DAMASCUS TRAIL CENTER

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CIVIL

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KNOXVILLE, TENNESSEE 37902

Inc.

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v/C	EVIATIONS			SYMBO	ols & Mate	ERIALS LEGE	END
V(.		Μ		BUBBLE	KEY LEGEND		
COUST	Air Conditioning Acoustical Acoustical Ceiling Tile	MAS MATL MAX	Masonry Material Maximum		DET.	AIL NUMBER B	BUILD
DJ	Adjust(able) Above Finished Floor	MAX MB MECH	Machine Bolt Mechanical		(1)		
L, ALUM	Aluminum Alternate	MECH MFR MH	Manufacturer Manhole	<u>R101</u> <u>A101</u>	<u>A101</u>		A10
RCH	Architectural Asphalt	MIN MISC	Minimum Miscellaneous				
TT	Attach(ed)	MO MS	Masonry Opening Machine Screw			TIVE SHEET NUMB ERENCING SHEET	
3D	Board	MT MTL	Metal Thresold Metal	WALL	SECTION KEY	DETAIL	SECI
BLDG BLKG	Building Blocking	N	Mullion		Ref	Re	эf
M RG	Benchmark Bearing	NEO NIC	Neoprene Not In Contract Number	4	1		
BUR BOC	Built-Up Roof Bottom of Curb	NO. NTS	Not To Scale	4	101	A101	
	Bottom of Steel Bottom	0 0C	On Center				
CAB	Cabinet	OD OH	Outside Diameter Opposite Hand				
CB CEM	Catch Basin Cement	OPNG OPP	Opening Opposite	VIEW TIT	LE LEGEND	\frown	N
CIP CJ	Cast-In-Place Contraction Joint	PL	Property Line or Plate				\rightarrow
CLG CLR	Ceiling Clear / Clearance	PLAM PLYWD	Plastic Laminate Plywood			× F	Project North
CMU COL	Concrete Masonry Unit Column	PREFAB PNT	Prefabricate(d), (tion) Point	TRUE	NORTH		
CONC	Concrete Construction	POB PT PTD	Point Of Beginning Pressure Treated Painted and/or Paper Towel	PROJ			
CONT COORD CORR	Continous / Continued Coordinate Corrugates, (ed)	PTD Dispenser PTR	Painted and/or Paper Towel				ļ
CRS CT	Corrugates, (ea) Course(s) Ceramic Tile	Q	Quarry Tile				
CTSK CU	Countersunk Cubic	QTZ	Quartz				
	Cubic Foot/Feet	D		FYTEDIC	R & INTERIOR		
)	Depth	R	Riser / Radius	ELEVATI		DETAIL NUM	MRFP
OBL OF	Double Drinking Fountain	RA RAD	Return Air Radius	1	1		VIDEN
DIM DN DR	Dimension Down Door	RAG RAR	Return Air Grill Return Air Register	A000	A000	DIRECTION	
DS DTL	Down Spout Detail	RB RCP RD	Rubber Base Reflected Ceiling Plan Roof Drain				
W WG	Dishwasher Drawing	REF REINF	Refrigerator Reinforce(d), (ing), (ment)	EXTERIOR ELEVATION	INTERIOR S ELEVATIONS		
	J.	RET RH	Retain(ing), Retention Round Head				
FEC	Existing Fire Extinguisher	RL RM	Rain Leader Room				
Cabinet EF EIFS	Each Face	RO ROW	Rough Opening Right of Way				
LEC	Exterior Insulation Finishing System Expansion Joint Electric (al)	RS S	Rough Sawn				
ELEV OS	Elevation / Elevator Edge of Slab	S&R SA	Shelf & Rod Supply Air				
EQ EQUIP	Equal Equipment	SAFB SAG	Sound Attenuation Fire Barrier Supply Air Grill	ROOM/	space indic	ators	
W XH	Each Way Exhaust	SAN SCD SCH	Sanitary Sanitary Cloth Dispenser Schedule	SPACE N		_	
EXIST	Existing	SCWD SDF	Solid Core Wood Door Soap Dispenser (Foam)	SPACE NUMBER			
	Face of Floor Drain	SDL SEC	Soap Dispenser (Liquid) Secure(d)	NOMBER		150 SE	AREA
E	Fire Extinguisher Fire Extinguisher Cabinet	SECT SHT	Section Sheet	OCCUPA		└──── \	VOLU
Н	Finish(ed) Floor Flat Head	SIM SPEC	Similar Specification(s)	CODE			SPAC
IN	Fire Hose Cabinet Finish(ed)	SQ SQ IN	Square Square Inch(es)		Room N FLR Base	Wall MIL.H CLG	
	Flat Head Machine Screw Floor Feminine Napkin Receptacle	SQ FT SQ YD SS	Square Feet / Foot / Footage Square Yard(s) Service Sink	FLOOR -			CEILIN
NTD Dispenser	Feminine Napkin Tampon	SST STC	Stainless Steel Sound Transmission Coeffient	FINISH			MISC
ОM	Face of Masonry Face of Stud	STD ST	Standard Steel Tube	BASE FIN	ISH	L V	WALL
	Framing Fire Retardant Treated	STL STOR	Steel Storage			OTES	
RT	Fiberglass Reinforced Ploymer Fasten(ed) (er) (ing)	STRUCT SUSP	Structural Suspend(ed) (sion)		3.44.55ABC	OIES	
RT RP STN		T	Tread(s)/Tempered			HM Defined	
RT RP STN	Gauge / Gage		Tongue and Groove		L Ne	arrow Scope (M	
RT RP STN SA ALV GL	Galvanize(d) Glass / Glazing	T&G TEMP	Temporary				za)
RT RP STN GA' GALV GL GYP	Galvanize(d)	T&G TEMP THK THOLD	Temporary Thick(ness) Threshold		De	efined as neede edium Scope	
RT RP STN SAA SALV GL GYP GYP BD	Galvanize(d) Glass / Glazing Gypsum Gypsum Board	T&G TEMP THK THOLD THR TLT	Temporary Thick(ness) Threshold Thread(s) Toilet		De ————————————————————————————————————	edium Scope oad Scope	ision
RT RP STN GA GA GALV GL GYP GYP BD IB IC	Galvanize(d) Glass / Glazing Gypsum Gypsum Board Hose Bib Hollow Core	T&G TEMP THK THOLD THR TLT TOC TOP	Temporary Thick(ness) Threshold Thread(s) Toilet Top of Curb Top of Parapet		De ————————————————————————————————————	edium Scope oad Scope pecification Divis	ision
RT RP STN GA ² GALV GL GYP GYP BD IC IC ID ID ID R	Galvanize(d) Glass / Glazing Gypsum Gypsum Board Hose Bib Hollow Core Hand Dryer Header	T&G TEMP THK THOLD THR TLT TOC	Temporary Thick(ness) Threshold Thread(s) Toilet Top of Curb	MISCELI	De M Br Sp	edium Scope road Scope pecification Divis	ision
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RT RP STN GALV GALV GL GYP BYP BD B C D D D D D D D D R D D D R D D R D D R D D R D D R D R D R D R D R D R D R P S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S T N S S T N S S T N S T N S T N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S N S S S N S	Galvanize(d) Glass / Glazing Gypsum Gypsum Board Hose Bib Hollow Core Hand Dryer Header Hardware Hollow Metal Horizontal High Point	T&G TEMP THK THOLD THR TLT TOC TOP TOW TRTD TPD	Temporary Thick(ness) Threshold Thread(s) Toilet Top of Curb Top of Parapet Top of Wall Treated		ANEOUS SYM	edium Scope road Scope pecification Divis	ision
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MECHANICAL, PLUMBING, ELECTRICAL

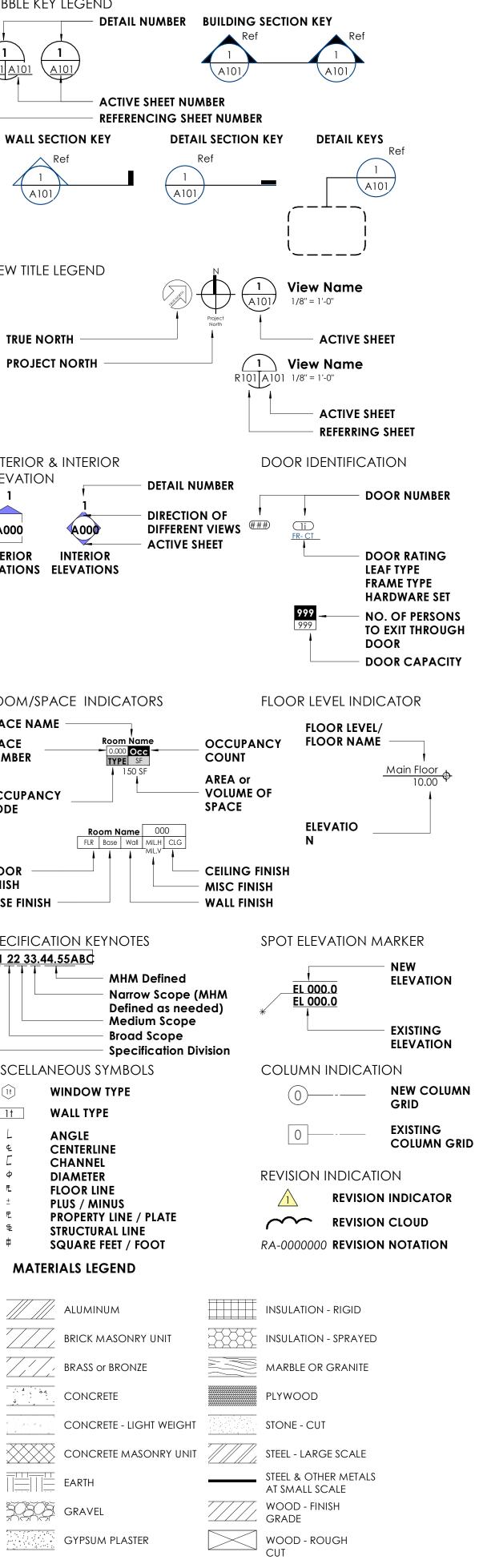
Prosim Engineering, LLC 108 SOUTH IRON STREET MARION, VIRGINIA 24354 Telephone: (276) 783-3977 osimeng.com .ONG, PE, SECB

