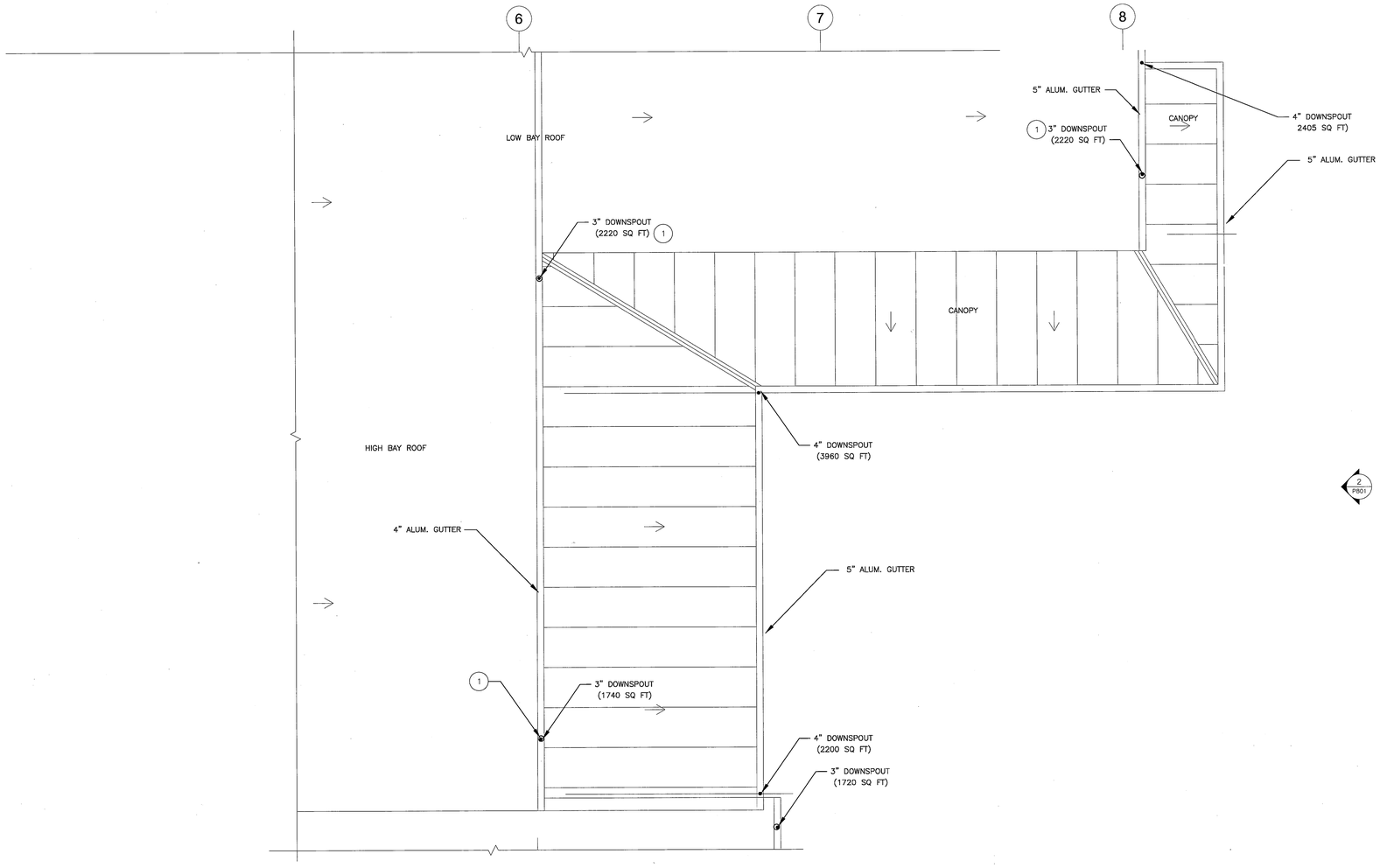
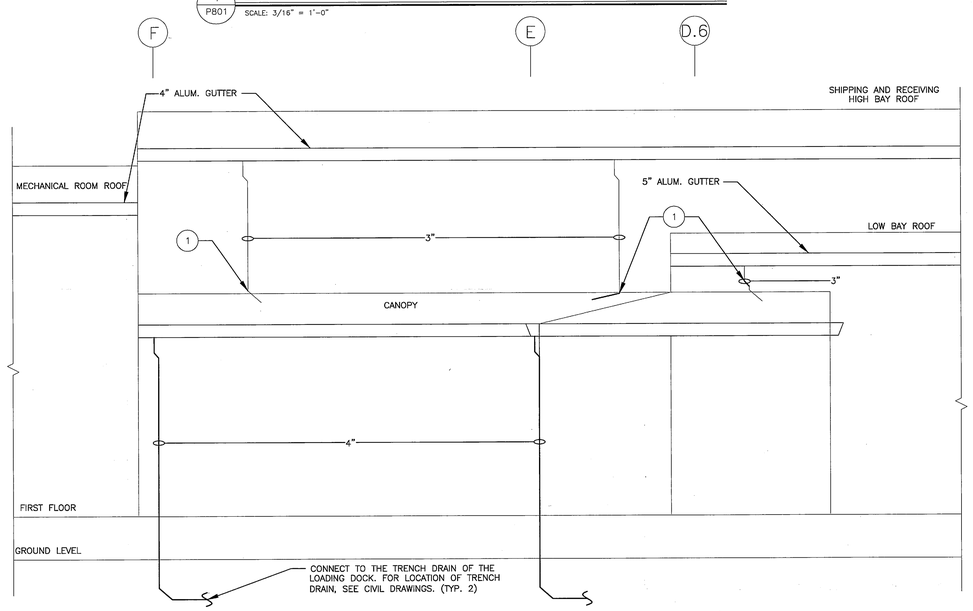


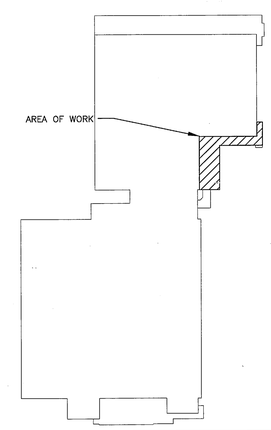
1 P801 **ENLARGED BID ADDITIVE NO. 3 ROOF PLAN**

SCALE: 3/16" = 1'-0"



2 P801 **PARTIAL STORM WATER RISER DIAGRAM - EAST**

N.T.S.



0 10'-8" 21'-4" 42'-8"

SCALE: 3/16" = 1'-0"

NORTH

CONSTRUCTION NOTES

1. CONTRACTOR SHALL REMOVE PART OF RAIN LEADER FROM HIGH BAY ROOF AND LOW BAY ROOF OF THE SHIPPING AND RECEIVING AND SPILL TO ADDITIVE CANOPY. (TYPICAL OF 3)

GENERAL NOTES:

1. SEE DRAWING P501 DETAIL #11 FOR TRANSITION BETWEEN ABOVE GROUND/BELOW GRADE DOWNSPOT.

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER — MOHAMMAD REZA BAHARINO — No. M 27734 — Exp. — MECHANICAL — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SHIC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

PLUMBING

LOGISTICS FACILITY
SITE AND SHELL

PLUMBING - BID ADDITIVE 3

P801

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	132 OF 158	GF-035-34120

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

FORM F 03-07-08

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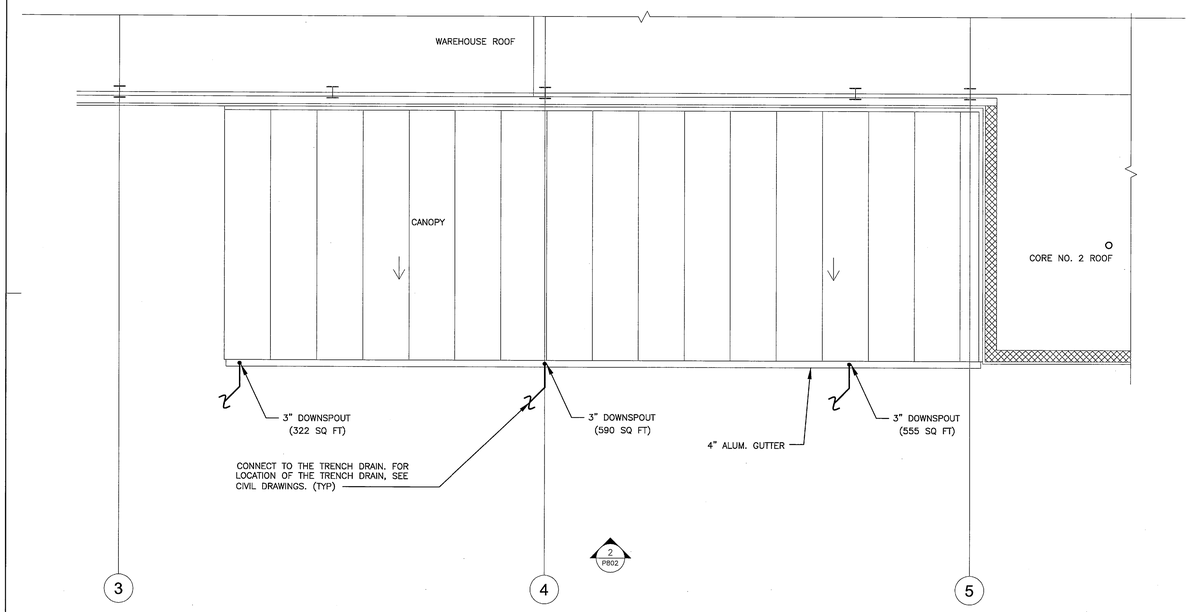
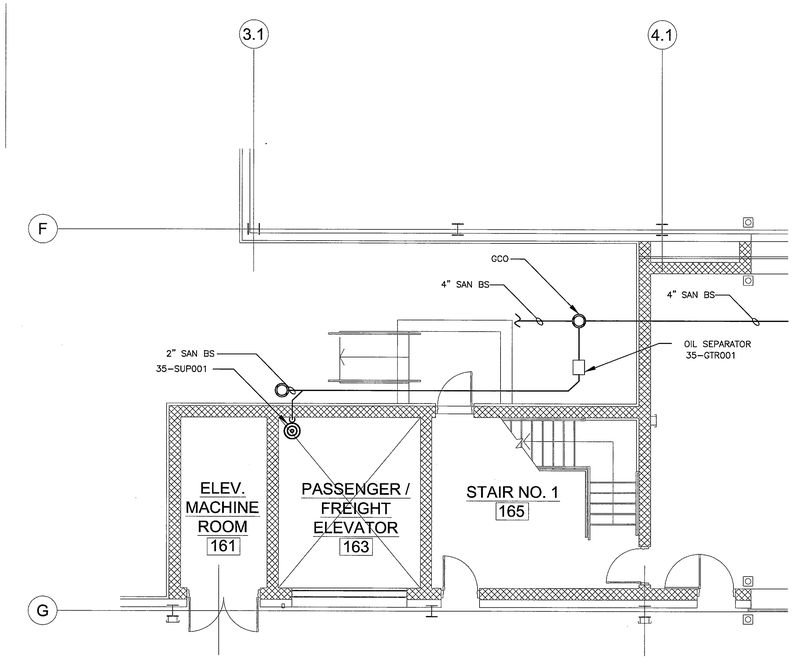


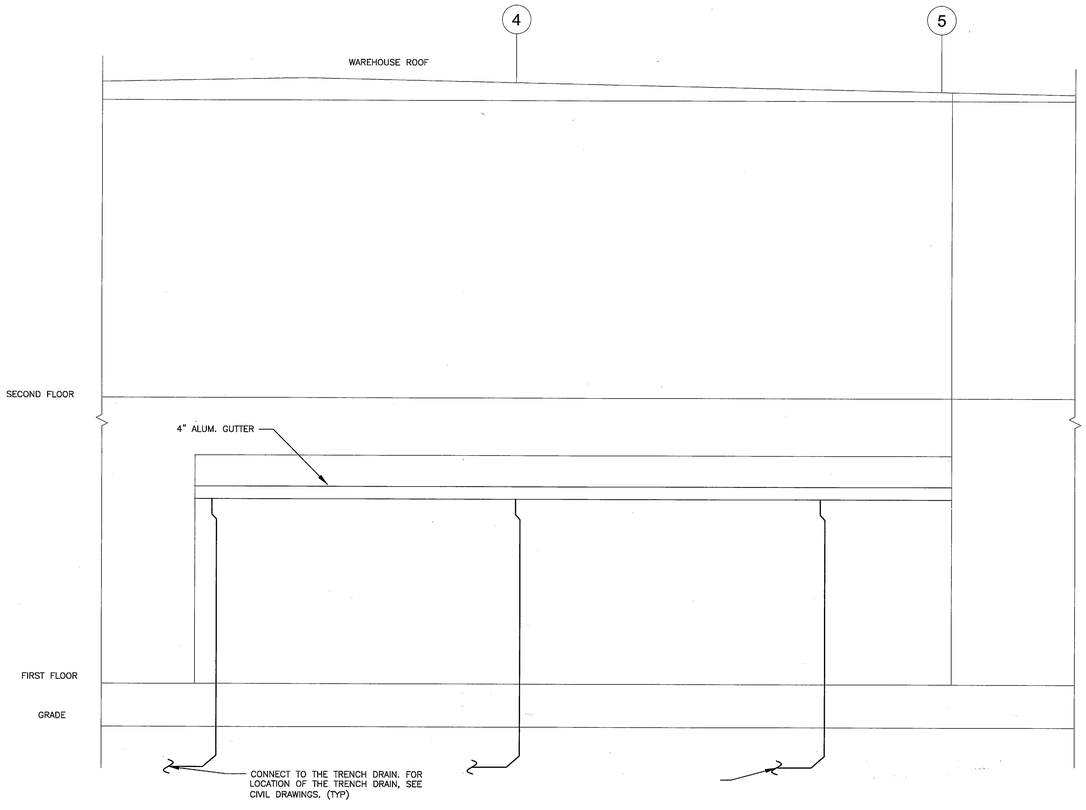
1 P802 **ENLARGED BID ADDITIVE NO. 4 ROOF PLAN**

SCALE: 3/16" = 1'-0"



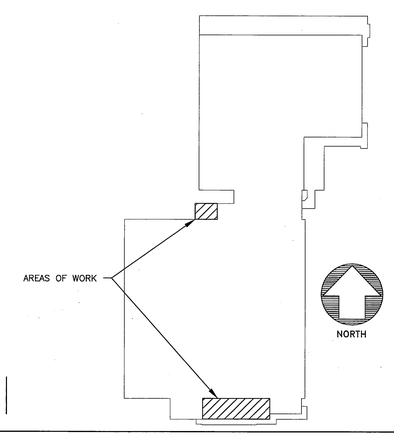
3 P802 **ENLARGED BID ADDITIVE NO.6 PLUMBING PLAN**

SCALE: 3/16" = 1'-0"



2 P802 **PARTIAL STORM WATER RISER DIAGRAM - SOUTH**

SCALE: 3/16" = 1'-0"



0 10'-8" 21'-4" 42'-8"

SCALE: 3/16" = 1'-0"

PARSONS
Facilities Construction Engineering & Technical Services
PMO-G SFC-NASA

SEAL AREA

REGISTERED PROFESSIONAL ENGINEER
MOHAMMAD REZA BAHARINO
No. M 27734
Exp. 6/10
MECHANICAL
STATE OF CALIFORNIA

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	INITIALS	DATE
DRAWN	AAP	11-05-09
A-E	AAP	11-05-09
CHECKED BY	DRO	12-23-09
A-E MANAGER	SHK	1-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	[illegible]	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

PLUMBING
BID ADDITIVES 4 AND 6

P802

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

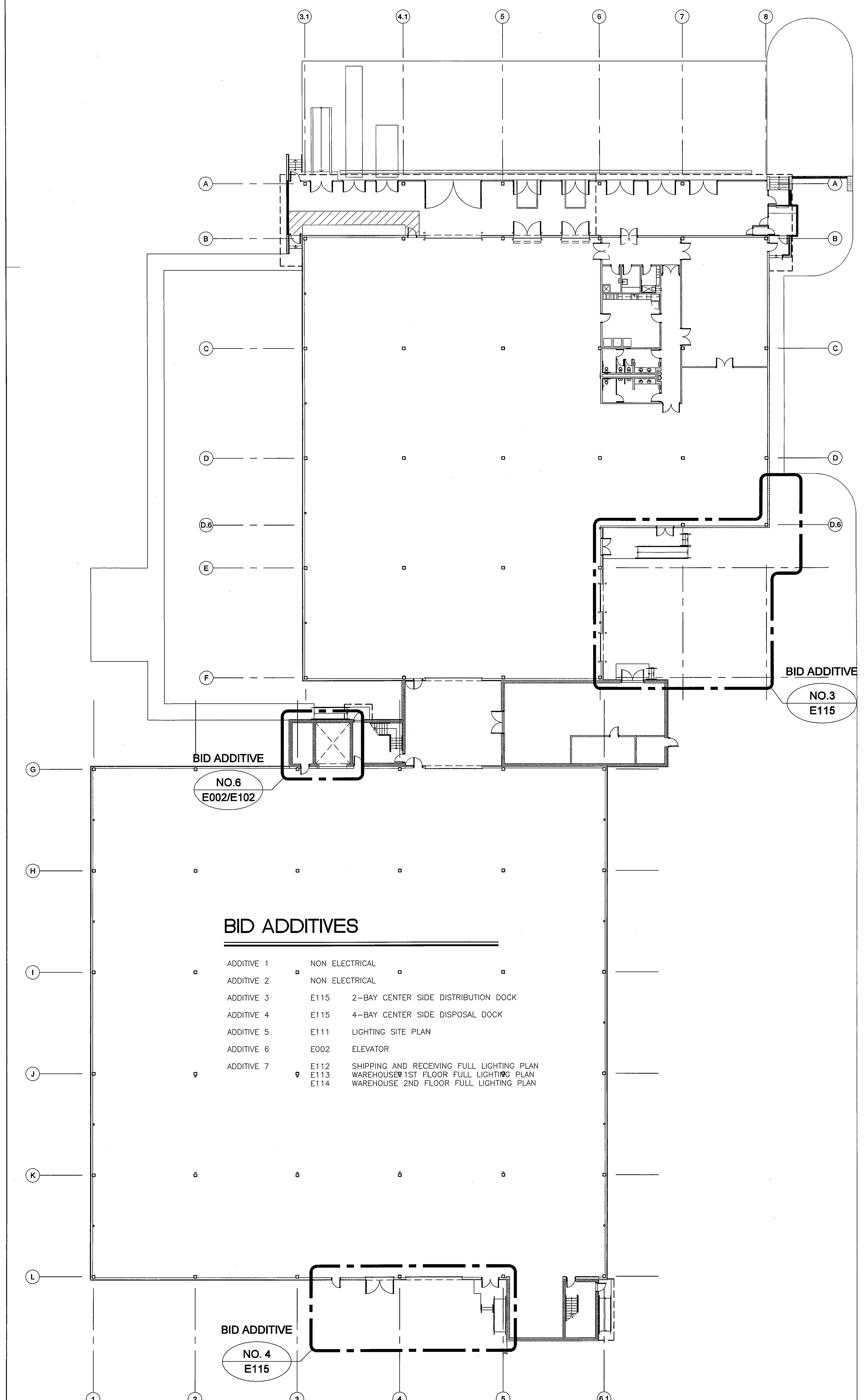
PLUMBING	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	133 OF 158	GF-035-34121

PLOT DATE: 2/26/2010
FILE DATE: 2/26/2010
FILE NAME: P1.0.dwg

FORM F 03-07-08

All drawings containing utility information are to be considered Sensitive But Unclassified (SBU)

REFERENCE PLAN (BID ADDITIVE NO. 3, 4, AND 6)



BID ADDITIVES

ADDITIVE 1	NON ELECTRICAL	
ADDITIVE 2	NON ELECTRICAL	
ADDITIVE 3	E115	2-BAY CENTER SIDE DISTRIBUTION DOCK
ADDITIVE 4	E115	4-BAY CENTER SIDE DISPOSAL DOCK
ADDITIVE 5	E111	LIGHTING SITE PLAN
ADDITIVE 6	E002	ELEVATOR
ADDITIVE 7	E112	SHIPPING AND RECEIVING FULL LIGHTING PLAN
	E113	WAREHOUSE 1ST FLOOR FULL LIGHTING PLAN
	E114	WAREHOUSE 2ND FLOOR FULL LIGHTING PLAN

NORTH

1 / E001 BID ADDITIVE PLAN
SCALE: NTS

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATS	AUTOMATIC TRANSFER SWITCH
CKT	CIRCUIT
CB	CIRCUIT BREAKER
C	CONDUIT
COTR	CONTRACTING OFFICER TECHNICAL REPRESENTATIVE
DEMO	DEMOLISH
DLO	DIESEL LOCOMOTIVE CABLE
DM	DIMMER
EMT	ELECTRIC METALLIC TUBING
EM	EMERGENCY
ETR	EXISTING TO REMAIN
EX OR EXIST.	EXISTING
G	GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
J	JUNCTION BOX
K	CARD KEY
kW	KILOWATT(S)
kVA	KILOVOLT AMPERES
LP	LIGHTING PANEL
LTG	LIGHTING
MCC	MOTOR CONTROL CENTER
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MTR OR M	MOTOR
MTD/MTG	MOUNTED/MOUNTING
OS	OCCUPANCY SENSOR
PNL	PANEL
PDU	POWER DISTRIBUTION UNIT
PH or ϕ	PHASE
R	NEW LOCATION OF RELOCATED DEVICE
RE	EXISTING DEVICE TO BE RELOCATED
TS	TRANSFER SWITCH
T	TRANSFORMER
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SYSTEM
US	ULTRASONIC MOTION SENSOR
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WP	WEATHER PROOF
XFMR	TRANSFORMER
X	EXISTING DEVICE TO BE REMOVED

SYMBOLS

- DUPLEX RECEPTACLE
- GFI — GFI DUPLEX RECEPTACLE
- QUAD RECEPTACLE
- WP, GFI — WEATHER-PROOF, GROUND-FAULT INTERRUPTER DUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- SINGLE RECEPTACLE, RECESSED FLOOR BOX
- DUPLEX RECEPTACLE, RECESSED FLOOR BOX
- QUAD RECEPTACLE, RECESSED FLOOR BOX
- LIGHTING FIXTURE, 2 X 4
- LIGHTING FIXTURE, 2 X 4 WIRED FOR 24/7 CONNECTION
- LIGHTING FIXTURE, 1 X 4
- LIGHTING FIXTURE, 1 X 4, WIRED FOR 24/7
- LIGHTING FIXTURE, 2 X 2
- LIGHTING FIXTURE, 2 X 2 WIRED FOR 24/7 CONNECTION
- LIGHTING FIXTURE, WALL MOUNTED
- LIGHTING FIXTURE, EMERGENCY
- N1-X — EMERGENCY BATTERY PACK X = BATTERY LETTER
- N2-X — EMERGENCY REMOTE HEADS X = ASSOCIATED BATTERY LETTER
- POLE-MOUNTED SITE LIGHT FIXTURE
- SINGLE AND DOUBLE-SIDED EXIT SIGNS
- S_X — SWITCH X = 3 (3 WAY) OR 4 (4 WAY)
- S_{DM} — DIMMER SWITCH
- PC_I — AMBIENT CONTROL PHOTOCELL SUBSCRIPT 'I' INDICATES INTERIOR MOUNTED
- PC_E — SITE CONTROL PHOTOCELL SUBSCRIPT 'E' INDICATES EXTERIOR MOUNTED FACING NORTH
- MS — CEILING MOUNTED OCCUPANCY SENSOR
- SURFACE MOUNTED PANELBOARD
- FAP — FIRE ALARM PANEL
- G — GROUND BAR
- DRIVEN GROUND ROD
- GROUND ROD WITH TEST WELL
- EXOTHERMIC WELD GROUNDING CONNECTION
- EXOTHERMIC OR COMPRESSION FITTING GROUNDING BOND TO METALLIC MEMBER
- — G — — GROUNDING SYSTEM EMBEDDED GROUND CONDUCTOR
- UNDER GROUND CONDUIT
- ELECTRICAL EQUIPMENT OUTLINE

SYMBOLS (CONT'D)

- CIRCUIT BREAKER, LOW VOLTAGE
- FUSED PRIMARY SWITCH
- FUSED DISCONNECT SWITCH
- NONFUSED DISCONNECT SWITCH
- TRANSFORMER
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- METERING AND PROTECTIVE SYSTEM TRANSFORMERS.
- LIGHTNING ARRESTOR
- —T— EXISTING DIRECT BURIED TELEPHONE CABLE
- —W— EXISTING WATER LINE
- 15KV PAD MOUNTED SWITCHING CUBICLE/TRANSF.
- ELECTRICAL HOMERUN
- CONDUIT RISER GOING DOWN
- CONDUIT RISER COMING UP
- J — JUNCTION BOX
- H — HANDHOLE FOR CABLE PULLING
- T — THERMOSTAT
- TRANSFER SWITCH MTS = MANUAL ATS = AUTOMATIC
- TELEPHONE OUTLET (VOICE) MOUNTED AT 54" AFF (U.O.N.)
- EPAS SPEAKER/STROBE, WALL MOUNTED 20 FEET AFF OR AS HIGH AS POSSIBLE (DEVICE/CABLE BY NASA)
- CR — CARD READER FOR ELECTRIC STRIKE (DEVICE/CABLE BY NASA)
- CR_M — CARD READER FOR MAGNETIC STRIKE (DEVICE/CABLE BY NASA)
- DATA EQUIPMENT RACK, INSTALLED BY NASA PRIOR TO CONTRACTOR'S WORK
- ALARM, WALL MOUNTED (DEVICE/CABLE BY NASA) FOR OH DOORS, MOUNT LOW NEAR FLOOR FOR ALL OTHER DOORS, MOUNT ABOVE DOOR
- CAMERA, WALL MOUNTED 12 FEET AFF (DEVICE/CABLE BY NASA)
- LAN/TELEPHONE, RECESSED FLOOR BOX
- LAN/TELEPHONE OUTLET
- COMMUNICATION CABLE TRAY 12" X 4"
- EL — ELECTRIC LOCKSET PER ASI-021. REFER TO DOOR SCHEDULE FOR SPECIFICATIONS
- EH — ELECTRIC HINGE PER ASI-021
- DPS — DOOR CONTACT (CENTRAL CAT# 1078 OR EQUAL)

GOMAR NUMBERS

985-HVT003	HIGH VOLTAGE TRANSFORMER
985-MTS001	MANUAL TRANSFER SWITCH
035-SWB001	SERVICE ENTRANCE SWITCHBOARD
035-DPL1F5	PANELBOARD
035-LPH1F5	PANELBOARD
035-LPH1G5	PANELBOARD
035-LPH2G4	PANELBOARD
035-PPL1C7	PANELBOARD
035-PPL1D7	PANELBOARD
035-PPL1F5	PANELBOARD
035-PPL1G5	PANELBOARD
035-PPL1L3	PANELBOARD
035-PPL2G4	PANELBOARD
035-PPL2L3	PANELBOARD
035-PPL1B8	PANELBOARD
035-LVT001	LOW VOLTAGE TRANSFORMER
035-LVT002	LOW VOLTAGE TRANSFORMER
035-LVT003	LOW VOLTAGE TRANSFORMER
035-ELV001	ELEVATOR
035-SDS001	SAFETY DISCONNECT SWITCH
035-SDS002	SAFETY DISCONNECT SWITCH
985-TMH204	TELEPHONE MANHOLE
985-TMH205	TELEPHONE MANHOLE

