

WARRENTON READINESS CENTER REPLACE ROOF SYSTEM & PAVING WARRENTON, MISSOURI



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A Zak Company



Missouri State Certificate of Authority #001194
240 Larkin Williams Industrial Court
Fenton, MO 63026
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OWNER:

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR

DEPARTMENT OF MISSOURI NATIONAL GUARD
OFFICE OF THE ADJUTANT GENERAL FACILITIES
MANAGEMENT OFFICE

**PROJECT
MANAGEMENT:**

STATE OF MISSOURI OFFICE OF ADMINISTRATION (OA)
DIVISION OF FACILITIES MANAGEMENT, DESIGN,
AND CONSTRUCTION (FMDC)

DESIGNER:

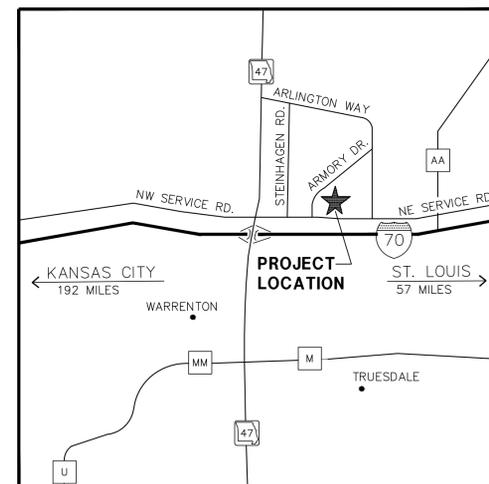
ARCHITECT
WEDEMEYER CERNIK CORRUBIA, INC.
ENGINEER
HEIDEMAN & ASSOCIATES

PROJECT NUMBER: T1902-01

SITE NUMBER: 6305
ASSET NUMBER: 8136305012

SHEET INDEX:

- G-001 COVER SHEET
- C-101 SITE PAVING PLAN (BASE BID)
- C-102 SITE PAVING PLAN (ALTERNATE #1)
- C-103 SITE PAVING PLAN (ALTERNATE #2)
- C-104 PAVING STRIPING PLAN
- A-101 ROOF PLAN
- A-002 ASBESTOS ROOF PLAN, CORE SAMPLES, ABBREV. & NOTES
- A-503 ROOF DETAILS
- A-504 ROOF DETAILS
- A-605 ROOF DESIGN INFO. & ROOF WIND GRAPHIC PLANS



LOCATION MAP:
NOT TO SCALE

SHEET NUMBER:

G-001

1 OF 10 SHEETS
DECEMBER 3, 2019



MICHAEL J. VELLOFF
Registered Professional Engineer
MO # E-2000181862

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WARRENTON READINESS
CENTER REPLACE ROOF
SYSTEM & PAVING

1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6305
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 12/03/2019

CAD DWG FILE: C-101.DWG
DRAWN BY: DPB
CHECKED BY: MJV
DESIGNED BY: DPB

SHEET TITLE:
PAVING PLAN
BASE BID

SHEET NUMBER:
C-101

2 OF 10 SHEETS
12/03/2019

GENERAL NOTES (SITE WORK):

ENGINEER'S NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER REGARDING EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO ADDITIONAL COST. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES INCLUDED WITHIN THE JOINT TRENCH, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE A/E OF ANY CONFLICTS OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

THE DUTY OF THE A/E TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.

PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.

THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE CLEANED AS NECESSARY THROUGHOUT THE DAY.

EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY EXCAVATION AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.

WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.

STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.

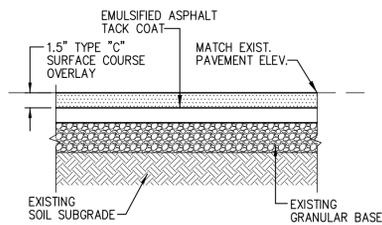
SILTATION FENCES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION FENCE.

CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

NOTE:

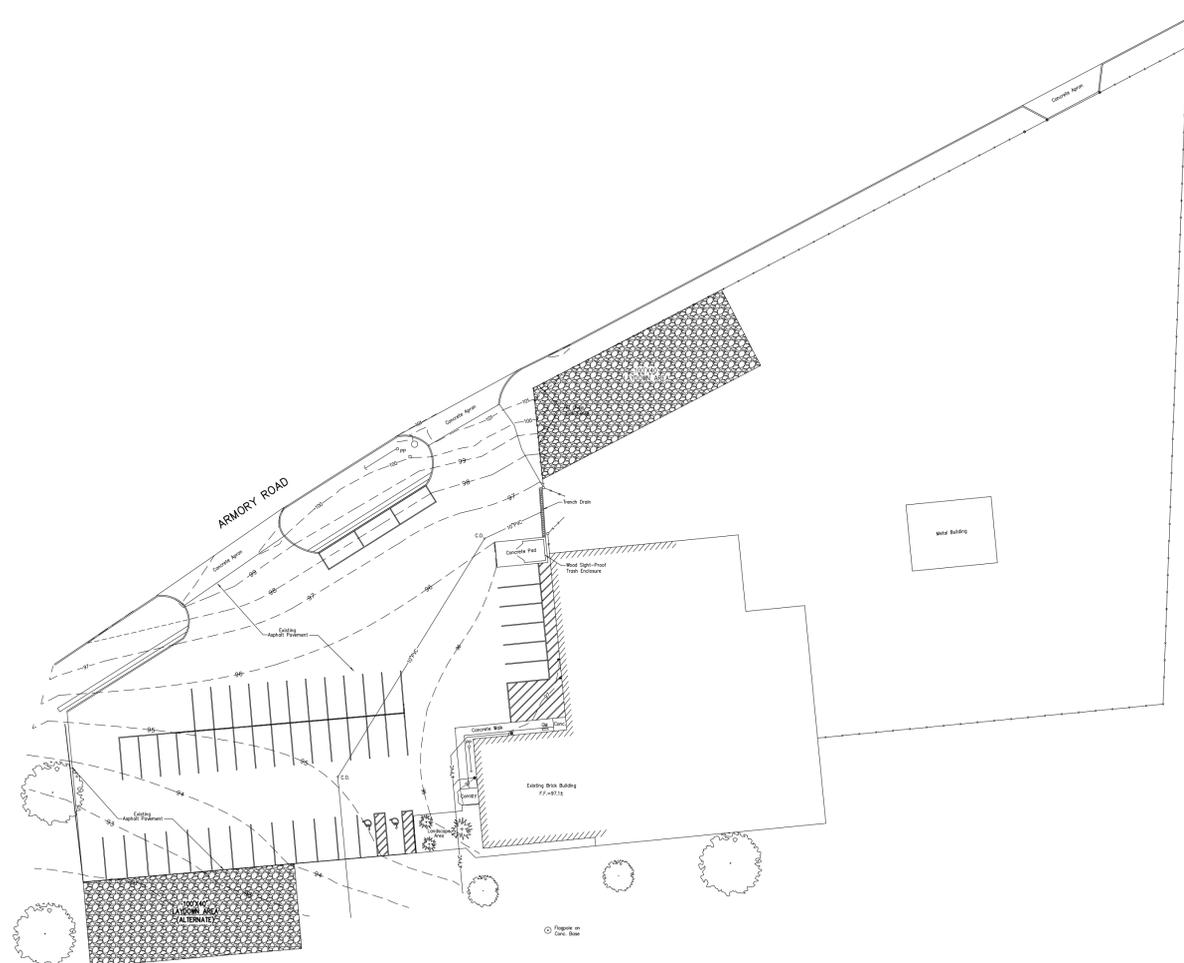
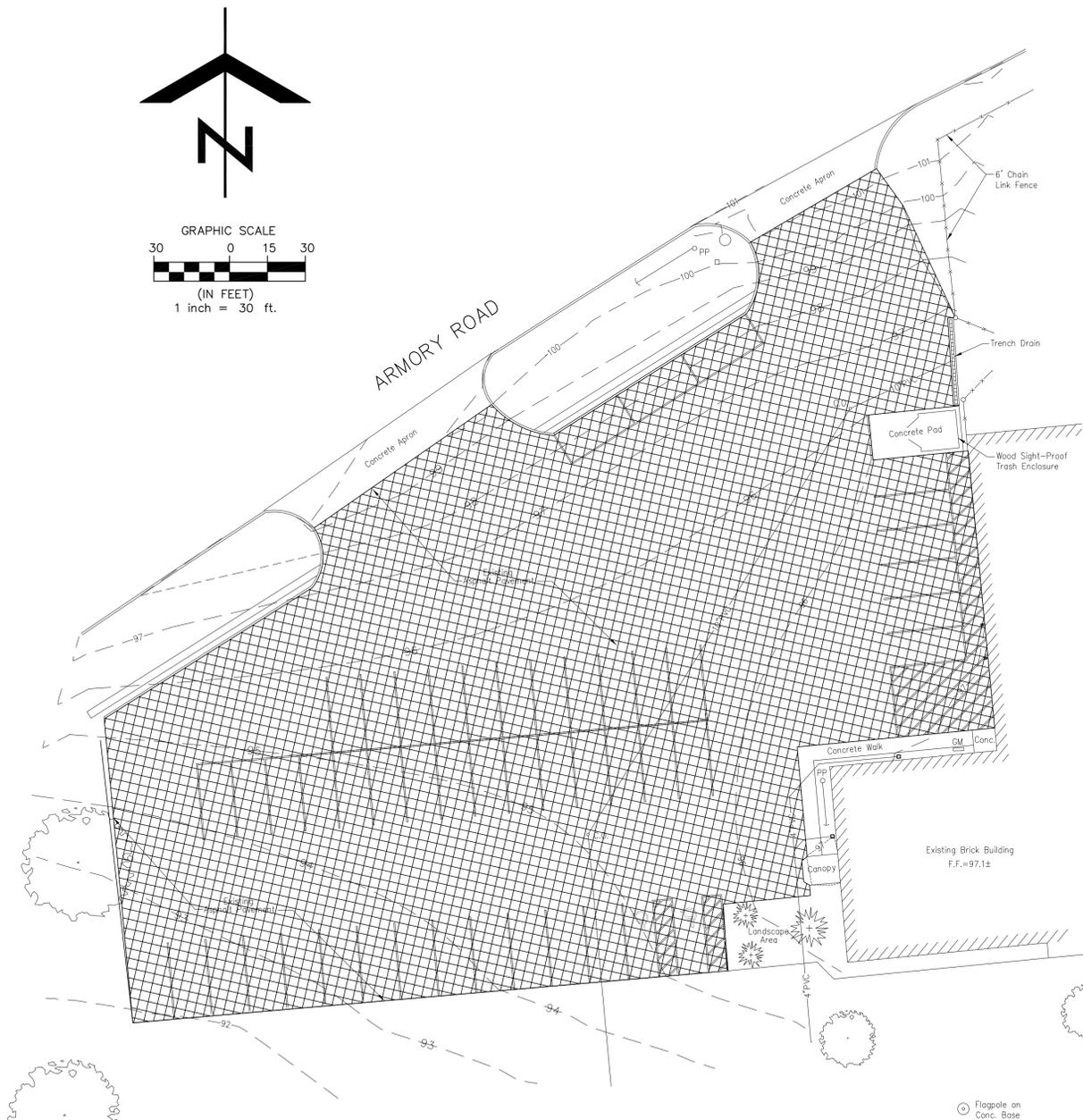
UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM BEST AVAILABLE RECORDS, THEREFORE THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES, AND UTILITIES MUST BE CONSIDERED APPROXIMATE, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN.

LEGEND NEW IMPROVEMENTS		LEGEND EXISTING CONDITIONS	
CONTOUR	---500---	CONTOUR	---500.00---
SPOT ELEVATION	500.00	SPOT ELEVATION	500.00
ASPHALT PAVEMENT (STANDARD DUTY)	[Pattern]	MANHOLE	○
ASPHALT PAVEMENT (HEAVY DUTY)	[Pattern]	CURB INLET	□
ROTO-MIL, SEAL & ASPHALT OVERLAY	[Pattern]	GRATE INLET	[Pattern]
LAYDOWN AREA	[Pattern]	CLEAN OUT	○
		FIRE HYDRANT	△FH
		WATER LINE	—W—
		GAS SERVICE	—G—
		UNDERGROUND ELECTRIC	—UE—
		TELEPHONE SERVICE	—T—
		UTILITY POLE	○UP
		GUY WIRE	—
		LIGHT STANDARD	⊕LS
		SIGN	⊕
		TREE	⊕
		BUSH	⊕

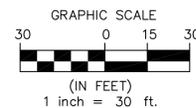


EXISTING ASPHALT
ROTO-MIL & OVERLAY
N.T.S.

NOTE:
ALL CRACKS IN EXISTING PAVEMENT TO BE SEALED AFTER ROTO-MIL AND PRIOR TO APPLYING ASPHALT OVERLAY.