STRUCTURAL

GRAVEL

Holston Engineering, Inc. 301 MONTGOMERY ST, STE 4 JOHNSON CITY, TN 37604 Telephone: (423) 926-9119 Fax: -Web Site: Contact: DERWIN CARTMEL, PE

ls legend



E-Mail: derwin.cartmel@holsteng.com

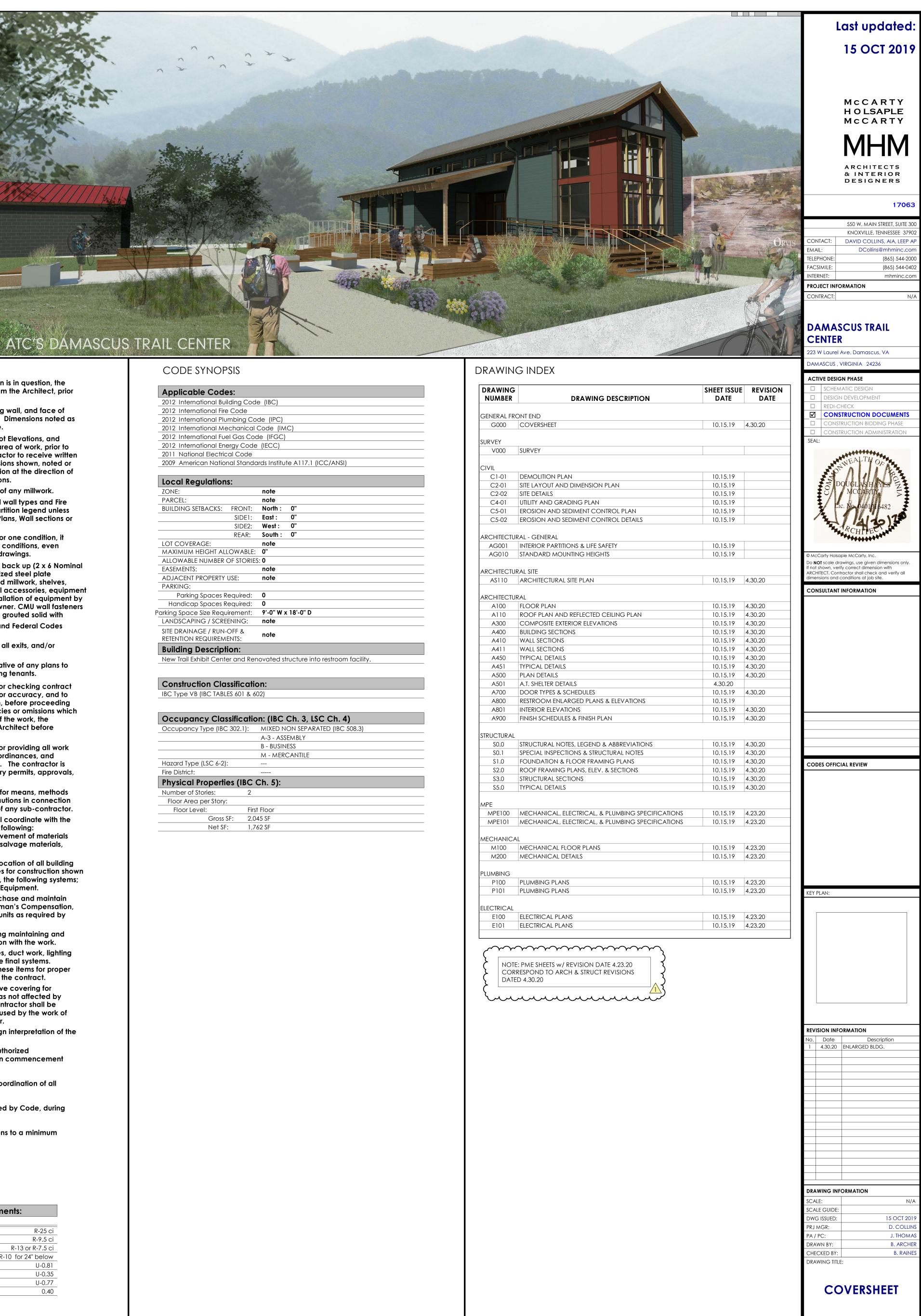
GENERAL NOTES

- 1. Do NOT scale drawings. If drawing information is in question, the Contractor shall obtain written clarification from the Architect, prior to continuing with construction.
- 2. Dimensions are to face of stud, face of existing wall, and face of concrete or masonry, unless noted otherwise. Dimensions noted as CLEAR (CLR), are from finish face to finish face.
- 3. Contractor shall field verify all Dimensions, Spot Elevations, and locations of existing conditions affecting the area of work, prior to fabrication or installation of new work. Contractor to receive written notification of any discrepancies from dimensions shown, noted or required. Adjust dimensions of new construction at the direction of the Architect to allow for actual field dimensions.
- 4. Field Verify all Dimensions prior to fabrication of any millwork. 5. Refer to partition notes and Legend for typical wall types and Fire Ratings. All wall types shall conform to the partition legend unless indicated otherwise on Floor Plans, Enlarged Plans, Wall sections or Elevations
- 6. Where a Detail is shown or note is described for one condition, it shall be assumed to apply to all like or similar conditions, even though not specifically noted as such on the drawings.
- 7. Provide Fire Retardant treated wood blocking back up (2 x 6 Nominal unless noted otherwise), or 14 Gauge Galvanized steel plate continuous between studs, for all wall mounted millwork, shelves, equipment, coat rods, etc. and grounds for all accessories, equipment and devices specified or as indicated for installation of equipment by others or defined as to be provided by the Owner. CMU wall fasteners shall extend into the CMU cells which shall be grouted solid with 8. Contractor shall comply with all Local, State and Federal Codes
- and Ordinances. 9. The Contractor shall maintain clear access to all exits, and/or access stairs serving the Building at all times.
- 10. Contractor shall notify the Owner's Representative of any plans to disrupt building service that may affect building tenants.
- 11. The General Contractor shall be responsible for checking contract documents, field conditions and dimensions for accuracy, and to confirm that all work is constructible as shown, before proceeding with construction. If there are any discrepancies or omissions which would interfere with satisfactory completion of the work, the Contractor shall obtain clarification from the Architect before proceeding with work in question.
- 12. The General Contractor shall be responsible for providing all work and materials in accordance with all codes, ordinances, and regulations applicable at the project location. The contractor is responsible for filing and securing all necessary permits, approvals, etc., for all trades, including applicable fees.
- 13. The General Contractor shall be responsible for means, methods and techniques of construction, safety precautions in connection with the work, and for the acts or omissions of any sub-contractor.
- 14. The General Contractor, Sub-Contractors shall coordinate with the owners' representative all work related to the following: Scheduling, Staging of materials, Phasing, Movement of materials Clean-Up, Protection of Existing construction, salvage materials, construction materials & Construction utilities.
- 15. The General Contractor shall coordinate the location of all building systems and verify that all required clearances for construction shown is provided. This includes, but is not limited to, the following systems; Mechanical, Electrical, Lighting and Sprinkler Equipment.
- 16. The Contractor and Sub-contractors shall purchase and maintain certificates of Insurance with respect to Workman's Compensation, Public Liability, and Property Damage for the units as required by Law or Owner.
- 17. The Contractor shall be responsible for initiating maintaining and supervising all safety precautions in connection with the work.
- 18. The Contractor shall protect existing utility lines, duct work, lighting fixtures, etc, which are to remain as part of the final systems. Contractor shall clean, repair, re-lamp, etc. these items for proper functioning of the final system, as required by the contract.
- 19. The General Contractor shall provide protective covering for Ceiling, Casework and existing finishes in areas not affected by demolition and construction. The General Contractor shall be responsible for the repair of any damages caused by the work of the General Contractor or any Sub-Contractor.
- 20. The Designer is solely responsible for the Design interpretation of the construction documents.
- 21. The Contractor shall meet with the Owner's authorized representative well in advance of construction commencement to:
- a. Agree to a schedule, sequence and coordination of all work.

b. Maintain Exits and Egress widths required by Code, during all phases of construction.

c. Keep disruptions of the facilities functions to a minimum during construction.