(035-DPL1F5 through 035-PPL1B8: NOTE 23)

NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH GODDARD SPACE FLIGHT CENTER CONSTRUCTION SPECIFICATIONS, AS WELL AS WITH APPLICABLE ARTICLES OF THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE (NEC), NFPA, OSHA, MARYLAND STATE HIGHWAY ADMINISTRATION (MDSHA), AND MDOT.
2. PRIOR TO WORKING ON NEW ELECTRICAL CIRCUITS, ALL ASSOCIATED CIRCUIT BREAKERS AND/OR DISCONNECT SWITCHES SHALL BE OPENED, LOCKED OUT, AND TAGGED. TAG SHALL REMAIN IN PLACE, AND CIRCUIT BREAKER AND/OR DISCONNECT SWITCH SHALL REMAIN DEENERGIZED UNTIL SYSTEM HAS BEEN CHECKED AND APPROVED BY COTR.
3. UPDATE ALL PANEL SCHEDULES IN ALL PANELBOARDS. SPARE BREAKERS SHALL BE LABELED "SPARE". PANEL SCHEDULES SHALL BE INPUT INTO AN EXCEL SPREADSHEET AND AN ELECTRONIC FILE TURNED OVER TO GOVERNMENT AT COMPLETION OF PROJECT.
4. LABEL ALL NEW RECEPTACLES, SWITCHES, ETC. WITH CORRESPONDING FEEDER PANEL AND CIRCUIT NUMBER. LIGHT SWITCHES ARE TO BE LABELED INSIDE THE SWITCH PLATE.
5. LIGHTING BRANCH CIRCUITS, AS MINIMUM, SHALL BE #12 THHN CONDUCTORS IN 3/4" EMT. FLEXIBLE METAL CONDUIT OR MC CABLE UTILIZING 3 #12 CONDUCTORS IS PERMITTED FOR LIGHT FIXTURE WHIPS (FROM A JUNCTION BOX TO A LIGHT FIXTURE). MAXIMUM LENGTH OF WHIP SHALL BE 6'-0". HOMERUNS TO PANELBOARDS SHALL BE INSULATED COPPER CONDUCTORS IN EMT CONDUIT. FLEXIBLE METAL CONDUIT OR MC CABLE BETWEEN LIGHT FIXTURES (DAISY CHAINING) SHALL NOT BE PERMITTED. CIRCUITS SUPPLYING LIGHT SWITCHES SHALL BE, AS MINIMUM, #12 THHN CONDUCTORS IN 3/4" FLEXIBLE METAL CONDUIT RUN VERTICALLY WITHIN WALLS AND 3/4" EMT RUN HORIZONTALLY.
6. ALL LIGHT SWITCHES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
7. CIRCUITS SUPPLYING RECEPTACLES, AS MINIMUM, SHALL BE #12 THHN CONDUCTORS IN 3/4" EMT RUN HORIZONTALLY AND 3/4" FLEXIBLE METAL CONDUIT RUN VERTICALLY. EACH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL. MOUNT RECEPTACLES 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
8. ALL NEW PANELBOARDS SHALL HAVE COPPER BUS, BOLT-ON BREAKERS, AND DOOR-IN-DOOR TRIM. ALL DOOR-IN-DOOR PANELSBOARDS MUST BE LOCKABLE AT BOTH THE DOOR AND THE COVER. REFER TO SPECIFICATION SECTIONS 26 20 00 "INTERIOR DISTRIBUTION SYSTEMS".
9. SEAL ALL PENETRATIONS THROUGH FIRE WALL WITH A LISTED FIRE RATED SEALANT ASSEMBLY MAINTAINING THE ORIGINAL FIRE RATING OF THE WALL. REFER TO SPECIFICATION SECTION 07 84 00 "FIRESTOPPING".
10. SEAL ALL PENETRATIONS THROUGH FLOORS WITH A LISTED FIRE RATED SEALANT ASSEMBLY TO TWO HOUR RATING. REFER TO SPECIFICATION SECTION 07 84 00 "FIRESTOPPING".
11. SEAL ALL PENETRATIONS THROUGH SMOKE BARRIER WITH AN APPROVED SEALANT. REFER TO SPECIFICATION SECTION 07 84 00 "FIRESTOPPING".
12. COORDINATE CONDUIT RUNS WITH OTHER TRADES AND ONGOING CONSTRUCTION PROJECTS TO INSURE THAT THERE ARE NO CONFLICTS.
13. EMERGENCY LIGHTING FIXTURES SHALL BE CONNECTED TO UNSWITCHED LEG OF EXISTING LOCAL LIGHTING CIRCUIT AND ACTIVATE ONLY WHEN POWER FROM THE LIGHTING CIRCUIT IS LOST. EXIT SIGNS SHALL BE CONNECTED TO UNSWITCHED LEG OF EXISTING LOCAL LIGHTING CIRCUIT AND SWITCH TO BATTERY BACKUP CIRCUIT ONLY WHEN POWER FROM THE LIGHTING CIRCUIT IS LOST.
14. EMERGENCY LIGHTS SHALL BE MOUNTED 12" BELOW CEILING UNLESS OTHERWISE NOTED, NEW EXIT SIGNS SHALL BE MOUNTED AT HIGHEST FULLY VISIBLE MOUNTING HEIGHT.
15. ALL NEW CONDUIT, WIRE AND CABLES SHALL BE CONCEALED IN WALLS, CEILING SPACES, ELECTRICAL SHAFTS OR CLOSETS. NEW CONDUIT MAY BE EXPOSED AND PAINTED IN UNFINISHED AREAS WITH CONCRETE/MASONRY WALLS AND CEILINGS, STAIRWAYS, OR CORRIDORS WITHOUT SUSPENDED CEILINGS. (PAINT TO MATCH FINISHED SURFACE)
16. ALL STRUT SHALL BE HOT DIPPED GALVANIZED STEEL UNLESS OTHERWISE NOTED. MINIMUM SIZE 1-5/8" X 1-5/8", 14 GA STEEL.
17. MANUFACTURER AND CATALOG NUMBERS ARE INDICATED AS "BASIS OF DESIGN" ONLY AND SHALL NOT PRECLUDE OTHER PRODUCTS THAT ARE APPROVED EQUALS.
18. PROVIDE ACCESS DOORS FOR ALL CONCEALED CONDITIONS IN WALLS, CEILINGS, AND CHASES TO PROVIDE MAINTENANCE ACCESS. ALL DOORS MUST MEET THE UL RATING IN RELATED AREAS OF CONSTRUCTION AND CODE ACCESS CLEARANCE REQUIREMENTS.
19. ALL POWER CIRCUITS FED FROM A 20A BREAKER SHALL BE #12 WITH #12 GROUND UNLESS OTHERWISE STATED.
20. SUPPORTS FOR RECESSED FIXTURES IN SUSPENDED CEILINGS SHALL BE SO ARRANGED THAT EACH CORNER OF EACH FIXTURE IS SUPPORTED BY A HANGER WIRE ANCHORED TO THE STRUCTURE. SUPPORTS FOR RECESSED FIXTURES IN SUSPENDED CEILINGS SHALL BE TOTALLY INDEPENDENT OF THE CEILING SUPPORT WIRES/SUPPORT SYSTEM.
21. BRANCH CIRCUIT IN OFFICE AREAS CONCEALED IN DRYWALL PARTITIONS SHALL BE METAL-CLAD (MC) CABLE WITH A GROUND, WHERE PERMITTED BY NEC AND LOCAL AUTHORITIES. INSTALL MC CABLE PER REQUIREMENTS OF THE NEC AND SUPPORT AT EACH JUNCTION BOX. SUPPORT ONLY FROM BUILDING STRUCTURE. HOMERUNS TO PANELBOARDS SHALL BE INSULATED COPPER CONDUCTORS IN CONDUIT SYSTEMS SUCH AS EMT OR RGS AS PERMITTED BY THE NEC. MC CABLE SHALL ORIGINATE FROM A JUNCTION BOX ABOVE SUSPENDED CEILINGS AND RUN VERTICALLY TO AN ELECTRICAL DEVICE (SWITCH, RECEPTACLE). THE USE OF MC CABLE FOR RUNS BETWEEN ROOMS AND BETWEEN JUNCTION BOXES IS NOT PERMITTED. THE USE OF MC CABLE FOR HOMERUNS IS NOT PERMITTED. HORIZONTAL RUNS OF MC CABLE CONCEALED IN DRYWALL PARTITIONS ARE NOT PERMITTED.
22. ALL CONDUIT IN THE NEW BUILDING SHALL BE INSTALLED ABOVE GROUND/SLAB. INSTALLATION OF UNDER GROUND CONDUITS IN SLAB IS NOT PERMITTED.
23. "035-" IS PREFIX FOR PANELBOARDS AND CIRCUIT ASSIGNMENTS. THIS PREFIX IS NOT SHOWN ON ALL DRAWINGS DUE TO CONGESTION.

DRAWING LIST

E001	ELECTRICAL – NOTES, LEGEND, AND ABBREVIATIONS
E002	ELECTRICAL SINGLE LINE DIAGRAM
E101	ELECTRICAL SITE PLAN
E102	SHIPPING AND RECEIVING – POWER AND COMMUNICATION PLAN
E103	WAREHOUSE – POWER AND COMMUNICATION PLAN – 1ST FLOOR
E104	WAREHOUSE – POWER AND COMMUNICATION PLAN – 2ND FLOOR
E105	SHIPPING AND RECEIVING – POWER PLAN – ROOF
E106	SHIPPING AND RECEIVING – LIGHTING PLAN
E107	WAREHOUSE – LIGHTING PLAN 1ST FLOOR
E108	WAREHOUSE – LIGHTING PLAN 2ND FLOOR
E109	SHIPPING AND RECEIVING – GROUNDING PLAN
E110	WAREHOUSE – GROUNDING PLAN
E111	SITE LIGHTING PLAN – BID ADDITIVE 5 & HVAC PLAN BID ADDITIVE 6
E112	SHIPPING AND RECEIVING – BID ADDITIVE 7 LIGHTING PLAN
E113	WAREHOUSE – BID ADDITIVE 7 LIGHTING PLAN 1ST FLOOR
E114	WAREHOUSE – BID ADDITIVE 7 LIGHTING PLAN 2ND FLOOR
E115	LOADING DOCK PLANS – BID ADDITIVES 3 & 4
E501	ELECTRICAL GROUNDING DETAILS
E502	COMMUNICATION – CARD READER/EPAS/ALARM ROUGH-IN
E503	ELECTRICAL DETAILS 1
E504	ELECTRICAL DETAILS 2
E505	ELECTRICAL DETAILS 3
E506	ELECTRICAL DETAILS 4
E601	ELECTRICAL – LIGHTING FIXTURE SCHEDULE
E602	ELECTRICAL PANEL SCHEDULES

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19296 DEBORAH LEIGH HARVEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	DC	3/1/10
CM	—	
PM	FM	3/1/10
CUSTOMER	DZ	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
ELECTRICAL - NOTES, LEGEND, AND ABBREVIATIONS

E001

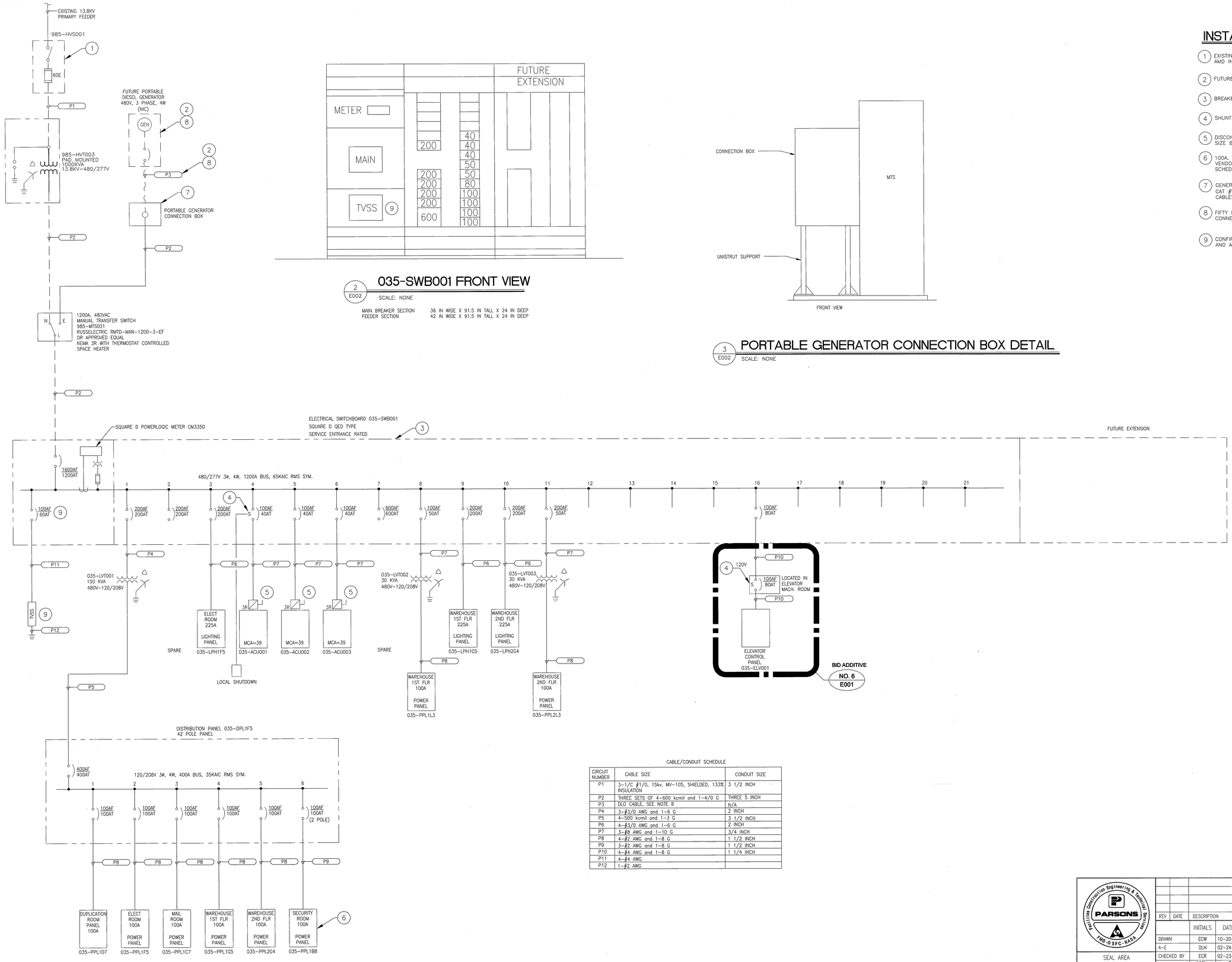
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL	DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
	03-01-10	A6890	134 OF 158	GF-035-34122

FORM F 03-07-08

PLOT DATE: 2/24/2010
FILE DATE: 2/24/2010
FILE NAME: A6890E001 SYMBOLS NEW.dwg



1 E002 SINGLE LINE DIAGRAM

SCALE: NONE

2 E002 035-SWB001 FRONT VIEW

SCALE: NONE

MAIN BREAKER SECTION	36 IN WIDE X 91.5 IN TALL X 24 IN DEEP
FEEDER SECTION	42 IN WIDE X 91.5 IN TALL X 24 IN DEEP

3 E002 PORTABLE GENERATOR CONNECTION BOX DETAIL

SCALE: NONE

INSTALLATION NOTES

1. EXISTING S&C PAD MOUNTED SWITCH PMH-12. CONTRACTOR TO FURNISH AMD INSTALL FUSES.
2. FUTURE CONNECTION TO PORTABLE GENERATOR.
3. BREAKERS 200A AND ABOVE SHALL HAVE ADJUSTABLE OC TRIP SETTING
4. SHUNT TRIP
5. DISCONNECTS ON AC UNITS ARE VENDOR PROVIDED WITH THE UNIT. FUSE SIZE BY VENDOR.
6. 100A, SINGLE PHASE, 120/208V, 3W PANEL PROVIDED BY SECURITY ROOM VENDOR. CONTRACTOR TO PROVIDE AS-BUILT DATA FOR THE PANEL SCHEDULE.
7. GENERATOR CONNECTION BOX AS MANUFACTURED BY BERTHOLD ELECTRIC, CAT #W-1200-5-C-M-6,8W,9 OR APPROVED EQUAL WITH LUGS FOR CABLES. PROVIDE COMPRESSION TYPE LUGS ONLY FOR DLO CABLE.
8. FIFTY FEET OF THREE #4/0 DLO CABLE PER PHASE. CABLE WITH CONNECTORS TO BE TURNED OVER TO THE NASA HIGH VOLTAGE SHOP.
9. CONFIRM WITH SUPPLYING SWITCHBOARD VENDOR THE LOCATIONS OF TVSS AND ASSOCIATED BREAKER.

CABLE/CONDUIT SCHEDULE

CIRCUIT NUMBER	CABLE SIZE	CONDUIT SIZE
P1	3-1/C #1/0, 15kv, MV-105, SHIELDED, 133% INSULATION	3 1/2 INCH
P2	THREE SETS OF 4-600 kcmil and 1-4/0 G	THREE 5 INCH
P3	DLO CABLE, SEE NOTE 8	N/A
P4	3-#3/0 AWG and 1-6 G	2 INCH
P5	4-500 kcmil and 1-3 G	3 1/2 INCH
P6	4-#3/0 AWG and 1-6 G	2 INCH
P7	3-#8 AWG and 1-10 G	3/4 INCH
P8	4-#2 AWG and 1-8 G	1 1/2 INCH
P9	3-#2 AWG and 1-8 G	1 1/2 INCH
P10	4-#4 AWG and 1-8 G	1 1/4 INCH
P11	4-#4 AWG	
P12	1-#2 AWG	

PARSONS — Facilities Construction Engineering & Technical Services — FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 18296 ENGINEER DEBORAH LEIGH HARRISON

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JHK	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY SITE AND SHELL ELECTRICAL SINGLE LINE DIAGRAM

E002

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	135 OF 158	GF-035-34123

FILE NAME: A6890E002 SL.dwg

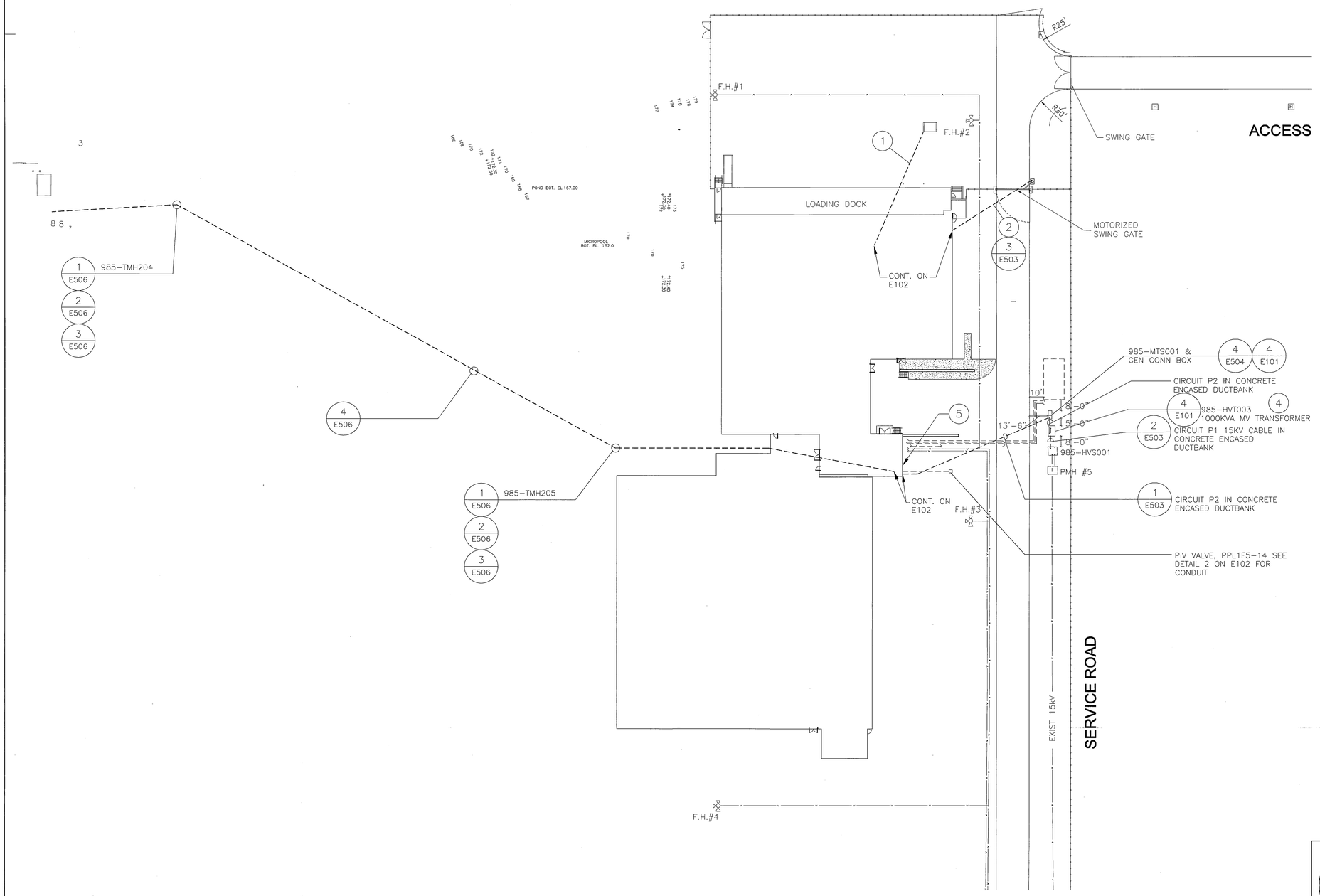
FILE DATE: 2/25/2010

PLOT DATE: 2/25/2010

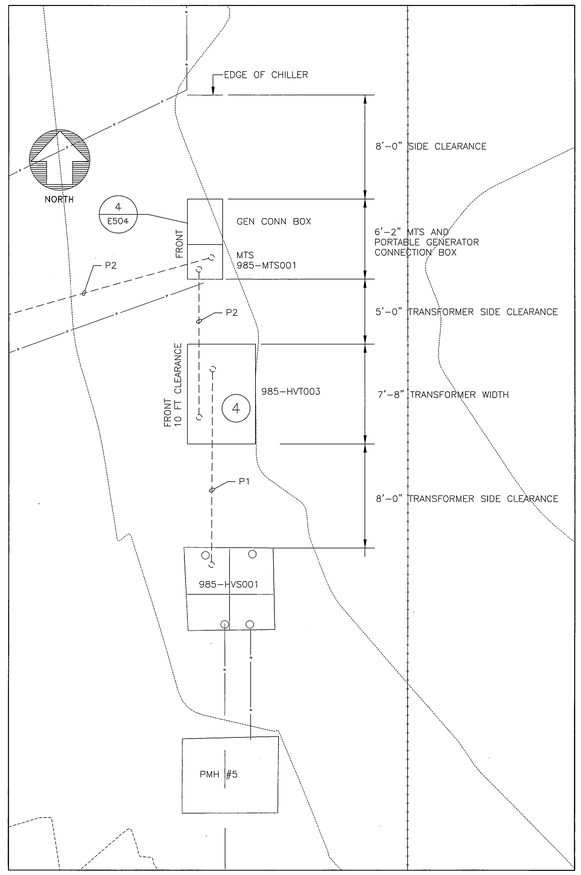
FORM F 03-07-09

INSTALLATION NOTES

1. PROVIDE TWO 1 INCH UG CONDUITS FROM BUILDING TO TRUCK SCALES. CONDUIT SHALL TERMINATE INSIDE OF THE TELEPHONE ROOM AT A JUNCTION BOX. THIS CONDUIT IS FOR CONTROL. THE CONTROL CONDUIT WILL THEN BE ROUTED FROM THE JUNCTION BOX TO THE CONTROL PANEL NEAR THE DOCK (SEE DRAWING E102).
2. PROVIDE TWO 1 INCH UG CONDUITS FROM BUILDING TO SECURITY GATE. CONDUITS SHALL TERMINATE INSIDE OF THE MAIL ROOM AND TERMINATE AT A JUNCTION BOX. ONE CONDUIT IS FOR POWER (PPL1C7-20,22,24) AND THE OTHER IS FOR CONTROL.
3. ALL CONDUIT INSTALLED UNDER THE ROAD AND THE PAVED AREAS SHALL BE INSTALLED SIMILAR TO DETAIL 2 ON DRAWING E503 WITH SCHEDULE 80 PVC ENCASED IN CONCRETE WITH REBAR.
4. VERIFY PRIMARY AND SECONDARY CONDUIT STUB-UP LOCATIONS PRIOR TO INSTALLING CONDUITS FOR TRANSFORMER.
5. SITE LIGHTING CONDUITS SHOWN ON E111.