CONSTRUCTION LAYDOWN EXHIBIT





MICHAEL J. VELLOFF
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WARRENTON READINESS
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1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6305
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 12/03/2019

CAD DWG FILE: C-102.DWG
DRAWN BY: DPB
CHECKED BY: MJV
DESIGNED BY: DPB

SHEET TITLE:
PAVING PLAN
ALTERNATE 1

SHEET NUMBER:
C-102

GENERAL NOTES (SITE WORK):

ENGINEER'S NOTICE TO CONTRACTOR

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NOTE:

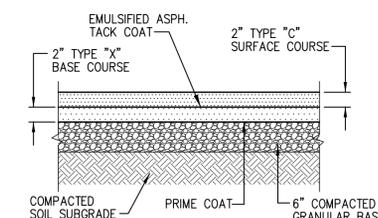
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**LEGEND
NEW IMPROVEMENTS**

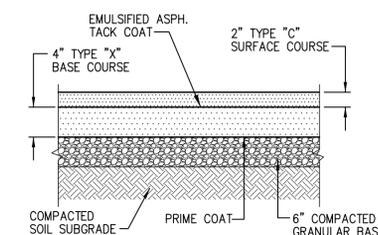
- CONTOUR — 500 —
- SPOT ELEVATION 500.00 •
- ASPHALT PAVEMENT (STANDARD DUTY) [Hatched Pattern]
- ASPHALT PAVEMENT (HEAVY DUTY) [Diagonal Line Pattern]

**LEGEND
EXISTING CONDITIONS**

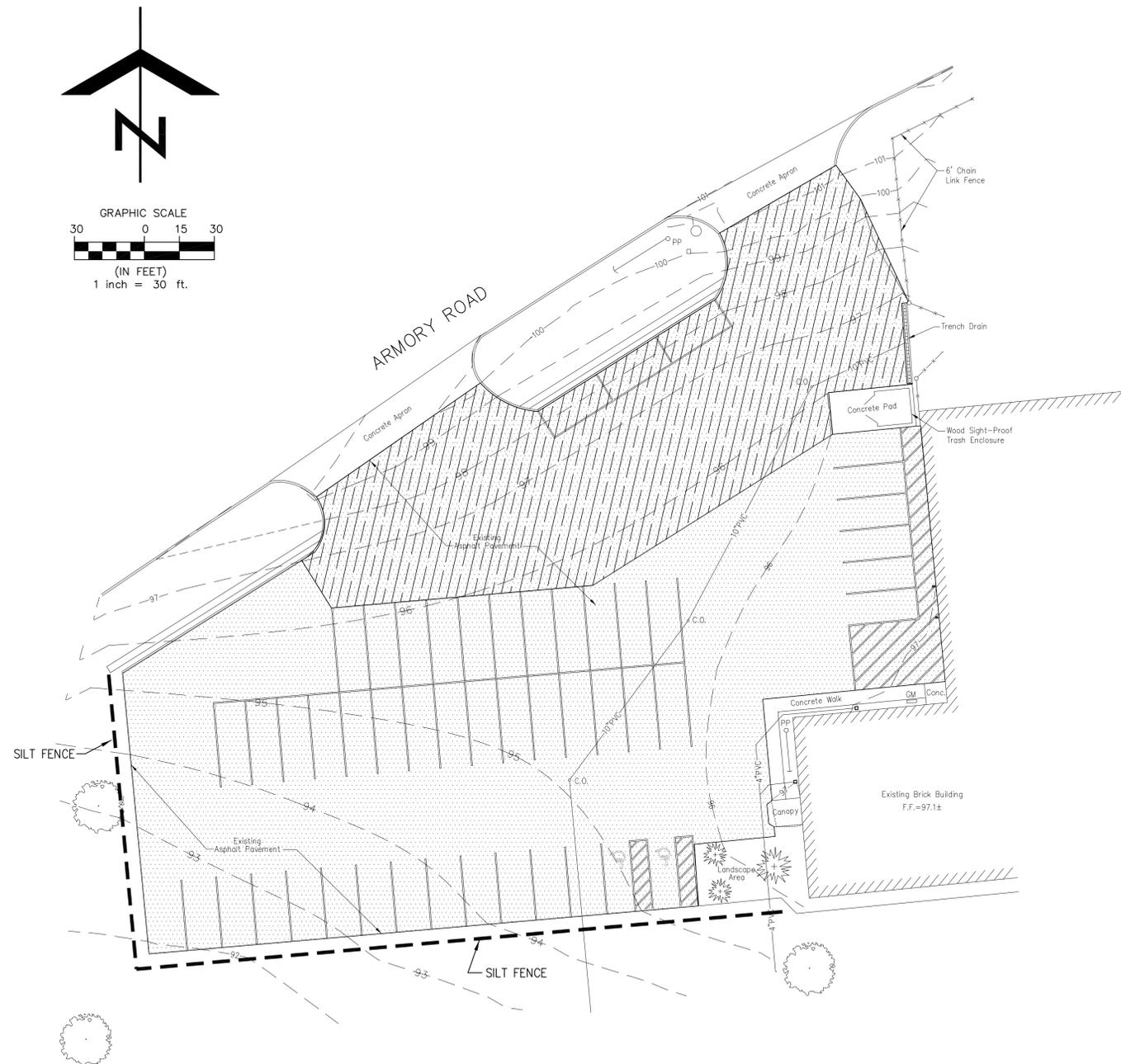
- CONTOUR — 500 —
- SPOT ELEVATION 500.00 •
- MANHOLE ○
- CURB INLET [Square with 'C']
- GRATE INLET [Square with 'G']
- CLEAN OUT [Square with 'CO']
- FIRE HYDRANT FH
- WATER LINE W
- GAS SERVICE G
- UNDERGROUND ELECTRIC UE
- TELEPHONE SERVICE T
- UTILITY POLE UP
- GUY WIRE GW
- LIGHT STANDARD LS
- SIGN [Square with 'S']
- TREE [Tree Symbol]
- BUSH [Bush Symbol]



**ASPHALT PAVEMENT SECTION
(STANDARD DUTY)**
N.T.S.



**ASPHALT PAVEMENT SECTION
(HEAVY DUTY)**
N.T.S.





MICHAEL J. VELLOFF
Registered Professional Engineer
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WARRENTON READINESS
CENTER REPLACE ROOF
SYSTEM & PAVING

1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6305
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 12/03/2019

CAD DWG FILE: C-103.DWG
DRAWN BY: DPB
CHECKED BY: MJV
DESIGNED BY: DPB

SHEET TITLE:
PAVING PLAN
ALTERNATE 2

SHEET NUMBER:
C-103

GENERAL NOTES (SITE WORK):

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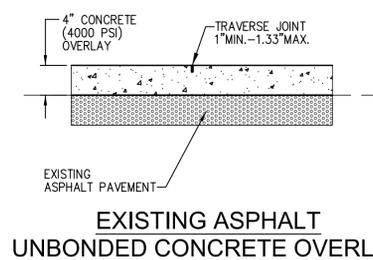
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LEGEND
NEW IMPROVEMENTS

- CONTOUR — 500 —
- SPOT ELEVATION 500.00
- FULL DEPTH ASPHALT PAVEMENT REMOVAL & NEW FULL DEPTH CONCRETE PAVEMENT
- NEW CONCRETE OVERLAY

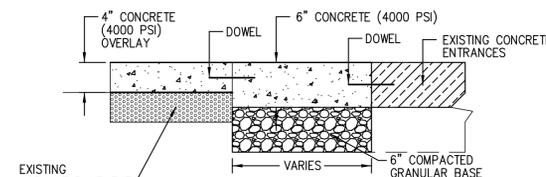
LEGEND
EXISTING CONDITIONS

- CONTOUR — 500 —
- SPOT ELEVATION 500.00 x
- MANHOLE
- CURB INLET
- GRATE INLET
- CLEAN OUT
- FIRE HYDRANT
- WATER LINE
- GAS SERVICE
- UNDERGROUND ELECTRIC
- TELEPHONE SERVICE
- UTILITY POLE
- GUY WIRE
- LIGHT STANDARD
- SIGN
- TREE
- BUSH



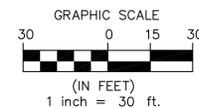
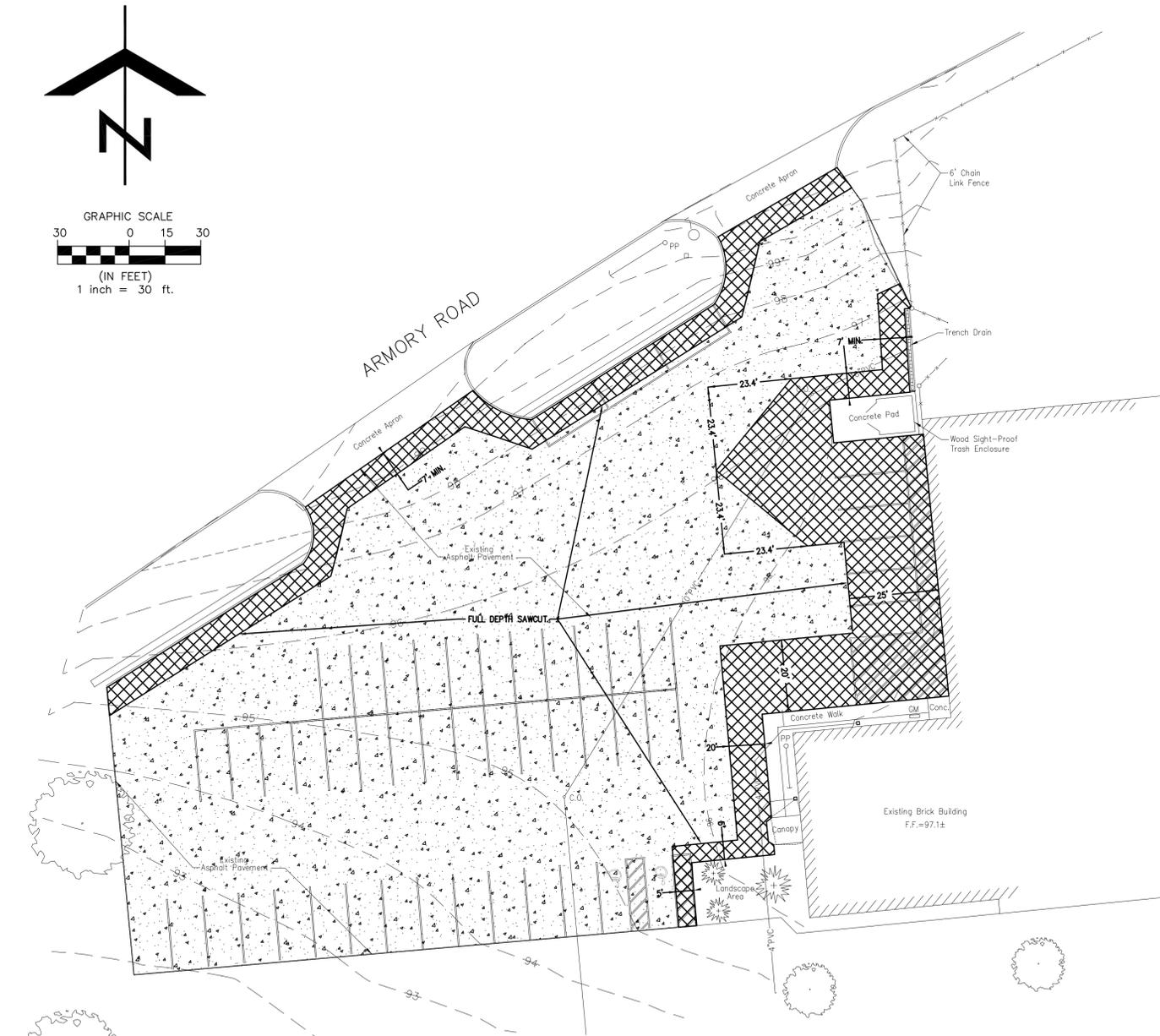
EXISTING ASPHALT
UNBONDED CONCRETE OVERLAY

N.T.S.
NOTE: MAXIMUM JOINT SPACING: 6 FT. X 6 FT.



UNBONDED CONCRETE OVERLAY
TRANSITION SECTION

N.T.S.
NOTE: MAXIMUM JOINT SPACING: 6 FT. X 6 FT.





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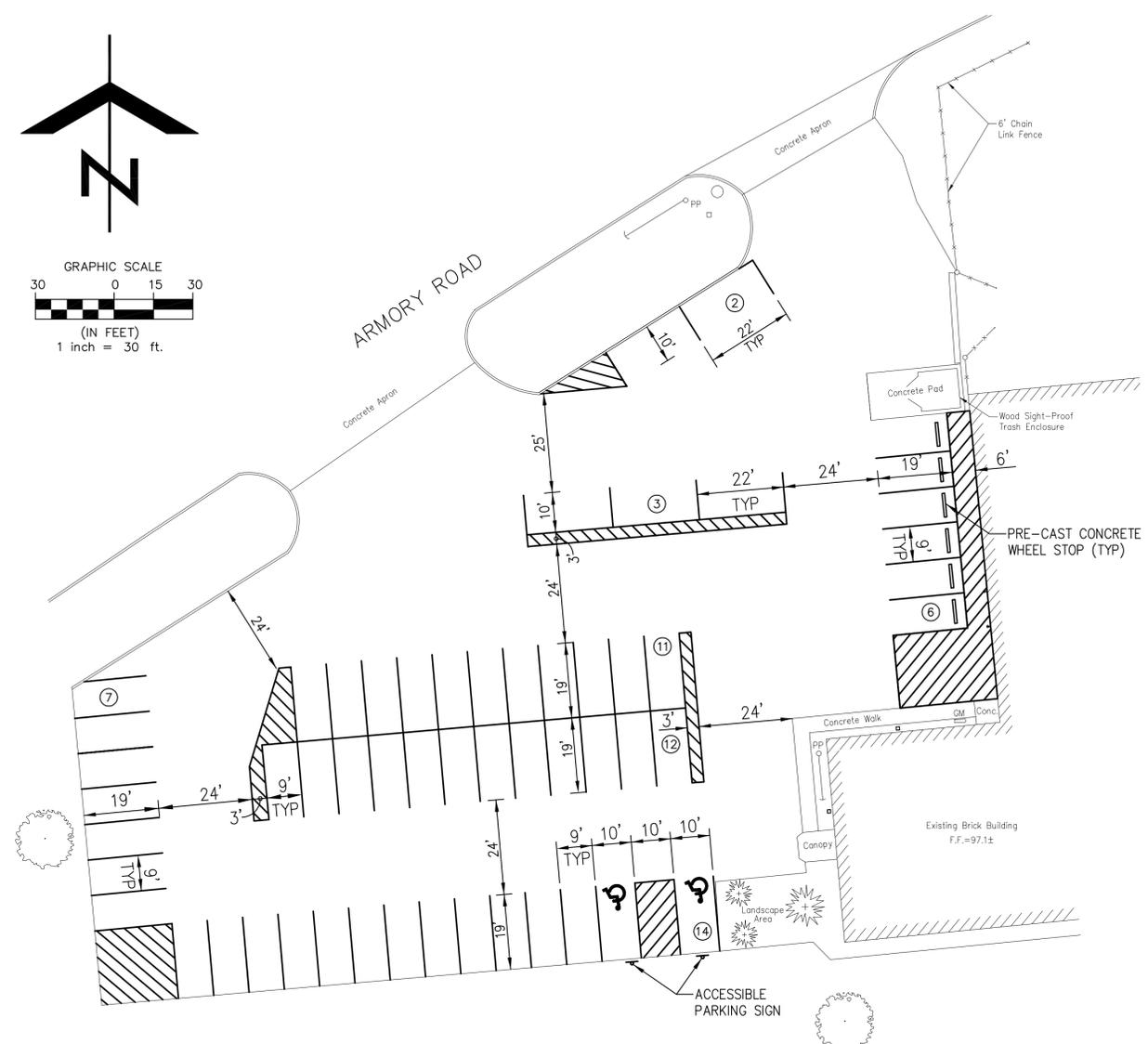
CAD DWG FILE: C-104.DWG
DRAWN BY: DPB
CHECKED BY: MJV
DESIGNED BY: DPB

SHEET TITLE:
PAVEMENT
STRIPING PLAN

SHEET NUMBER:

C-104

5 OF 10 SHEETS
12/03/2019



GENERAL NOTE: PAVEMENT STRIPING

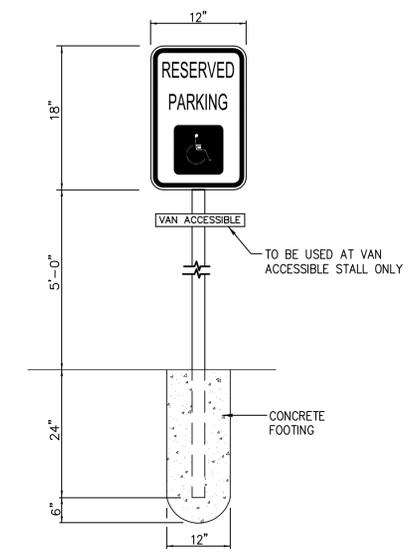
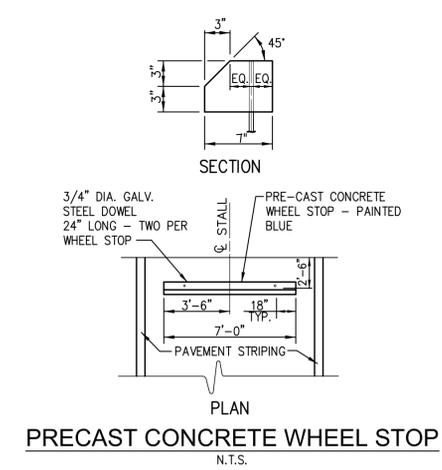
ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.

PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

EXISTING PAVEMENT MARKINGS AND SIGNS WHICH CONFLICT WITH THE PROPOSED PLAN SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

STOPBARS AND LANE LINES SHALL BE HIGH BUILD ACRYLIC WATERBORNE PAVEMENT MARKING PAINT MEETING MODOT'S SPECIFICATIONS. APPLICATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

ALL ARROWS, WORDS AND SYMBOLS SHALL BE WHITE UNLESS OTHERWISE SPECIFIED.

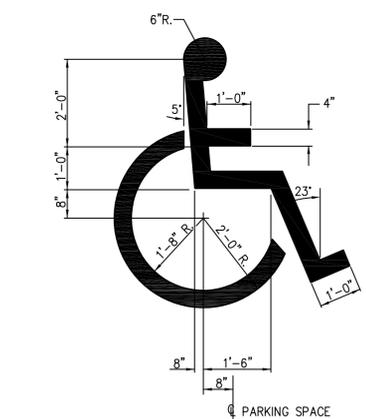


NOTES:
SIGN POST SHALL HAVE A 2-3/8 INCH OUTSIDE DIAMETER. THEY SHALL BE EITHER SCH. 40 ALUMINUM PIPE OR GALVANIZED STEEL W/ A WALL THICKNESS OF 0.065 INCHES. THE INSIDE WALL SHALL BE GALVANIZED OR HAVE A FULL ZINC BASED ORGANIC COATING IN ACCORDANCE WITH ASTM-A513 TO OBTAIN A WEIGHT OF 0.90 OZ. PER SQ. FT. COMMERCIAL ZINC WEIGHT (G90).

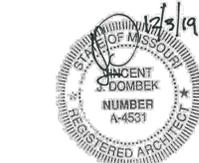
SIGNS ARE TO BE MOUNTED A MINIMUM OF 3.5 FEET FROM THE BACK OF CURB WITH A MINIMUM CLEARANCE FROM THE SIDEWALK OF 1.5 FEET.

SIGN POST SHALL BE MOUNTED 24 INCHES IN THE GROUND AND BE SET IN A CONCRETE BASE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN OR NOT SHOWN PRIOR TO THE PLACEMENT OF SIGN POSTS.

SIGN COLORS (REFLECTIVE):
LEGEND & BORDER - GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND - WHITE



PAVEMENT-MARKING PAINT COLOR: BLUE
INTERNATIONAL HANDICAP SYMBOL
N.T.S.



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FACILITIES MANAGEMENT

WARRENTON READINESS
CENTER REPLACE ROOF
SYSTEM & PAVING

1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6305
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 12/3/2019

CAD DWG FILE: A-101
DRAWN BY: Harry Schien
CHECKED BY: Vincent Dombek
DESIGNED BY: Vincent Dombek

SHEET TITLE:
ROOF PLAN

SHEET NUMBER:

A-101

6 OF 10 SHEETS
12/3/2019

ROOF SECTION SQ. FT.

UPPER LEVEL ROOF SECTION = 7,475 SQ FT
MID LEVEL ROOF SECTION = 1,988 SQ FT
LOWER LEVEL ROOF SECTION = 7,886 SQ FT

TOTAL SQUARE FOOTAGE = 17,349 SQ FT

ABBREVIATIONS

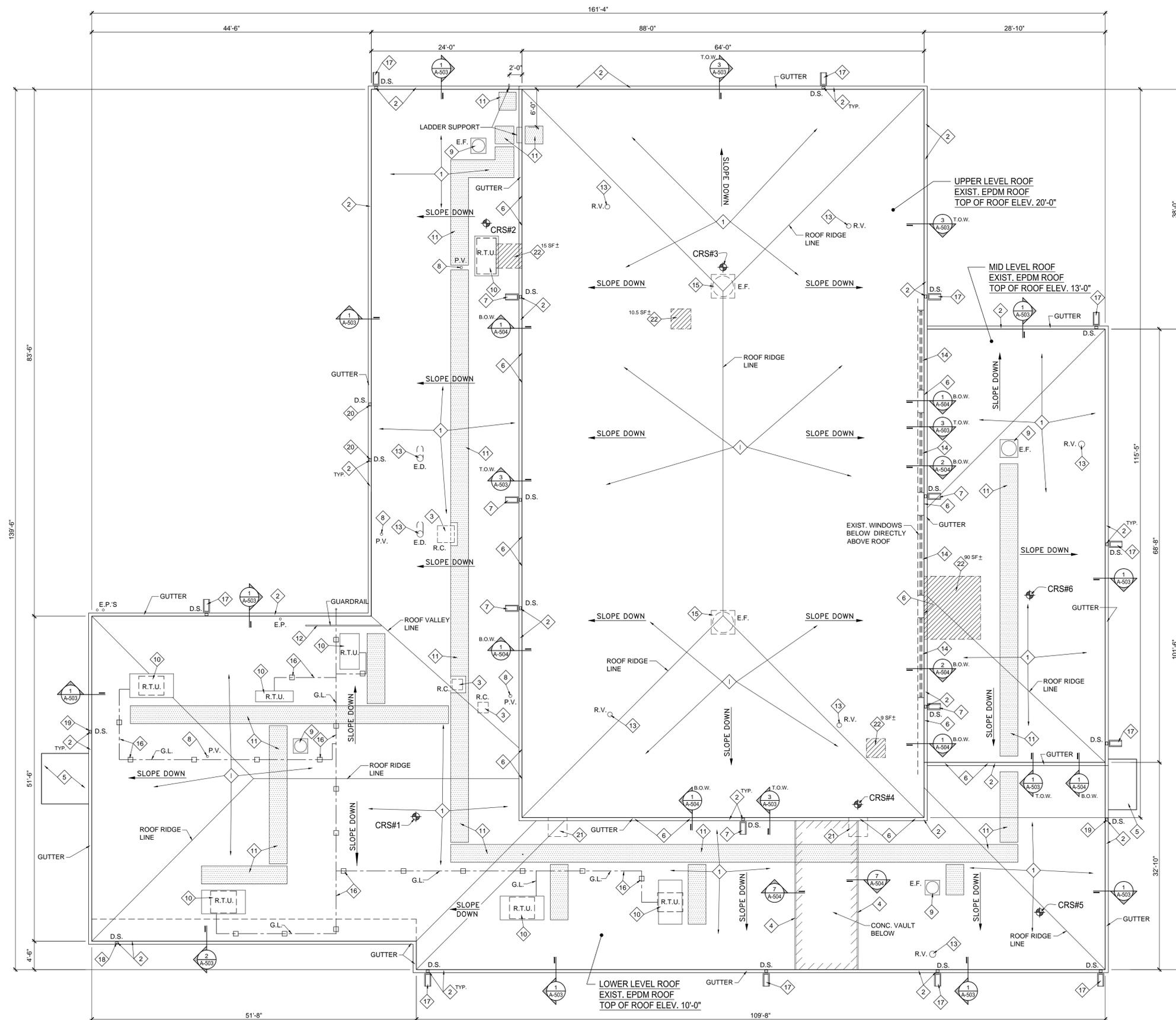
CS# = CORE SAMPLES
B.O.W. = BOTTOM OF WALL
D.S. = DOWN SPOUT
E.P. = ELECTRICAL POLE
E.D. = EXHAUST DUCT
E.F. = EXHAUST FAN
F.V. = FIELD VERIFY
G.L. = GAS LINE
P.P. = PITCH PAN
P.S. = PIPE SUPPORT
P.V. = PLUMBING VENT
R.C. = ROOF CURB
R.D. = ROOF DRAIN
R.T.U. = ROOF TOP UNIT
R.V. = ROOF VENT
S.P. = SPLASH BLOCK
T.O.W. = TOP OF WALL

LEGEND:

- ← SLOPE DOWN SLOPE 1/4" PER FT. TO ROOF GUTTER (INDICATES ROOF SLOPES OF TAPERED INSULATION)
- EXHAUST FAN
- PLUMBING VENT/ ROOF PIPE PENETRATION
- ⊕ ROOF CORE SAMPLES

KEYED NOTES:

- 1 REMOVE EXIST. EPDM RUBBER ROOFING SYSTEM (ALL LAYERS) DOWN TO STRUCT./METAL DECK IN ITS ENTIRETY AND DISPOSE OF MATERIALS. THE BIDDING ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING A CORE SAMPLE (AND PATCHING IT) TO DETERMINE THE TOTAL THICKNESS OF EXISTING ROOFING ASSEMBLY TO BE REMOVED AND EXIST. STRUCT. DECK SUBSTRATE. REPLACE WITH NEW TPO THERMAL PLASTIC ROOFING SYSTEM INCLUDING INSULATION (SLOPE TO ROOF GUTTERS), FLASHINGS, ETC., AS REQ'D. SEE GENERAL NOTES AND SPECIFICATIONS.
- 2 EXIST. MTL. DOWNSPOUT & GUTTER TO BE REMOVED AND REPLACED WITH NEW PRE-FINISHED METAL.
- 3 EXIST. ABANDONED ROOF CURB COVERED WITH RUBBER ROOFING TO BE REMOVED. PATCH RELATED OPENING IN METAL ROOF DECK. SEE DTL. 9/A-503.
- 4 EXPANSION JOINT AT ROOF DECK. SEE DTL. 7/A-504.
- 5 EXIST. METAL ENTRY CANOPY (NO WORK).
- 6 REMOVE EXIST. WALL MOUNTED TERMINATION BAR AND REPLACE WITH NEW TERMINATION BAR. SEE DTL. 8/A-503.
- 7 CONTRACTOR TO REPLACE ALL EXISTING CONCRETE SPLASH BLOCKS AND PROVIDE NEW MATCHING CONCRETE SPLASH BLOCKS AT ROOF. REFER TO SPECIFICATIONS.
- 8 PIPE VENT. SEE DTL. 4/A-503.
- 9 EXHAUST FAN. SEE DTL. 6/A-503.
- 10 ROOF TOP MECH. UNIT ON ROOF CURB. CONTRACTOR TO REMOVE & REINSTALL ROOF TOP UNITS. SEE DTL. 6/A-503.
- 11 AFTER INSTALLATION OF NEW ROOFING, PROVIDE & INSTALL NEW WALKWAY ROLLS (2'-10" SQ.) AT TOP & BOTTOM OF LADDER SUPPORTS & CONTINUOUS RUNS (2'-10" W.) IN ALL OTHER PLACES TO LAYOUT AS SHOWN ON PLAN. WALKWAYS ARE TO BE INSTALLED AT AREAS SHOWN SHADED. SEE DTL. 7/A-503 & REFER TO SPECS.. **ALTERNATE #3**
- 12 PIPE GUARDRAIL WITH (2) SUPPORT POSTS. SEE DTL. 4/A-503.
- 13 ROOF VENT/EXHAUST DUCT. SEE DTL. 6/A-504.
- 14 TPO MEMBRANE TO TERMINATE AT TOP OF BRICK ROWLOCK SILL ADJACENT TO WINDOW FRAME. SEE DTL. 2/A-504.
- 15 EXIST. EXHAUST FAN TO BE REMOVED. PATCH RELATED OPENING IN METAL ROOF DECK. SEE DTL. 9/A-503.
- 16 EXIST. GAS UTILITY PIPING ROUTED ACROSS ROOF TO REMAIN IN PLACE. USE CAUTION SO NOT TO DAMAGE PIPING & PROTECT AS REQ'D. THE EXIST. RELATED WOOD BLOCKING PIPE SUPPORTS ARE ALL TO BE REMOVED AND BE REPLACED WITH NEW PLASTIC PILLOW PIPE SUPPORTS. SEE DTL. 10/A-503 & REFER TO SPECS'.
- 17 CONTRACTOR TO REPLACE ALL EXISTING CONCRETE SPLASH BLOCKS AND PROVIDE NEW MATCHING CONCRETE SPLASH BLOCKS AT GRADE. REFER TO SPECIFICATIONS.
- 18 NEW METAL DOWNSPOUT TO DRAIN INTO EXIST. UNDERGROUND DRAIN HUB WITH DOWNSPOUT TRANSITION. EXCAVATE AND REFILL GRADE/SOIL AS REQ'D. FOR REMOVAL & INSTALLATION (F.V.).
- 19 NEW METAL DOWNSPOUT TO DRAIN INTO EXIST. UNDERGROUND DRAIN HUB WITH DOWNSPOUT TRANSITION.
- 20 NEW METAL DOWNSPOUT TO DRAIN INTO EXIST. UNDERGROUND DRAIN HUB WITH DOWNSPOUT TRANSITION. CONTRACTORS OPTION TO REUSE EXIST. RUBBER TRANSITION BOOT OR PROVIDE NEW METAL DOWNSPOUT TRANSITION (F.V.).
- 21 EXIST. WALL MOUNTED METAL VENT COVER. CONTRACTOR TO USE CAUTION SO NOT TO DAMAGE. PROTECT AS REQ'D..
- 22 AREA OF ROOF WHERE SATURATED ROOF INSULATION HAS BEEN DETECTED (SHOWN HATCHED). CONTRACTOR TO PROVIDE A UNIT COST OF METAL DECK REPLACEMENT. THE DETECTED ROOF AREAS HAVE BEEN HIGH LIGHTED WITH A PAINTED "RED" BORDER ON ROOF. REFER TO GENERAL NOTE #33. SEE DTL. 9/A-503.