2012 IECC Building Envelope Requirements:			
Climate Zone 4			
Insulation entirely above deck	R-25 ci		
Mass	R-9.5 ci		
Metal framed	R-13 or R-7.5 ci		
Unheated slabs	R-10 for 24" below		
Swinging doors	U-0.81		
Fixed fenestration	U-0.35		
Entrance doors	U-0.77		
Solar Heat Gain Coefficient (SGHC)	0.40		



Applicable Codes:		
2012 International Building Code	(IBC)	
2012 International Fire Code		
2012 International Plumbing Coc	le (IPC)	
2012 International Mechanical C	Code (IMC)	
2012 International Fuel Gas Code	e (IFGC)	
2012 International Energy Code	(IECC)	
2011 National Electrical Code		
2009 American National Standar	ds Institute A117.1 (ICC/ANSI)	
Local Regulations:		
ZONE:	note	
PARCEL:	note	
BUILDING SETBACKS: FRONT:	North : 0"	
SIDE1:	East : 0"	
SIDE2:	West: 0"	
REAR:	South: 0"	
LOT COVERAGE:	note	
MAXIMUM HEIGHT ALLOWABLE:	0"	
ALLOWABLE NUMBER OF STORIES:	0	
EASEMENTS:	note	
ADJACENT PROPERTY USE:	note	
PARKING:		
Parking Spaces Required:	0	
Handicap Spaces Required:	0	
arking Space Size Requirement:	9'-0" W x 18'-0" D	
LANDSCAPING / SCREENING:	note	
SITE DRAINAGE / RUN-OFF & RETENTION REQUIREMENTS:	note	
Building Description:		
New Trail Exhibit Center and Rend	ovated structure into restroom facility.	
Construction Classificatio	n:	
IBC Type VB (IBC TABLES 601 & 60	2)	

Occupancy Classification: (IBC Ch. 3, LSC Ch. 4)				
MIXED NON SEPARATED (IBC 508.3)				
A-3 - ASSEMBLY				
B - BUSINESS				
M - MERCANTILE				
C Ch. 5):				
2				
First Floor				
2,045 SF				

DRAWING NUMBER	DRAWING DESCRIPTION	SHEET ISS DATE
GENERAL FRO	ONT END	
G000	COVERSHEET	10.15.19
SURVEY		
V000	SURVEY	
CIVIL		
C1-01	DEMOLITION PLAN	10.15.19
C2-01	SITE LAYOUT AND DIMENSION PLAN	10.15.19
C2-02	SITE DETAILS	10.15.19
C4-01	UTILITY AND GRADING PLAN	10.15.19
C5-01	EROSION AND SEDIMENT CONTROL PLAN	10.15.19
C5-02	EROSION AND SEDIMENT CONTROL DETAILS	10.15.19
ARCHITECTU	RAL - GENERAL	
AG001	INTERIOR PARTITIONS & LIFE SAFETY	10.15.19
AG010	STANDARD MOUNTING HEIGHTS	10.15.19
ARCHITECTU	RAL SITE	
AS110	ARCHITECTURAL SITE PLAN	10.15.19
ARCHITECTU		
A100	FLOOR PLAN	10.15.19
A110	ROOF PLAN AND REFLECTED CEILING PLAN	10.15.19
A300		10.15.19
A400 A410	BUILDING SECTIONS WALL SECTIONS	10.15.19
A410 A411	WALL SECTIONS	10.15.19
A411 A450	TYPICAL DETAILS	10.15.19
A451	TYPICAL DETAILS	10.15.19
A500	PLAN DETAILS	10.15.19
A501	A.T. SHELTER DETAILS	4.30.20
A700	DOOR TYPES & SCHEDULES	10.15.19
A800	RESTROOM ENLARGED PLANS & ELEVATIONS	10.15.19
A801	INTERIOR ELEVATIONS	10.15.19
A900	FINISH SCHEDULES & FINISH PLAN	10.15.19
STRUCTURAL		
SO.0	STRUCTURAL NOTES, LEGEND & ABBREVIATIONS	10.15.19
	SPECIAL INSPECTIONS & STRUCTURAL NOTES	10.15.19
\$1.0	FOUNDATION & FLOOR FRAMING PLANS	10.15.19
\$2.0	ROOF FRAMING PLANS, ELEV. & SECTIONS	10.15.19
\$3.0	STRUCTURAL SECTIONS	10.15.19
\$5.0	TYPICAL DETAILS	10.15.19
MPE MPE100	MECHANICAL, ELECTRICAL, & PLUMBING SPECIFICATIONS	10.15.19
MPE101	MECHANICAL, ELECTRICAL, & PLUMBING SPECIFICATIONS	10.15.19
/vii L101	MECHANICAL, ELECTRICAL, & LONDING SI ECHICATIONS	10.13.17
MECHANICA	L	
M100	MECHANICAL FLOOR PLANS	10.15.19
M200	MECHANICAL DETAILS	10.15.19
Plumbing		
P100	PLUMBING PLANS	10.15.19
P101	PLUMBING PLANS	10.15.19
ELECTRICAL E100	ELECTRICAL PLANS	10.15.19
E100	ELECTRICAL PLANS	10.15.19
LIVI		10.10.17

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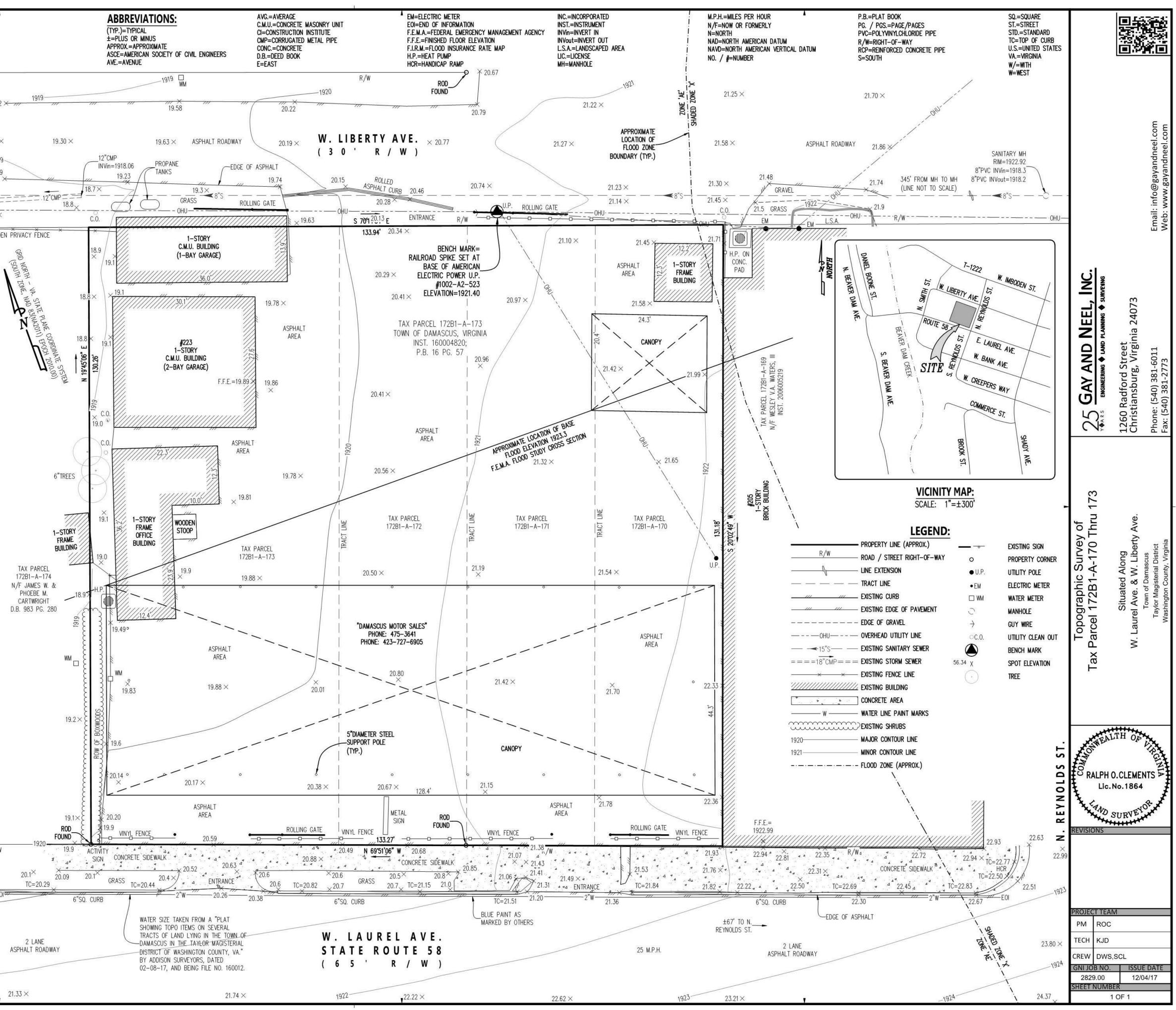
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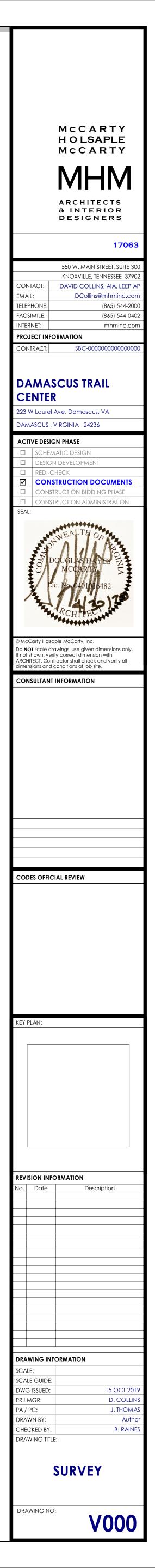
G000