1 / E112 ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"



4 / E101 EXTERIOR EQUIPMENT PLAN DETAIL
NOT TO SCALE

40 20 0 40 80
SCALE: 1"=40'

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH		3/1/10
CM		
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY
SITE AND SHELL
ELECTRICAL
SITE PLAN

E101

BUILDING 035

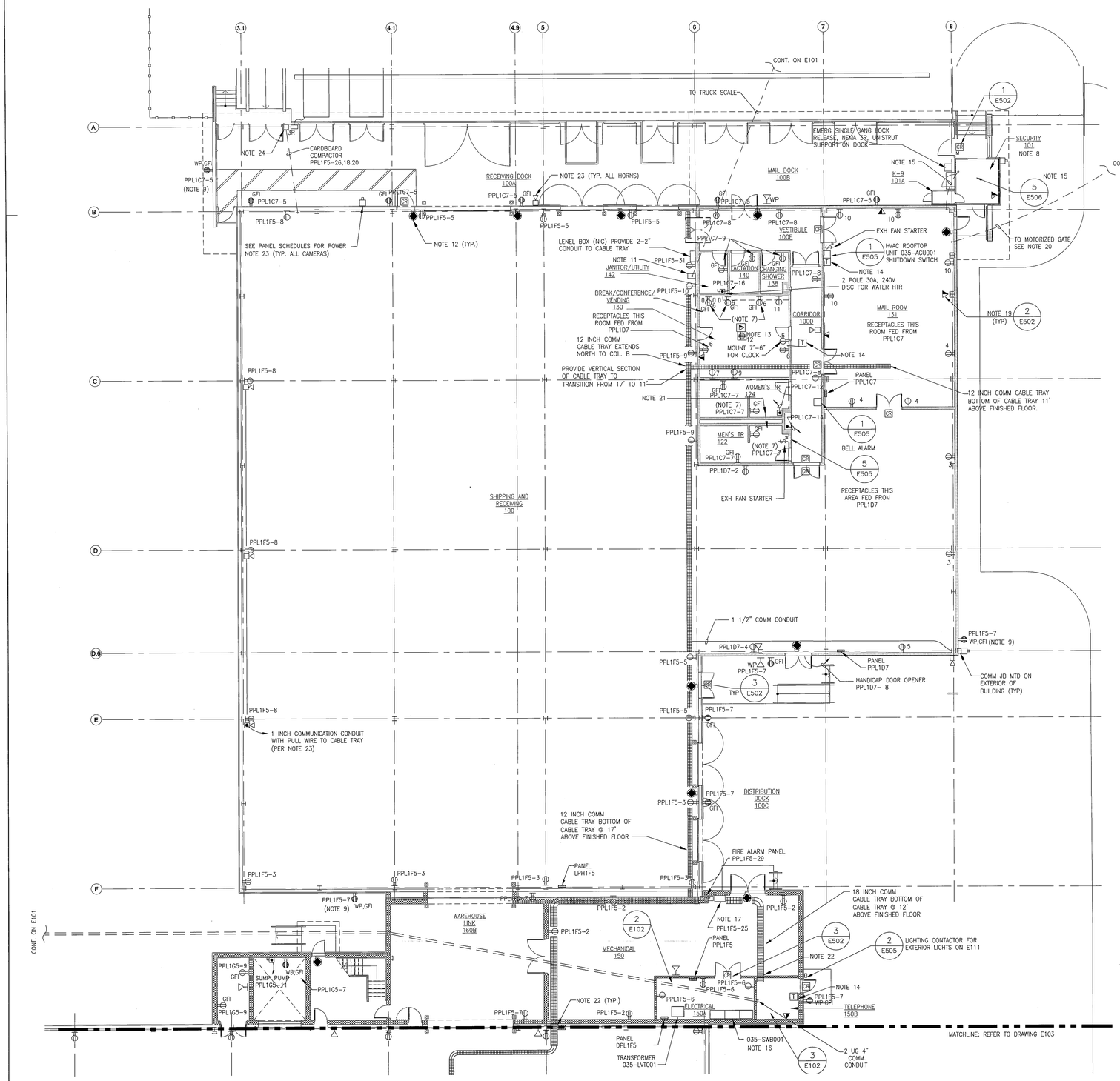
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WRF	SHEET	DRAWING NO.
03-01-10	A6890	136 OF 158	GF-035-34124

SEAL AREA

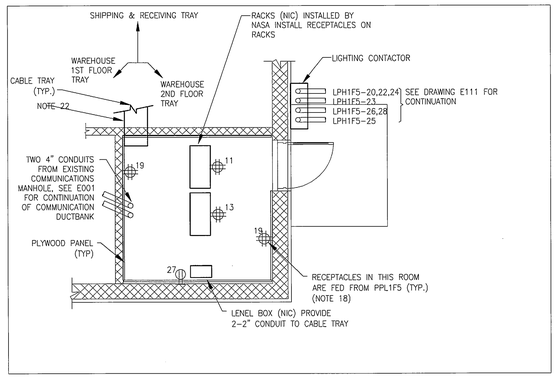
FILE NAME: A5896E101 ELE SITE PLN.dwg FILE DATE: 2/25/2010 PLOT DATE: 2/25/2010

FORM F 03-07-09



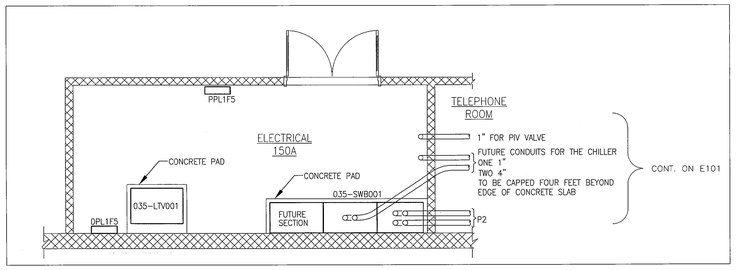
SHIPPING AND RECEIVING - POWER AND COMMUNICATION PLAN

1 / E102 SCALE: 3/32" = 1'-0"



TELEPHONE ROOM DETAIL

3 / E102 1/4"=1'-0"



ELECTRICAL ROOM DETAIL

2 / E102 1/4"=1'-0"

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. PANEL SCHEDULES ARE SHOWN ON DRAWING E602.
3. ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL EQUIPMENT PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT AND CONDUIT.
4. FOR CABLE/CONDUIT SCHEDULE, SEE DRAWING E002.
5. ALL WIRING TO BE #10 AWG UNLESS OTHERWISE NOTED.
6. REFER TO SINGLE LINE DIAGRAM ON DRAWING E002 FOR POWER DISTRIBUTION INFORMATION.
7. RECEPTACLES MOUNTED 18" AFF UNLESS OTHERWISE NOTED. OVER-COUNTER RECEPTACLES MOUNTED 6" ABOVE COUNTER.
8. THE SECURITY ROOM AND K-9 ROOM ARE PART OF A PRE-ENGINEERED BUILDING WITH POWER PANEL PPL1B8, RECEPTACLES, LIGHT FIXTURES, ETC.
9. OUTDOOR WEATHER-PROOF RECEPTACLES MOUNTED 3'-0" ABOVE GRADE.
10. NOT USED
11. INSTALL TRUCK SCALE CONTROL PANEL AT THIS LOCATION. PROVIDE TWO 1" CONDUITS (ONE FOR POWER (PPL1C7-11) AND ONE FOR CONTROL) FROM THIS POINT TO THE TRUCK SCALE.
12. EACH OVERHEAD DOOR DOOR SHALL HAVE A JUNCTION BOX INSTALLED NEAR THE FLOOR FOR INSTALLATION OF DOOR ALARM. PROVIDE 1" CONDUIT TO THE CABLE TRAY FROM EACH JUNCTION BOX.
13. INSTALL A JUNCTION BOX WITH BRASS COVER PLATE FOR "IN FLOOR" TELEPHONE/LAN RECEPTACLE. LAN EQUIPMENT INSTALLED BY OTHERS. INSTALL A 1" CONDUIT WITH PULL WIRE TO BE ROUTED UNDER CONCRETE SLAB AND THROUGH THE WALL CAVITY TO ABOVE THE DROP CEILING. PROVIDE SAME EQUIPMENT AND ROUTING FOR THE POWER RECEPTACLE.
14. CONTRACTOR TO PROVIDE 3/4" CONDUIT FROM THERMOSTAT TO ASSOCIATED AC UNIT FOR CONTROL. SEE MECHANICAL VENDOR DRAWINGS FOR CONNECTION, WIRE SIZE AND QUANTITY INFORMATION. SEE DETAIL 1 ON DRAWING E505 FOR 035-EXF001 AND DETAIL 5 FOR 035-EXF002.
15. CONTRACTOR TO PROVIDE 1 1/2" CONDUIT (CIRCUIT PS) FOR POWER TO THE SECURITY ROOM PANEL (PROVIDED BY VENDOR). ALSO PROVIDE FIVE 3/4 INCH CONDUITS FOR EMERG LIGHTING, COMMUNICATION, MAIL ROOM SHUTDOWN AND CONTROLS. IN ADDITION, CONTRACTOR SHALL PROVIDE 2 SPARE 3/4" POWER CONDUITS AND 1 SPARE 3/4" COMMUNICATIONS CONDUIT. SEE DWG E506, DETAILS 5 & 6.
16. CONTRACTOR TO PROVIDE 1" CONDUIT WITH FROM 035-SWB001 TO TELEPHONE ROOM FOR POWER MONITORING. TERMINATE IN A 4" X 4" JUNCTION BOX AND LABEL AS "POWER MONITORING".
17. METASYS CABINET. CONTRACTOR TO PROVIDE 1" CONDUIT WITH PULL WIRE FROM THE METASYS PANEL TO THE TELEPHONE ROOM. PROVIDE POWER FROM PPL1F5-25.
18. RECEPTACLES IN THE TELEPHONE ROOM TO BE INSTALLED AFTER THE RACKS ARE INSTALLED.
19. EACH TELEPHONE BOX SHALL ALSO HAVE A LAN BOX INSTALLED NEXT TO IT. BOXES SHALL BE INSTALLED 24 INCHES AFF. ONE 1 INCH CONDUIT SHALL BE INSTALLED ABOVE FROM JUST ONE INCH ABOVE THE BOXES TO THE NEAREST COMMUNICATION CABLE TRAY. WHERE THERE IS LAY-IN CEILING, INSTALL CONDUIT TO ABOVE CEILING AND THEN TO THE NEAREST COMMUNICATION CABLE TRAY. REFER TO DETAIL #1, THIS DWG. TELEPHONE BOXES IN OFFICE SPACES SHALL BE MOUNTED AT THE SAME HEIGHT AS RECEPTACLES. SEE DETAIL 2/E502.
20. CONTRACTOR TO INSTALL TWO 1" CONDUIT UG FROM INSIDE THE MAIL ROOM TO THE MOTORIZED GATE. ONE IS FOR POWER AND THE OTHER FOR CONTROL. THE CONTROL CONDUIT WILL BE WIRED TO THE GATE CONTROLLER (VENDOR SUPPLIED) TO BE MOUNTED IN THE SECURITY ROOM. EIGHT #12 CONTROL WIRES (4 SPARE) WILL BE ROUTED UNDERGROUND FROM THE MAIL ROOM TO THE SECURITY ROOM.
21. INSTALL JUNCTION BOXES FOR EACH OF FOUR WATER HEATERS, TWO IN THE WOMENS ROOM AND TWO IN THE MENS ROOM. THESE HEATERS ARE FED FROM PPL1D7-13, 15, 17 AND 19 RESPECTIVELY WITH #8 POWER CONDUCTORS AND #10 GND (TYPICAL).
22. WHERE COMMUNICATION CABLE TRAY PENETRATES WALL, PROVIDE ANGLE IRON AROUND CMU ON EACH SIDE AND FIRE SEAL WITH FIRESTOP PILLOWS.
23. INSTALL 1" EMT WITH PULL WIRE FROM CAMERAS AND PA HORNS TO THE NEAREST COMMUNICATION TRAY UNLESS OTHERWISE NOTED. INSTALL 3/4" EMT WITH PULL WIRE FROM ALARM POINTS AND ALL OTHER COMMUNICATION DEVICES TO THE NEAREST COMMUNICATION TRAY UNLESS OTHERWISE NOTED SEE DRAWING E502 FOR STANDARD DETAILS.
24. PROVIDE 30A, 3 POLE, 240VAC NEMA 3R DISCONNECT SWITCH FOR CARDBOARD COMPACTOR. PROVIDE 3/4" CONDUIT, 3 #10, AND 1 #10 G TO CONTROLLER WITH START-STOP PUSHBUTTON (NIC) AND 3/4" SEALTITE CONDUIT, 3 #10, AND 1 #10 G FROM CONTROLLER TO COMPACTOR.

0 4'-0" 8'-0" 16'-0"

NORTH

Facilities Construction Engineering & Technical Services
PARSONS
PMO-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 16286 ENGINEER DEBORAH LEIGH HANEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	FHM	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING - POWER AND COMMUNICATION PLAN

E102

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

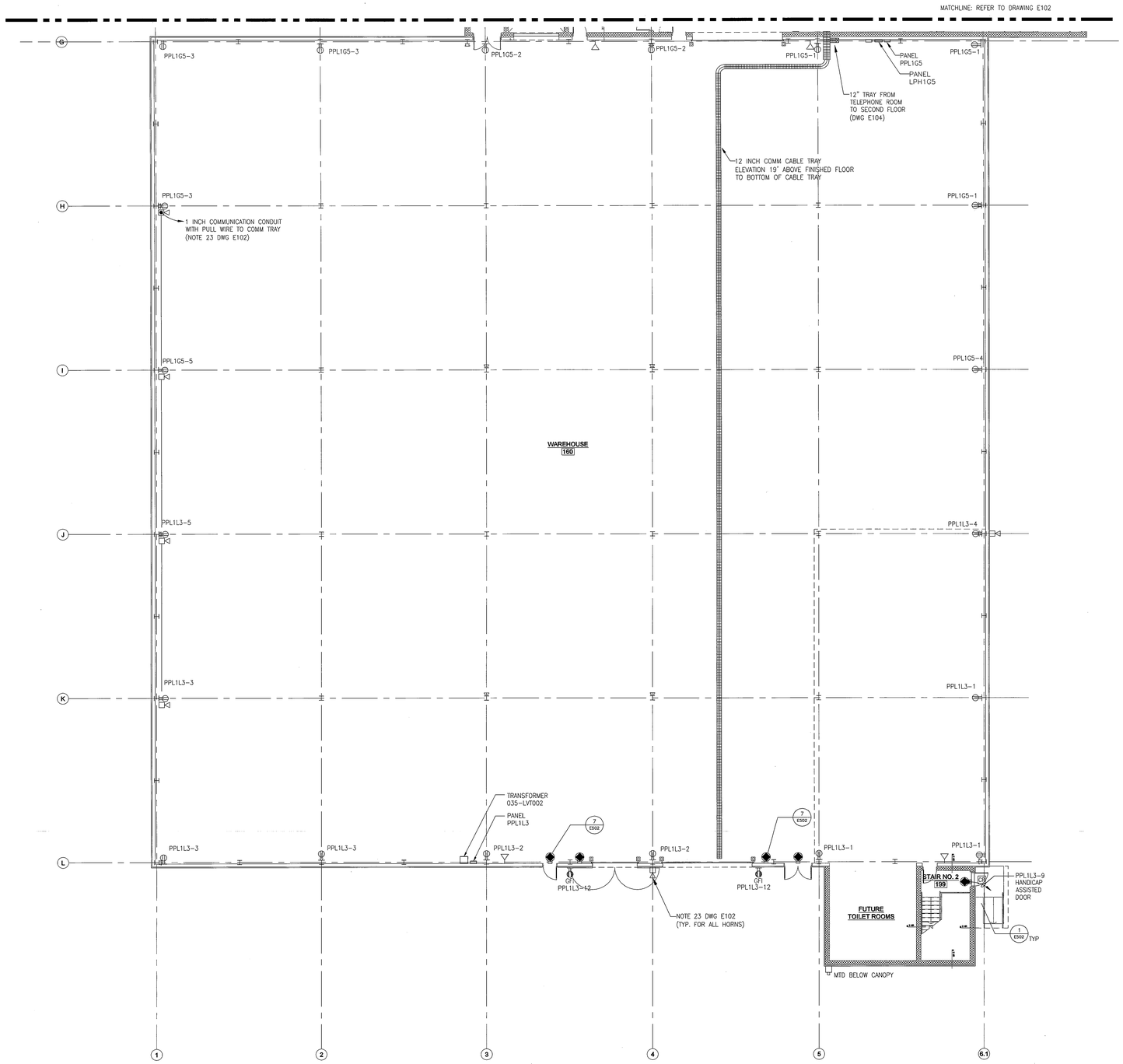
ELECTRICAL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 137 OF 158	DRAWING NO. GF-035-34125

FILE NAME: A6890E102 PWR PLN SHIP.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM F 03-07-08

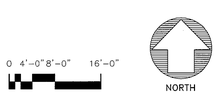
NOTES :

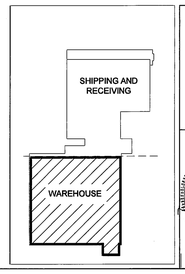
1. REFER TO DRAWING E001 FOR GENERAL NOTES AND SYMBOLS. SEE DRAWING E102 FOR OTHER NOTES.
2. ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL EQUIPMENT PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT AND CONDUIT.
3. INSTALL CROUSE-HINDS FITTING TYPE CGFP FOR END OF CONDUIT RUNS FOR FLEXIBLE CORDS AND TYPES MV, PLTC, TC, SE AND UF CABLE CONNECTIONS.
4. ALL WIRING ON THIS DRAWING TO BE #10 AWG UNLESS OTHERWISE NOTED.
5. REFER TO SINGLE LINE DIAGRAM ON DRAWING E002 FOR POWER DISTRIBUTION INFORMATION.
6. RECEPTACLES MOUNTED 18" AFF UNLESS OTHERWISE NOTED.
7. OUTDOOR WEATHER-PROOF RECEPTACLES MOUNTED 3'-0" ABOVE GRADE.
8. PANEL SCHEDULES ARE SHOWN ON DRAWING E602.



1 E103 WAREHOUSE POWER AND COMMUNICATION PLAN - FIRST FLOOR

SCALE: 3/32" = 1'-0"





PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 18286 ENGINEER BRANDON LEIGH HARKEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JM	3/1/10
CUSTOMER	Ar	3-1-10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL WAREHOUSE POWER AND COMMUNICATION PLAN - 1ST FLOOR

E103

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

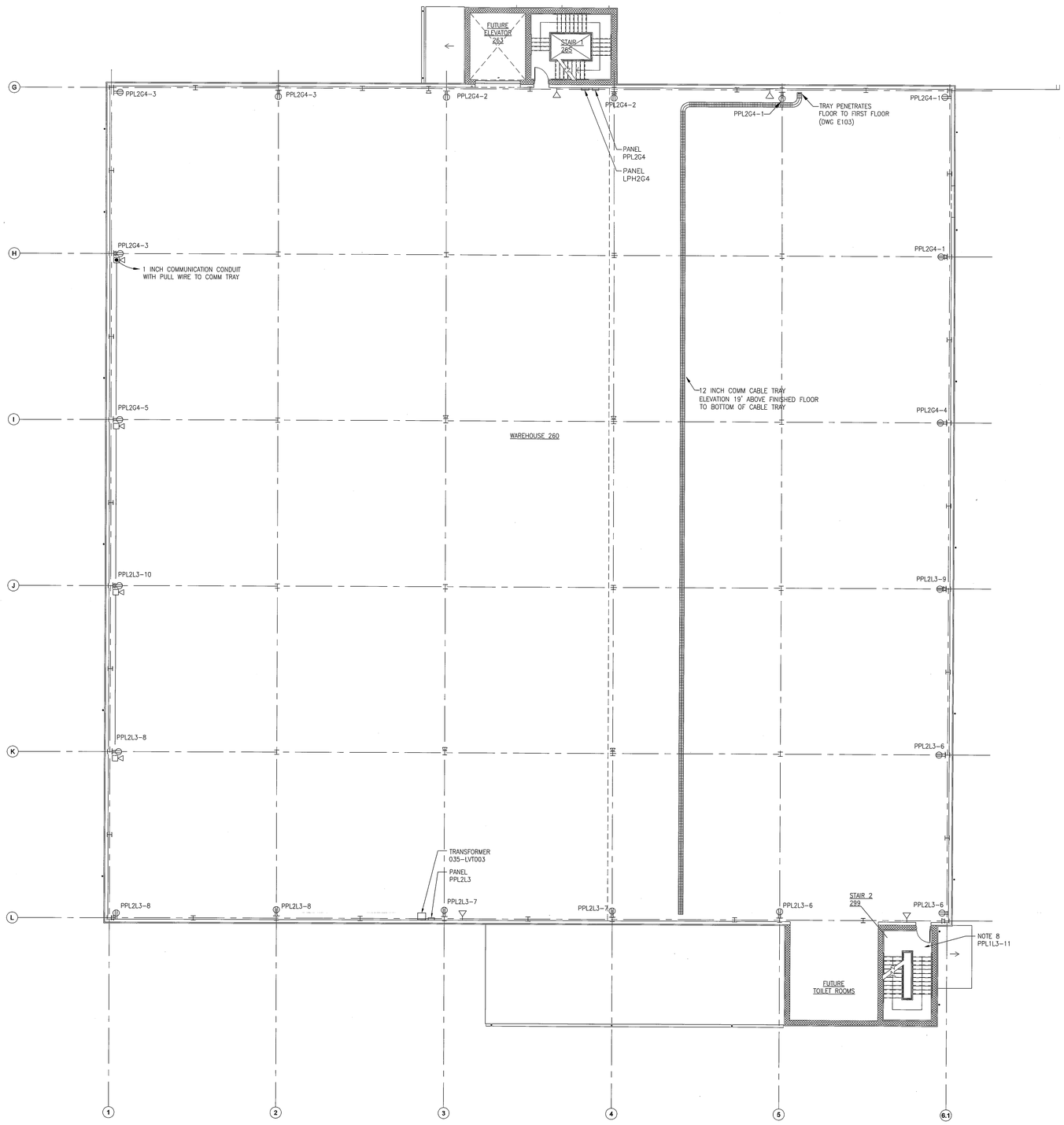
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	138 OF 158	GF-035-34126

FORM F 03-07-05

FILE NAME: A6890E103 PWR PLN WARE 1.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/25/2010

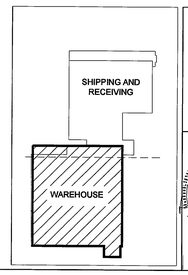


1 E104 WAREHOUSE POWER AND COMMUNICATION PLAN - SECOND FLOOR

SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH



Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19296 DEBORAH LEIGH HARKEY

2/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	JJM	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY SITE AND SHELL WAREHOUSE POWER AND COMMUNICATION PLAN - 2ND FLOOR

E104

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	139 OF 158	GF-035-34127

FORM F 03-07-08

FILE NAME: A6890E104 PWR PLN WARE 2.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/25/2010

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES AND SYMBOLS. SEE DRAWING E102 FOR OTHER NOTES.
2. ELECTRICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL EQUIPMENT PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT AND CONDUIT.
3. INSTALL CROUSE-HINDS FITTING TYPE CGFP FOR END OF CONDUIT RUNS FOR FLEXIBLE CORDS AND TYPES MV, PLTC, TC, SE AND UF CABLE CONNECTIONS.
4. ALL WIRING ON THIS DRAWING TO BE #10 AWG UNLESS OTHERWISE NOTED.
5. REFER TO SINGLE LINE DIAGRAM ON DRAWING E002 FOR POWER DISTRIBUTION INFORMATION.
6. RECEPTACLES MOUNTED 18" AFF UNLESS OTHERWISE NOTED.
7. PANEL SCHEDULES ARE SHOWN ON DRAWING E602.
8. PROVIDE AND INSTALL WP DUPLEX RECEPTACLE NEAR ROOF HATCH IN CONVENIENT LOCATION FOR ROOF MAINTENANCE.

1 E105 SHIPPING AND RECEIVING POWER PLAN - ROOF

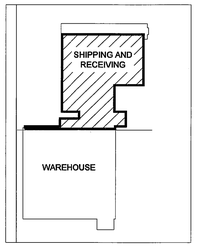
SCALE: 3/32" = 1'-0"

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. REFER TO SINGLE LINE DIAGRAM ON DRAWING E002 FOR POWER DISTRIBUTION INFORMATION. CONNECT FEEDER TO DISCONNECT PROVIDED WITH AC UNIT.
3. PANEL SCHEDULES ARE SHOWN ON DRAWINGS E602.
4. FOR EXHAUST FANS 035-EXH001 AND 035-EXH002 WIRING DETAIL, REFER TO DETAILS 1 & 5 ON DRAWING E505.
5. SWITCH MOUNTED IN SURFACE MOUNTED BOX JUST INSIDE ROOF HATCH. WALLPACK FIXTURE MOUNTED ON EXTERIOR WALL 7 FEET ABOVE THE ROOF HATCH ELEVATION.

0 4'-0" 8'-0" 16'-0"

NORTH



Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER DEBORAH LEIGH HARVEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FM	3/1/10
CUSTOMER	[illegible]	[illegible]
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL

SHIPPING AND RECEIVING
POWER PLAN ROOF

E105

BUILDING 035

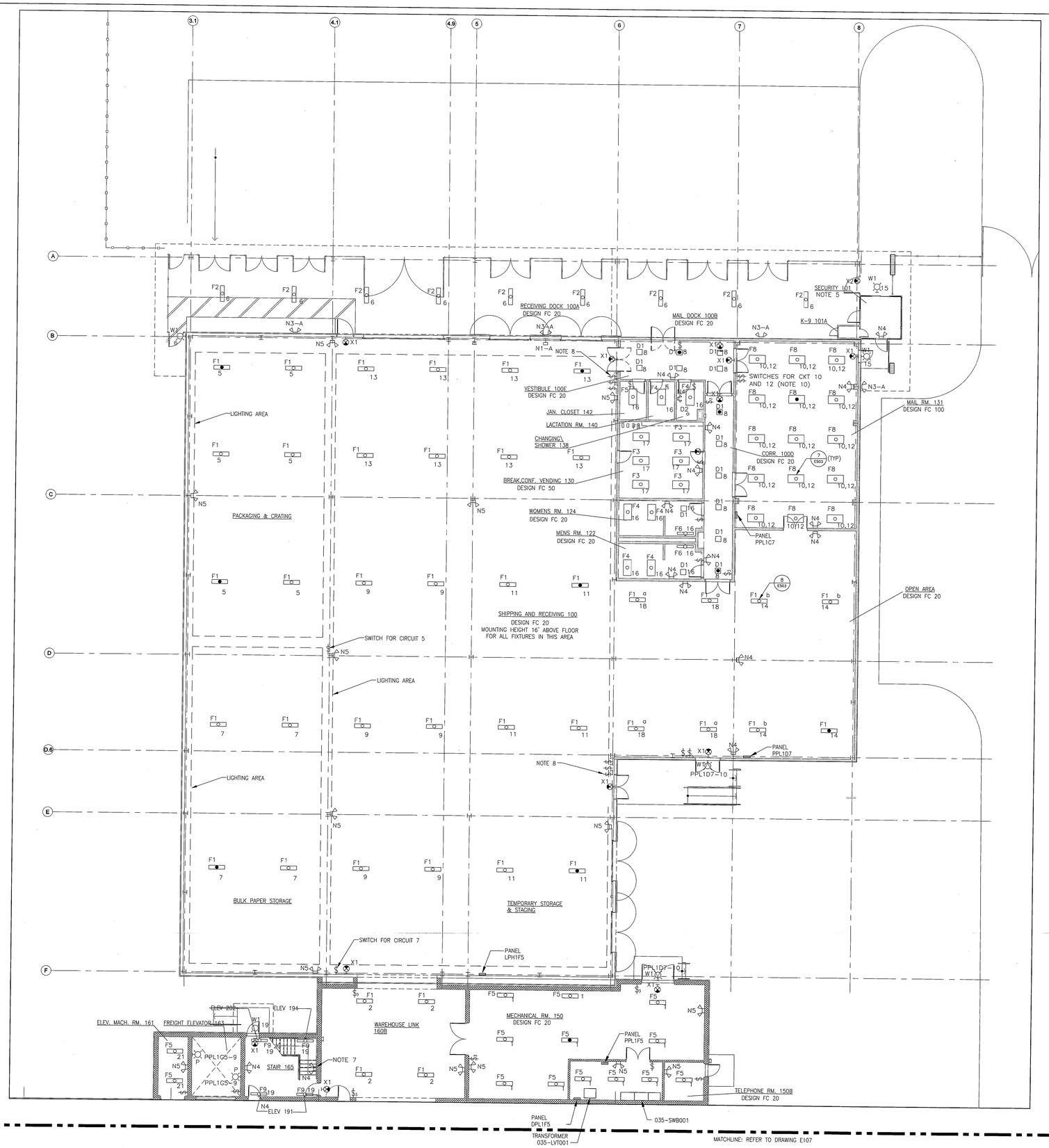
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	140 OF 158	GF-035-34128

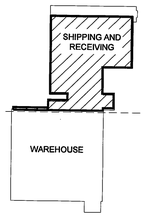
FORM F 03-07-08

FILE NAME: A6890E105 ROOF PLN SHIP.dwg FILE DATE: 2/23/2010 PLOT DATE: 2/25/2010



1 E106 SHIPPING AND RECEIVING - LIGHTING PLAN

SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

NOTES:

1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH1F5 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. LIGHTING FOR SECURITY AREA PROVIDED AND WIRED BY VENDOR OF PRE-ENGINEERED BUILDING.
6. FOR EXIT SIGN & EMERGENCY BATTERY PACK WIRING, SEE NOTE 13 ON DRAWING E001.
7. PROVIDE AND INSTALL SIX EMERGENCY LIGHT FIXTURES IN STAIRWELL 165. THEY SHALL BE INSTALLED 8 FEET ABOVE LANDINGS 1, 3, 5, SECOND FLOOR, 8 AND FUTURE MEZZANINE LEVEL.
8. INSTALL 3-WAY SWITCHES FOR CIRCUITS 9, 11 AND 13. (TWO 3-WAY SWITCHES FOR EACH CIRCUIT)
9. EMERGENCY LIGHTING PACKS SHALL HAVE THE GOMAR NUMBER ASSIGNED CONSECUTIVELY AND ATTACHED STARTING WITH 035-ELP001. REMOTE HEADS SHALL NOT BE NUMBERED.
10. MAIL ROOM FIXTURES HAVE DUAL BALLASTS TO BE ON SEPARATE CIRCUITS AS SHOWN.