1 ROOF PLAN
1/8" = 1'-0"

NOTE:
1. REFER TO SHEET A-605 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS AND CORE SAMPLE SCHEDULE.

NOTE:
COMPLETE TEAR OFF OF EXIST. ROOF MEMBRANE, ROOF INSULATION & METAL FLASHING DOWN TO STRUCT. METAL DECK ENTIRE ROOF (FIELD VERIFY).



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WARRENTON READINESS
CENTER REPLACE ROOF
SYSTEM & PAVING

1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6035
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 12/3/2019

CAD DWG FILE: A-002
DRAWN BY: Harry Schien
CHECKED BY: Vincent Dombek
DESIGNED BY: Vincent Dombek

SHEET TITLE:
ASBESTOS ROOF PLN.,
CORE SAMPLES,
ABBREV. & NOTES

SHEET NUMBER:

A-002

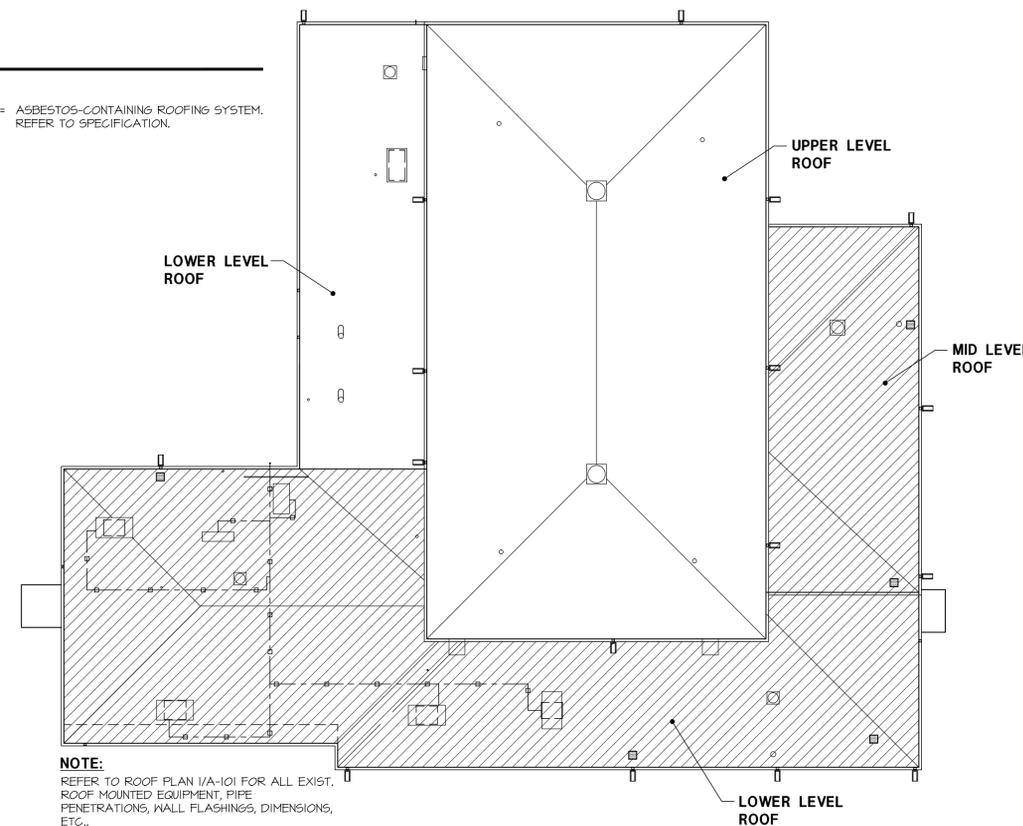
7 OF 10 SHEETS
12/3/2019

ABBREVIATIONS & SYMBOLS

A.C.T.	ACOUSTICAL CEILING TILE	FIN.	FINISH	OPP.	OPPOSITE	5/A-505	DETAIL REFERENCE NUMBER
A.F.F.	ABOVE FINISH FLOOR	F.P.C.	FUEL PIPING CONTRACTOR	PART'N	PARTITION	4	AND
ALUM.	ALUMINUM	FT.	FOOT/ FEET	PFP	PLUMBING/ FIRE PROTECTION	@	AT
APPROX.	APPROXIMATE	F.V.	FIELD VERIFY	P-LAM.	PLASTIC LAMINATE	⊕	CENTERLINE
BD.	BOARD	G.A.	GAUGE	PLUMB.	PLUMBING	∅	DIAMETER
BLDG.	BUILDING	GALV.	GALVANIZED	PLYWD.	PLYWOOD	'	FOOT/FEET
C	CELSIUS	G.C.	GENERAL CONTRACTOR	P.P.	POWER POLE	*	INCH/INCHES
C.J.	CONTROL JOINT	GEN.	GENERATOR	PR.	PAIR	#	NUMBER
CLG.	CEILING	H.D.	HIGH DENSITY	PREFAB.	PREFABRICATED	±	PLUS OR MINUS
C.M.U.	CONCRETE MASONRY UNIT	H.M.	HOLLOW METAL	PSI	POUNDS PER SQUARE INCH	1 A-504	DETAIL REFERENCE BUBBLE
COL.	COLUMN	HORIZ.	HORIZONTAL	R	RADIUS	○	DOOR NUMBER - SEE SCHEDULE
CONC.	CONCRETE	HR.	HOOR	R.D.	ROOF DRAIN	○	ROOM NUMBER
CONT.	CONTINUOUS	HWARE	HARDWARE	REQ'D.	REQUIRED	○	ELEVATION BULLET
CONT'D.	CONTINUED	H.V.A.C.	HEATING/VENTILATION/AIR CONDITIONING	S.	SOUTH	○	ELEVATION REFERENCE BUBBLE
D.B.	DECK BEARING	I.D.	INSIDE DIMENSION/DIAMETER	SECT.	SECTION	1 A-505	KEY NOTE
DEMO	DEMOLITION	INSUL.	INSULATED/INSULATION	SIM.	SIMILAR	4	NORTH ARROW
DIA.	DIAMETER	INT.	INTERIOR	SPEC.S	SPECIFICATIONS	↗	PARTITION TYPE - SEE DETAIL
DN	DOWN	J.B.	JOIST BEARING	SOFT	SQUARE FEET	1 A-504	SECTION CUT REFERENCE BUBBLE
D.S.	DOWN SPOUT	JT.	JOINT	S.S.	STAINLESS STEEL	12	PITCH/SLOPE SYMBOL
DTL.	DETAIL	LIN.	LINEAR	STL.	STEEL		
DWG.S	DRAWINGS	LLV	LONG LEG VERTICAL	STRUCT.	STRUCTURAL/STRUCTURE		
E.	EAST	MAX.	MAXIMUM	T.B.	TRUSS BEARING		
E.C.	ELECTRICAL CONTRACTOR	MECH.	MECHANICAL	T & G	TONGUE AND GROOVE		
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	MFG.	MANUFACTURER	T.O.M.	TOP OF MASONRY		
E.J.	EXPANSION JOINT	MH	MANHOLE	T.O.S.	TOP OF STEEL		
EL.	ELEVATION	MIN.	MINIMUM	T.S.	TUBE STEEL		
ELEC.	ELECTRICAL	MISC.	MISCELLANEOUS	TYP.	TYPICAL		
ELEV.	ELEVATION	MM	MILLIMETER	U.P.	UTILITY POLE		
ENG.	ENGINEER/ENGINEERING	M.O.	MASONRY OPENING	V.B.	VINYL BASE		
EPDM	ETHYLENE PROPYLENE DIENE MONOMERS (RUBBER ROOF MEMBRANE)	MTL.	METAL	V.C.T.	VINYL COMPOSITION TILE		
EQ.	EQUAL	N.	NORTH	VERT.	VERTICAL		
EQUIP.	EQUIPMENT	N.I.C.	NOT IN CONTRACT	V.W.C.	VINYL WALL COVERING		
ETC.	ET CETERA	NO.	NUMBER	W.	WEST.		
EXIST.	EXISTING	N.T.S.	NOT TO SCALE	WD.	WOOD		
EXT.	EXTERIOR	O.C.	ON CENTER	W.P.	WORK POINT		
F	FAHRENHEIT	O.D.	OUTSIDE DIMENSION/DIAMETER	W.W.F.	WELDED WIRE FABRIC		
		O.H.	OVERHEAD	W/	WITH		
		OPNG.	OPENING				

LEGEND

= ASBESTOS-CONTAINING ROOFING SYSTEM. REFER TO SPECIFICATION.



NOTE:
REFER TO ROOF PLAN I/A-101 FOR ALL EXIST. ROOF MOUNTED EQUIPMENT, PIPE PENETRATIONS, WALL FLASHINGS, DIMENSIONS, ETC..

1 A-002 ROOFING ASBESTOS ABATEMENT PLAN
1/16" = 1'-0" ASBESTOS DEMOLITION WORK



GENERAL NOTES:

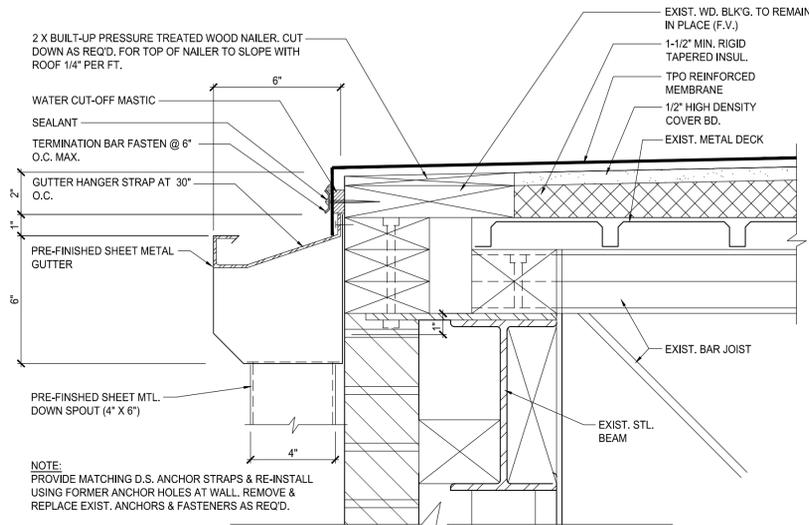
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS & ALL EXIST. DIMENSIONS PRIOR TO BIDDING. ANY QUESTIONS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING AUTHORITY & ALL APPLICABLE CODES.
- ALL ITEMS NOTED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR (UNLESS NOTED OTHERWISE) INCLUDING ALL DEBRIS AND SHALL BE REMOVED FROM THE PREMISES AS IS IT ACCUMULATES.
- PROTECT ALL ADJACENT SURFACES FROM DAMAGE..
- PROTECT EXIST. PAVING FROM HEAVY EQUIPMENT. PATCH ALL DAMAGED PAVING TO MATCH EXISTING.
- "COMPLETE TEAR OFF" OF EXISTING ROOF INCLUDES REMOVAL OF EXISTING RUBBER ROOFING, TAPERED RIGID ROOF INSULATION, LIGHTWEIGHT INSULATION, COAL TAR PITCH, & ETC. IN ITS ENTIRETY DOWN TO TOP OF STRUCTURAL ROOF DECKING..
- BROOM OFF & REMOVE ALL EXISTING LOOSE GRAVEL & DEBRIS FROM TOP OF EXISTING ROOFING. INSTALL NEW ROOF WALKWAY PADS IN LAYOUT AS SHOWN ON DRAWINGS WHERE APPLICABLE. .
- REMOVE & DISCARD ALL RELATED CLAMP RINGS, TERMINATION BARS, FLASHING, ROOF EXPANSION JOINTS, PITCH PANS W/POURABLE SEALERS AND WOOD NAILERS RELATED TO REMOVAL AND REPLACEMENT OF NEW ROOFING.
- THE GROUND FLOOR/ FIRST FLOOR ELEVATION EQUALS 100'-0".
- ALL ROOFING SHALL SLOPE A MINIMUM OF 1/4" PER FOOT, UNLESS NOTED OTHERWISE, USING A MINIMUM OF 1-1/2" ISOCYANURATE TAPERED INSULATION.
- ALL FLASHING SHALL EXTEND A MINIMUM OF 8" ABOVE FINISHED ROOF LEVEL.
- INSTALL WOOD NAILERS TO MATCH HEIGHT OF NEW INSULATION AT ROOF CURBS. ALL NAILERS SHALL BE #2 OR BETTER AND PRESSURE TREATED. INSTALL NAILERS WITH A 1/4" GAP BETWEEN ENDS OF ADJACENT PIECES.
- FASTENERS OF NAILERS SHALL BE CORROSION-RESISTANT, SELF-TAPPING, SELF-DRILLING WITH LOW PROFILE HEADS. FASTENERS ARE TO BE 1/4" THICK MIN. AND OF SUFFICIENT LENGTH TO PENETRATE INTO STEEL 1/2" AND INTO WOOD 1".
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING PROPOSED SLOPES OF ROOFS, INCLUDING SLOPES IN INCHES PER FOOT AND THICKNESS OF TAPERED INSULATION.
- AFTER COMPLETE TEAR-OFF, ROOF DECK SHALL BE INSPECTED BY ROOF MANUF. REPRESENTATIVE FOR DETERMINATION OF REPAIRS PRIOR TO ANY WORK.
- REMOVE AND DISCARD ANY EXIST. ABANDONED CONDUITS & PIPES INTERFERING WITH ROOF REPLACEMENT WORK. CONSULT WITH 'OWNERS REPRESENTATIVE'.
- TAPERED INSULATION AND MEMBRANE ROOFING ARE TO BE FULLY ADHERED TO SUBSTRATES UNLESS NOTED OTHERWISE. REFER TO SPECIFICATIONS.
- THE BIDDING ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING A CORE SAMPLE (AND PATCHING IT) TO DETERMINE THE TOTAL THICKNESS OF EXISTING ROOF ASSEMBLY TO BE REMOVED AND DECK SUBSTRATE.
- DISCONNECT ALL ROOF-TOP CABLE, WIRES, CONDUITS, SUPPORT BLKG, ETC. (AS NECESSARY) JUST PRIOR TO RE-ROOFING & RE-CONNECT AS SOON AS ROOF IS INSTALLED MATCHING ORIGINAL LAYOUT. NOTIFY OWNER PRIOR TO ANY DISCONNECTIONS. FIELD VERIFY EXACT ROUTING OF CABLES.
- ROOF MASTIC TO BE APPLIED TO ALL CONNECTIONS OF FASTENERS, ANCHOR BARS AND FLANGES ANCHORING ITEMS TO PARAPET WALLS RECEIVING NEW ROOFING AS REQ'D. TO COMPLETELY SEAL ALL EXPOSED FINISH PLY EDGES.
- VERTICALLY EXTEND EXIST. PIPE VENTS AS NECESSARY TO ACHIEVE A MINIMUM OF 8" BETWEEN TOP OF PIPE AND NEW ROOF LINE (FIELD VERIFY).
- ALL DAMAGE IN CONNECTION WITH THE WORK SHALL BE RESTORED AND/ OR REPLACED IF NOT REPAIRABLE TO ORIGINAL QUALITY.
- THE FOLLOWING REQUIREMENTS OF ROOF ASSEMBLIES ARE SUPPLEMENTS OF THE SPECIFICATIONS.
 - PROVIDE MSDS'S. WHERE APPLICABLE, FOR ALL PRODUCTS BEING USED ON THE PROJECT.
 - TO REQUIRE THAT THE ROOF EXTERIOR SHALL COMPLY WITH THE UNDERWRITER'S LABORATORIES CLASS "A" FIRE CLASSIFICATION.
 - TO REQUIRE THAT THE ROOF ASSEMBLY SHALL COMPLY WITH FACTORY MUTUAL GLOBAL RESEARCH CLASS 1 FIRE CLASSIFICATION.
 - TO REQUIRE THAT THE ROOF ASSEMBLY SHALL COMPLY WITH FACTORY MUTUAL GLOBAL RESEARCH WINDSTORM CLASSIFICATION I-90, AS A MINIMUM; OR,
 - THAT THE ROOF ASSEMBLY SHALL MEET THE UPLIFT SPECIFICATION OF ASCE 7, MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES, MOST RECENT EDITION, AND FM GLOBAL TEST STANDARDS 4450 AND 4470.
- ALL ROOFING, BLOCKING, ETC. SHALL BE INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS, RECOMMENDATIONS, AND IN COMPLIANCE WITH FACTOR MUTUAL LOSS PREVENTION AND OTHER APPROPRIATE F.M.S. DATA SHEETS THAT ARE CURRENT N.R.C.A. MANUAL PRACTICES.
- ROOFING CONTRACTOR SHALL SUPPLY ALL ACCESSORIES, CAULKING, SEALANTS, AND ETC. TO PROVIDE WEATHERTIGHT CONDITION.
- CONTRACTOR SHALL PREPARE EXISTING ROOF SUBSTRATE AS MANUF. REQUIREMENTS READY TO ACCEPT NEW ROOF.
- PONDING WATER:** A POSITIVE SLOPE TO ROOF DRAINS AND GUTTERS IS REQ'D.. PONDING WATER WILL NOT BE ACCEPTED AND MUST BE REPAIRED BY THE ROOFING CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- FINISH OF NEW ROOFING SYSTEM TO BE THE COLOR "WHITE".
- PROTECT EXIST. LAWN AREAS FROM VEHICLES & HEAVY EQUIPMENT. RE-SEED & REDRESS ALL LAWN AREAS DISTURBED BY CONSTRUCTION OR DEMOLITION AS REQ'D. & RETURN TO ORIGINAL CONDITION AS REQUIRED.
- AT THE END OF THE WORK DAY OR WHEN RAIN IS EXPECTED THE CONTRACTOR SHALL PERFORM THE DAILY ROOF SEAL. REFER TO DTL. 5/A-504.
- AT THE END OF THE PROJECT WHEN THE ROOF IS FULLY INSTALLED CONTRACTOR SHALL PERFORM THE FINAL ROOF CLEAN UP PROCEDURE. REFER TO DTL. 5/A-504.
- THE EXISTING ROOF HAS HAD A INFRARED SURVEY SCAN PERFORMED TO VERIFY IF THE ROOF INSULATION IS SATURATED FROM MOISTURE INFILTRATION. THE PRESENCE OF MOISTURE HAS BEEN DISCOVERED IN (4) AREAS LEADING TO ASSUMPTION THAT THERE ARE ROOF AREAS THAT MAY NEED STEEL DECK REPLACEMENT. CONTRACTOR TO PROVIDE A UNIT COST OF AN ESTIMATED SQUARE FOOTAGE OF 120 SF. TOTAL ON STEEL DECK REPLACEMENT. REFER TO ROOF PLAN FOR LOCATIONS OF SATURATED ROOF INSULATION DISCOVERED FOR ANTICIPATED ROOF DECK REPLACEMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ASBESTOS ABATEMENT. ABATEMENT WILL NOT BE COMPLETED BY THE OWNER OR ARCHITECT THROUGH ANOTHER CONTRACT. .

CORE SAMPLES :

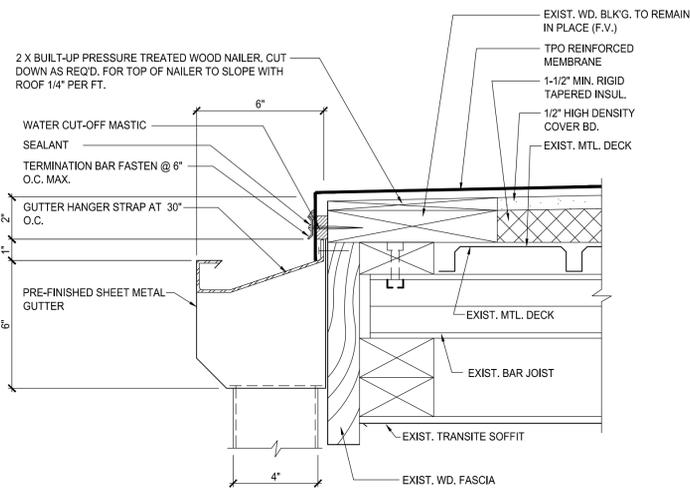
CORE SAMPLE #1 EPDM MEMBRANE 1/2" FIBER BOARD 3" STYROFOAM 1/2" FIBER BOARD 2" FIBER BOARD METAL DECK 6" TOTAL DEPTH	CORE SAMPLE #2 EPDM MEMBRANE 1" FIBER BOARD 6" STYROFOAM METAL DECK 7" TOTAL DEPTH	CORE SAMPLE #3 EPDM MEMBRANE 6" STYROFOAM METAL DECK 6" TOTAL DEPTH
CORE SAMPLE #4 EPDM MEMBRANE 6" STYROFOAM METAL DECK 6" TOTAL DEPTH	CORE SAMPLE #5 EPDM MEMBRANE 2" STYROFOAM 1" FIBERBOARD METAL DECK 3" TOTAL DEPTH	CORE SAMPLE #6 EPDM MEMBRANE 6" STYROFOAM METAL DECK 6" TOTAL DETH

TPO MEMBRANE ROOFING

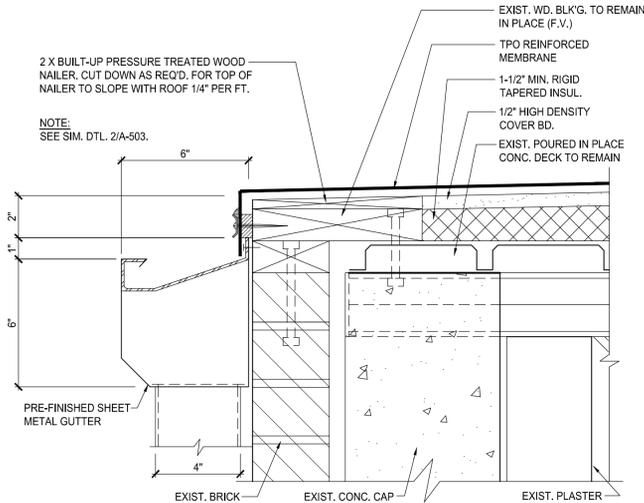
- MANUFACTURERS:
 - CARLISLE SYNTEC (BASIS OF DESIGN)
 - FIRESTONE BUILDING PRODUCTS
 - GAF CORPORATION
 - GENFLEX ROOFING SYSTEM
 - VERSICO ROOFING SYSTEM
 - OR APPROVED EQUAL



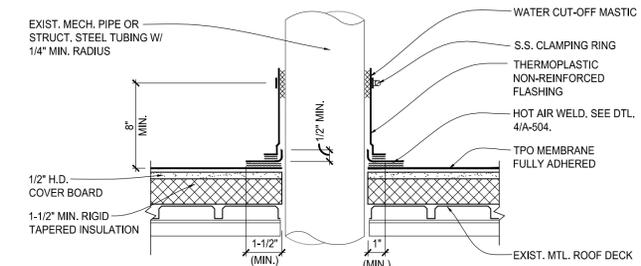
1 ROOF EDGE/GUTTER DETAIL
 3" = 1'-0"
 LOW & MID LEVEL BLDG ROOF



2 ROOF EDGE/GUTTER DETAIL
 3" = 1'-0"
 SECTION AT OVERHANG ROOF

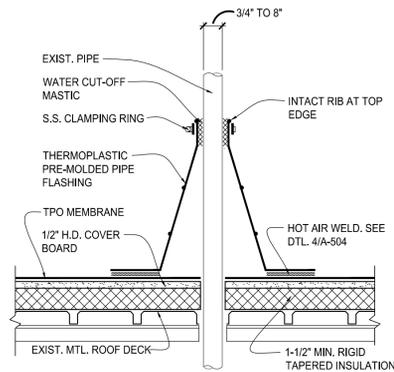


3 ROOF EDGE/GUTTER DETAIL
 3" = 1'-0"
 HIGH BLDG ROOF



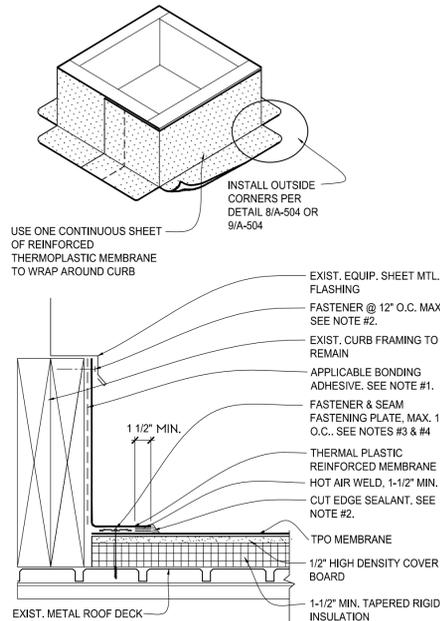
- NOTES:**
1. REMOVE ALL LEAD & OTHER FLASHING BEFORE INSTALLING FIELD-FABRICATED PIPE FLASHING.
 2. TEMPERATURE OF PIPE MUST NOT EXCEED 160° F.
 3. THERMOPLASTIC NON-REINFORCED FLASHING WRAPPED AROUND PIPE SHALL HAVE A MINIMUM 1-1/2" VERTICAL HOT AIR WELD.
 4. MECHANICAL SECUREMENT IS REQUIRED AROUND ALL PIPES GREATER THAN 18" Ø.
 5. APPROXIMATELY 1/8" DIA. BEAD OF CUT-EDGE SEALANT IS REQ'D ON CUT EDGES OF TPO REINFORCED MEMBRANE.
 6. REFER TO TPO UNIVERSAL DETAILS FOR HOT STACK, STL. TUBING & FLEXIBLE PIPE PENETRATIONS.
 7. CONTRACTORS OPTION TO INSTALL PIPE BOOT WHERE APPLICABLE. SEE DTL. 5/A-503.

4 FIELD FABRICATED PIPE FLASHING DETAIL
 N.T.S.



- NOTES:**
1. REMOVE ALL LEAD & OTHER FLASHING BEFORE INSTALLING PRE-MOLDED PIPE FLASHING.
 2. TEMPERATURE OF PIPE MUST NOT EXCEED 160° F.
 3. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
 4. DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED UNDER ANY ANGLE CHANGE.
 5. MECHANICAL SECUREMENT IS REQUIRED AROUND ALL PIPES GREATER THAN 18" DIA.

5 PRE-MOLDED PIPE SEAL DETAIL
 3/4" TO 8" DIAMETER PIPES
 N.T.S.



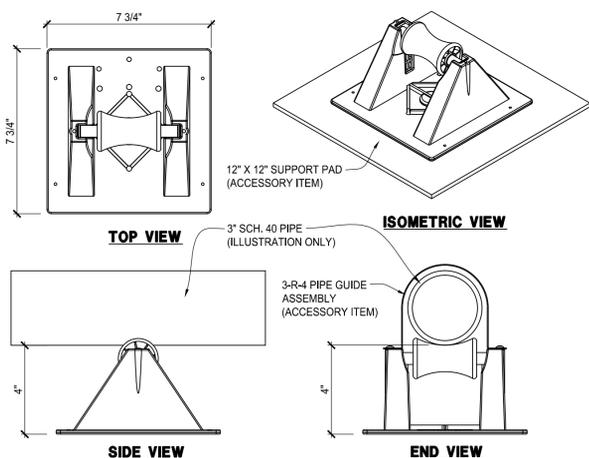
NOTE:

1. CUT-OFF EDGE SEALANT (APPROX. 1/8" BEAD) IS REQUIRED FOR CUT EDGES OF REINFORCED TPO MEMBRANE.
2. CUT-OFF EDGE SEALANT IS NOT REQUIRED FOR CUT EDGES OF NON-REINFORCED TPO MEMBRANE.