BINDING EDGE

	RODFOUND
	SANITARY MH RIM=1918.38 8"PVC INVin=1914.3 8"PVC INVout=1914.2 345' FROM MH TO MH (LINE NOT TO SCALE)
E01-	
	GRATE 917.41 (AVG.)
12"CMP	P INVin=1916.4 P INVout=1915.6
NC 1.	DTES: THIS SURVEY WAS PREPARED FOR: MCCARTY HOLSAPLE MCCARTY, INC.
2.	CURRENT OWNER & LEGAL REFERENCES: TOWN OF DAMASCUS, VIRGINIA;
•	TAX PARCEL NO's: 172B1-A-170 THRU 173; INST. NO. 2016004820, P.B. 16 PG. 57
3.	THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE MAY NOT INDICATE ALL ENCUMBRANCES AND EASEMENTS THAT MAY AFFECT THE SUBJECT PROPERTY.
4.	THE TOPOGRAPHY, AS DEPICTED HEREON, IS THE RESULT OF AN ACTUAL FIELD SURVEY CONDUCTED BY GAY AND NEEL, ON DECEMBER 4, 2017.
5.	THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF RALPH O. CLEMENTS, L. #1864, FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION AND THAT THIS PLAT, MAP OR DIGITAL GEOSF DATA USING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
6.	ELEVATIONS AS SHOWN HEREON, ARE BASED ON NAVD 88 VERTICAL DATUM. HORIZONTAL DATUM, AS SHOWN HEREON, BASED ON GRID NORTH, VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD83(NA2011), EPOCH 2010.00. HORIZONTAL AND VERTICAL UNITS OF MEASUREMENT UTILIZED IS U.S. SURVEY FOOT.
7.	CONTOUR INTERVAL=1 FOOT.
8.	PROPERTY LINES, AS SHOWN HEREON, ARE FOR INFORMATIONAL PURPOSES ONLY. NO BOUNDARY SURVEY HAS BEEN PERFORMED AS A PART OF THIS PROJECT. PROPERTY LINES WERE TAKEN FROM A "PLAT SHOWING TOPO ITEMS ON SEV TRACTS OF LAND LYING IN THE TOWN OF DAMASCUS IN THE TAYLOR MAGISTERIAL DISTRICT OF WASHINGTON COUNTY, VA ADDISON SURVEYORS, DATED 02-08-17, AND BEING FILE NO. 160012.
9 .	THE SUBJECT PROPERTY LIES WITHIN A F.E.M.A. DESIGNATED 100-YEAR FLOOD HAZARD ZONE. THE SUBJECT PROPERTY WITHIN "ZONE AE", AS DEFINED BY F.E.M.A. & AS SHOWN ON F.I.R.M. MAP NO. 51191C0320C, EFFECTIVE DATE OF SEPTE 29, 2010. THIS DETERMINATION HAS BEEN MADE BY GRAPHIC METHODS ONLY. NO ELEVATION STUDY HAS BEEN PERFO AS A PART OF THIS PROJECT.
10.	NOTES REGARDING UTILITIES:
	GAY AND NEEL, INC. AND THE LAND SURVEYOR WHOSE NAME AND SEAL IS AFFIXED HERETO, ASSUMES NO LIABILITY FOI LOCATION, INCLUSION, OMISSION, EXISTENCE, OPERATIONS OF, INTERRUPTIONS OF OPERATIONS OR REPAIRS TO ANY UTIL STRUCTURE OR FACILITY, ABOVE, OR BELOW GROUND, EITHER SHOWN OR NOT SHOWN ON THESE DRAWINGS. GAY AND I INC. CONTACTED MISS UTILITY'S "POSITIVE RESPONSE SYSTEM" ON 12/04/17, WAS ISSUED TICKET NO. OF B733801786- AND WERE GIVEN THE FOLLOWING RESULTS OF THE UTILITY MARKINGS: TICKET #B733801786-00B
	APPALACHIAN POWER COMPANY (AEP111) – NO CONFLICT; UTILITY IS OUTSIDE OF STATED WORK AREA. BRISTOL VIRGINIA COMMUNICATIONS (BVU342) – NO CONFLICT; UTILITY IS OUTSIDE OF STATED WORK AREA CENTRYLINK (CTL151) – NO CONFLICT; UTILITY IS OUTSIDE OF STATED WORK AREA WASHINGTON WATER (WCS260) – MARKED WASHINGTON SEWER (WCS261) – MARKED
	LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE, BASED ON AVAILABLE SURFACE STRUCTURES UCH AS VALVES, MANHOLES, ETC. AND RECORD INFORMATION. VISIBLE UTILITY STRUCTURES WERE LOCATED IN ACCORD WITH CI/ASCE 38-02 (CONSTRUCTION INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS) QUALITY LEVEL 'C', WI IS DEFINED IN CI/ASCE 38-02 AS FOLLOWS:
	<u>UTILITY QUALITY LEVEL 'C':</u> INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEA' AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL 'D' INFORMATION.
	ADDITIONAL UNDERGROUND UTILITY FEATURES DEPICTED HEREON MAY BE BASED ON SURFACE EVIDENCE AND/OR CI/ASC STD. 38–02 QUALITY LEVEL 'D', DEFINED THEREIN AS FOLLOWS:
	UTILITY QUALITY LEVEL 'D': INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.
	SURFACE MARKINGS PROVIDED BY MISS UTILITY RESPONDERS MAY NOT CORRELATE TO CI/ASCE STD. 38-02 DEFINITIONS QUALITY LEVEL INDICATORS FOR THOSE MARKS ARE NOT SHOWN HEREON.
	48 HOURS PRIOR TO ANY EXCAVATION BEING CONDUCTED AS A PART OF THIS PROJECT, "MISS UTILITY" MUST BE NOTIF PHONE AT 1–800–552–7001, OR BY DIALING 811 IN VIRGINIA.
	INVERT ELEVATIONS, AS SHOWN HEREON, ARE LISTED IN A CLOCKWISE DIRECTION FROM THE OUTLET PIPE.
	CURB INLET RIM=1919.88 BOTTOM OF STRUCTURE=1916.53 1920
	(FULL OF WATER)
10	GRAPHIC SCALE 0 10 20

/ DATE: 5/8/2020 6:09:37 PI





OTES

THIS SURVEY WAS PREPARED FOR: MCCARTY HOLSAPLE MCCARTY, INC.

- CURRENT OWNER & LEGAL REFERENCES: TOWN OF DAMASCUS, VIRGINIA;
- TAX PARCEL NO's: 172B1-A-170 THRU 173; INST. NO. 2016004820, P.B. 16 PG. 57
- THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE MAY NOT INDICATE ALL ENCUMBRANCES AND EASEMENTS THAT MAY AFFECT THE SUBJECT PROPERTY.
- THE TOPOGRAPHY, AS DEPICTED HEREON, IS THE RESULT OF AN ACTUAL FIELD SURVEY CONDUCTED BY GAY AND NEEL, INC.
- ON DECEMBER 4, 2017. THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF RALPH O. CLEMENTS, L.S. LIC.
- #1864, FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION AND THAT THIS PLAT, MAP OR DIGITAL GEOSPATIAL DATA USING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
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- CONTOUR INTERVAL=1 FOOT.
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- THE SUBJECT PROPERTY LIES WITHIN A F.E.M.A. DESIGNATED 100-YEAR FLOOD HAZARD ZONE. THE SUBJECT PROPERTY LIES WITHIN "ZONE AE", AS DEFINED BY F.E.M.A. & AS SHOWN ON F.I.R.M. MAP NO. 51191C0320C, EFFECTIVE DATE OF SEPTEMBER 29, 2010. THIS DETERMINATION HAS BEEN MADE BY GRAPHIC METHODS ONLY. F.E.M.A F.I.R.M. MAPS SHOW THE 100 YEAR FLOOD ELEVATION TO BE 1924' FOR THE PROPERTY. NO ELEVATION STUDY HAS BEEN PERFORMED AS A PART OF THIS PROJECT.
- 10. NOTES REGARDING UTILITIES:

GAY AND NEEL, INC. AND THE LAND SURVEYOR WHOSE NAME AND SEAL IS AFFIXED HERETO, ASSUMES NO LIABILITY FOR THE LOCATION, INCLUSION, OMISSION, EXISTENCE, OPERATIONS OF, INTERRUPTIONS OF OPERATIONS OR REPAIRS TO ANY UTILITY STRUCTURE OR FACILITY, ABOVE, OR BELOW GROUND, EITHER SHOWN OR NOT SHOWN ON THESE DRAWINGS. GAY AND NEEL, INC. CONTACTED MISS UTILITY'S "POSITIVE RESPONSE SYSTEM" ON 12/04/17, WAS ISSUED TICKET NO. OF B733801786-00B, AND WERE GIVEN THE FOLLOWING RESULTS OF THE UTILITY MARKINGS: TICKET #B733801786-00B

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LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE, BASED ON AVAILABLE SURFACE STRUCTURES, SUCH AS VALVES, MANHOLES, ETC. AND RECORD INFORMATION. VISIBLE UTILITY STRUCTURES WERE LOCATED IN ACCORDANCE WITH CI/ASCE 38-02 (CONSTRUCTION INSTITUTE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS) QUALITY LEVEL 'C', WHICH IS DEFINED IN CI/ASCE 38-02 AS FOLLOWS:

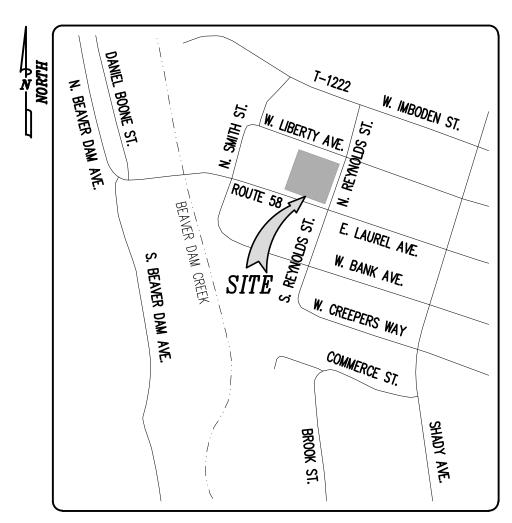
UTILITY QUALITY LEVEL 'C': INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL 'D' INFORMATION. ADDITIONAL UNDERGROUND UTILITY FEATURES DEPICTED HEREON MAY BE BASED ON SURFACE EVIDENCE AND/OR CI/ASCE

STD. 38–02 QUALITY LEVEL 'D', DEFINED THEREIN AS FOLLOWS: <u>UTILITY QUALITY LEVEL 'D':</u> INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

SURFACE MARKINGS PROVIDED BY MISS UTILITY RESPONDERS MAY NOT CORRELATE TO CI/ASCE STD. 38-02 DEFINITIONS AND QUALITY LEVEL INDICATORS FOR THOSE MARKS ARE NOT SHOWN HEREON.

48 HOURS PRIOR TO ANY EXCAVATION BEING CONDUCTED AS A PART OF THIS PROJECT. "MISS UTILITY" MUST BE NOTIFIED BY PHONE AT 1-800-552-7001. OR BY DIALING 811 IN VIRGINIA.

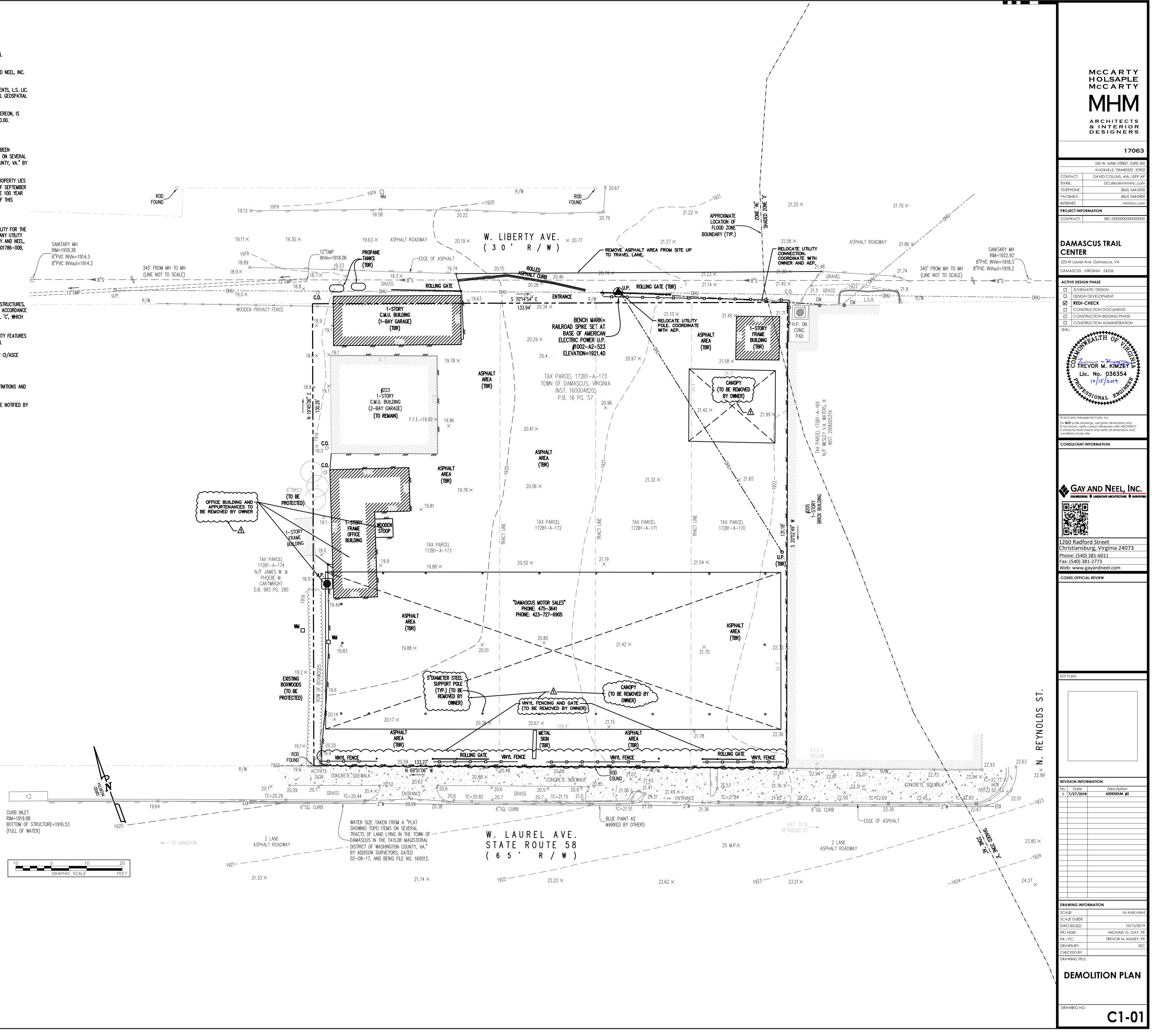
INVERT ELEVATIONS, AS SHOWN HEREON, ARE LISTED IN A CLOCKWISE DIRECTION FROM THE OUTLET PIPE.



VICINITY MAP: SCALE: 1"=±300'

	LEGEND:	
	ROPERTY LINE (APPROX.)	
R/W R	oad / street right-of-way	ο
•	ine extension	● U.P.
— — — — T	RACT LINE	●EM
E	XISTING CURB	□ WM
—— <i>///</i> —— E	XISTING EDGE OF PAVEMENT	0
E	DGE OF GRAVEL	\rightarrow
— — OHU— — O	VERHEAD UTILITY LINE	⊂C.0.
— — 15"S— — E	XISTING SANITARY SEWER	
====18"CMP $===E$	XISTING STORM SEWER	56.34 χ
× E	XISTING FENCE LINE	•
· <u>////////////////////////////////////</u>	Xisting Building	(TBR)
<u>▼</u>	ONCRETE AREA	
W W	ATER LINE PAINT MARKS	
	XISTING SHRUBS	
1920 M	IAJOR CONTOUR LINE	
1921 M	IINOR CONTOUR LINE	
FI	LOOD ZONE (APPROX.)	