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19296 DEBORAH LEIGH HARKEY
2/25/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-23-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3-1-10
CM	-	
PM	TMH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING
LIGHTING PLAN

E106

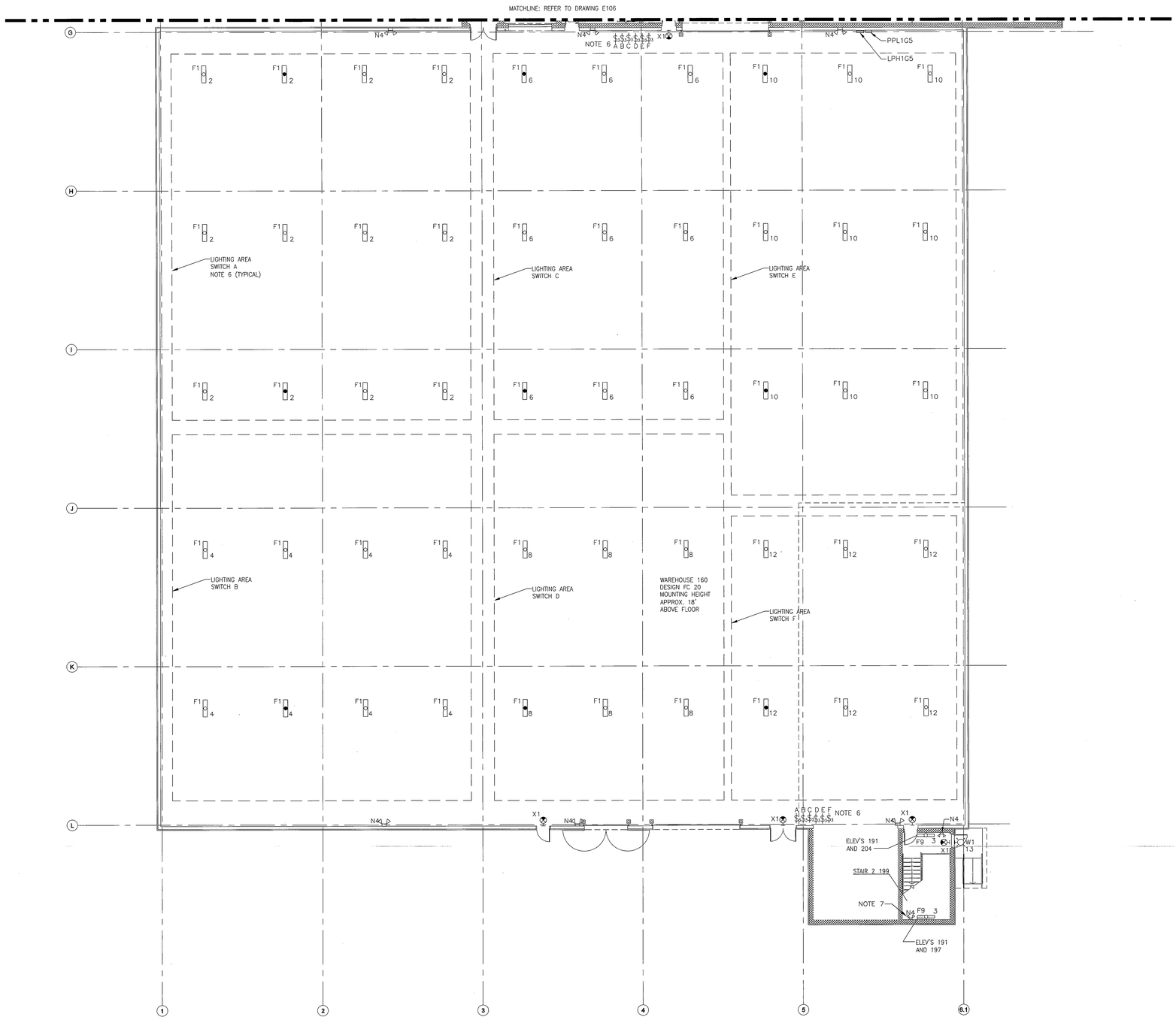
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	141 OF 158	GF-035-34129

FORM F 03-07-05

FILE NAME: A6890E106 LIT PLN SHIP.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010



1 E107 WAREHOUSE LIGHTING PLAN - FIRST FLOOR

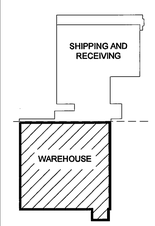
SCALE: 3/32" = 1'-0"

NOTES:

1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH1G5 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. FOR EXIT SIGN & EMERGENCY BATTERY PACK WIRING, SEE NOTE 13 ON DRAWING E001.
6. LIGHTING AREAS CONTROLLED BY 3-WAY SWITCHES AS SHOWN.
7. PROVIDE AND INSTALL SIX EMERGENCY LIGHT FIXTURES IN STAIRWELL 199. THEY SHALL BE INSTALLED 8 FEET ABOVE LANDINGS 1, 2, 3, SECOND FLOOR, 4 AND FUTURE MEZZANINE LEVEL.

0 4'-0" 8'-0" 16'-0"

NORTH



PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER DEBORAH LEIGH HARKEY
3/26/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SKE	3-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FHA	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
LIGHTING PLAN FIRST FLOOR

E107

BUILDING 035

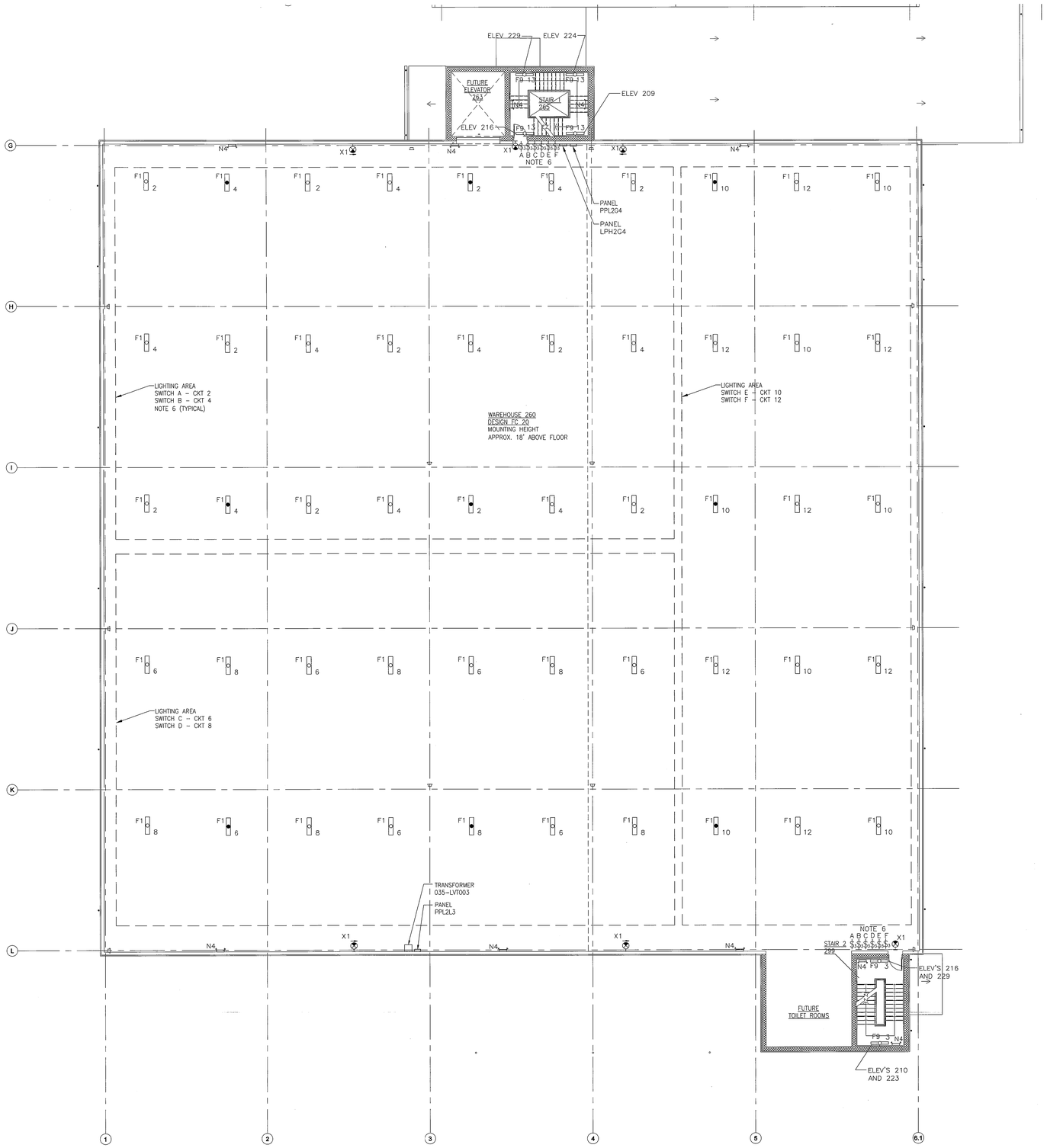
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WRQ	SHEET	DRAWING NO.
03-01-10	A6890	142 of 158	CF-035-34130

FILE NAME: A6890E107 LIT PLAN WARE 1.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM F 03-07-08



1 E108 WAREHOUSE LIGHTING PLAN - SECOND FLOOR

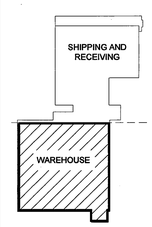
SCALE: 3/32" = 1'-0"

NOTES:

1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH2G4 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. FOR EXIT SIGN & EMERGENCY BATTERY PACK WIRING, SEE NOTE 13 ON DRAWING E001.
6. LIGHTING AREAS CONTROLLED BY 3-WAY SWITCHES AS SHOWN.

0 4'-0" 8'-0" 16'-0"

NORTH



PARSONS

REAL AREA NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER DEBORAH LEIGH HARKNESS

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FHA	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE
LIGHTING PLAN SECOND FLOOR

E108

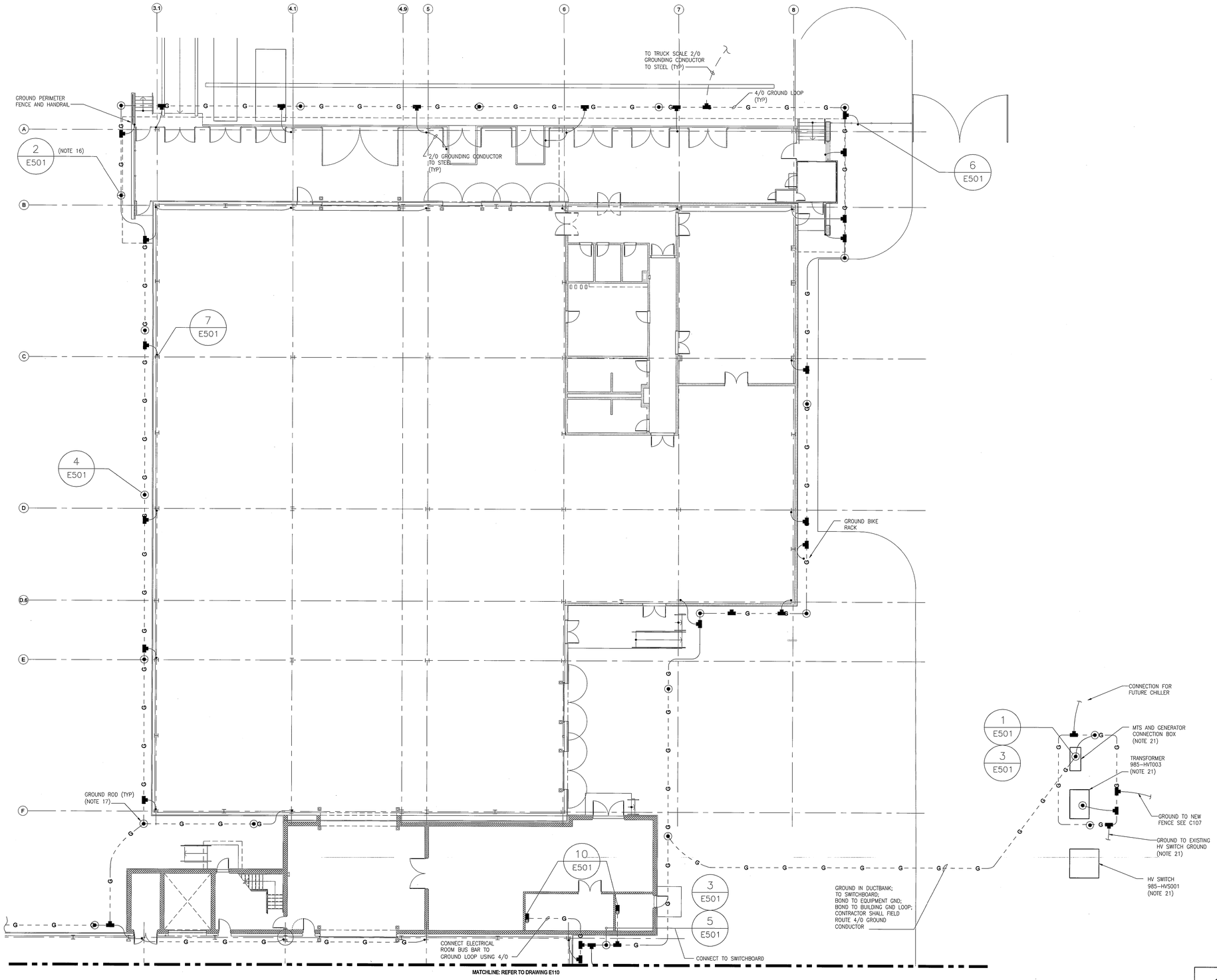
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL	DATE ISSUED 03-01-10	CoF CODE or WR# A6890	SHEET 143 OF 158	DRAWING NO. GF-035-34131

FILE NAME: A6890E108 LIT PLN WARE 2.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM # 03-01-08



1 E109 SHIPPING AND RECEIVING - GROUNDING PLAN

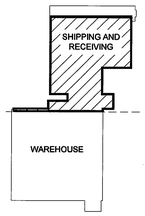
SCALE: 3/32" = 1'-0"

NOTES :

1. THE RESISTANCE OF THE BUILDING GROUND SYSTEM SHALL NOT EXCEED 25 OHMS AND SHOULD TYPICALLY BE 5 OHMS OR LESS.
2. SEE DESIGN SPEC. AND NFPA 70, ART. 250 FOR ADDITIONAL GROUNDING REQUIREMENTS.
3. CONTRACTOR SHALL USE ONLY U.L. LISTED MATERIALS AND DEVICES FOR ALL GROUNDING AND BONDING CONNECTIONS.
4. DESIGNATED EQUIPMENT INSIDE THE BLDG SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #2 AWG (UNLESS NOTED OTHERWISE) BARE STRANDED COPPER CONDUCTOR IN 1" PVC CONDUIT. ATTACHMENT TO EQUIPMENT SHALL BE MADE USING 2-HOLE COMPRESSION LUGS. CONNECT TO VENDOR PROVIDED GROUNDING POINT ON EQUIPMENT OR VESSEL.
5. WHERE GROUND CONDUCTOR IS RUN IN PVC CONDUIT, DO NOT COMPLETELY ENCIRCLE CONDUIT WITH METAL HANGER OR SUPPORT DEVICES; NOR RUN THROUGH METAL BAR JOIST SUCH THAT GROUND CONDUCTOR COULD BE ENCIRCLED.
6. ALL HVAC SHEET METAL DUCTWORK SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #8 AWG BARE STRANDED COPPER CONDUCTOR. CONNECTION TO DUCTWORK SHALL BE MECHANICAL WITH APPROVED CONNECTORS.
7. DESIGNATED HVAC EQUIPMENT ENCLOSURES (AHUs, MAUs) SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #2 AWG BARE STRANDED COPPER CONDUCTORS IN 1" PVC CONDUITS. ATTACHMENT TO EQUIPMENT SHALL BE MADE USING 2-HOLE COMPRESSION LUGS. MOTORS THAT ARE PART OF THIS HVAC EQUIPMENT THAT ARE 50HP OR GREATER SHALL BE BONDED TO THE ENCLOSURE WITH #6 AWG BARE STRANDED COPPER CONDUCTORS.
8. ALL METAL PLATFORMS, SUPPORTS, DRAINAGE GUTTERS AND MISCELLANEOUS STEEL STRUCTURES SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #2 AWG BARE STRANDED COPPER CONDUCTOR IN 1" PVC CONDUIT. PIPERACK SECTIONS SHALL BE BONDED TO BE CONTINUOUSLY GROUNDED THROUGHOUT PIPERACK STRUCTURE. ATTACHMENT TO STEEL MAY BE EXOTHERMIC OR MECHANICAL WITH APPROVED CONNECTORS.
9. MOTOR FRAMES FOR MOTORS THAT ARE 50HP OR GREATER SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #6 AWG BARE STRANDED COPPER CONDUCTORS IN 3/4" PVC CONDUIT. ATTACHMENT TO MOTOR FRAMES SHALL BE MADE USING 2-HOLE COMPRESSION LUGS OR LUGS PROVIDED BY MOTOR MANUFACTURER.
10. DISTRIBUTION POWER PANELS & LIGHTING PANELS GROUND BUS OR OVERHEAD GROUND CONDUCTOR SYSTEM, ENCLOSURES & TRANSFORMER SECONDARY CENTER TAPS SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #2 AWG BARE STRANDED COPPER CONDUCTORS IN 3/4" PVC CONDUITS.
11. DISTRIBUTION SWITCHBOARDS SHALL BE BONDED TO THE NEAREST GROUND BUS WITH 2 (TWO) #3/0 AWG BARE STRANDED COPPER CONDUCTORS IN SEPARATE 1" PVC CONDUITS. ATTACH 1 (ONE) BONDING CABLE TO EACH END OF THE SWBD GROUND BUS OR GROUND CONDUCTOR USING 2-HOLE COMPRESSION LUGS OR LUGS PROVIDED BY THE SWBD MANUFACTURER.
12. EQUIPMENT SKIDS SHALL BE BONDED TO THE NEAREST GROUND BUS OR GROUND CONDUCTOR WITH #6 AWG (UNLESS NOTED OTHERWISE) BARE STRANDED COPPER CONDUCTORS IN 1" PVC CONDUIT. CONNECT TO VENDOR PROVIDED GROUNDING POINT.
13. CONNECT THE GROUND CONDUCTOR TO GROUND BUSSES USING AN #3/0 AWG BARE, STRANDED COPPER GROUND CABLE. ALL ROUTING AND LOCATION OF GROUND CONDUCTORS SHALL BE BY THE CONTRACTOR BASED ON FIELD CONDITIONS.
14. ALL UNDERGROUND OR UNDER SLAB CONNECTIONS SHALL BE EXOTHERMIC WELDS.
15. CLEAN ALL SURFACES TO BRIGHT METAL PRIOR TO INSTALLING CLAMPS OR MAKING EXOTHERMIC CONNECTIONS. RE-COAT ALL CONNECTIONS WITH NO-OX-ID "A" COMPOUND AFTER INSTALLATION.
16. LOCATION OF GROUND GRIDS, GROUND RODS AND TEST WELLS ARE SHOWN DIAGRAMMATIC ONLY. CONTRACTOR SHALL FIELD ROUTE AND DETERMINE EXACT LOCATION.
17. ALL GROUND RODS SHALL BE 3/4 INCH COPPER CLAD, 10 FEET LONG AND DRIVEN TO A DEPTH OF 18 INCHES BELOW FINISHED GRADE MINIMUM.
18. CONTRACTOR TO LOCATE SYSTEM GROUNDS AS INDICATED ON PLAN DRAWINGS. WHERE ACCESSIBLE, INSTALL A MARKER TAPE TO BE PLACED 12" BELOW GRADE AND ABOVE LOCATION OF GROUND CONDUCTOR.
19. GROUNDING DETAILS SHOWN ON DWG E501.
20. INSTALL A GREEN INSULATED 4/0 GROUND WIRE THE ENTIRE LENGTH OF THE COMMUNICATION CABLE TRAY. A CONNECTION SHALL BE MADE TO EACH SECTION OF TRAY USING AN APPROVED GROUND CLAMP. CABLE SHALL BE CONNECTED TO GROUND BAR IN TELEPHONE ROOM. CABLE TRAY SHOWN ON DRAWINGS E102, E103 AND E104.
21. MTS, GENERATOR CONNECTION BOX, TRANSFORMER AND HV SWITCH ARE NOT SHOWN TO SCALE. SEE DRAWING E101 FOR LAYOUT OF EQUIPMENT.

0 4'-0" 8'-0" 16'-0"

NORTH



Facilities Construction Engineering & Technical Services
PARSONS
FMO-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER JOSHUA LEIGH HARVEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RJS	2/1/10
CM	–	
PM	TMA	3/1/10
CUSTOMER	[illegible]	5-4-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY SITE AND SHELL

SHIPPING AND RECEIVING GROUNDING PLAN

E109

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

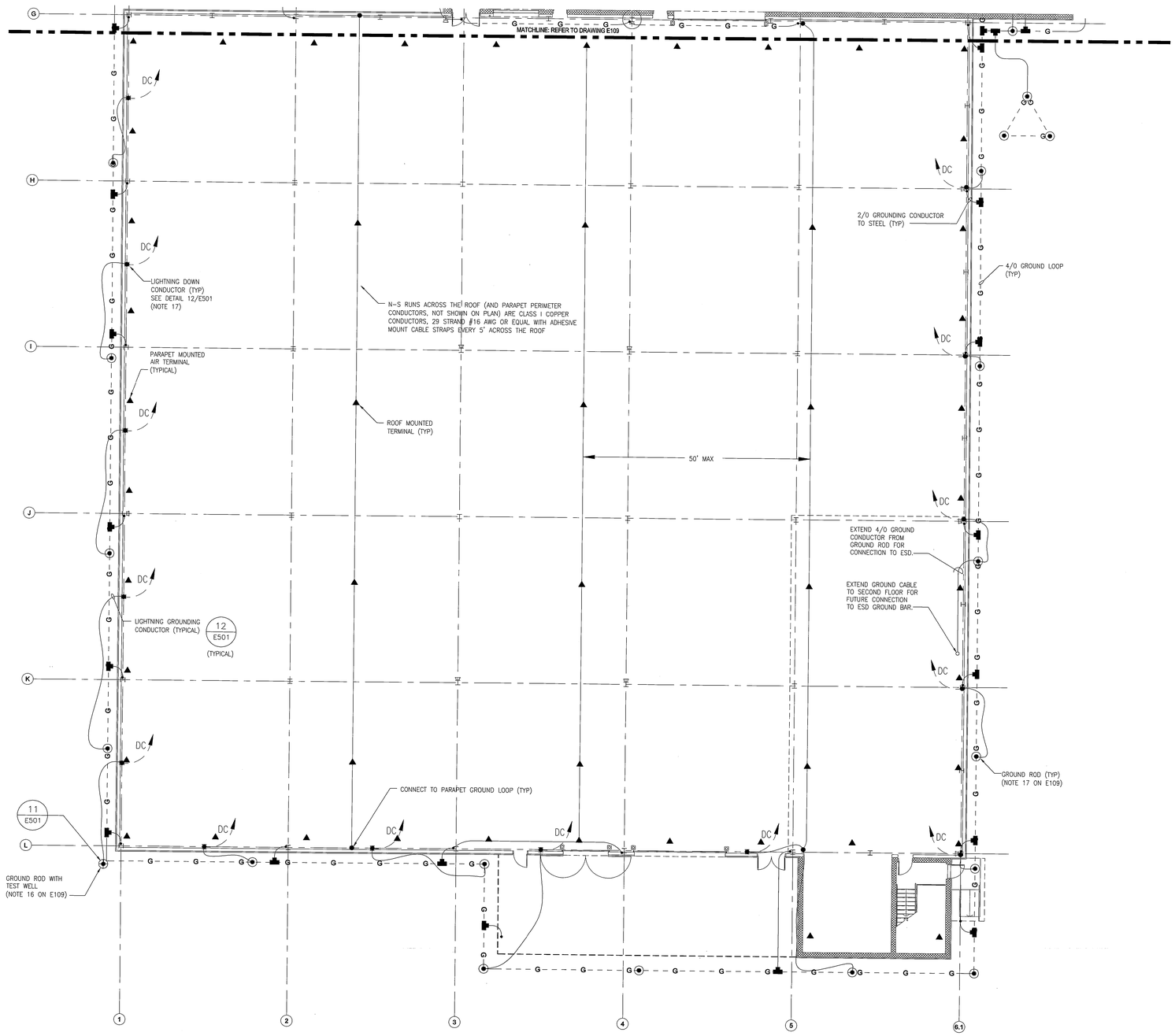
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	144 OF 158	GF-035-34132

FILE NAME: A6890E109 GND PLN SHIP.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/25/2010

FORM F 03-07-05



1 E110 **WAREHOUSE GROUNDING PLAN**

SCALE: 3/32" = 1'-0"

NOTES :

1. REFER TO E001 FOR MOST SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. REFER TO E109 FOR GROUNDING NOTES.
3. REFER TO E501 FOR GROUNDING DETAILS. ALSO SEE E109.
4. LIGHTNING PROTECTION SHALL BE PROVIDED FOR THE WAREHOUSE ONLY.
5. DOWN CONDUCTOR LOCATIONS SHALL CORRESPOND WITH BUILDING GROUNDING GRID GROUND RODS.