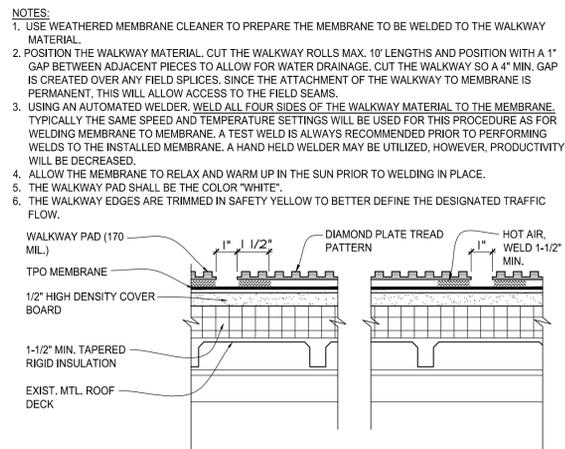
- NOTES:**
1. WHEN USING TPO MEMBRANE, BONDING ADHESIVE IS NOT REQUIRED WHEN THE FLASHING HEIGHT IS 12" OR LESS AND THE MEMBRANE IS FASTENED "AS SHOWN" ON TOP OF THE CURB WHEN USING TERMINATION BAR IS USED BENEATH THE COUNTER-FLASHING, BONDING ADHESIVE CAN BE ELIMINATED WHEN THE MEMBRANE HEIGHT IS 18" OR LESS.
 2. APPROXIMATELY 1/8" DIA. BEAD OF CUT-EDGE SEALANT IS REQ'D ON CUT EDGES OF REINFORCED TPO MEMBRANE.
 3. REFER TO MANUF. SPECIFICATIONS FOR ACCEPTABLE FASTENERS AND PLATES.
 4. MECHANICAL SECUREMENT MAY BE INSTALLED INTO THE VERTICAL SUBSTRATE.
 5. WHEN MECHANICAL FASTENERS ARE USED TO PENETRATE THE MTL. COUNTER-FLASHING, USE EPDM WASHERS, APPLY WATER CUT-OFF MASTIC UNDER THE COUNTER FLASHING OR CAULK THE FASTENER HEADS.
 6. REFER TO DTL. 4/A-504 FOR HOT AIR WELD SPLICING.

6 CURB FLASHING DETAIL
 N.T.S.

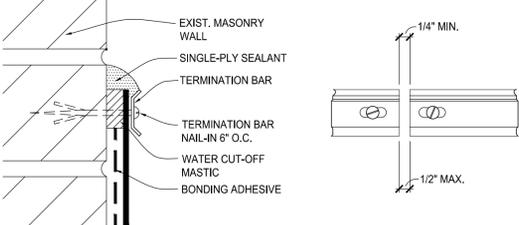
- NOTE:**
1. PIPE SUPPORT IS OPTIMIZED TO CARRY UP TO A 3" PIPE.
 2. MAXIMUM PIPE OD FOR THE SUPPORT IS 3-3/4".
 3. MAXIMUM LOAD IS 118 LBS BASED ON 3.0 PSI TO THE ROOF DECK. EVEN LOAD REQ'D.
 4. RECOMMENDED SPACING TO BE 10" (MAX.) SPACING.
 5. CONTRACTOR TO PROVIDE SUPPORT PAD AND PIPE GUIDE ASSEMBLY ACCESSORIES.



10 PIPE SUPPORT DTL.
 3" = 1'-0"

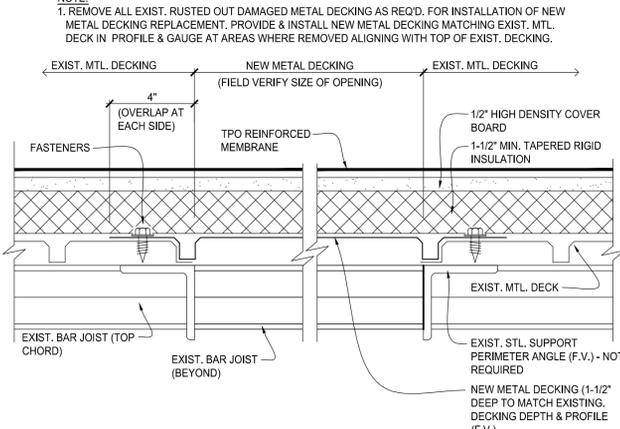


7 RUBBER WALKWAY PAD SECTION
 3" = 1'-0"



- NOTES:**
1. APPLY ON HARD SMOOTH SURFACE ONLY; NOT FOR USE ON EXPOSED WOOD.
 2. DO NOT WRAP COMPRESSION TERMINATION BAR AROUND CORNERS.
 3. FLEECE-BACKING MUST BE REMOVED FROM THE MEMBRANE SO THAT WATER-CUT-OFF MASTIC IS IN DIRECT CONTACT.
 4. WATER CUT-OFF MASTIC MUST BE HELD UNDER CONSTANT COMPRESSION.

8 MECHANICAL TERMINATION DTL.
 N.T.S.



9 ROOF DECK INFILL DTL.
 3" = 1'-0"



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OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES
 MANAGEMENT,
 DESIGN AND CONSTRUCTION

DEPARTMENT OF MISSOURI
 NATIONAL GUARD OFFICE
 OF THE ADJUTANT GENERAL
 FACILITIES MANAGEMENT

WARRENTON READINESS
 CENTER REPLACE ROOF
 SYSTEM & PAVING

1 ARMORY DRIVE
 WARRENTON, MISSOURI
 63383

PROJECT # T1902-01
 SITE # 6035
 ASSET # 8136305012

REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 ISSUE DATE: 12/3/2019

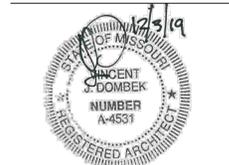
CAD DWG FILE: A-503
 DRAWN BY: Harry Schien
 CHECKED BY: Vincent Dombek
 DESIGNED BY: Vincent Dombek

SHEET TITLE:
ROOF DETAILS

SHEET NUMBER:

A-503

8 OF 10 SHEETS
 12/3/2019



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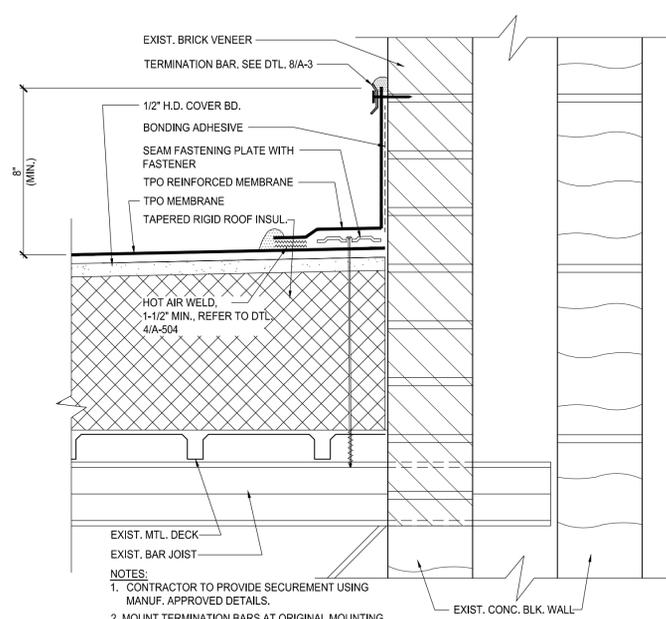
CAD DWG FILE: A-504
DRAWN BY: Harry Schien
CHECKED BY: Vincent Dombek
DESIGNED BY: Vincent Dombek

SHEET TITLE:
ROOF DETAILS

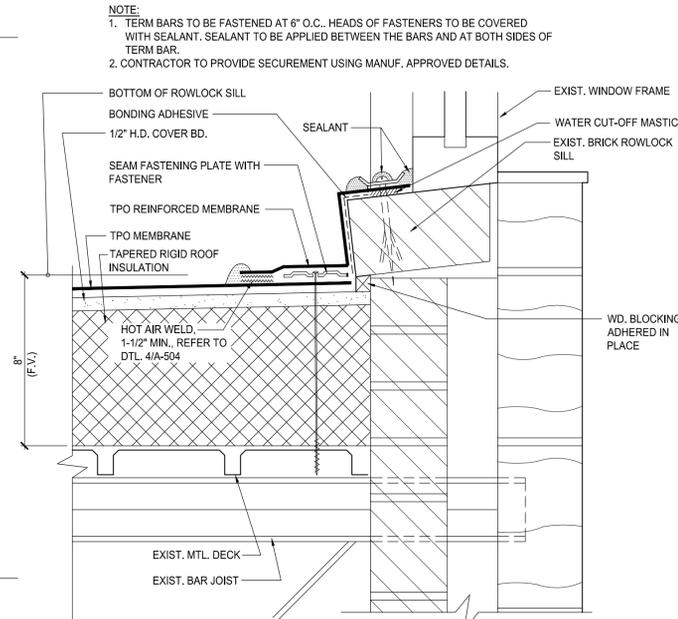
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A-504

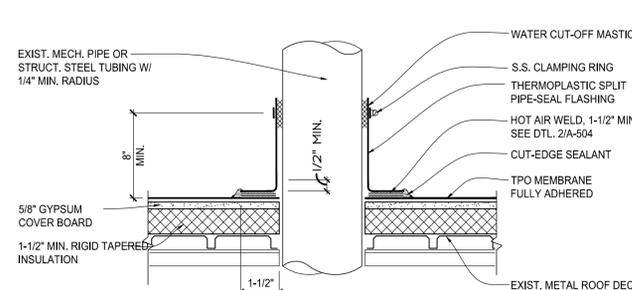
9 OF 10 SHEETS
12/3/2019



1
A-504
PENTHOUSE WALL DETAIL
3" = 1'-0"

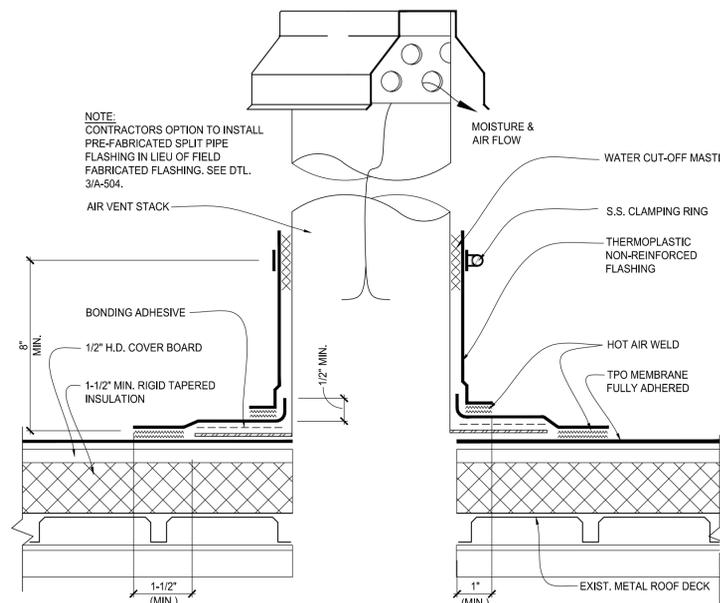
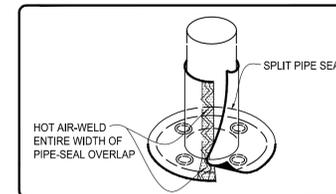


2
A-504
DETAIL AT WINDOW SILL
3" = 1'-0"

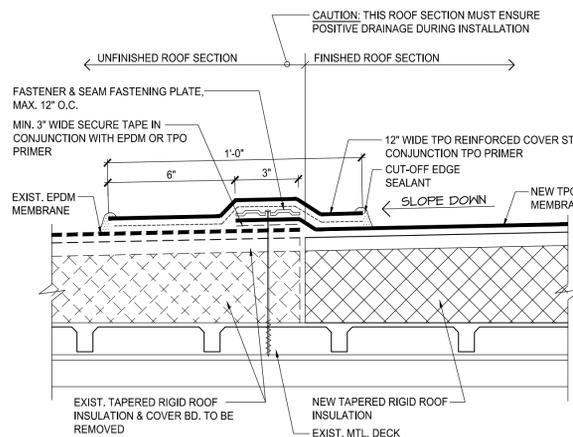


- NOTES:
1. REMOVE ALL LEAD & OTHER FLASHING BEFORE INSTALLING SPLIT PIPE FLASHING.
2. TEMPERATURE OF PIPE MUST NOT EXCEED 140° F.
3. MECHANICAL SECUREMENT IS REQUIRED AROUND ALL PIPES GREATER THAN 18" Ø.
4. APPROXIMATELY 1/8" DIA. BEAD OF CUT-EDGE SEALANT IS REQ'D ON CUT EDGES OF TPO REINFORCED MEMBRANE.
5. REGARDLESS OF THE FIELD MEMBRANE THICKNESS, THERMOPLASTIC "T-JOINT" COVERS ARE REQUIRED OVER THE SPLICE INTERSECTIONS OF THE SPLIT PIPE SEAL. IF PRE-FABRICATED SPLIT PIPE SEAL IS "CFA" LABELED PART, NO "T-JOINT" COVERS ARE REQUIRED.
6. CONTRACTORS OPTION TO INSTALL PIPE BOOT WHERE APPLICABLE. SEE DTL. 5/A-503.

3
A-504
PRE-FABRICATED SPLIT PIPE FLASHING DETAIL
N.T.S.



6
A-504
ROOF VENT FLASHING DTL. FIELD FABRICATED
3" = 1'-0"

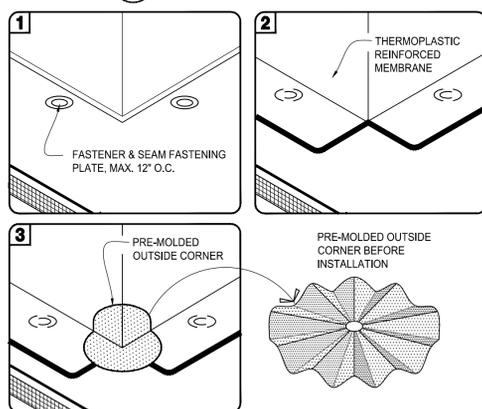


5
A-504
DAILY SEAL DETAIL
3" = 1'-0" & CLEAN UP INFORMATION

NOTE:
PRIOR TO SPLICING, CLEAN EXISTING EPDM MEMBRANE BY SCRUBBING THE SPLICE AREA WITH WEATHERED MEMBRANE CLEANER AND ALLOW TO DRY.