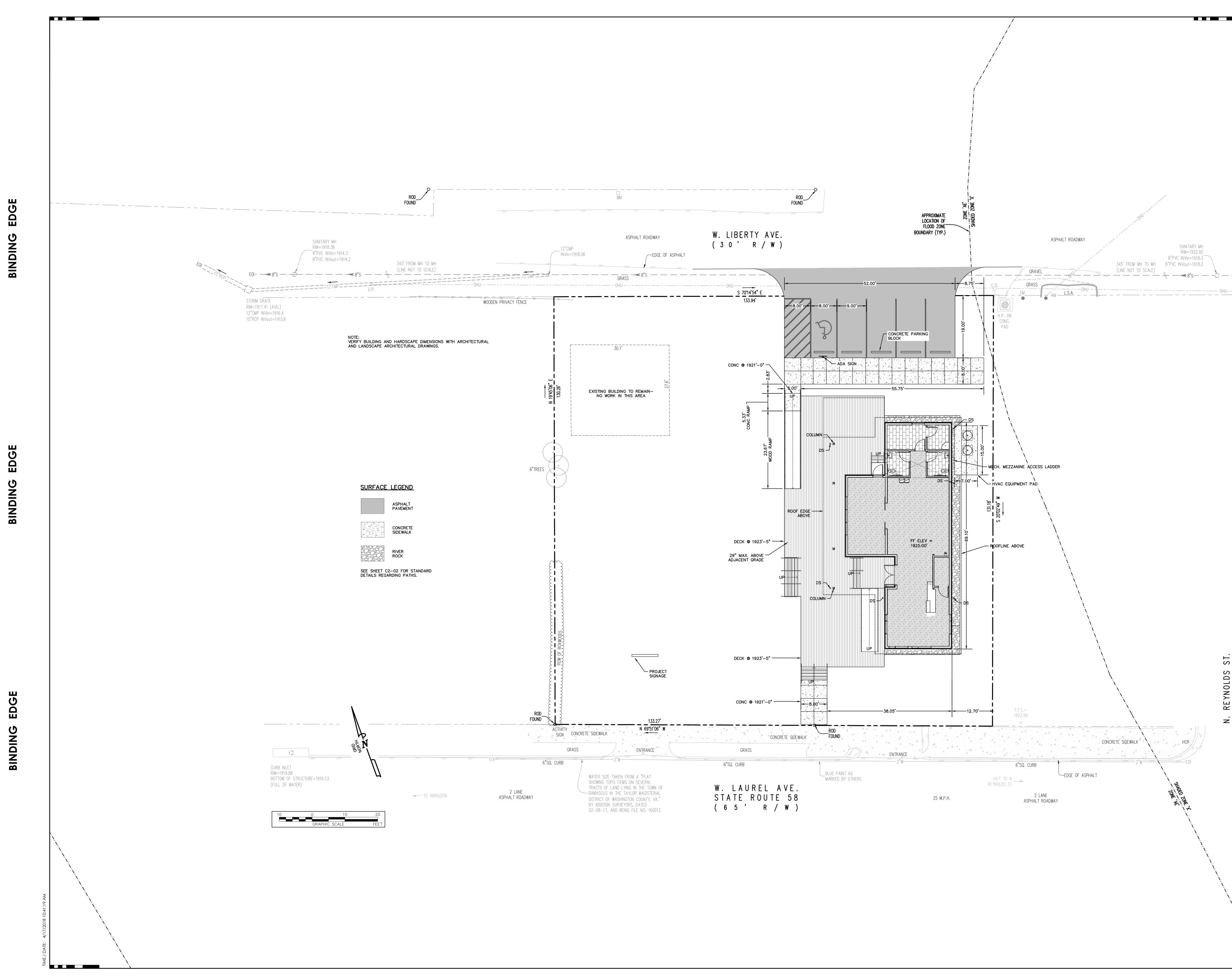


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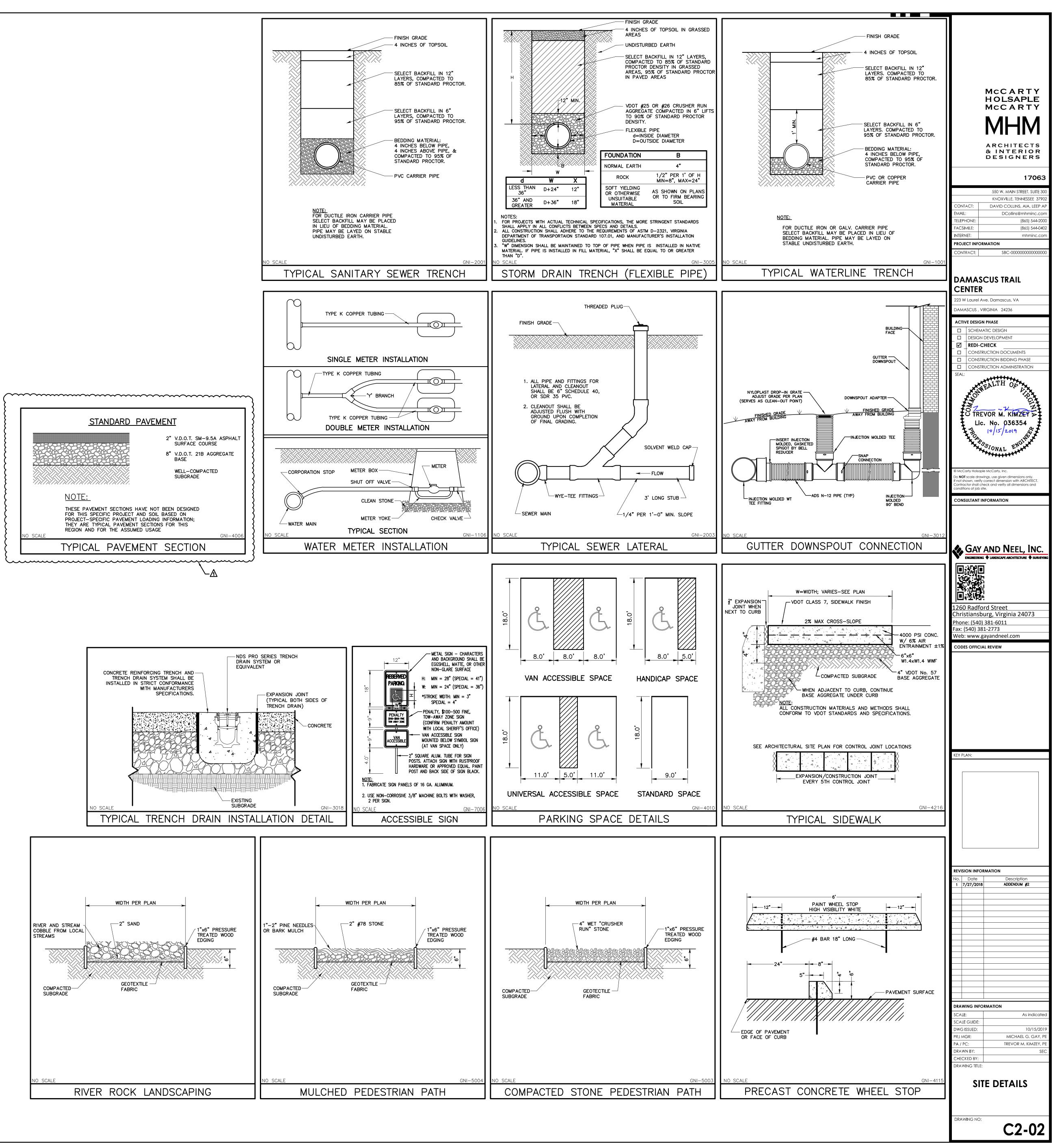
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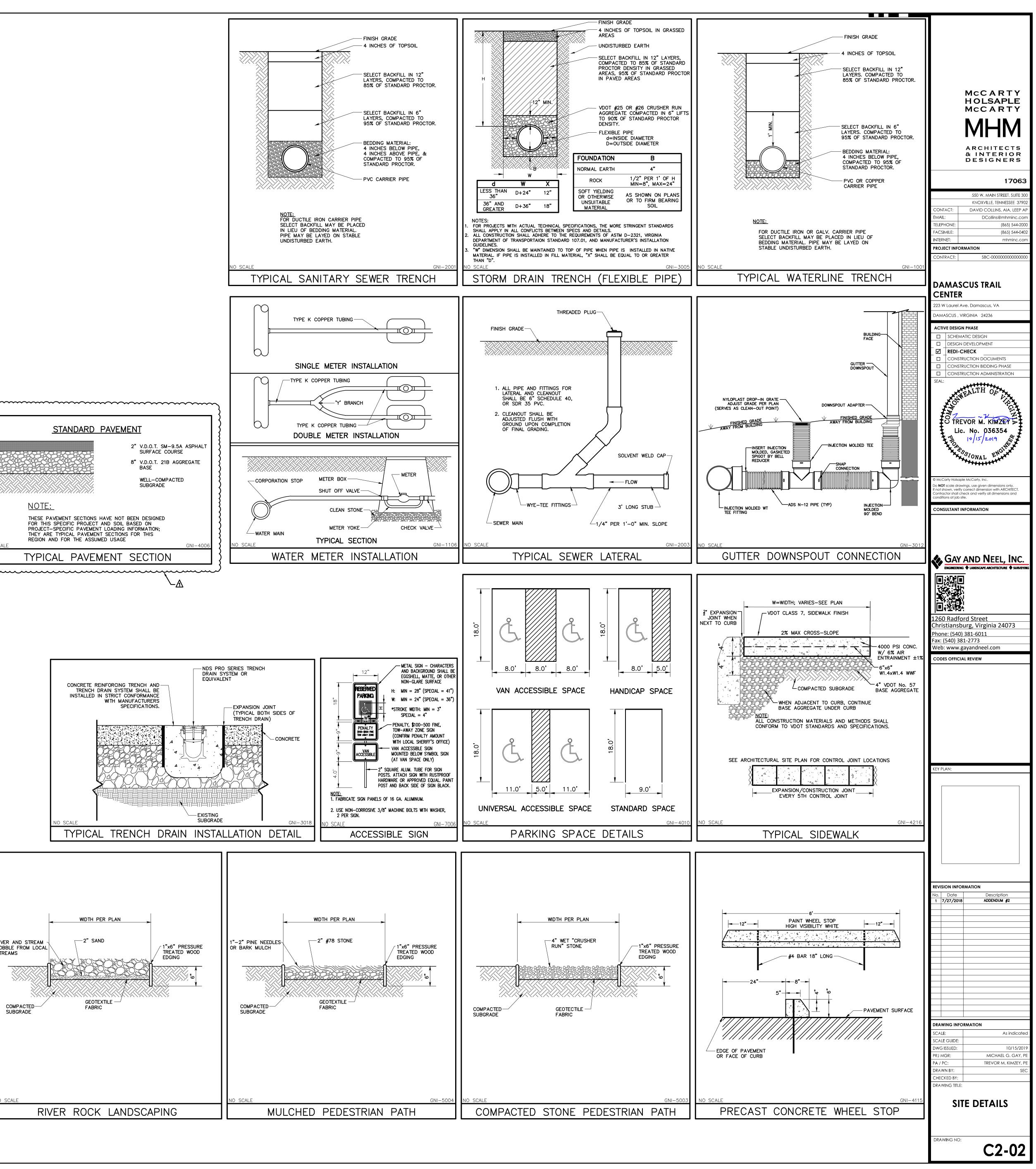