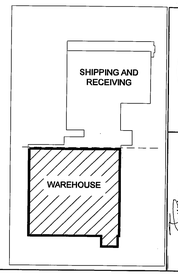
LIGHTNING PROTECTION GENERAL NOTES :

1. INSTALLATION SHALL COMPLY WITH UL CODE 96, 96A AND NFPA 780 AND SHALL BE COMPLETE IN EVERY RESPECT TO PROVIDE LPI CERTIFIED SYSTEM.
2. ALL MATERIALS TO BE UNDERWRITERS LABORATORIES LISTED AND LABELED. LABELS TO BE ON ALL AIR TERMINALS AT 10' INTERVALS ON CONDUCTOR CABLE. THE OVERALL LIGHTNING PROTECTION SYSTEM SHALL HAVE A UL MASTER LABELED.
3. LOCATE AIR TERMINALS AS SHOWN. TAKE CARE TO INSURE THAT ALL PARAPET AIR TERMINALS ARE WITHIN 2'-0" OF OUTSIDE BUILDING EDGE, OUTSIDE CORNERS, AND RIDGE ENDS. INSURE THAT ALL AIR TERMINALS PROJECT 12" ABOVE THE OBJECT PROTECTED AND THAT SPACING ALONG THE PARAPET DOES NOT EXCEED 20'-0".
4. ALL PARAPET MOUNTED AIR TERMINALS SHALL BE MOUNTED ON THE INSIDE OF THE PARAPET WALL WITH THRU-ROOF DROPS NOT TO EXCEED 60'-0". THRU-ROOF ASSEMBLIES SHALL BE HOUSED IN A PVC SLEEVE WITH CAP PER DETAIL 13 ON E501.
5. DOWN CONDUCTORS SHALL BE INSTALLED IN METAL CONDUIT COURSED ON BUILDING COLUMNS. DOWN CONDUCTOR SHALL BE BONDED TO THE CONDUIT AT THE POINT WHERE THEY ENTER THE CONDUIT AND AT THE POINT WHERE THEY EMERGE FROM THE CONDUIT AND AT ALL LOCATIONS WHERE THE CONDUIT IS NOT ELECTRICALLY CONTINUOUS. DOWN CONDUCTORS SHALL BE CONNECTED TO THE REINFORCED STEEL AT THE COLUMNS UPPER AND LOWER EXTREMITIES.
6. MAINTAIN DOWNWARD OR HORIZONTAL COURSING OF MAIN CONDUCTOR CABLE AND INSURE THAT ALL BENDS HAVE AT LEAST AN 8" RADIUS AND DO NOT EXCEED 90 DEGREES.
7. SUPPORT ALL EXPOSED CONDUCTOR CABLE AT 3'-0" ON CENTER MAXIMUM.
8. BOND TO WATER SERVICE AND OTHER PIPING SYSTEMS.
9. CONNECT LIGHTNING PROTECTION WITH OTHER BUILDING GROUND SYSTEMS.
10. BOND ALL METAL BODIES ON ROOF. TYPICAL METAL BODIES INCLUDE, BUT ARE NOT LIMITED TO, EXHAUST FANS, VENTS, HANDRAILS, AIR HANDLING UNITS, LADDERS, ANTENNAS, CONDENSING UNITS, SKYLIGHTS, ETC.
11. BOND METAL BODIES ON ROOF THAT ARE SUBJECT TO INDUCTANCE OR WITHIN 6'-0" OF A MAIN SIZED CONDUCTOR WITH SECONDARY BONDING CABLE. TYPICAL METAL BODIES INCLUDE, FLASHINGS, ROOF DRAINS, DOWNSPOUTS, GRAVEL GUARDS, ETC.
12. ACTUAL JOBSITE CONDITIONS MAY ALTER SOME AIR TERMINAL AND GROUNDING LOCATIONS. COORDINATE WITH GOVERNMENT PM BEFORE INSTALLATION.

SYMBOLS: (FOR OTHER SYMBOLS ON THIS DWG SEE E001

DC — LIGHTNING PROTECTION SYSTEM DOWN COMER CONNECTION PER DETAIL 12 ON E501.

▲ — CLASS I, 12" COPPER AIR TERMINAL, PARAPET MOUNTED PER DETAIL 13 ON E501 OR ADHESIVE HORIZONTAL BASE IF ROOF MOUNTED



0 4'-0" 8'-0" 16'-0"

NORTH

Facilities Construction Engineering & Industrial Services
PARSONS
FMD-G SFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER LEIGH HARDY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SMK	2·26·10
NASA A-E		
S&E BRANCH	DS	3/4/10
CCM	–	
PM	FJM	3/4/10
CUSTOMER	RW	3-4-10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

WAREHOUSE GROUNDING PLAN

E110

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

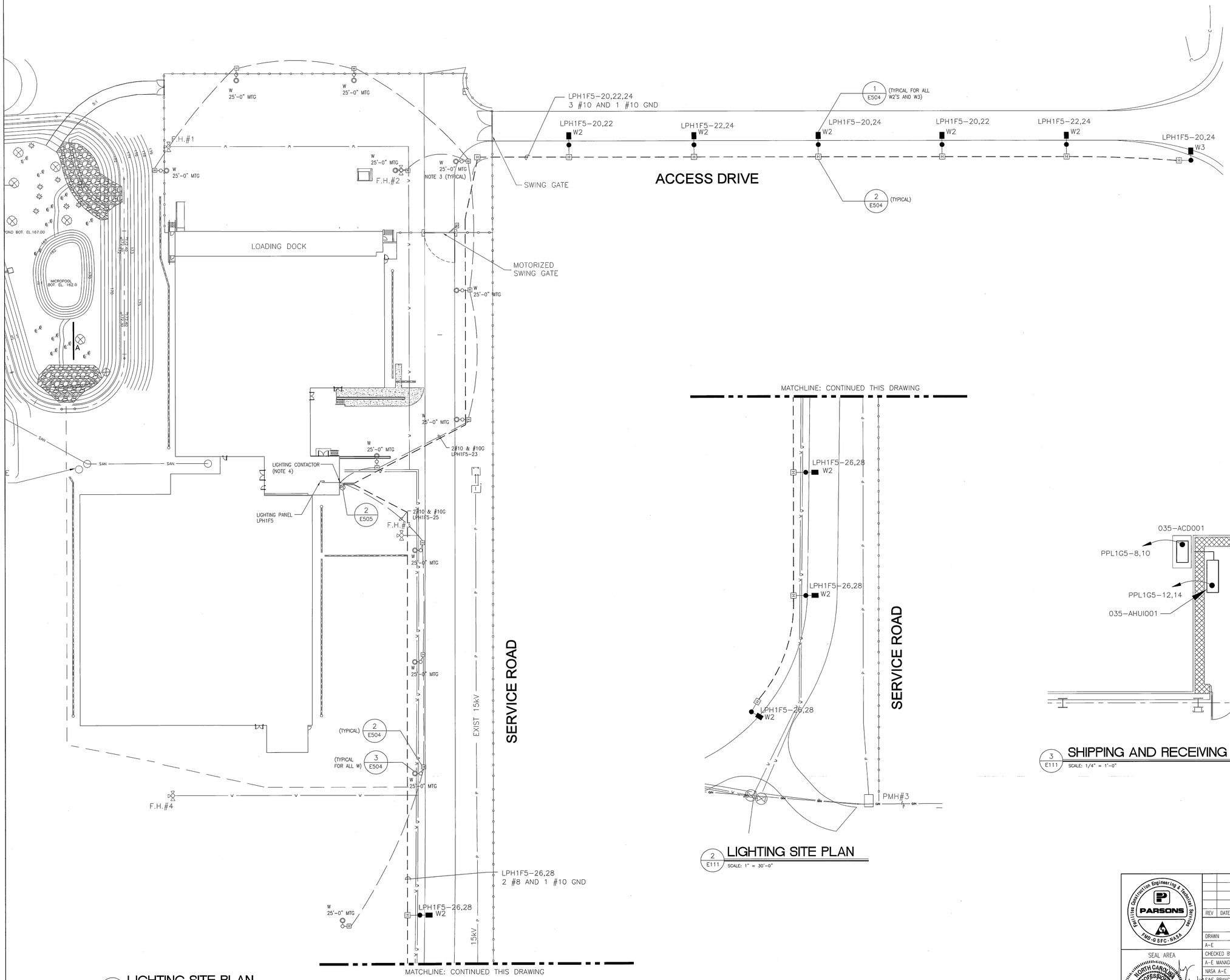
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	145 OF 158	GF-035-34133

FILE NAME: A6890E110 GND PLN WARE.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM F 02-07-06

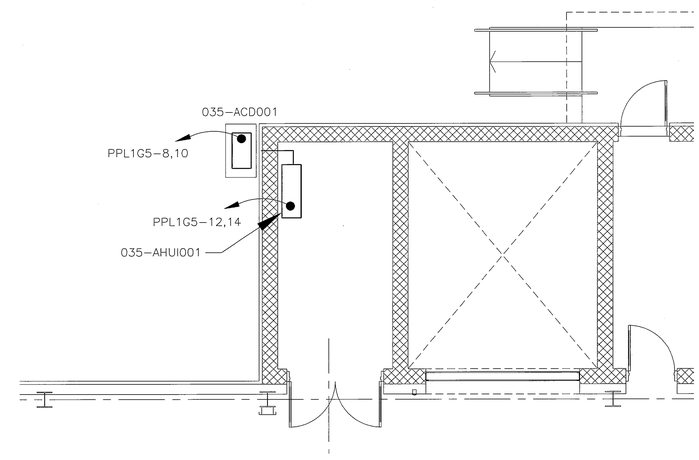


1 E111 LIGHTING SITE PLAN
SCALE: 1" = 30'-0"

2 E111 LIGHTING SITE PLAN
SCALE: 1" = 30'-0"

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES AND SYMBOLS AND ABBREVIATIONS.
2. EXTERIOR LIGHTING CIRCUITS SHALL BE COPPER CONDUCTORS AND GROUNDS.
3. ALL LIGHTING CONDUITS SHOWN ARE UNDERGROUND EXCEPT PER NOTE 4, MINIMUM 24" DEEP. CONDUIT BETWEEN LIGHT POLES IS 1" PVC WITH #10 WIRING PER DETAIL ON E503 AND E504. LIGHT POLE INSTALLATION SHALL BE PER DETAIL ON E504.
4. CONDUIT FROM LIGHTING PANEL TO LIGHTING CONTACTOR AND CONTACTOR TO PHOTOCELL ARE OVERHEAD 3/4" RGS WITH #10 WIRING.
5. PROVIDE TWO 2 INCH UG CONDUITS FROM BUILDING TO STREET LIGHTING. CONDUITS SHALL RISE UP TO LIGHTING CONTACTOR LOCATED OUTSIDE ELECTRICAL ROOM. SHOWN ON E102.
6. ALL CONDUIT INSTALLED UNDER THE ROAD AND THE PAVED AREAS SHALL BE INSTALLED SIMILAR TO DETAIL 2 ON DRAWING E503 WITH SCHEDULE 80 PVC ENCASED IN CONCRETE WITH REBAR.



3 E111 SHIPPING AND RECEIVING - BID ADDITIVE 6, HVAC PLAN
SCALE: 1/4" = 1'-0"

30 15 0 30 60
SCALE: 1"=30'

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER DEBORAH LEIGH HARKEY
2/25/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FHH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY
SITE AND SHELL
LIGHTING SITE PLAN BID ADDITIVE 5 & HVAC PLAN BID ADDITIVE 6

E111

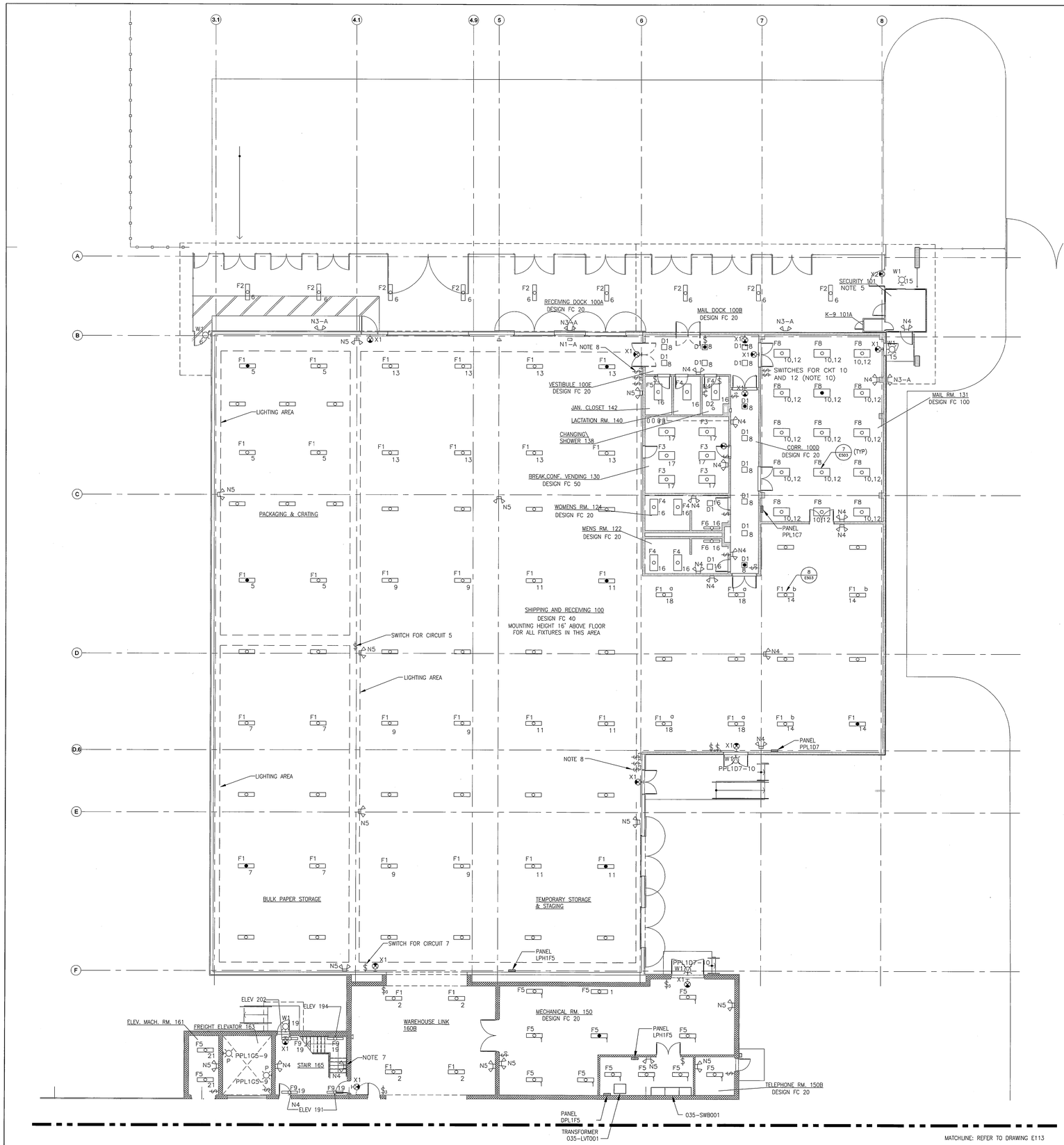
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	146 OF 158	GF-035-34134

FORM F 03-07-08

FILE NAME: A6890E111 ADD SITE LTG PLN.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010



NOTES:

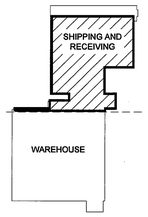
1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH1F5 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. LIGHTING FOR SECURITY AREA PROVIDED AND WIRED BY VENDOR OF PRE-ENGINEERED BUILDING.
6. FOR EXIT SIGN & EMERGENCY BATTERY PACK WIRING, SEE NOTE 13 ON DRAWING E001.
7. PROVIDE AND INSTALL SIX EMERGENCY LIGHT FIXTURES IN STAIRWELL 165. THEY SHALL BE INSTALLED 8 FEET ABOVE LANDINGS 1, 3, 5, SECOND FLOOR, 8 AND FUTURE MEZZANINE LEVEL.
8. INSTALL 3-WAY SWITCHES FOR CIRCUITS 9, 11 AND 13. (TWO 3-WAY SWITCHES FOR EACH CIRCUIT)
9. EMERGENCY LIGHTING PACKS SHALL HAVE THE GOMAR NUMBER ASSIGNED CONSECUTIVELY AND ATTACHED STARTING WITH 035-ELP001. REMOTE HEADS SHALL NOT BE NUMBERED.
10. MAIL ROOM FIXTURES HAVE DUAL BALLASTS TO BE ON SEPARATE CIRCUITS AS SHOWN.

NOTE:
LIGHTING SHOWN INCLUDES FIXTURES FOR BOTH BASE AND BID ADDITIVE. ASSOCIATED PANEL SCHEDULES AND CONTROLS REFLECT BASE BID ONLY AND WILL REQUIRE CHANGES FOR BID ADDITIVE

1 / E112 SHIPPING AND RECEIVING - LIGHTING PLAN
SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH



Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19296 SEBORAH LEIGH HARKEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM		
PM		3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
SHIPPING AND RECEIVING
BID ADDITIVE 7 - LIGHTING PLAN

E112

BUILDING 035

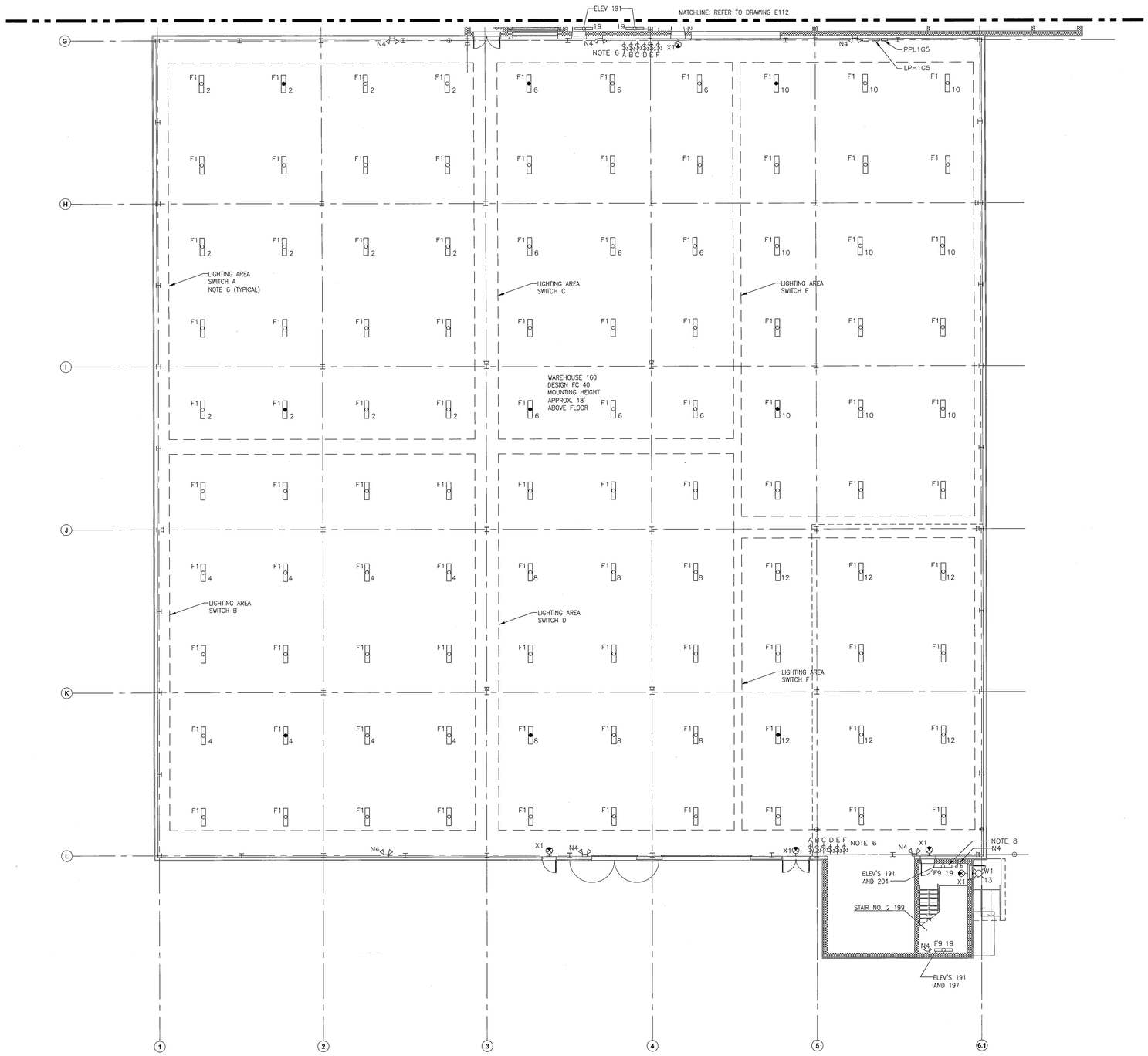
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	147 OF 158	GF-035-34135

FORM F 03-07-08

FILE NAME: A6890E112 ADD LIT PLN SHIP.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010



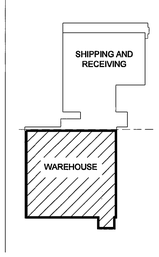
1 E113 WAREHOUSE LIGHTING PLAN - FIRST FLOOR

SCALE: 3/32" = 1'-0"

NOTES:

1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH1G5 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. EXIT SIGN & EMERGENCY BATTERY PACK WIRING SHALL BE 2#10,1#10 GND.
6. LIGHTING AREAS CONTROLLED BY 3-WAY SWITCHES AS SHOWN.
7. PROVIDE AND INSTALL SIX EMERGENCY LIGHT FIXTURES IN STAIRWELL 165. THEY SHALL BE INSTALLED 8 FEET ABOVE LANDINGS 1, 3, 5, SECOND FLOOR, 8 AND FUTURE MEZZANINE LEVEL.
8. PROVIDE AND INSTALL SIX EMERGENCY LIGHT FIXTURES IN STAIRWELL 199. THEY SHALL BE INSTALLED 8 FEET ABOVE LANDINGS 1, 2, 3, SECOND FLOOR, 4 AND FUTURE MEZZANINE LEVEL.

NOTE:
LIGHTING SHOWN INCLUDES FIXTURES FOR BOTH BASE AND BID ADDITIVE. ASSOCIATED PANEL SCHEDULES AND CONTROLS REFLECT BASE BID ONLY AND WILL REQUIRE CHANGES FOR BID ADDITIVE



0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER DEBORAH LEIGH HARKEY

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	DS	3/1/10
CM	–	
PM	JH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE -
BID ADDITIVE 7
LIGHTING PLAN - 1ST FLOOR

E113

BUILDING 035

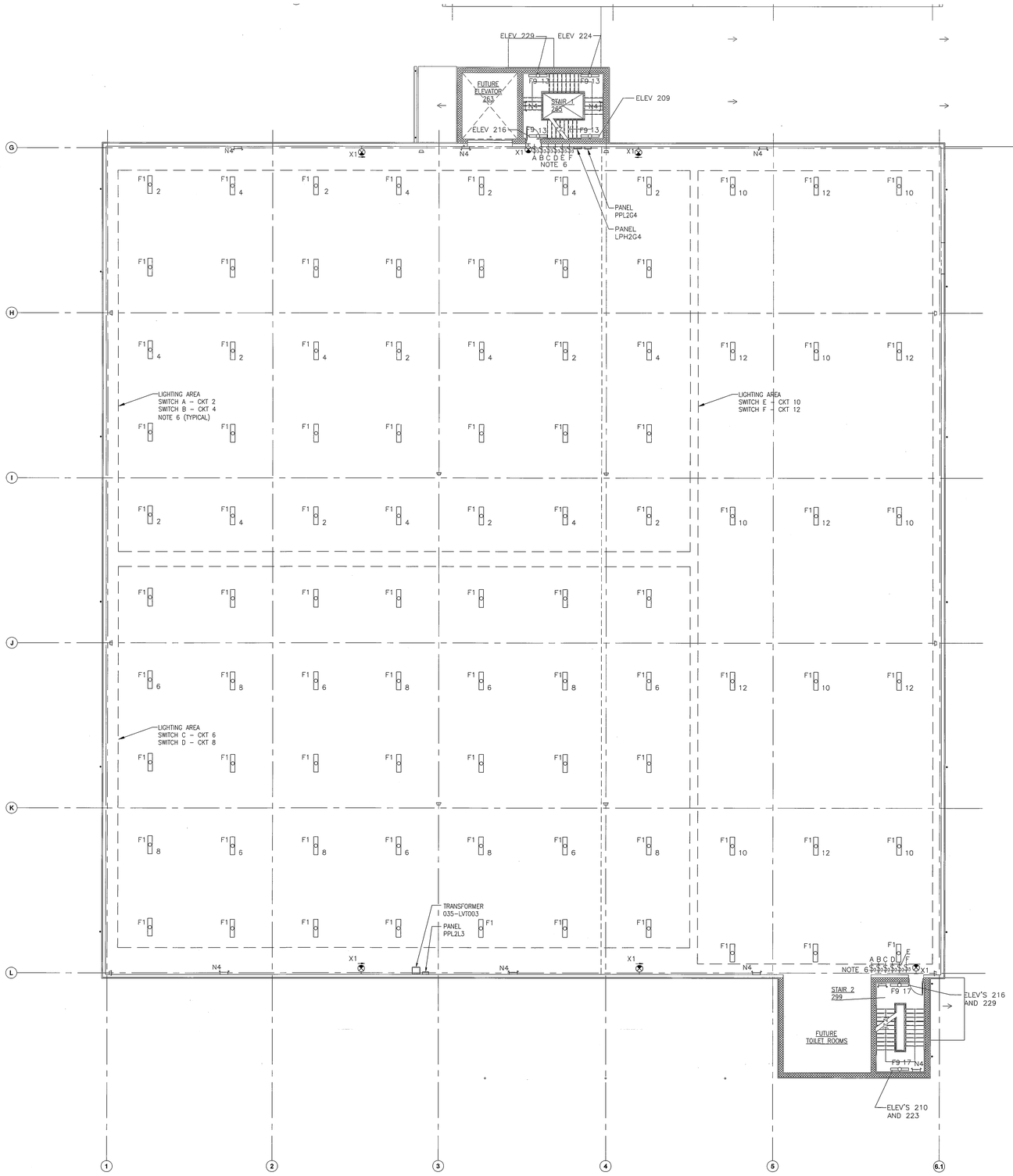
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	148 OF 158	GF-035-34136

FORM F 03-07-08

FILE NAME: A6890E113 ADD LIT PLN WARE 1.dwg
PLOT DATE: 2/24/2010

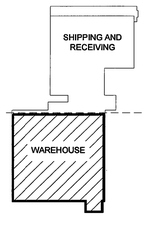


NOTES:

1. ALL LIGHTING ON THIS SHEET SHALL BE CIRCUITED TO PANEL LPH2G4 UNLESS OTHERWISE NOTED.
2. PROVIDE RACEWAY, WIRE AND CABLE, ASSOCIATED FITTINGS AND CONNECTORS AND COMPLETE CONNECTIONS REQUIRED FOR DESIGNATED BRANCH CIRCUITS FROM DEVICE (S) TO FINAL OVERCURRENT DEVICE AND TO LOCAL CONTROL DEVICE (S) AS PER SPECIFICATIONS.
3. PROVIDE GREEN GROUND WIRE IN ALL BRANCH CIRCUITS SIZED PER N.E.C.
4. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.
5. EXIT SIGN & EMERGENCY BATTERY PACK WIRING SHALL BE 2#10,1#10 GND.
6. LIGHTING AREAS CONTROLLED BY 3-WAY SWITCHES AS SHOWN.