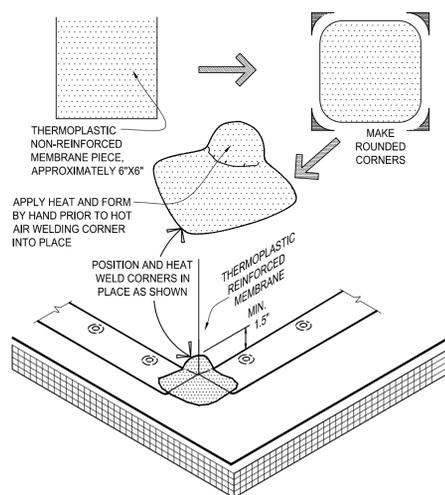
- A. DAILY SEAL
- ON PHASED ROOFING, WHEN THE COMPLETION OF FLASHINGS AND TERMINATIONS IS NOT POSSIBLE BY THE END OF EACH WORKDAY, PROVISIONS MUST BE TAKEN TO TEMPORARILY CLOSE THE MEMBRANE TO PREVENT WATER INFILTRATION.
 - TEMPORARILY SEAL ANY LOOSE MEMBRANE EDGE DOWN SLOPE USING FAST ADHESIVE SO THAT THE MEMBRANE EDGE WILL NOT BUCK WATER. CAUTION MUST BE EXERCISED TO ENSURE POSITIVE DRAINING DURING INSTALLATION. TEMPORARY SEAL LOCATIONS SHOULD BE DESIGNATED SO THAT DRAINAGE IS NOT RESTRICTED DURING CONSTRUCTION BY PARTIALLY INSTALLED ROOF SECTIONS.
 - WHEN APPLYING FAST ADHESIVE OR OTHER SPRAYED URETHANE FOAM, PRIME THE SURFACE OF THE MEMBRANE WITH PRIMER TO ENSURE PROPER ADHESION.
 - AFTER EMBEDDING MEMBRANE IN DAILY SEAL MATERIAL, CHECK FOR CONTINUOUS CONTACT, PROVIDE CONTINUOUS PRESSURE OVER THE LENGTH OF THE TEMPORARY SEAL. PROVIDE WEIGHT EVENLY DISTRIBUTED ALONG THE LENGTH OF THE DAILY SEAL TO REDUCE THE WIND EFFECT ON THE CONTINUOUS TEMPORARY SEAL.

NOTE: THE USE OF RIGID WOOD NAILERS IS NOT RECOMMENDED DUE TO WARPING. CONSTANT COMPRESSION CANNOT BE ACHIEVED ON AN UNEVEN SUBSTRATE.
 - WHEN WORK IS RESUMED, PULL THE IMBEDDED MEMBRANE FREE; TRIM AND REMOVE DAILY SEAL MATERIAL FROM MEMBRANE BEFORE CONTINUING INSTALLATION OF ADJOINING SECTIONS.
 - CLEAN UP
 - TO ENSURE THE AESTHETICS OF THE SURFACE OF THE MEMBRANE, HAND PRINTS, FOOTPRINTS, GENERAL TRAFFIC GRIME, INDUSTRIAL POLLUTANTS AND ENVIRONMENTAL DIRT MAY BE CLEANED FROM THE SURFACE OF THE MEMBRANE BY SCRUBBING WITH SOAPY (NON-ABRASIVE SOAP) WATER AND RINSING THE AREA COMPLETELY WITH CLEAN WATER.
 - WEATHERED MEMBRANE CLEANER CAN BE USED TO CLEAN THE SURFACE OF THE TPO MEMBRANE.
 - BONDING ADHESIVE AND FAST ADHESIVE RESIDUE MAY BE CLEANED BY USING THE FOLLOWING PROCEDURES:
 - SATURATE A CLEAN HP SPLICE WIPE WITH WEATHERED MEMBRANE CLEANER.
 - SCRUB EXPOSED ADHESIVE WITH THE SATURATED HP SPLICE WIPE UNTIL ALL RESIDUE IS REMOVED FROM THE MEMBRANE. FOR EASIER REMOVAL, IT MAY BE NECESSARY TO CHANGE SPLICE WIPES FREQUENTLY.

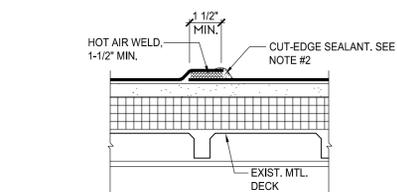


- NOTES:
1. POSITION FASTENING PLATES 6" FROM THE CORNER AND 1/2" TO 1" FROM EDGE OF MEMBRANE.
2. APPROXIMATELY 1/8" DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
3. REFER TO MANUF. SPECIFICATIONS FOR ACCEPTABLE FASTENERS AND PLATES.

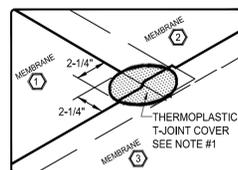
8
A-504
PRE-MOLDED OUTSIDE CORNER FLASHING DTL. CURB FLASHING
NO SCALE



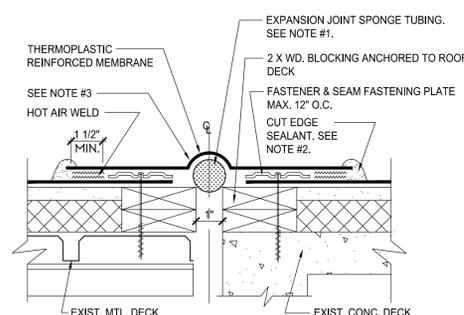
9
A-504
FIELD FABRICATED OUTSIDE CORNER FLASHING DETAIL CURB FLASHING
NO SCALE



- NOTE:
1. APPLY A 4-1/2" DIA. "T-JOINT" COVER AT ALL FIELD SPLICE INTERSECTIONS.
2. APPROXIMATELY 1/8" DIA. BEAD OF CUT-OFF EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.



4
A-504
ROOFING SPLICE DETAIL
3" = 1'-0"



- NOTES:
1. WHEN EXPANSION JOINT SUPPORT IS USED, WIDTH OF JOINT SHALL BE A MINIMUM OF 3/4" AND SHALL NOT EXCEED 3" IN WIDTH.
2. APPROXIMATELY 1/8" DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
3. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT OR SPONGE TUBING.
4. REMOVE EXIST. MTL. EXPANSION JOINT COVER AND DISCARD.

7
A-504
DECK TO DECK EXPANSION JOINT DTL.
3" = 1'-0"

DECK TO DECK EXPANSION JOINT DTL.

**UPPER ROOF 'A'
ROOF DESIGN INFORMATION:**

1. APPLICABLE BUILDING CODES: IEBC - 2015
IBC - 2015
MECHANICAL CODE - IMC 2015
PLUMBING CODE - UPC 2015
ELECTRICAL CODE - NEC 2014
PROPERTY CODE - IPMC 2009
FIRE CODE - IFC 2015
2. FIRE RATING OF ROOF DECK: 1 HOUR MINIMUM
3. BUILDING CONSTRUCTION TYPE: TYPE 2A
4. FIRE RATING ROOF SYSTEM: CLASS A PROVIDED
5. OCCUPANCY CATEGORY: CATEGORY IV
(ARMORY FACILITIES)
6. OCCUPANCY CLASSIFICATION: B (BUSINESS)
7. HAIL CLASSIFICATION: SH (SEVERE HAIL)
8. WIND TERRAIN CLASSIFICATION: B
9. WIND SPEED: 120
10. SOURCE OF WIND SPEED: ASCE 7-10, FIG. 26.5-1B
11. DECK TYPE: CONCRETE DECK
12. WIND BORNE DEBRIS RISK: NONE
13. ROOF DIMENSIONS: 64'-0" x 115'-5" +/-
14. MEAN ROOF HEIGHT: 20'-0" +/-
15. MINIMUM ROOF SLOPE: 1/4 PER FOOT
16. MAXIMUM ROOF SLOPE: 1/4 PER FOOT
17. ROOF PARAPET MORE THAN 3 FEET: NO ROOF PARAPET
GREATER THAN 3 FEET
18. WIND PRESSURES: FIELD = 30 PSF
PERIMETER - 50 PSF = 60 PSF
CORNER = 75 PSF

CONCRETE ROOF DECK

BUILDING CATEGORY	TYPE 4
MEAN ROOF HEIGHT	20'-0" +/-
WIND TERRAIN CLASSIFICATION	C
ULTIMATE DESIGN WIND SPEED	120 MPH
UPLIFT PRESSURES	
- AT FIELD	60 PSF
- AT PERIMETER	105 PSF
- AT CORNERS	150 PSF

WIND UPLIFT CALCULATIONS

WIDTH OF PERIMETER UPLIFT = 10% OF ROOF WIDTH
= 64' x .1
= 6.4' = 6'-5"

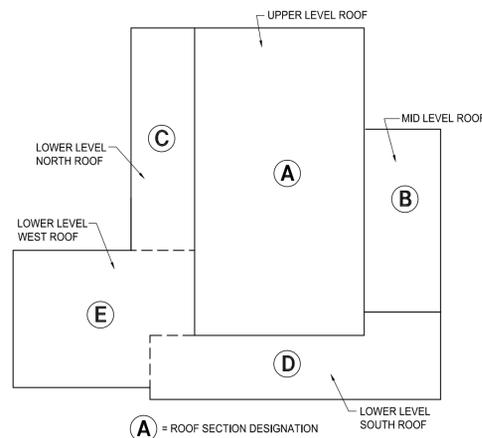
WIDTH OF PERIMETER UPLIFT = 40% OF EAVE HEIGHT
= 20' X .4 = 8'

USE THE LESSER OF THE (2) CALCULATIONS
ROUND UP TO FULL INSUL. BD. = 8'

WIDTH OF CORNER UPLIFT = 8' X 8'

NOTES:
1. SEE UPPER ROOF "A" DESIGN PLAN 1/A-605.

GENERAL NOTES:
PERIMETERS ARE CALCULATED BY THE LESSER OF EITHER 10% OF THE LESSER PLAN DIMENSION OR 40% OF EAVE HEIGHT, SUBJECT TO A MINIMUM WIDTH OF AT LEAST 3 FEET. ALWAYS ROUND UP TO INCLUDE A FULL INSULATION OR BASE SHEET.



ROOF KEY PLN.
NO SCALE

**MID LEVEL ROOF 'B'
ROOF DESIGN INFORMATION:**

1. APPLICABLE BUILDING CODES: IEBC - 2015
IBC - 2015
MECHANICAL CODE - IMC 2015
PLUMBING CODE - UPC 2015
ELECTRICAL CODE - NEC 2014
PROPERTY CODE - IPMC 2009
FIRE CODE - IFC 2015
2. FIRE RATING OF ROOF DECK: 1 HOUR MINIMUM
3. BUILDING CONSTRUCTION TYPE: TYPE 2A
4. FIRE RATING ROOF SYSTEM: CLASS A PROVIDED
5. OCCUPANCY CATEGORY: CATEGORY IV
(ARMORY FACILITIES)
6. OCCUPANCY CLASSIFICATION: B (BUSINESS)
7. HAIL CLASSIFICATION: SH (SEVERE HAIL)
8. WIND TERRAIN CLASSIFICATION: B
9. WIND SPEED: 120
10. SOURCE OF WIND SPEED: ASCE 7-10, FIG. 26.5-1B
11. DECK TYPE: CONCRETE DECK
12. WIND BORNE DEBRIS RISK: NONE
13. ROOF DIMENSIONS: 28'-10" x 68'-0" +/-
14. MEAN ROOF HEIGHT: 13'-0" +/-
15. MINIMUM ROOF SLOPE: 1/4 PER FOOT
16. MAXIMUM ROOF SLOPE: 1/4 PER FOOT
17. ROOF PARAPET MORE THAN 3 FEET: NO ROOF PARAPET
GREATER THAN 3 FEET
18. WIND PRESSURES: FIELD = 30 PSF
PERIMETER - 50 PSF = 60 PSF
CORNER = 75 PSF

CONCRETE ROOF DECK

BUILDING CATEGORY	TYPE 4
MEAN ROOF HEIGHT	13'-0" +/-
WIND TERRAIN CLASSIFICATION	C
ULTIMATE DESIGN WIND SPEED	120 MPH
UPLIFT PRESSURES	
- AT FIELD	60 PSF
- AT PERIMETER	105 PSF
- AT CORNERS	150 PSF

WIND UPLIFT CALCULATIONS

WIDTH OF PERIMETER UPLIFT = 10% OF ROOF WIDTH
= 28.83' x .1
= 2.88' = 2'-10"

WIDTH OF PERIMETER UPLIFT = 40% OF EAVE HEIGHT
= 13' X .4 = 5.2'

USE THE LESSER OF THE (2) CALCULATIONS
ROUND UP TO FULL INSUL. BD. = 4'

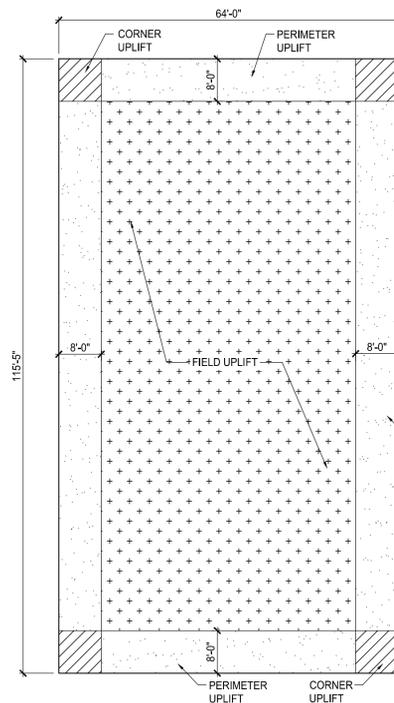
WIDTH OF CORNER UPLIFT = 4' X 4'

PENTHOUSE WALL HEIGHT = 6'-9" = 6.75' 6.75 X 1.5 = 10.125 = 10'

ROUND UP TO FULL INSUL. BD. = 12'

12' = PENTHOUSE PERIMETER UPLIFT
12' X 12' = PENTHOUSE CORNER UPLIFT

NOTES:
1. SEE MID LEVEL ROOF "B" DESIGN PLAN 2/A-605.