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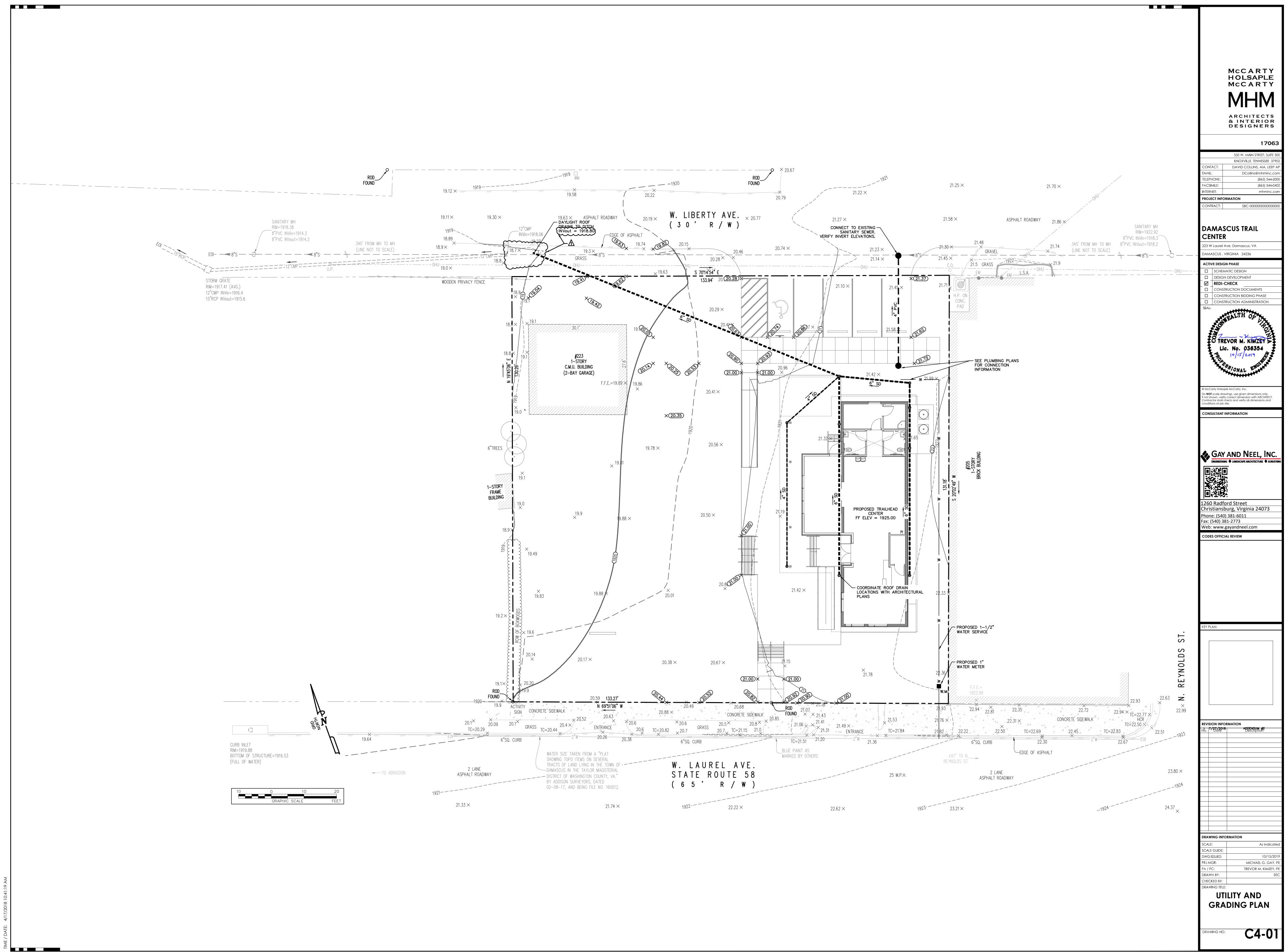
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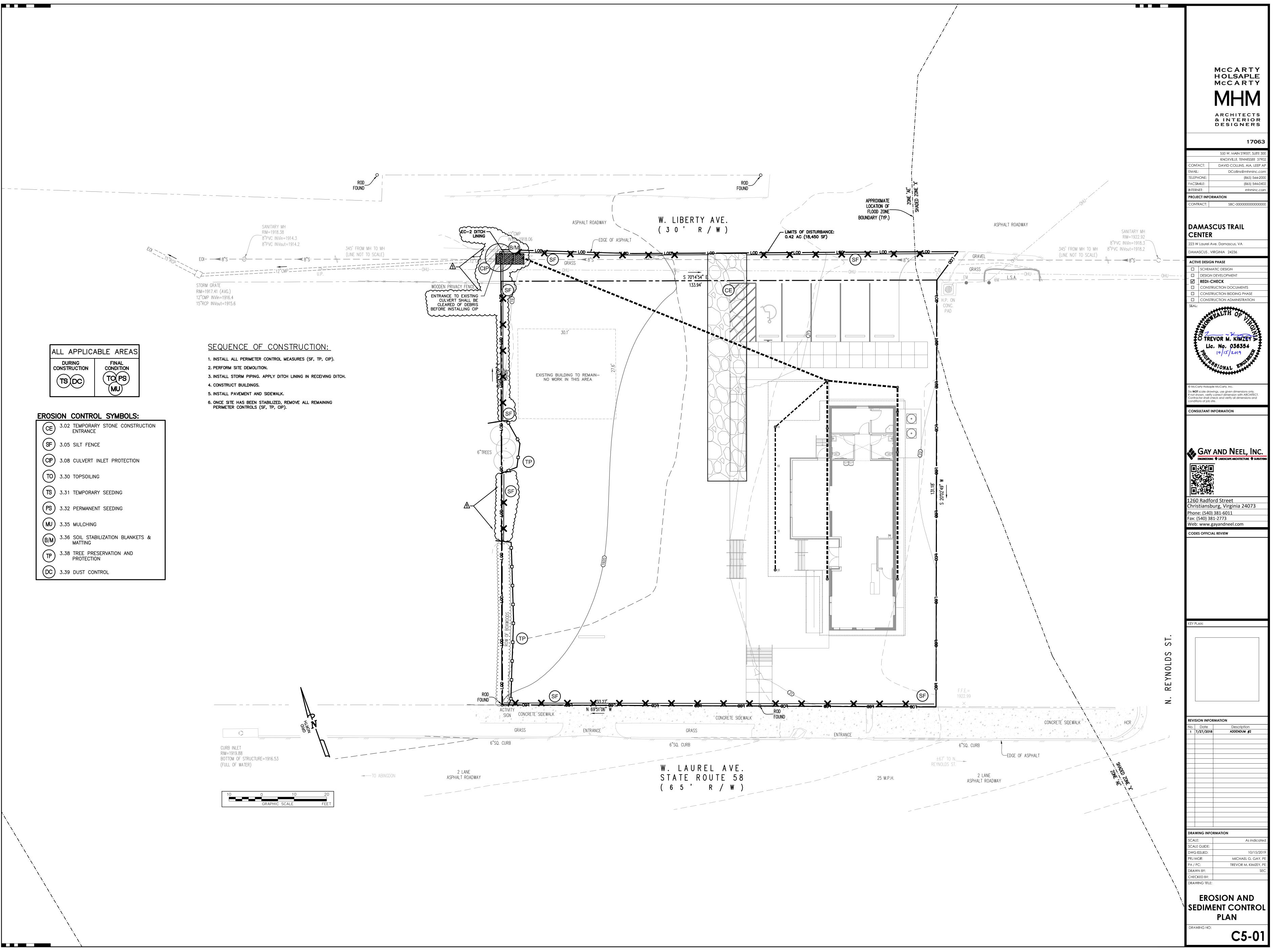
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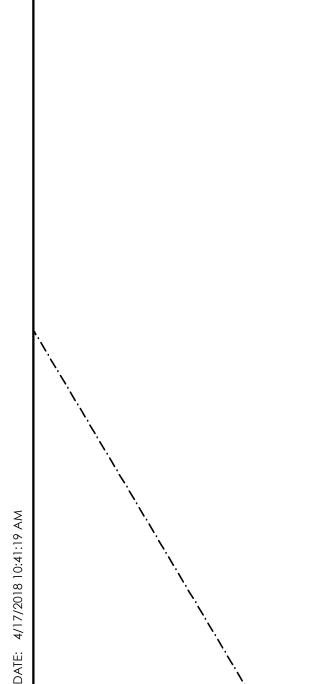
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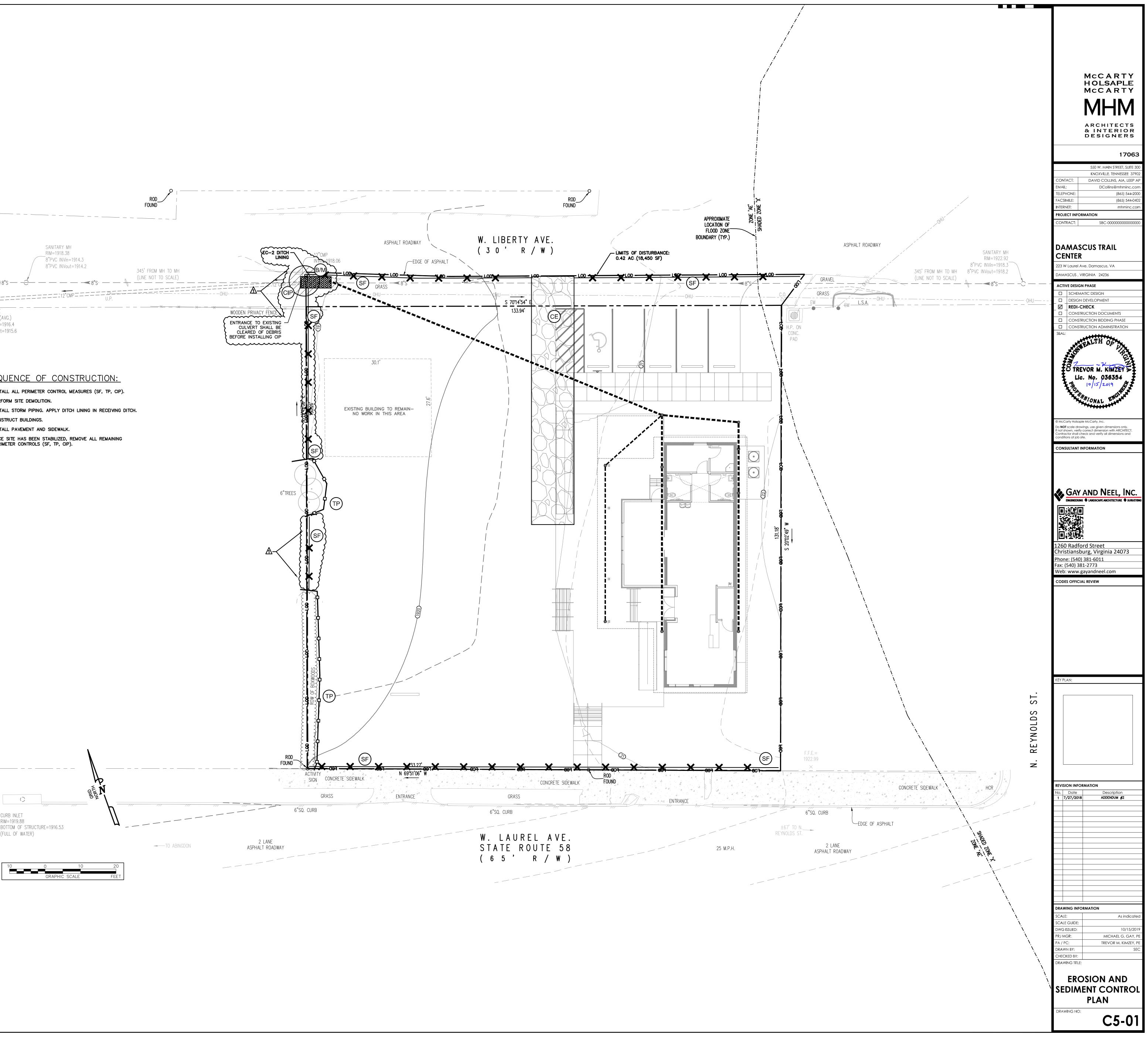
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<u>VESCH MINIMUM STANDARDS:</u> 1. permanent or temporary soil stabilization shall be applied to denuded areas within seven days	WHICH MINIMIZES IMPACTS ON THE PHYSIC AND OTHER WATERS OF THE STATE.
AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.	L. ANY PLAN APPROVED PRIOR TO JULY 1,
RESPONSE: DISTURBED AREAS WILL BE STABILIZED AS NOTED ON THESE PLANS. STABILIZED AREAS WILL BE INSPECTED WEEKLY AND AFTER SIGNIFICANT PRECIPITATION.	i. DETAIL THE WATER QUALITY VOLUME
2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS	 DETAIL AND RELEASE OVER A 24-HU ONE YEAR, 24-HOUR STORM REDUCE THE ALLOWABLE PEAK FLOW
AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE. RESPONSE: STOCKPILES AND BORROW AREAS WILL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES. THIS PERTAINS TO STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL TRANSPORTED	ASSUMING IT WAS IN A GOOD FORES FORESTED PEAK FLOW RATE BY A R THE SITE IN ITS PROPOSED CONDITIC
3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS	VELOCITY REQUIREMENTS FOR NATUR PROMULGATES PURSUANT TO §10.1– M. FOR PLANS APPROVED ON AND AFTER JU REQUIREMENTS OF §10.1–561 A OF THE A
ACHIEVED THAT IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. RESPONSE: DISTURBED AREAS WILL BE SEEDED AS NOTED ON THESE PLANS. AN INSPECTION SCHEDULE IS INDICATED IN THE MS 1 RESPONSE.	WITH WATER QUANTITY REQUIREMENTS IN THE CODE OF VIRGINIA) AND ATTENDANT ACCORDANCE WITH 9VAC25-60-48 OF TH REGULATIONS.
. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.	