NOTE:
LIGHTING SHOWN INCLUDES FIXTURES FOR BOTH BASE AND BID ADDITIVE. ASSOCIATED PANEL SCHEDULES AND CONTROLS REFLECT BASE BID ONLY AND WILL REQUIRE CHANGES FOR BID ADDITIVE

1 / E114 WAREHOUSE LIGHTING PLAN - SECOND FLOOR
SCALE: 3/32" = 1'-0"



0 4'-0" 8'-0" 16'-0"

NORTH

PARSONS
Facilities Construction Engineering & Technical Services
FMD-GSFC-NASA

SEAL AREA
NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER DEBORAH LEIGH HARKEY
2/25/10

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FHH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
WAREHOUSE -
BID ADDITIVE 7
LIGHTING PLAN - 2ND FLOOR

E114

BUILDING 035

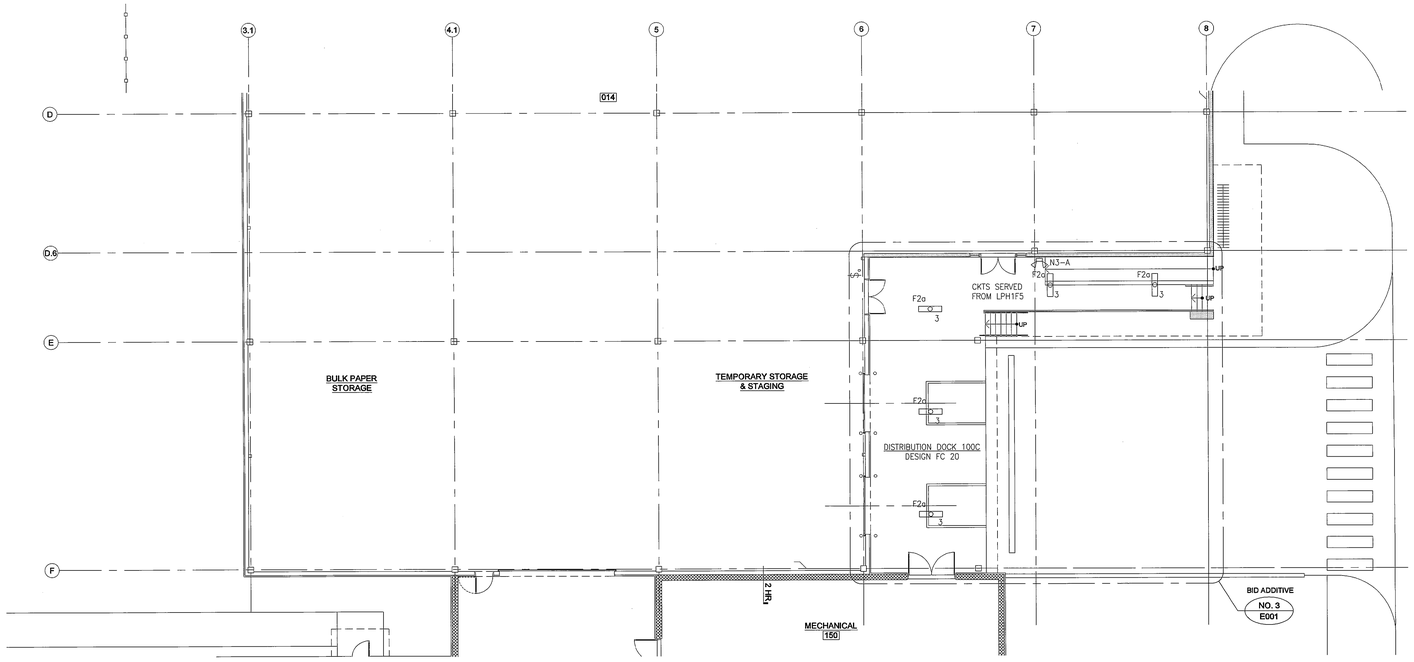
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	149 OF 158	GF-035-34137

FORM F 03-07-08

FILE NAME: A6890E114 ADD LIT PLN WARE 2.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

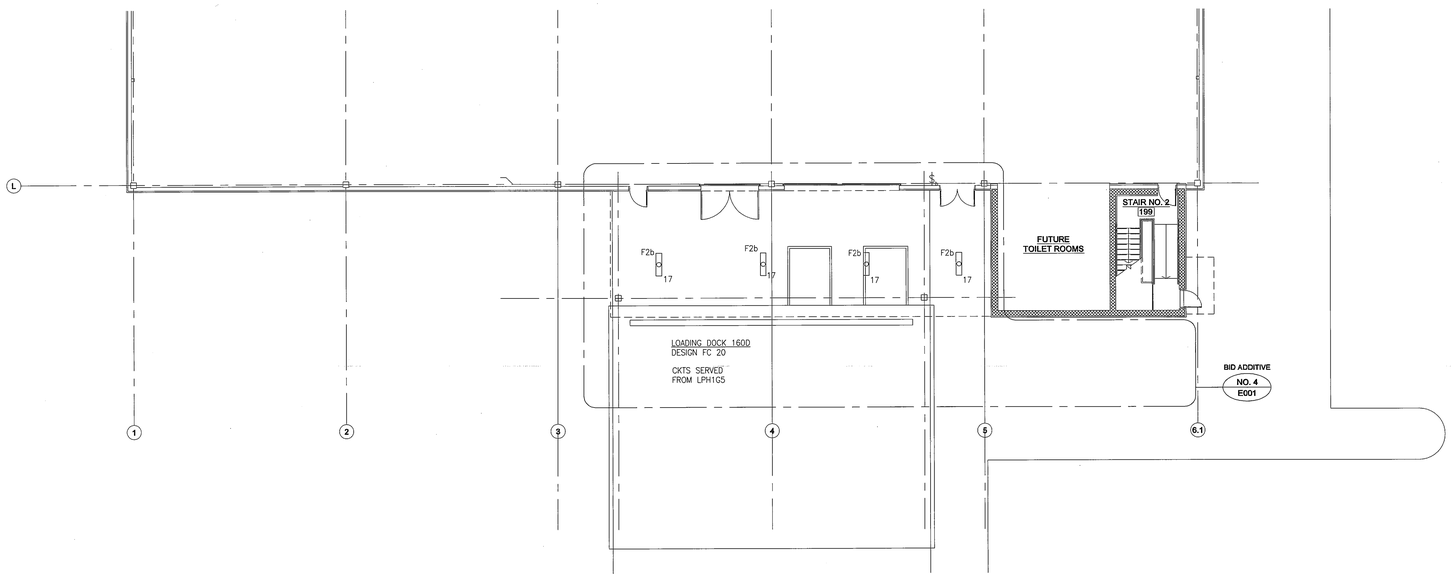


1 E115 LOADING DOCK - BID ADDITIVE 3

SCALE: 3/32" = 1'-0"

NOTES:

1. REFER TO DWG. E001 FOR SYMBOLS, ABBREVIATIONS & GENERAL NOTES.



1 E115 LOADING DOCK - BID ADDITIVE 4

SCALE: 3/32" = 1'-0"

0 4'-0" 8'-0" 16'-0"

NORTH

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RJS	3/1/10
CM	-	
PM	TMA	3/1/10
CUSTOMER	RL	3-4-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY
SITE AND SHELL
LOADING DOCK PLANS
BID ADDITIVES 3 & 4

E115

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

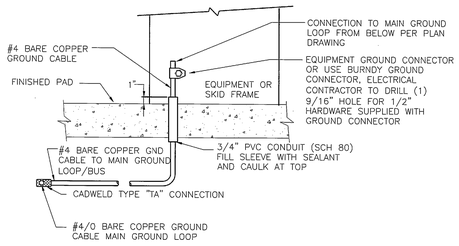
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	150 OF 158	CF-035-34138

FILE NAME: A6890E115 ADD LOAD DOCK.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM F 03-07-08

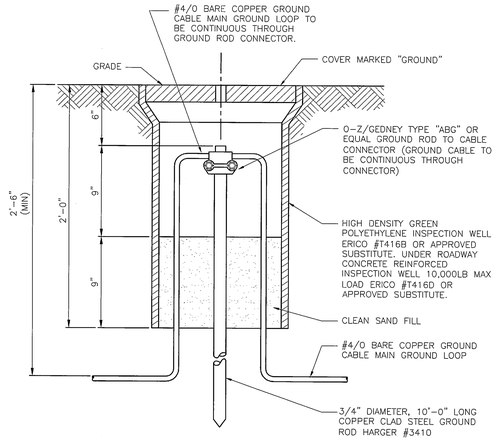
GROUNDING DETAIL NOTES :

1. REFER TO DRAWING E001 FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. REFER TO DRAWINGS E109 FOR GROUNDING AND BONDING NOTES.



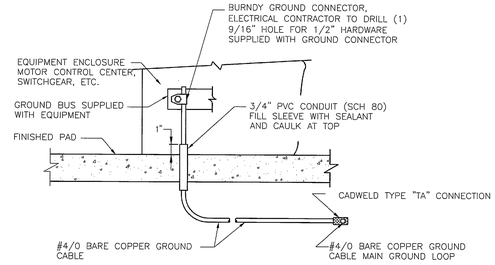
1 E501 TYPICAL EQUIPMENT FRAME DETAIL

NOT TO SCALE



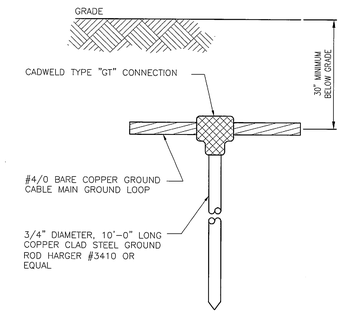
2 E501 GROUND TEST WELL DETAIL

NOT TO SCALE



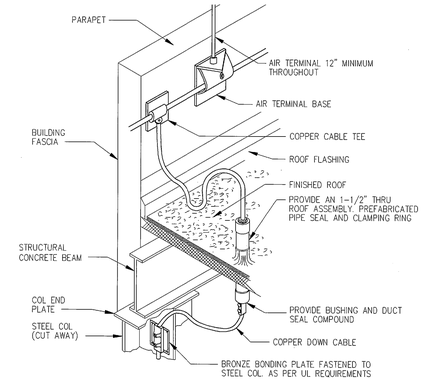
3 E501 EQUIPMENT GROUND BUS DETAIL

NOT TO SCALE



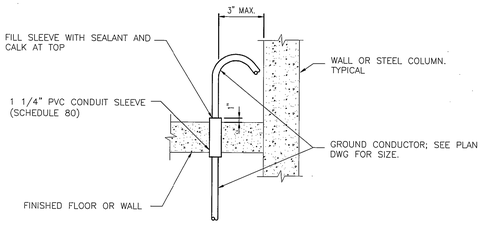
4 E501 GROUND ROD

NOT TO SCALE



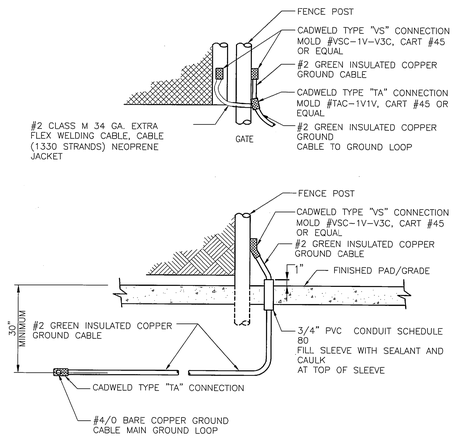
13 E501 LIGHTNING PROTECTION - CONN. AT ROOF

NOT TO SCALE



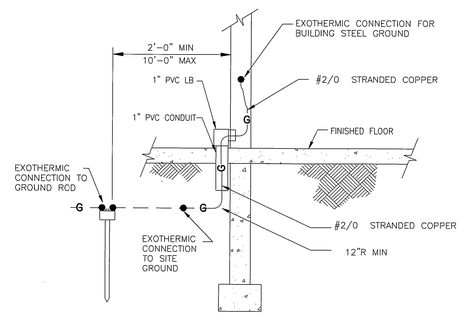
5 E501 FOUNDATION PENETRATION SEALING DETAIL

NOT TO SCALE



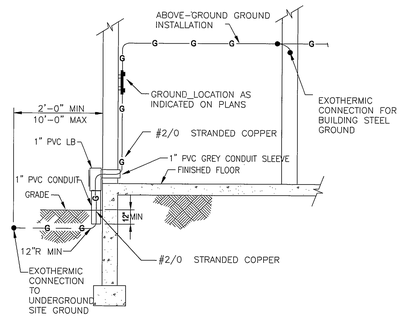
7 E501 FENCE GROUND DETAIL

NOT TO SCALE



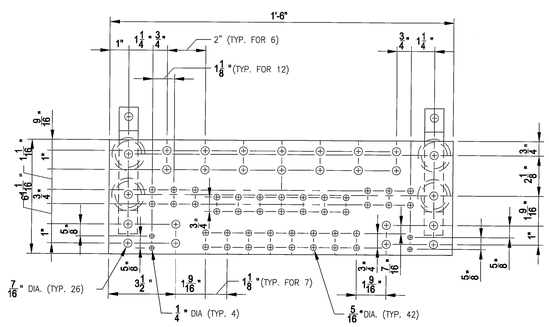
8 E501 BUILDING COLUMN GROUND DETAIL

NOT TO SCALE

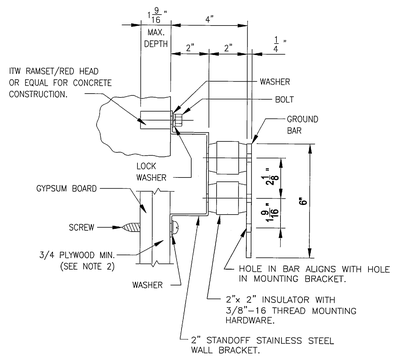


9 E501 GROUNDING CONDUCTOR DETAIL

NOT TO SCALE



FRONT VIEW



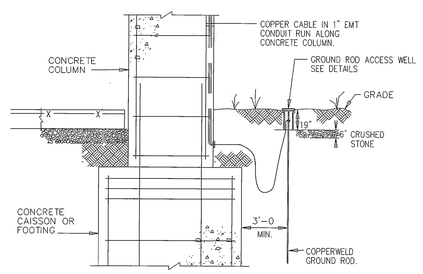
SIDE VIEW

10 E501 GROUND BAR DETAIL

NOT TO SCALE

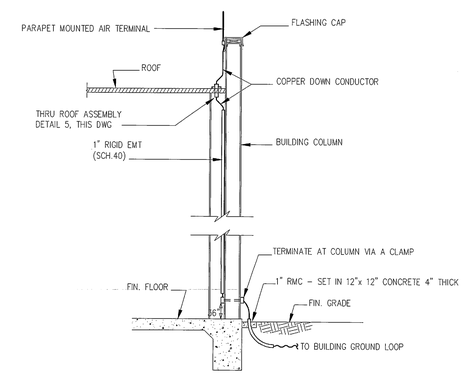
NOTES:

1. 6"x18"x1/4" SOLID COPPER BUS BAR, PART OF HARGER LIGHTNING 14618BSTG#1 BUS BAR KIT INCLUDING: PROTECTION INC. CAT.# GB (2) WALL BRACKETS CAT.# WBKT2 AND (4) INSULATORS CAT.# R4200SS OR APPROVED EQUAL. MAY BE ORDERED FROM HARGER LIGHTNING PROTECTION INC. 1-800-842-7437, ATTN. KEITH, JUSTIN OR DENNIS.
2. IF REQUIRED BY LOCAL MANAGER-ELECTRICAL SYSTEMS, CONTRACTOR SHALL FABRICATE AND MOUNT 18"x12"x3/4" PLYWOOD PANEL TO RECIEVE GROUND BAR. PANEL SHALL BE PAINTED TO MATCH EXISTING GYPSUM WALL WITH FIRE RETARDANT PAINT. IF PLYWOOD PANEL IS NOT REQUIRED, 3/8" "TOGGLER" TOGGLE BOLT PER GSA FF-B-588D, TYPE V, SHALL BE USED FOR HOLLOW WALL CONSTRUCTION. MOUNTING BRACKETS SHALL BE ALIGNED WITH STEEL STUDS WHERE PRACTICAL.



11 E501 LIGHTNING PROTECTION - CONN. AT GRADE

NOT TO SCALE



12 E501 LIGHTNING PROTECTION - DOWN CONDUCTOR

NOT TO SCALE

PARSONS — Facilities Construction Engineering & Technical Services — PMD-GSFC-NASA

SEAL AREA — NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER DEBORAH LEIGH MARCUS

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	JHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHH	3/1/10
CUSTOMER	[illegible]	3-1-10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

ELECTRICAL GROUNDING DETAILS

E501

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

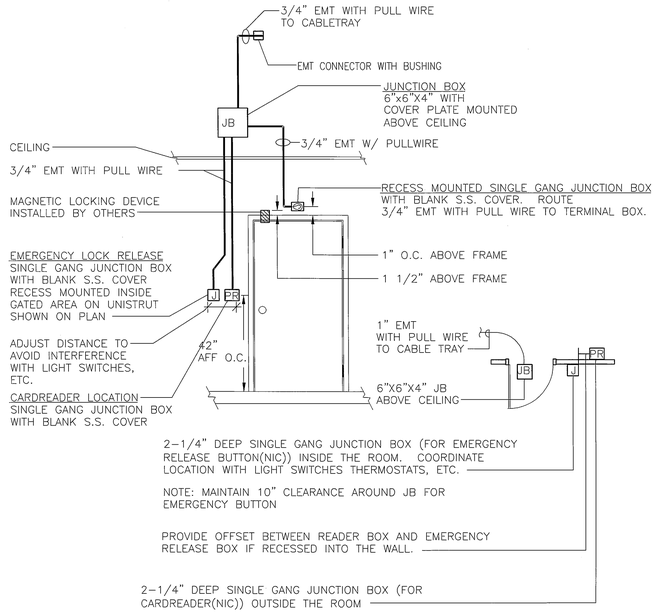
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	151 OF 158	GF-035-341139

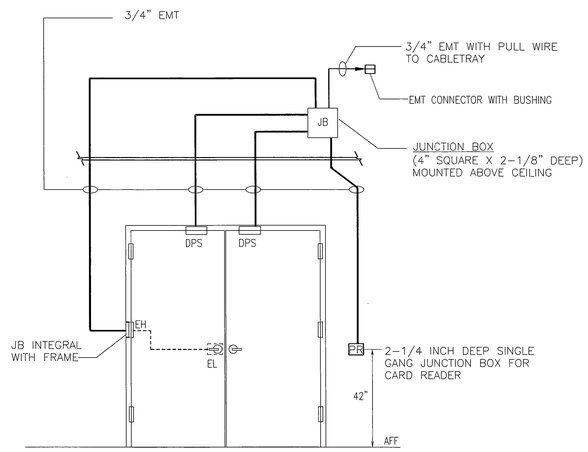
FILE NAME: A6890E501 DETAILS P1.dwg FILE DATE: 2/23/2010 PLOT DATE: 2/24/2010

FORM F 03-07-09



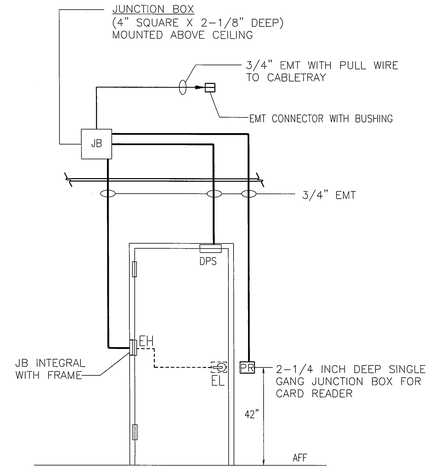
1 E502 **TYPICAL CARDREADER ROUGH-IN FOR SINGLE DOORS - MAGNETIC LOCK**

NOT TO SCALE



3 E502 **TYPICAL CARDREADER ROUGH-IN FOR DOUBLE DOORS - ELECTRIC LOCKSET**

NOT TO SCALE



4 E502 **TYPICAL CARDREADER ROUGH-IN FOR SINGLE DOORS - ELECTRIC LOCKSET**

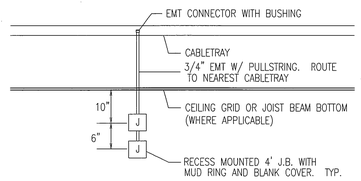
NOT TO SCALE

NOTES :

1. REFER TO DRAWING E001 FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. WORK SHALL CONSIST OF BUT IS NOT LIMITED TO THE INSTALLATION OF CONDUIT, JUNCTION BOXES, ENCLOSURES AND PULL WIRES.
3. SEAL ALL PENETRATIONS IN FIRE RATED WALLS, CEILING AND FLOORS WITH A FIRE RATED ASSEMBLY EQUAL TO THE RATING OF THE BARRIER PENETRATED.
4. BASE BID SHALL INCLUDE THE ROUGH-IN WORK ONLY. ALL CABLES AND DEVICES ARE NIC, NOT IN CONTRACT.
5. CONTRACTOR TO PROVIDE ALL CONDUIT AND BOXES. INSTALL PULL WIRE IN ALL CONDUITS.

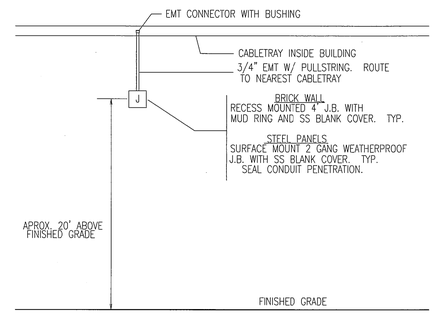
DRAWING LEGEND

—	3/4" CONDUIT
EL	ELECTRIC LOCKSET PER ASI-021. REFER TO DOOR SCHEDULE FOR SPECIFICATIONS.
EH	ELECTRIC HINGE PER ASI-021.
DPS	DOOR CONTACT (JUNCTION BOX)
PR	PROXIMITY READER JUNCTION BOX



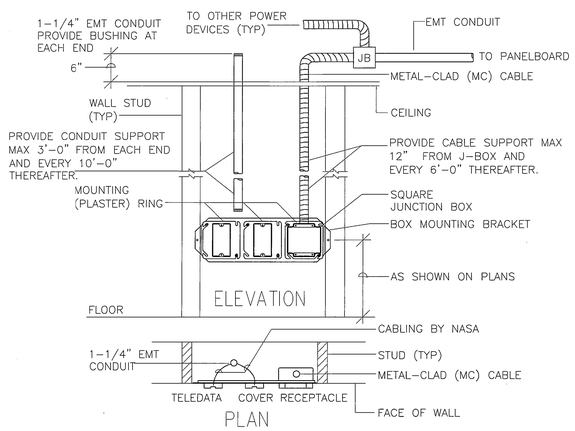
5 E502 **INTERIOR EPAS ROUGH IN**

NOT TO SCALE



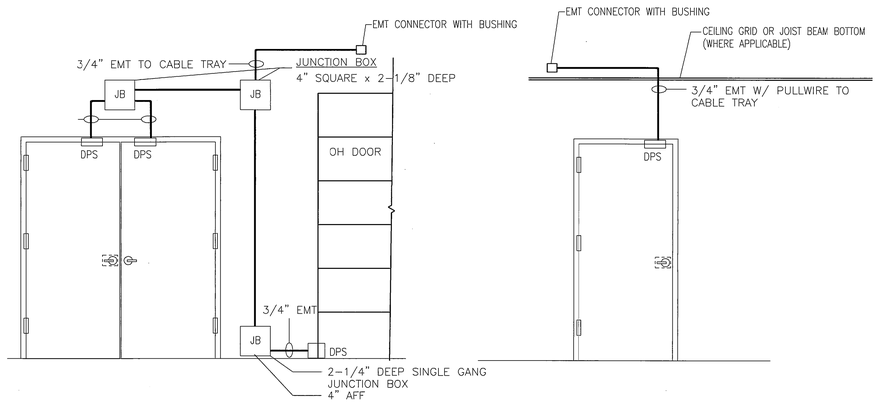
6 E502 **EXTERIOR EPAS ROUGH IN**

NOT TO SCALE



2 E502 **TYPICAL EQUIPMENT INSTALLATION FOR OFFICE TYPE SPACES**

NOT TO SCALE



7 E502 **ROUGH-IN FOR ALARM POINTS**

NOT TO SCALE

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

PARSONS — Parsons Construction Engineering & Technical Services — IND-GSFC-NASA

SEAL AREA — NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER — STEPHAN LEIGH HARMEY — 3/5/10

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	—	
PM	FHM	3/1/10
CUSTOMER		
SECTION HEAD		
ELECTRICAL		

LOGISTICS FACILITY SITE AND SHELL COMMUNICATION CARD READER/EPAS/ALARM ROUGH IN

E502

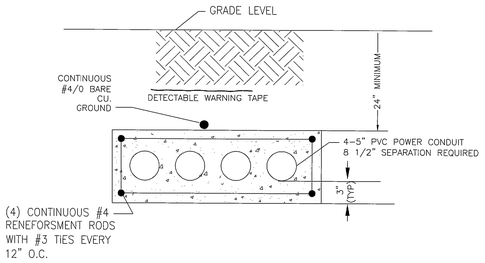
BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WO#	SHEET	DRAWING NO.
03-01-10	A6890	152 of 158	GF-035-34140

FILE NAME: A6890E502 DETAILS P1.dwg — FILE DATE: 2/24/2010 — PLOT DATE: 2/24/2010

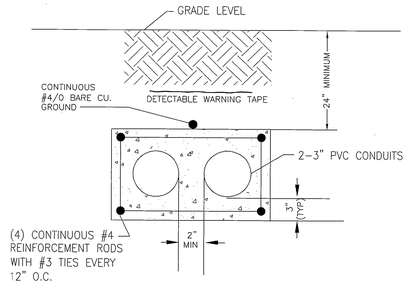
FORM F 03-07-08



480V CONDUIT BANK DETAIL

1 / E503

NOT TO SCALE



15KV CONDUIT BANK DETAIL

2 / E503

NOT TO SCALE

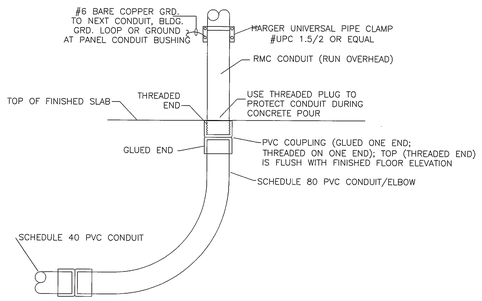
TYPICAL UNDERGROUND CONDUIT DETAIL

3 / E503

NOT TO SCALE

NOTES

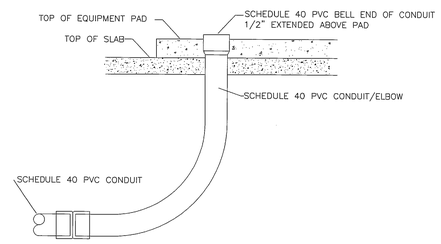
1. REFER TO DRAWING E-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.