UPPER LEVEL ROOF "A" DESIGN PLAN
1/A-605 1/16" = 1'-0"

**LOWER LEVEL ROOF (NORTH) 'C'
ROOF DESIGN INFORMATION:**

1. APPLICABLE BUILDING CODES: IEBC - 2015
IBC - 2015
MECHANICAL CODE - IMC 2015
PLUMBING CODE - UPC 2015
ELECTRICAL CODE - NEC 2014
PROPERTY CODE - IPMC 2009
FIRE CODE - IFC 2015
2. FIRE RATING OF ROOF DECK: 1 HOUR MINIMUM
3. BUILDING CONSTRUCTION TYPE: TYPE 2A
4. FIRE RATING ROOF SYSTEM: CLASS A PROVIDED
5. OCCUPANCY CATEGORY: CATEGORY IV
(ARMORY FACILITIES)
6. OCCUPANCY CLASSIFICATION: B (BUSINESS)
7. HAIL CLASSIFICATION: SH (SEVERE HAIL)
8. WIND TERRAIN CLASSIFICATION: B
9. WIND SPEED: 120
10. SOURCE OF WIND SPEED: ASCE 7-10, FIG. 26.5-1B
11. DECK TYPE: CONCRETE DECK
12. WIND BORNE DEBRIS RISK: NONE
13. ROOF DIMENSIONS: 24'-0" x 83'-6" +/-
14. MEAN ROOF HEIGHT: 10'-0" +/-
15. MINIMUM ROOF SLOPE: 1/4 PER FOOT
16. MAXIMUM ROOF SLOPE: 1/4 PER FOOT
17. ROOF PARAPET MORE THAN 3 FEET: NO ROOF PARAPET
GREATER THAN 3 FEET
18. WIND PRESSURES: FIELD = 30 PSF
PERIMETER - 50 PSF = 60 PSF
CORNER = 75 PSF

CONCRETE ROOF DECK

BUILDING CATEGORY	TYPE 4
MEAN ROOF HEIGHT	10'-0" +/-
WIND TERRAIN CLASSIFICATION	C
ULTIMATE DESIGN WIND SPEED	120 MPH
UPLIFT PRESSURES	
- AT FIELD	60 PSF
- AT PERIMETER	105 PSF
- AT CORNERS	150 PSF

WIND UPLIFT CALCULATIONS

WIDTH OF PERIMETER UPLIFT = 10% OF ROOF WIDTH
= 24' x .1
= 2.4' = 2'-5"

WIDTH OF PERIMETER UPLIFT = 40% OF EAVE HEIGHT
= 10' X .4 = 4'

USE THE LESSER OF THE (2) CALCULATIONS
ROUND UP TO FULL INSUL. BD. = 4'

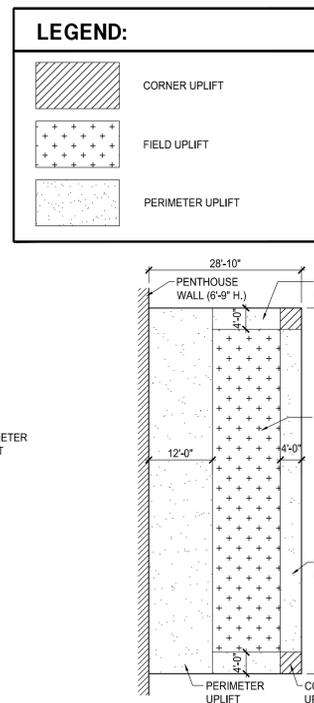
WIDTH OF CORNER UPLIFT = 4' X 4'

PENTHOUSE WALL HEIGHT = 9'-9" = 9.75' 9.75 X 1.5 = 14.625'

ROUND UP TO FULL INSUL. BD. = 16'

16' = PENTHOUSE PERIMETER UPLIFT
16 X 16' = PENTHOUSE CORNER UPLIFT

NOTES:
1. SEE LOWER LEVEL ROOF (NORTH) "C" DESIGN PLAN 3/A-605.



MID LEVEL ROOF "B" DESIGN PLAN
2/A-605 1/16" = 1'-0"

**LOWER LEVEL ROOF (SOUTH) 'D'
ROOF DESIGN INFORMATION:**

1. APPLICABLE BUILDING CODES: IEBC - 2015
IBC - 2015
MECHANICAL CODE - IMC 2015
PLUMBING CODE - UPC 2015
ELECTRICAL CODE - NEC 2014
PROPERTY CODE - IPMC 2009
FIRE CODE - IFC 2015
2. FIRE RATING OF ROOF DECK: 1 HOUR MINIMUM
3. BUILDING CONSTRUCTION TYPE: TYPE 2A
4. FIRE RATING ROOF SYSTEM: CLASS A PROVIDED
5. OCCUPANCY CATEGORY: CATEGORY IV
(ARMORY FACILITIES)
6. OCCUPANCY CLASSIFICATION: B (BUSINESS)
7. HAIL CLASSIFICATION: SH (SEVERE HAIL)
8. WIND TERRAIN CLASSIFICATION: B
9. WIND SPEED: 120
10. SOURCE OF WIND SPEED: ASCE 7-10, FIG. 26.5-1B
11. DECK TYPE: CONCRETE DECK
12. WIND BORNE DEBRIS RISK: NONE
13. ROOF DIMENSIONS: 32'-10" x 109'-8" +/-
14. MEAN ROOF HEIGHT: 10'-0" +/-
15. MINIMUM ROOF SLOPE: 1/4 PER FOOT
16. MAXIMUM ROOF SLOPE: 1/4 PER FOOT
17. ROOF PARAPET MORE THAN 3 FEET: NO ROOF PARAPET
GREATER THAN 3 FEET
18. WIND PRESSURES: FIELD = 30 PSF
PERIMETER - 50 PSF = 60 PSF
CORNER = 75 PSF

CONCRETE ROOF DECK

BUILDING CATEGORY	TYPE 4
MEAN ROOF HEIGHT	10'-0" +/-
WIND TERRAIN CLASSIFICATION	C
ULTIMATE DESIGN WIND SPEED	120 MPH
UPLIFT PRESSURES	
- AT FIELD	60 PSF
- AT PERIMETER	105 PSF
- AT CORNERS	150 PSF

WIND UPLIFT CALCULATIONS

WIDTH OF PERIMETER UPLIFT = 10% OF ROOF WIDTH
= 32'-10" x .1
= 3.28' = 3'-3"

WIDTH OF PERIMETER UPLIFT = 40% OF EAVE HEIGHT
= 10' X .4 = 4'

USE THE LESSER OF THE (2) CALCULATIONS
ROUND UP TO FULL INSUL. BD. = 4'

WIDTH OF CORNER UPLIFT = 4' X 4'

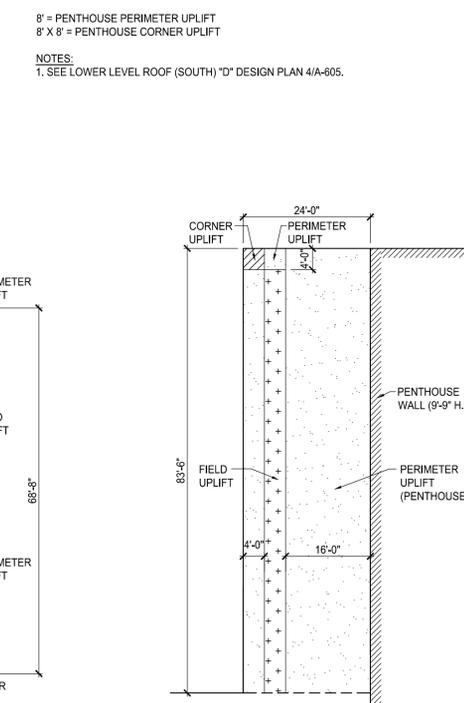
PENTHOUSE WALL HEIGHT (CENTER) = 9'-9" = 9.75' 9.75 X 1.5 = 14.625'

ROUND UP TO FULL INSUL. BD. = 16'

16' = PENTHOUSE PERIMETER UPLIFT
16' X 16' = PENTHOUSE CORNER UPLIFT

PENTHOUSE WALL HEIGHT (EAST) = 3'-9" = 3.75' 3.77 X 1.5 = 5.65'

ROUND UP TO FULL INSUL. BD. = 8'



LOWER LEVEL NORTH ROOF "C" DESIGN PLAN
3/A-605 1/16" = 1'-0"

**LOWER LEVEL ROOF (WEST) 'E'
ROOF DESIGN INFORMATION:**

1. APPLICABLE BUILDING CODES: IEBC - 2015
IBC - 2015
MECHANICAL CODE - IMC 2015
PLUMBING CODE - UPC 2015
ELECTRICAL CODE - NEC 2014
PROPERTY CODE - IPMC 2009
FIRE CODE - IFC 2015
2. FIRE RATING OF ROOF DECK: 1 HOUR MINIMUM
3. BUILDING CONSTRUCTION TYPE: TYPE 2A
4. FIRE RATING ROOF SYSTEM: CLASS A PROVIDED
5. OCCUPANCY CATEGORY: CATEGORY IV
(ARMORY FACILITIES)
6. OCCUPANCY CLASSIFICATION: B (BUSINESS)
7. HAIL CLASSIFICATION: SH (SEVERE HAIL)
8. WIND TERRAIN CLASSIFICATION: B
9. WIND SPEED: 120
10. SOURCE OF WIND SPEED: ASCE 7-10, FIG. 26.5-1B
11. DECK TYPE: CONCRETE DECK
12. WIND BORNE DEBRIS RISK: NONE
13. ROOF DIMENSIONS: 44'-6" x 51'-6" +/-
14. MEAN ROOF HEIGHT: 10'-0" +/-
15. MINIMUM ROOF SLOPE: 1/4 PER FOOT
16. MAXIMUM ROOF SLOPE: 1/4 PER FOOT
17. ROOF PARAPET MORE THAN 3 FEET: NO ROOF PARAPET
GREATER THAN 3 FEET
18. WIND PRESSURES: FIELD = 30 PSF
PERIMETER - 50 PSF = 60 PSF
CORNER = 75 PSF

CONCRETE ROOF DECK

BUILDING CATEGORY	TYPE 4
MEAN ROOF HEIGHT	10'-0" +/-
WIND TERRAIN CLASSIFICATION	C
ULTIMATE DESIGN WIND SPEED	120 MPH
UPLIFT PRESSURES	
- AT FIELD	60 PSF
- AT PERIMETER	105 PSF
- AT CORNERS	150 PSF

WIND UPLIFT CALCULATIONS

WIDTH OF PERIMETER UPLIFT = 10% OF ROOF WIDTH
= 44'-6" x .1
= 4.45' = 4'-5"

WIDTH OF PERIMETER UPLIFT = 40% OF EAVE HEIGHT
= 10' X .4 = 4'

USE THE LESSER OF THE (2) CALCULATIONS
ROUND UP TO FULL INSUL. BD. = 4'

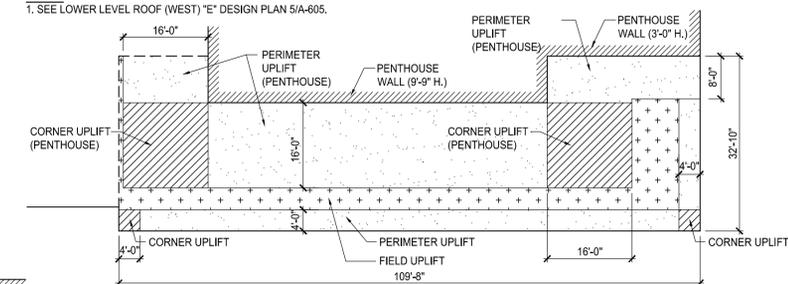
WIDTH OF CORNER UPLIFT = 4' X 4'

PENTHOUSE WALL HEIGHT = 9'-9" = 9.75' 9.75 X 1.5 = 14.625'

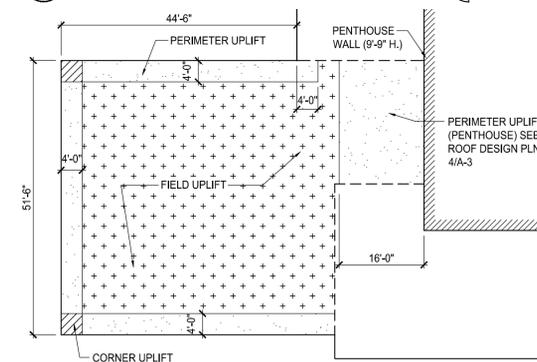
ROUND TO FULL INSUL. BD. = 16'-0"

16' = PENTHOUSE PERIMETER UPLIFT
16' X 16' = PENTHOUSE CORNER UPLIFT

NOTES:
1. SEE LOWER LEVEL ROOF (WEST) "E" DESIGN PLAN 5/A-605.



LOWER LEVEL SOUTH ROOF "D" DESIGN PLAN
4/A-605 1/16" = 1'-0"



LOWER LEVEL WEST ROOF "E" DESIGN PLAN
5/A-605 1/16" = 1'-0"



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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

DEPARTMENT OF MISSOURI
NATIONAL GUARD OFFICE
OF THE ADJUTANT GENERAL
FACILITIES MANAGEMENT

WARRENTON READINESS
CENTER REPLACE ROOF
SYSTEM & PAVING

1 ARMORY DRIVE
WARRENTON, MISSOURI
63383

PROJECT # T1902-01
SITE # 6305
ASSET # 8136305012

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 12/3/2019

CAD DWG FILE: A-605
DRAWN BY: Harry Schien
CHECKED BY: Vincent Dombek
DESIGNED BY: Vincent Dombek

SHEET TITLE:
**ROOF DESIGN INFO
& ROOF WIND
GRAPHIC PLANS**

SHEET NUMBER:

A-605

10 OF 10 SHEETS
12/3/2019