TYPICAL CONDUIT STUB UP EXPOSED DETAIL

4 / E503

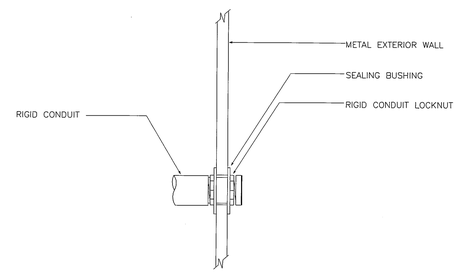
NOT TO SCALE



TYPICAL CONDUIT STUB UP INTO EQUIPMENT DETAIL

5 / E503

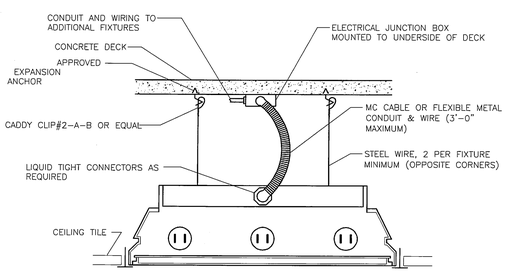
NOT TO SCALE



TYPICAL CONDUIT WALL PENETRATION DETAIL

6 / E503

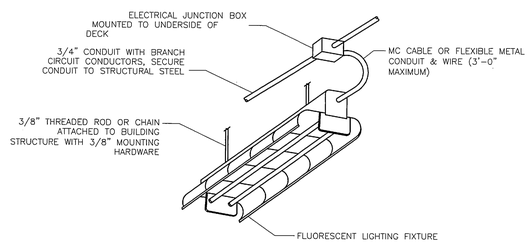
NOT TO SCALE



TYPICAL RECESSED LIGHTING FIXTURE MOUNTING DETAIL

7 / E503

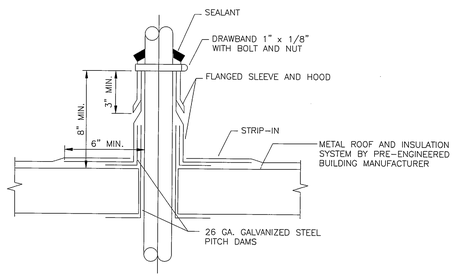
NOT TO SCALE



TYPICAL FLUORESCENT LIGHTING FIXTURE HANGING DETAIL

8 / E503

NOT TO SCALE



TYPICAL CONDUIT ROOF PENETRATION DETAIL

9 / E503

NOT TO SCALE

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SMK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	JAK	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

PARSONS — Facilities Construction Engineering & Technical Services — PMO-GSFC-NASA

NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER — WILLIAM LEIGH HARVEY — 3/1/10

LOGISTICS FACILITY SITE AND SHELL

ELECTRICAL DETAILS 1

E503

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

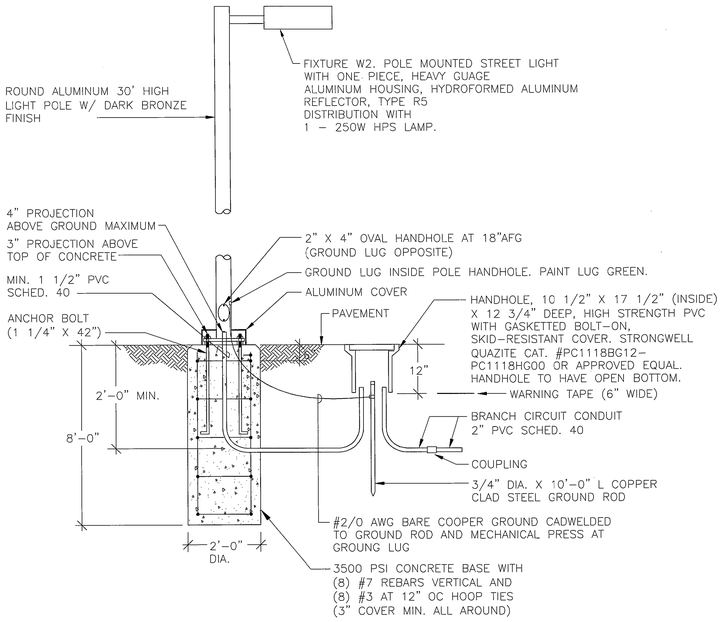
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	153 OF 158	GF-035-34141

FILE NAME: A6890C503 DETAILS P1.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

FORM F 33-07-08

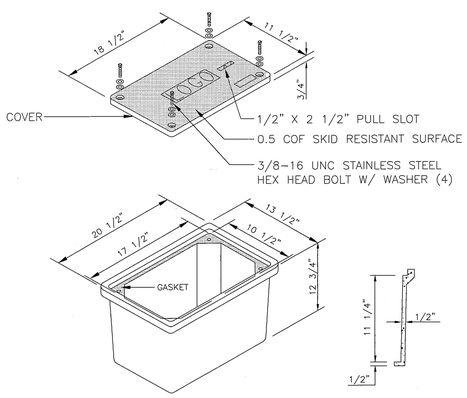


1 / E504 STREET LIGHT POLE AND FIXTURE DETAIL

NOT TO SCALE

STREET LIGHT POLE NOTES:

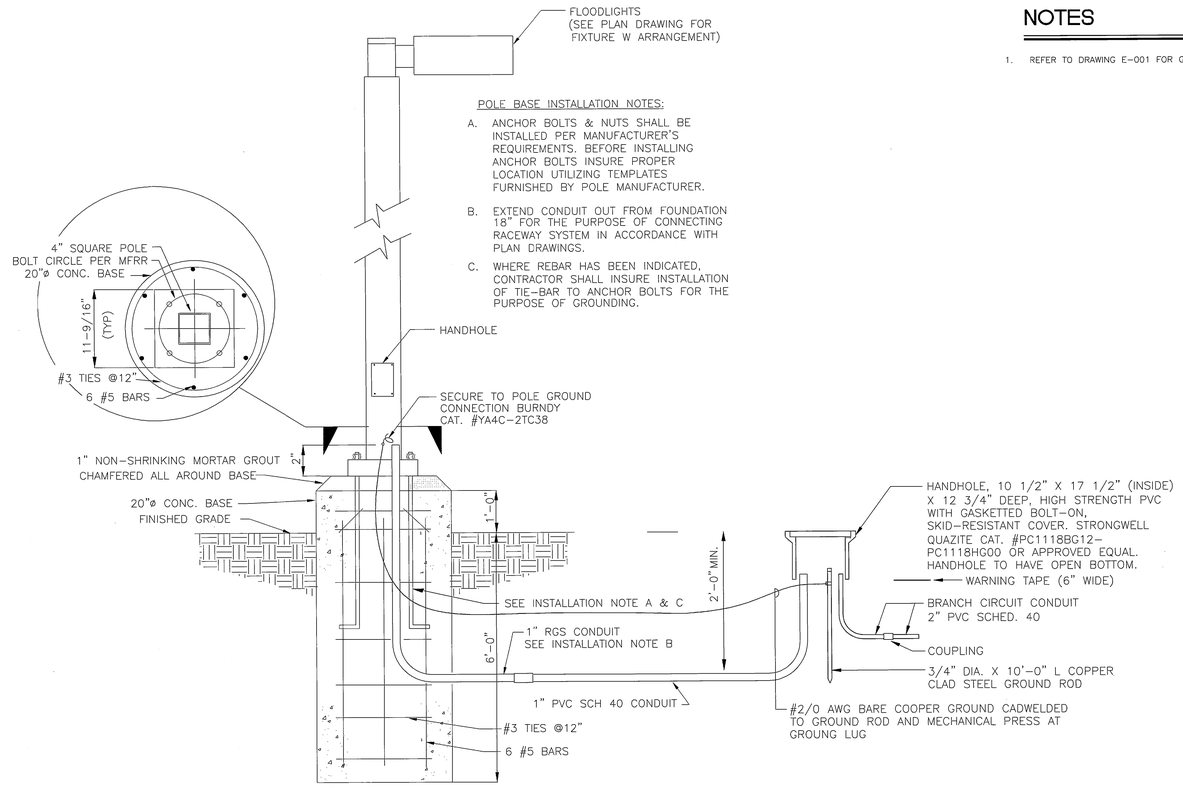
1. ALL STREET LIGHTS SHALL HAVE 2" HIGH WHITE "GOMAR" IDENTIFICATION NUMBER (TO BE DETERMINED). NUMBERS SHALL BE PLACED SIX FEET ABOVE THE GRADE ON THE LIGHT FIXTURE SIDE OF THE POLE.
2. LIGHT POLE ADJACENT TO STREET SHALL BE LOCATED 3'-0" (MIN.) FROM BACK OF THE CURB OR 12'-0" (MIN.) FROM THE LANE EDGE WHEN NO CURB IS INCLUDED..
3. MOUNT LIGHT POLE 3'-0" FROM NOSE OF CURB AND/OR CENTER OF ISLAND WIDTH.



2 / E504 TYPICAL HANDHOLE DETAIL

NOT TO SCALE

NOTE: DETAIL IS BASED ON STRONGWELL, QUAZITE CAT. #PC1118BG12-PC1118HG00. STACK UP HANDHOLES TO ACHIEVE DEPTH AS REQUIRED.



POLE BASE INSTALLATION NOTES:

A. ANCHOR BOLTS & NUTS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. BEFORE INSTALLING ANCHOR BOLTS INSURE PROPER LOCATION UTILIZING TEMPLATES FURNISHED BY POLE MANUFACTURER.

B. EXTEND CONDUIT OUT FROM FOUNDATION 18" FOR THE PURPOSE OF CONNECTING RACEWAY SYSTEM IN ACCORDANCE WITH PLAN DRAWINGS.

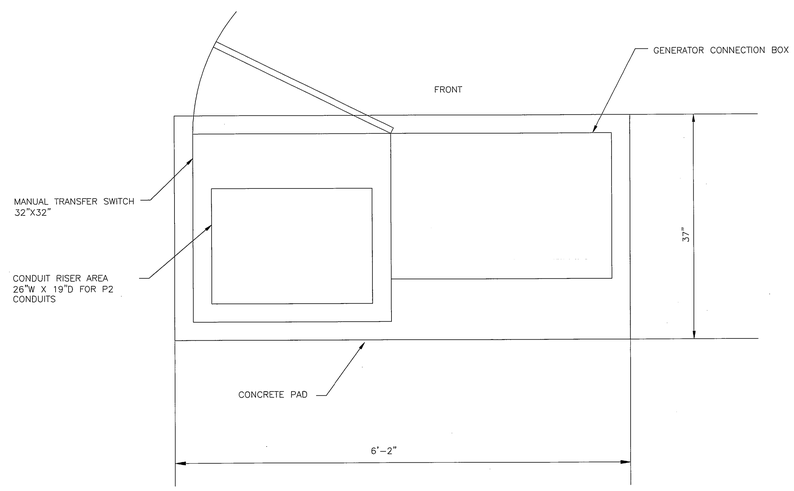
C. WHERE REBAR HAS BEEN INDICATED, CONTRACTOR SHALL INSURE INSTALLATION OF TIE-BAR TO ANCHOR BOLTS FOR THE PURPOSE OF GROUNDING.

3 / E504 PARKING LOT LIGHT POLE AND FIXTURE DETAIL

NOT TO SCALE

NOTES

1. REFER TO DRAWING E-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.



4 / E504 TRANSFER SWITCH DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

PARSONS — Parsons Infrastructure Construction Engineering & Technical Services — PMO-GSFC-NASA

SEAL AREA — NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER DEBORAH LEIGH HINKEY — 3/25/10

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FMA	3/1/10
CUSTOMER	SC	3-1-10
SECTION HEAD		

LOGISTICS FACILITY SITE AND SHELL

ELECTRICAL DETAILS 2

E504

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

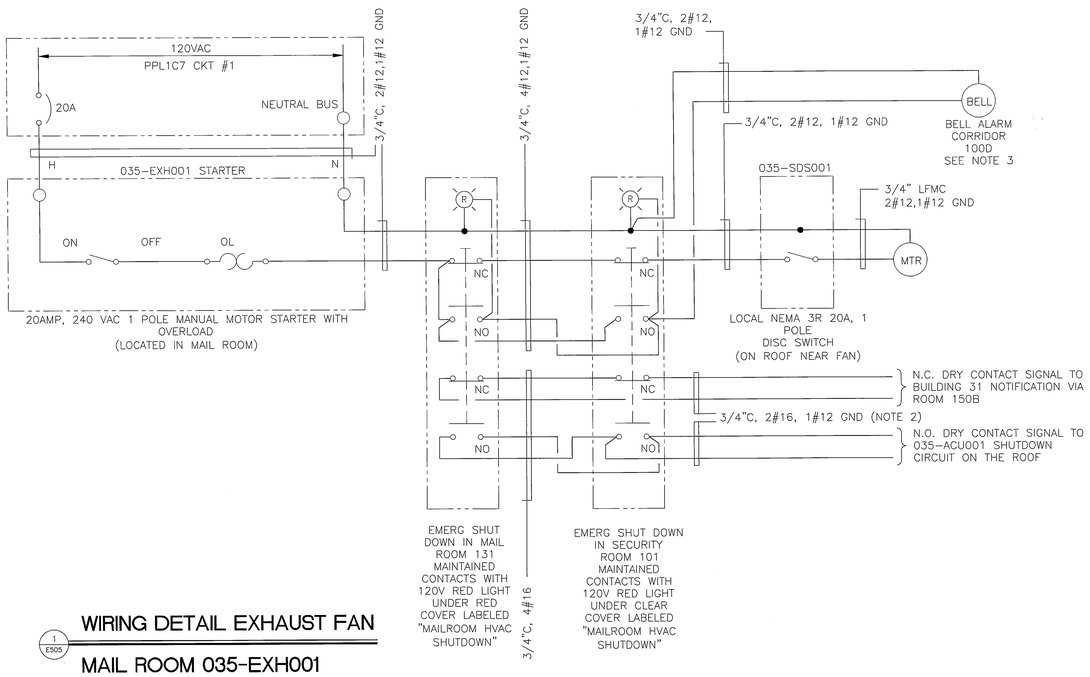
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND

FACILITIES MANAGEMENT DIVISION

ELECTRICAL | DATE ISSUED 03-01-10 | CoF CODE or WR# A6890 | SHEET 154 OF 158 | DRAWING NO. GF-035-34142

FORM F 83-07-08

FILE NAME: A6890E504 DETAILS P1.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/24/2010

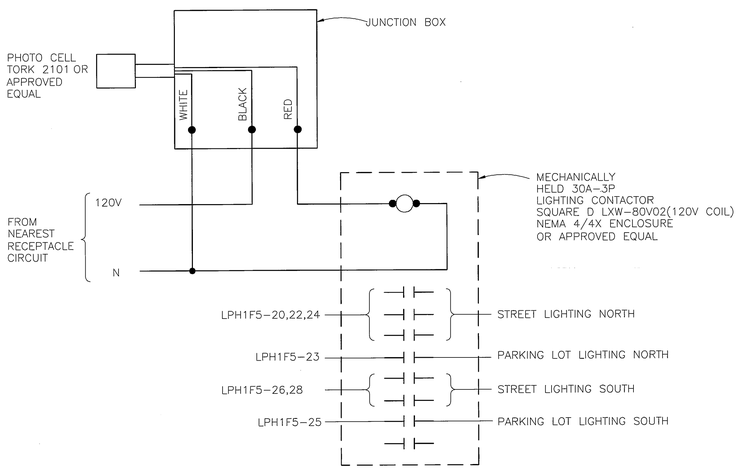


1 E505

WIRING DETAIL EXHAUST FAN

MAIL ROOM 035-EXH001

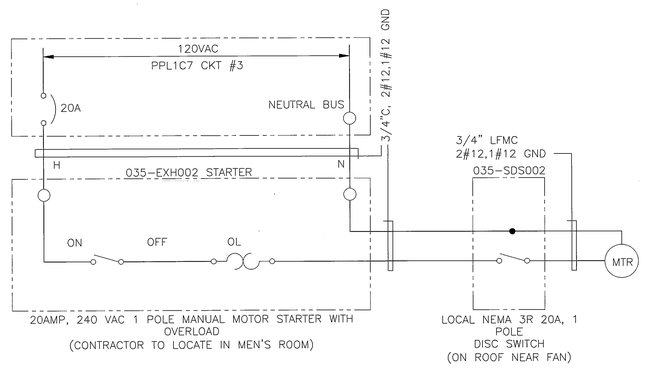
NOT TO SCALE



2 E505

EXTERIOR LIGHTING CONTROL SCHEMATIC

NOT TO SCALE



5 E505

WIRING DETAIL EXHAUST FAN

RESTROOM 035-EXH002

NOT TO SCALE

NOTES :

1. REFER TO DRAWING E001 FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. SIGNAL WIRING FOR EMERGENCY SHUTDOWN TO BE RUN IN SEPARATE CONDUIT FROM EXHAUST FAN POWER.
3. BELL TO HAVE DIFFERENT SOUND FROM ALL OTHER AUDIBLE DEVICES WITHIN BUILDING.

Facilities Construction Engineering & Technical Services
PARSONS
FMD-GSFC-NASA

SEAL AREA

NORTH CAROLINA PROFESSIONAL SEAL 19296 ENGINEER DEBORAH LEIGH HARKEY 3/26/10

REV.	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-23-10
A-E MANAGER	SHE	2.26.10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	FAM	3/1/10
CUSTOMER		
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY SITE AND SHELL

ELECTRICAL DETAILS 3

E505

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

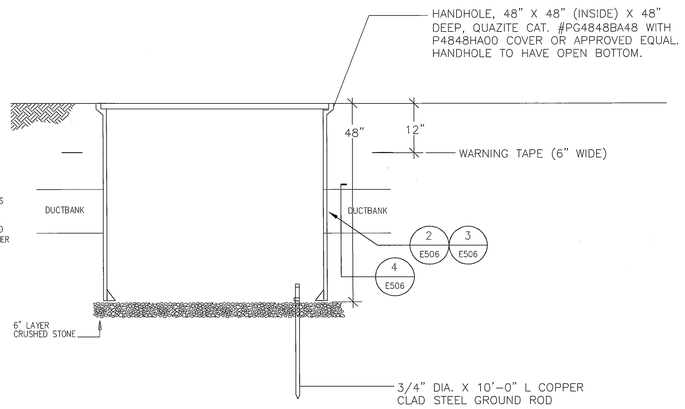
DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	155 OF 158	GF-035-34143

FILE NAME: A6890E505 DETAILS P1.dwg
FILE DATE: 2/25/2010
PLOT DATE: 2/25/2010

FORM F 03-07-08

NOTES:

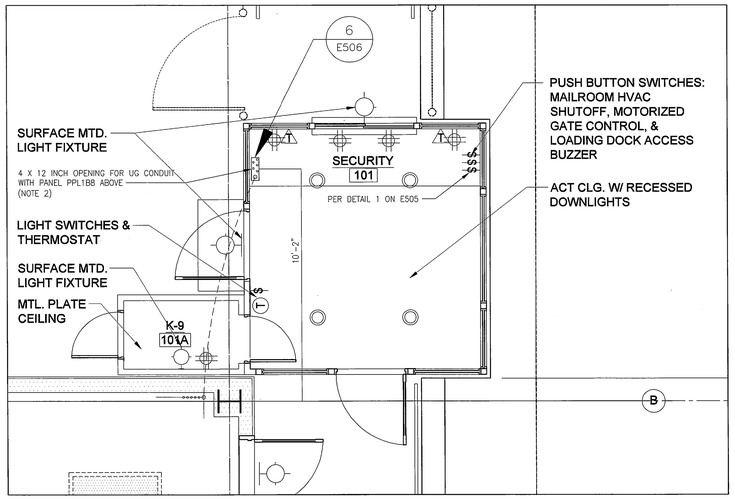
1. CONDUIT SLOPE TO BE 1/8" PER FOOT.
2. ALL CONDUITS WILL BE SLOPED TOWARDS HANDHOLE AS INDICATED ON SITE PLAN.
3. INSTALL #2/0 CABLE FROM GROUND ROD TO I-BEAM UNDER THE COVER AND OTHER METAL DEVICES WITHIN HANDHOLE.



HANDHOLE DETAIL

1 / E506

NOT TO SCALE



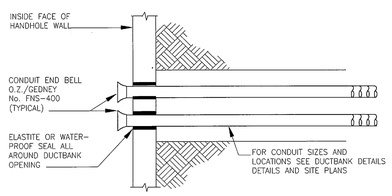
SECURITY ROOM

5 / E506

NOT TO SCALE

NOTES :

1. REFER TO DRAWING E001 FOR SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. CONTRACTOR TO DETERMINE EXACT ROUTING OF UNDERGROUND CONDUITS BASED ON FIELD CONDITIONS.



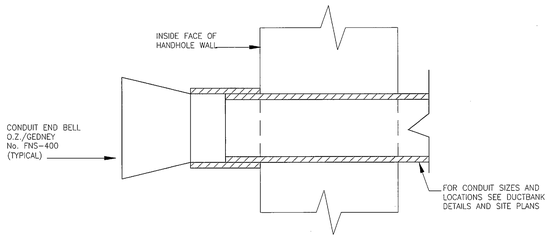
NOTES:

1. PROVIDE A PULLWIRE IN ALL SPARE DUCTS FOR FUTURE USE.
2. ALL SPARE DUCTS SHALL BE PLUGGED WITH PHILLIP PRODUCTS. CATALOG No. 1898 UNIVERSAL TAPERED PLUG OR EQUAL.
3. CABLE SHEATH PROTECTORS SHOULD BE PLACED IN DUCT MOUTH AFTER CABLE IS INSTALLED

CONDUIT BELL ENDS AT HANDHOLE

2 / E506

NOT TO SCALE

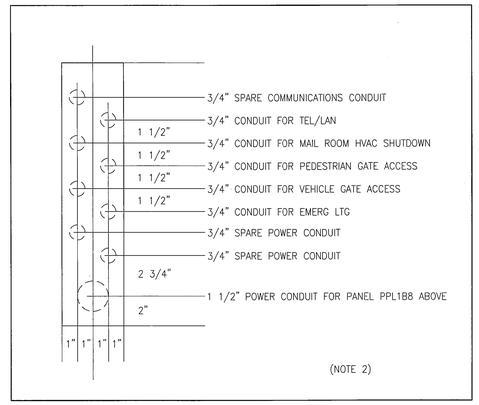


NOTE:
CABLE SHEATH PROTECTORS SHOULD BE PLACED IN DUCT MOUTH AFTER CABLE IS INSTALLED

CONDUIT BELL ENDS AT HANDHOLE

3 / E506

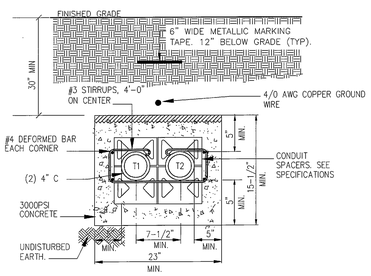
NOT TO SCALE



SECURITY ROOM CONDUIT RISER AREA

6 / E506

NOT TO SCALE



COMMUNICATION DUCTBANK

4 / E506

NOT TO SCALE

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SHK	2-26-10
NASA A-E		
S&E BRANCH	RJS	3/1/10
CM	–	
PM	JBA	3/1/10
CUSTOMER	RJS	3-1-10
SECTION HEAD		

PARSONS — Capitol Construction Engineering & Technical Services — PMO-GSFC-NASA

LOCAL AREA — NORTH CAROLINA PROFESSIONAL SEAL 19298 ENGINEER — JOSHUAH LEIGH HURLEY — 03/01/10

LOGISTICS FACILITY SITE AND SHELL

ELECTRICAL DETAILS 4

E506

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL	DATE ISSUED 03-01-10	CoF CODE or WRF A6890	SHEET 156 OF 158	DRAWING NO. GF-035-34144

FORM F 03-07-08

FILE NAME: A6890E506 DETAILS P1.dwg — FILE DATE: 2/24/2010 — PLOT DATE: 2/24/2010

LIGHT FIXTURE SCHEDULE

FIXTURE TAG	FIXTURE TYPE	MOUNTING / HEIGHT	LAMPS	BALLAST	REFLECTOR OR DIFFUSER	INPUT WATTS	VOLTAGE	FEATURES	MANUFACTURERS (NOTE 2)	REMARKS
D1	LED DOWNLIGHT	RECESS	LED, 3500 K, CRI > 80	NA	REFRACTIVE SYSTEM	40	277	TWO-PIECE REFRACTIVE SYSTEM, ACRYLIC PRISMATIC REFRACTOR, ONE-PIECE WHITE DIE-CAST REFLECTOR	LITHONIA RTS2 (LED) 277V SERIES RTD5 LED 277	
D2	DOWNLIGHT	RECESS	2-13 W DTT	ELECTRONIC, HIGH POWER FACTOR	SPECULAR CLEAR ALZAK REFLECTOR, GLASS LENS	29	277	WHITE TRIM RING, ALUMINUM REFLECTOR, LAMP LOCATION LISTED	LITHONIA LPEN 2/13 DTT R602 CSL 277 TRW	
F1	1X4 FLUORESCENT	CHAIN SUSPENDED	4-54W T5HO	ELECTRONIC, HIGH POWER FACTOR	HIGH REFLECTANCE WHITE FINISH	234	277	HEAVY DUTY CODE-GAUGE STEEL, HIGH GLOSS BAKED WHITE ENAMEL FINISH, WIDE DISTRIBUTION	LITHONIA COMPACT T5 SERIES, CAT #SC 4L	ZERO DEGREE BALLAST
F2	1X4 FLUORESCENT	PENDANT STEM	2-54W T5HO	ELECTRONIC, HIGH POWER FACTOR	HIGH IMPACT ACRYLIC	120	277	ROUGH SERVICE, IMPACT RESISTANT, FULLY GASKETED, WET LOCATION LISTED, COLD WEATHER BALLAST	LITHONIA VR1 SERIES, CAT# VR-2-54-277-GEB1OIS	
F3	2X4 FLUORESCENT	RECESS	3 - F32W T8	ELECTRONIC, HIGH POWER FACTOR, (LATER)	TYPE 19	85	277	FLAT FULL SIZE STEEL DOOR FRAME WITH FLUSH MITERED CORNERS, STATIC	LITHONIA SP8 SERIES, CAT #2SP8-G-3-32-A18-277-GEB1ORS	
F4	2X4 FLUORESCENT	RECESS	2 - F32W T8	ELECTRONIC, HIGH POWER FACTOR, (LATER)	TYPE 19	57	277	FLAT FULL SIZE STEEL DOOR FRAME WITH FLUSH MITERED CORNERS, STATIC	LITHONIA SP8 SERIES, CAT #2SP8-G-2-32-A18-277-GEB1ORS	
F5	1X4 INDUSTRIAL	CHAIN SUSPENDED	2 - F32W T8	ELECTRONIC, HIGH POWER FACTOR	CENTER "V" WITH PARABOLIC COMPARTMENT FOR EACH LAMP	68	277	CLOSED END PLATE, PORCELAIN FINISH, 10% UPLIGHT	LITHONIA AF SERIES, CAT#AF-2-32-G-277-GEB1ORS	
F6	MIRROR LIGHT	SURFACE WALL		ELECTRONIC, HIGH POWER FACTOR		57	277		LITHONIA WC SERIES, CAT#WC-2-32-A12-277-GEB1OIS	
F8	2X4 FLUORESCENT	RECESS	5-54W T5HO	ELECTRONIC, HIGH POWER FACTOR, 3 LAMP BALLAST AND 2 LAMP BALLAST	HIGH REFLECTANCE WHITE FINISH	234	277	HEAVY DUTY CODE-GAUGE STEEL, HIGH GLOSS BAKED WHITE ENAMEL FINISH, WIDE DISTRIBUTION, DUAL BALLAST	LITHONIA 2SP8 SERIES CAT#2SP8-G-8-32-A19-277- GEB1ORS DUAL BALLASTS	USE 3 LAMPS ON ONE BALLAST, 2 LAMPS ON SECOND BALLAST
F9	4 FOOT FLUORESCENT	WALL MOUNTED, 8 FOOT	2-T8	ELECTRONIC, HIGH POWER FACTOR	HIGH IMPACT ACRYLIC	70	277	HEAVY DUTY CODE-GAUGE STEEL, HIGH GLOSS BAKED WHITE ENAMEL FINISH	LITHONIA WP SERIES, CAT#WP-2-32-277-SEB-IOIS	ZERO DEGREE BALLAST
N1	EMERGENCY BATTERY PACK	SURFACE WALL, 7'-6" TO BOTTOM	N/A	N/A	N/A	450 MAX	277	VOLTMETER, TEST BUTTON, LEAD CALCIUM 12 VOLT BATTERY AND CHARGER 24 WATT CAPACITY FOR 1-1/2 HOURS	CHLORIDE CCL SERIES, CPM-75-LW	POWERS INTERIOR & EXTERIOR REMOTE HEADS AS INDICATED ON PLAN DGWS'
N2	REMOTE HEAD, INDOOR	SURFACE WALL, 7'-6" TO BOTTOM	2-12W, 12 VOLT TUNGSTEN HALOGEN	N/A	N/A	24	12	THERMOPLASTIC WEDGE BASE, RETANGULAR HEAD	CHLORIDE THERMOPLASTIC RETANGULAR T5 WEDGE BASE SERIES. PROVIDE REMOTE LAMP ASSEMBLY #ST 1212	FEED FROM TYPE 'N1-X' REFER TO DRAWING
N3	REMOTE HEAD, WET LOCATION	SURFACE WALL, 7'-6" TO BOTTOM	2-50W, 12 VOLT TUNGSTEN HALOGEN	N/A	N/A	24	12	INDUSTRIAL THERMOPLASTIC SEALED BEAM, WET LOCATION LISTED	CHLORIDE HEAVY DUTY SEALED BEAM PAR 36 SERIES SERIES, CEF-2-R-BK-50WF WITH BOX #CRBBZ	FEED FROM TYPE 'N1-X' REFER TO DRAWING
N4	EMERGENCY BATTERY PACK, OFFICE AREAS	SURFACE WALL, 7'-6" TO BOTTOM	2-12W, 12 VOLT TUNGSTEN HALOGEN	N/A	N/A	11	12	VOLTMETER, TEST BUTTON, LEAD CALCIUM 12 VOLT BATTERY AND CHARGER 24 WATT CAPACITY FOR 1-1/2 HOURS, 120/277V	CHLORIDE SYMMETRY SERIES, S12-36L-T12-W-V	CONNECT TO UNSWITCHED LIGHTING CIRCUIT
N5	EMERGENCY BATTERY PACK, (WAREHOUSE, OTHER AREAS)	SURFACE WALL, 7'-6" TO BOTTOM	2-12W, 12 VOLT TUNGSTEN HALOGEN	N/A	N/A	11	12	VOLTMETER, TEST BUTTON, LEAD CALCIUM 12 VOLT BATTERY AND CHARGER 25 WATT CAPACITY FOR 1-1/2 HOURS, 120/277V	CHLORIDE CMF/TMF SERIES, TMF25WWT12-V	CONNECT TO UNSWITCHED LIGHTING CIRCUIT
P	ELEVATOR PIT LIGHT	WALL MOUNTED	18W COMPACT FLUORESCENT	N/A	GLASS GLOBE	18	120	COMPACT FLUORESCENT VAPOLET COMPACT FIXTURE FOR WET AND DAMP LOCATIONS, GUARD AND GLOBE	DAY-BRITE LIGHTING VFS-09C-D-IN-WG	
W	OUTDOOR POLE MOUNTED NIGHTTIME FRIENDLY AREA LIGHT	25 FEET	1 - 70W HPS	MAGNETIC	TYPE-R4 LIGHTING DISTRIBUTION	90	277	ALUMINUM SQUARE HOUSING FIXTURE/POLE COMBINATION, GASKETED, TEMPERED GLASS DARK BRONZE WITH 4" SQUARE 25' POLE WITH ALL MOUNTING ACCESSORIES	LITHONIA "KA25/POLE COMBO" FOR SINGLE FIXTURE 9" ARM MOUNTING	CONSISTENT WITH LEED GOALS & GREEN GLOBES CRITERIA FOR LIGHT POLLUTION REDUCTION
W1	OUTDOOR WALL PACK	SURFACE WALL	1-55W HPS	ELECTRONIC, HIGH POWER FACTOR	ONE PIECE DIE-FORMED REFLECTOR, DIFFUSED ALUMINUM	90	277	CUTOFF, DARK SKY FRIENDLY, CORROSION RESISTANT HOUSING, DARK BRONZE, TAMPER PROOF, WITH PE CELL	LITHONIA TWA SERIES, TWA-55S-277-XPH-DMB-LPI WITH PHOTOCELL KIT RIG PEB2	
W2	OUTDOOR POLE MOUNTED STREET LIGHT	30 FEET	1 - 250W HPS	MAGNETIC	TYPE-R5 LIGHTING DISTRIBUTION	310	480	FIXTURE KV51-250S-R5-480-RP09-PER-DDB WITH POLE RTA-30-8E-DM-R-DDB AND ALL MOUNTING ACCESSORIES	LITHONIA "KV/51" FOR SINGLE FIXTURE 9" ARM MOUNTING	
W3	OUTDOOR POLE MOUNTED STREET LIGHT	30 FEET	1 - 250W HPS	MAGNETIC	ADJUSTABLE PHOTOMETRICS	-	MVOLT	30' TAPERED ALUMINUM POLE W 15' ARM	DEPARTMENT OF TRANSPORTATION, MARYLAND STATE HIGHWAY ADMINISTRATION (MDSHA) "STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS" AND MDSHA BOOK OF STANDARD FOR HIGHWAYS, INCIDENTAL STRUCTURES AND TRAFFIC CONTROL APPLICATIONS	
X1	EXIT LIGHT	CEILING OR WALL AS SHOWN ON DRAWINGS	LED	N/A	SINGLE OR DOUBLE FACE AS SHOWN ON DRAWINGS	0.7	277	RED LETTERS STENCIL FACE DIRECTIONAL ARROWS ONLY AS SHOWN, EMERGENCY NICKEL-CADMIUM BATTERY	LITHONIA SIGNATURE SERIES, LE S 1 R 120/277 EL N SD	CONNECT TO UNSWITCHED LIGHTING CIRCUIT
X2	EXIT LIGHT	UNIVERSAL/ PENDANT STEM	LED	N/A	SINGLE OR DOUBLE FACE AS SHOWN ON DRAWINGS	0.7	277	RED LETTERS STENCIL FACE DIRECTIONAL ARROWS ONLY AS SHOWN, EMERGENCY NICKEL-CADMIUM BATTERY, DAMP LOCATION LISTED, COLD WEATHER OPTION (-40C)	LITHONIA LV SERIES, LVSW (1 OR 2) R 120/277 UM	CONNECT TO UNSWITCHED LIGHTING CIRCUIT

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. CONTRACTOR TO CONFIRM ALL FIXTURE CATALOG NUMBERS BASED ON CURRENT VENDOR INFORMATION AND PRODUCT AVAILABILITY. SUBSTITUTES MUST BE EQUIVALENT AND MUST BE APPROVED FOR USE.

PARSONS — Facilities Construction Engineering & Technical Services — FMD-G SFC - NASA

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT. HEAD

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	–	
PM	TWA	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

LOGISTICS FACILITY
SITE AND SHELL
ELECTRICAL
LIGHTING FIXTURE SCHEDULE

E601

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

ELECTRICAL

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	157 OF 158	GF-035-34145

FILE NAME: A6890G001 LIT TV SCH P1.dwg FILE DATE: 2/24/2010 PLOT DATE: 2/25/2010

FORM F 03-07-08

PANEL SCHEDULE: LPH1F5 (LIGHTING PANEL)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: ELECTRICAL ROOM	MAIN: ☑ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: SWGR 035-SWB001	☐ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 480/277	BUS AMP RATING: 225	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NF

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
	LIGHTING MECH, ELEC, TELE. RM.	816	1	20/1	1752			20/1	2	936	WAREHOUSE LINK ROOM 160B	
BID ADD 3	LIGHTING DISTRIBUTION DOCK	600	3	20/1		600		20/1	4			
	LIGHTING FUTURE WOOD SHOP AREA	936	5	20/1			2016	20/1	6	1080	LIGHTING RECEIVING DOCK	
	LIGHTING BULK PAPER	1404	7	20/1	1886			20/1	8	482	LIGHTING CORRIDOR, VESTIBULE	
	LIGHTING SHIPPING AND RECEIVING	1404	9	20/1		3834		20/1	10	2430	LIGHTING MAIL ROOM BALLAST #1 OF F8	
	LIGHTING SHIPPING AND RECEIVING	1404	11	20/1			3024	20/1	12	1620	LIGHTING MAIL ROOM BALLAST #2 OF F8	
	LIGHTING SHIPPING AND RECEIVING	1872	13	20/1	2808			20/1	14	936	FUTURE DUPLICATION ROOM	
			15	20/1		782		20/1	16	782	LTG TOILETS, LACTATION, JAN, CHANGING	
	LIGHTING BREAK AREA	570	17	20/1			1506	20/1	18	936	FUTURE MGR OFFICE, RECEPTION, HAZ MAT	
	LIGHTING 01 STAIR, 165 AREA	560	19	20/1	1180			20/3	20	620	STREET LIGHTING NORTH	
	LIGHTING ELEVATOR MACH. ROOM	136	21	20/1		756			22	620		
	PARKING LOT LIGHTING NORTH	720	23	20/1			1340		24	620		
	PARKING LOT LIGHTING SOUTH	360	25	20/1	980			20/2	26	620	STREET LIGHTING SOUTH	
			27	20/1		620			28	620		
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
23.084 KVA	8606 VA	6592 VA	7886 VA

PANEL SCHEDULE: PPL1C7 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: MAIL ROOM	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
	EXHAUST FAN 035-EXH001	864	1	20/1	864			20/1	2			
	EXHAUST FAN 035-EXH002	864	3	20/1		1404		20/1	4	540	MAIL ROOM REC	
	RECEIVING DOCK	1080	5	20/1			1080	20/1	6			
	MEN & WOMEN GFI	720	7	20/1	1620			20/1	8	900	CORRIDOR & VESTIBULE REC	
	JANITOR, LACTATION, SHOWER REC	540	9	20/1		1260		20/1	10	720	MAIL ROOM REC	
	TRUCK SCALE VIA SECURITY ROOM	500	11	20/1			860	20/1	12	360	CONFERENCE ROOM FLOOR REC	
	ROOF MOUNTED REC	180	13	20/1	380			20/1	14	200	WATER COOLER	
			15	20/1		4500		30/2	16	4500	WATER HEATER HWT001	2 #10 AWG
	CARD READERS MAIL ROOM & HALL DOOR	960	17	20/1			5460		18	4500		
	CARD READERS SECURITY RM & COL B4.1	480	19	20/1	3226			20/3	20	2746	GATE MOTOR VIA MAIL ROOM	A
	EXTERIOR CAMERA COL. B4.1	360	21	20/1		3106			22	2746		
	EXTERIOR CAMERA COL. A8	360	23	20/1			3106		24	2746		
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
26.866 KVA	6090 VA	10270 VA	10506 VA

NOTES :

A. GATE CONDUITS ARE ROUTED TO GATE FROM MAIL ROOM. NOTE THAT CONTROL IS FROM SECURITY ROOM.

PANEL SCHEDULE: PPL1B8

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: SECURITY ROOM	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER:
WIRING: 1 PHASE, 3 WIRE	BUS AIC RATING: 22KAIC		TYPE:

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	0			20/1	2			
			3	20/1		0		20/1	4			
			5	20/1			0	20/1	6			
			7	20/1	0			20/1	8			
			9	20/1		0		20/1	10			
			11	20/1			0	60/1	12			
			13	20/1	0			20/1	14			
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
0 KVA	0 VA	0 VA	0 VA

NOTES :

A. PANEL PROVIDED BY SECURITY ROOM VENDOR

PANEL SCHEDULE: PPL1D7 (FUTURE DUPLICATION ROOM)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: DUPLICATION ROOM	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	180			20/1	2	180	FUTURE MANAGER'S OFFICE	
	FUTURE DUPLICATION ROOM REC	720	3	20/1		1800		20/1	4	1080	CUST. SERVICE, RECEPTION REC	
	FUTURE DUPLICATION ROOM REC	900	5	20/1			1980	20/1	6	1080	BREAK ROOM RECEPTACLES	
	SODA MACHINE	1440	7	20/1	1800			20/1	8	360	CUST. SERVICE HANDICAP DOOR OPERATOR	
	SODA MACHINE AND SNACK MACHINE	1800	9	20/1		1872		20/1	10	72	EXTERIOR LIGHTS	
	REFRIGERATOR	390	11	20/1			750	20/1	12	360	QUAD (FLOOR) BREAK ROOM	
	WATER HEATER HWT002 LADIES ROOM	3600	13	40/1	3600			20/1	14			
	WATER HEATER HWT003 LADIES ROOM	3600	15	40/1		3600		20/1	16			
	WATER HEATER HWT004 MENS ROOM	3600	17	40/1			3600	20/1	18			
	WATER HEATER HWT005 MENS ROOM	3600	19	40/1	3600			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
22.782 KVA	9180 VA	7272 VA	6330 VA

PANEL SCHEDULE: PPL1F5 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: ELECTRICAL ROOM	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	720			20/1	2	720	MECHANICAL ROOM REC	
	BULK PAPER & TEMP STORAGE REC	1080	3	20/1		2160		20/1	4	1080	SHIPPING/RECEIVING (CENTER) COL. E REC	
	SHIPPING/RECEIVING WALL REC	1080	5	20/1			1800	20/1	6	720	ELECTRICAL REC	
	EAST & SOUTH EXTERIOR & DOCK GFI	1080	7	20/1	2340			20/1	8	1260	FUTURE PACKAGING & CRATING AREA	
	SHIPPING/RECEIVING FLOOR REC	1080	9	20/1		1260		20/1	10	180	SHIPPING/RECEIVING FLOOR EQUIP #1	
	TELEPHONE ROOM REC	360	11	20/1			540	20/1	12	180	ROOF MOUNTED REC	
	TELEPHONE ROOM REC	360	13	20/1	560			20/1	14	200	EXTERIOR PIV VALVE EAST OF ELECT ROOM	
	CARD READER TEL RM, ELECT RM & COL D.6,6	720	15	20/1		9720		30/3	16	9000	CARDBOARD COMPACTOR	
	EXTERIOR CAMERA COL. D6.8	360	17	20/1			9360		18	9000		
	TELEPHONE ROOM REC	720	19	20/1	9720				20	9000		
			21	20/2		0		20/1	22			
			23				0	20/1	24			
	METASYS CABINET MECH ROOM	500	25	20/1	500			20/1	26			
	LENEL BOX TELEPHONE ROOM REC	200	27	20/1		200		20/1	28			
	FIRE ALARM PANEL	300	29	20/1			300	20/1	30			
	LENEL BOX SHIPPING AREA REC	200	31	20/1	200			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
39.38 KVA	14040 VA	13340 VA	12000 VA

PANEL SCHEDULE: PPL1L3 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE FIRST FLOOR	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: SWBD 035-SWB001 VIA LVT002	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL: 60A MAIN BREAKER	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
	WAREHOUSE RECEPTACLES FIRST FLOOR	540	1	20/1	900			20/1	2	360	WAREHOUSE RECEPTACLES FIRST FLOOR	
	WAREHOUSE RECEPTACLES FIRST FLOOR	540	3	20/1		720		20/1	4	180	WAREHOUSE RECEPTACLES FIRST FLOOR	
	WAREHOUSE RECEPTACLES FIRST FLOOR	180	5	20/1			420	20/1	6	240	CARD READER COL L6.1	
	EXTERIOR CAMERA COL. L5	360	7	20/1	360			20/1	8			
	STAIRWELL 2 HANDICAP ASSISTED DOOR	1000	9	20/1		1000		20/1	10			
	RECEPTACLE NEAR ROOF HATCH	180	11	20/1			540	20/1	12	360	WAREHOUSE RECEPTACLES LOADING DOCK	
			13	20/1	0			20/1	14			
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
3.94 KVA	1260 VA	1720 VA	960 VA

PANEL SCHEDULE: LPH1G5 (LIGHTING PANEL)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE FIRST FLOOR	MAIN: ☑ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: SWGR 035-SWB001	☐ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 480/277	BUS AMP RATING: 225	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NF

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	2808			20/1	2	2808	LIGHTING SW A WAREHOUSE FIRST FLOOR	A
	STAIRWELL 02 ROOM 199/299	560	3	20/1		3368		20/1	4	2808	LIGHTING SW B WAREHOUSE FIRST FLOOR	A
			5	20/1			2106	20/1	6	2106	LIGHTING SW C WAREHOUSE FIRST FLOOR	A
			7	20/1	1404			20/1	8	1404	LIGHTING SW D WAREHOUSE FIRST FLOOR	A
			9	20/1		2106		20/1	10	2106	LIGHTING SW E WAREHOUSE FIRST FLOOR	A
			11	20/1			1404	20/1	12	1404	LIGHTING SW F WAREHOUSE FIRST FLOOR	A
	STAIRWELL 2 EXIT & EXTERIOR	324	13	20/1	324			20/1	14			
			15	20/1		0		20/1	16			
BID ADD 4	LIGHTING DOCK	480	17	20/1			480	20/1	18			
	STAIRWELL 01 ROOM 165/265	560	19	20/1	560			20/1	20			
	LIGHTING SWITCH CONTACTORS (3)	933	21	20/1		933		20/1	22			
	ELVATOR MACHINE ROOM	160	23	20/1			160	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
15.653 KVA	5096 VA	6407 VA	4150 VA

NOTES :

A. CIRCUIT TO BE 2 #10 AND 1 #12 GND.
B. CIRCUIT TO BE 2 #12 AND 1 #12 GND.

PANEL SCHEDULE: PPL1G5 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE FIRST FLOOR	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
	WAREHOUSE RECEPTACLES	900	1	20/1	1980			20/1	2	1080	WAREHOUSE RECEPTACLES	
	WAREHOUSE RECEPTACLES	1080	3	20/1		1440		20/1	4	360	WAREHOUSE RECEPTACLES	
	WAREHOUSE RECEPTACLES	1260	5	20/1			2520	20/1	6	1260	WAREHOUSE RECEPTACLES	
	ELEVATOR 035-ELV001 PIT RECEPTACLES	198	7	20/1	5627			30/2	8	5429	035-AHU001 ELEVATOR MECH ROOM INDOOR	BID AD 6 NOTE
B	ELEVATOR 035-ELV001 PIT LTG	396	9	20/1		5825			10	5429		
	ELEVATOR 035-SUP001 PIT SUMP PUMP	380	11	20/1			2418	20/2	12	2038	35-ACD001 ELEVATOR MECH ROOM OUTDOO	BID AD 6 NOTE
			13	20/1	2038				14	2038		
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
21.848 KVA	9645 VA	7265 VA	4938 VA

NOTES :

A. REFER TO DRAWING M104 FOR ELEVATOR MACHINE ROOM INFORMATION.
B. THIS CIRCUIT ALSO FEEDS ELEV. MACHINE ROOM RECEPTACLES.

PANEL SCHEDULE: LPH2G4 (LIGHTING PANEL)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE SECOND FLOOR	MAIN: ☑ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: SWGR 035-SWB001	☐ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 480/277	BUS AMP RATING: 225	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NF

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	2574			20/1	2	2574	LIGHTING SW A WAREHOUSE 2ND FLOOR	A
	STAIRWELL 02 ROOM 299	280	3	20/1		2620		20/1	4	2340	LIGHTING SW A WAREHOUSE 2ND FLOOR	A
			5	20/1			1638	20/1	6	1638	LIGHTING SW B WAREHOUSE 2ND FLOOR	A
			7	20/1	1638			20/1	8	1638	LIGHTING SW B WAREHOUSE 2ND FLOOR	A
			9	20/1		1872		20/1	10	1872	LIGHTING SW C WAREHOUSE 2ND FLOOR	A
			11	20/1			1638	20/1	12	1638	LIGHTING SW C WAREHOUSE 2ND FLOOR	A
	STAIRWAY 1	280	13	20/1	280			20/1	14			
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
12.26 KVA	4492 VA	4492 VA	3276 VA

NOTES :

A. CIRCUIT TO BE 2 #10 AND 1 #12 GND.
B. CIRCUIT TO BE 2 #12 AND 1 #12 GND.

PANEL SCHEDULE: PPL2G4 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE SECOND FLOOR	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: DPL1F5	☑ MAIN BKR ☐ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL:	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
	WAREHOUSE RECEPTACLES	720	1	20/1	1440			20/1	2	720	WAREHOUSE RECEPTACLES	
	WAREHOUSE RECEPTACLES	720	3	20/1		1260		20/1	4	540	WAREHOUSE RECEPTACLES	
	WAREHOUSE RECEPTACLES	540	5	20/1			540	20/1	6			
			7	20/1	0			20/1	8			
			9	20/1		0		20/1	10			
			11	20/1			0	60/1	12			
			13	20/1	0			20/1	14			
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
3.24 KVA	1440 VA	1260 VA	540 VA

PANEL SCHEDULE: PPL2L3 (RECEPTACLES)

☑ NEW PANEL ☐ EXISTING PANEL

LOCATION: WAREHOUSE SECOND FLOOR	MAIN: ☐ LUGS ONLY ☑ TOP	NUMBER OF CIRCUITS: 42	ENCLOSURE: ☑ NEMA 1 ☐ NEMA 3R
FED FROM: SWBD 035-SWB001 VIA LVT003	☑ MAIN BKR ☑ BOTTOM	BREAKERS: ☑ BOLT-ON ☐ PLUG-IN	MOUNTING: ☐ FLUSH ☑ SURFACE
VOLTAGE: 208/120V	BUS AMP RATING: 100	SPECIAL: 60A MAIN BREAKER	MANUFACTURER: SQUARE-D
WIRING: 3 PHASE, 4 WIRE	BUS AIC RATING: 22KAIC		TYPE: NQOD

NOTES	DESCRIPTION	LOAD	CKT NO	BKR	VA A	VA B	VA C	BKR	CKT NO	LOAD	DESCRIPTION	NOTES
			1	20/1	0			20/1	2			
			3	20/1		0		20/1	4			
			5	20/1			540	20/1	6	540	WAREHOUSE RECEPTACLES SECOND FLOOR	
	WAREHOUSE RECEPTACLES SECOND FLOOR	360	7	20/1	900			20/1	8	540	WAREHOUSE RECEPTACLES SECOND FLOOR	
	WAREHOUSE RECEPTACLES SECOND FLOOR	180	9	20/1		360		20/1	10	180	WAREHOUSE RECEPTACLES SECOND FLOOR	
			11	20/1			0	60/1	12			
			13	20/1	0			20/1	14			
			15	20/1		0		20/1	16			
			17	20/1			0	20/1	18			
			19	20/1	0			20/1	20			
			21	20/1		0		20/1	22			
			23	20/1			0	20/1	24			
			25	20/1	0			20/1	26			
			27	20/1		0		20/1	28			
			29	20/1			0	20/1	30			
			31	20/1	0			20/1	32			
			33	20/1		0		20/1	34			
			35	20/1			0	20/1	36			
			37	20/1	0			20/1	38			
			39	20/1		0		20/1	40			
			41	20/1			0	20/1	42			

TOTAL CONNECTED LOAD	PHASE A TOTAL	PHASE B TOTAL	PHASE C TOTAL
1.8 KVA	900 VA	360 VA	540 VA

NOTES :

1. REFER TO DRAWING E001 FOR GENERAL NOTES AND SYMBOLS.
2. ALL PANEL NAMES ARE PREFIXED BY "035-"

REV	DATE	DESCRIPTION	S&E BR.	CUSTOMER	PM	SECT.HEAD

SEAL AREA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19296 DEBORAH LEIGH HARKEY 2/25/10

	INITIALS	DATE
DRAWN	ECW	10-20-09
A-E	DLH	02-24-10
CHECKED BY	ECR	02-24-10
A-E MANAGER	SMC	2-26-10
NASA A-E		
S&E BRANCH	RS	3/1/10
CM	-	
PM	TM	3/1/10
CUSTOMER		3-1-10
SECTION HEAD		

ELECTRICAL

LOGISTICS FACILITY
SITE AND SHELL
ELECTRICAL
PANEL SCHEDULES

E602

BUILDING 035

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND
FACILITIES MANAGEMENT DIVISION

DATE ISSUED	CoF CODE or WR#	SHEET	DRAWING NO.
03-01-10	A6890	158 OF 158	GF-035-34146

PLOT DATE: 2/25/2010
FILE DATE: 2/24/2010
FILE NAME: A6890E602 PNL SCH P1.dwg

FORM F 03-07-08