RESPONSE: ALL SEDIMENT TRAPS, PERIMETER DIKES, AND OTHER SEDIMENT TRAPPING MEASURES SHALL BE CONSTRUCTED PRIOR TO ANY LAND DISTURBANCE UPSLOPE.	RESPONSE: THE SITE MEETS THE REQU PROTECTION. FOR FLOOD PROTECTION, T PRE-DEVELOPMENT CONDITION FLOWS FO CONTROL NARRATIVE FOR CALCULATIONS
5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.	STANDARD EROSION &
RESPONSE: ALL EARTHEN STRUCTURES SHALL BE STABILIZED IMMEDIATELY AFTER INSTALLATION. 5. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.	ES-1: UNLESS OTHERWISE INDICATED, CONTROL PRACTICES WILL BE C STANDARDS AND SPECIFICATION
A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.	HANDBOOK AND VIRGINIA REGU REGULATIONS.
RESPONSE: THERE IS NO SEDIMENT BASIN OR TRAP ASSOCIATED WITH THESE PLANS. B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE	ES-2: THE PLAN APPROVING AUTHORI PRE-CONSTRUCTION CONFERENC DISTURBING ACTIVITY, AND ONE
CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO	ES-3: ALL EROSION AND SEDIMENT CO FIRST STEP IN CLEARING. ES-4: A COPY OF THE APPROVED ERO
EXIST WHILE THE SEDIMENT BASIN IS UTILIZED. RESPONSE: THERE ARE NO SEDIMENT BASINS ASSOCIATED WITH THESE PLANS.	ON THE SITE AT ALL TIMES. ES-5: PRIOR TO COMMENCING LAND D
. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.	THESE PLANS (INCLUDING, BUT CONTRACTOR SHALL SUBMIT A REVIEW AND APPROVAL BY THE
RESPONSE: CUT AND FILL SLOPES WILL BE STABILIZED IMMEDIATELY AFTER GRADING OPERATIONS AND SHALL E PROVIDED WITH ADDITIONAL MEASURES IF EROSION BECOMES A PROBLEM.	ES-6: THE CONTRACTOR IS RESPONSIE MEASURES NECESSARY TO PREV PLAN APPROVING AUTHORITY.
3. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.	ES-7: ALL DISTURBED AREAS ARE TO TIMES DURING LAND DISTURBING
RESPONSE: NO CONCENTRATED RUNOFF SHALL BE ALLOWED TO FLOW DOWN GRADED SLOPES. 9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.	STABILIZATION IS ACHIEVED. ES-8: DURING DEWATERING OPERATION DEVICE.
RESPONSE: IF WATER SEEPS FROM A SLOPE FACE, ADDITIONAL SLOPE AND DRAINAGE PROTECTION WILL BE ADDED.	ES-9: THE CONTRACTOR SHALL INSPE AFTER EACH RUNOFF-PRODUCIN
0. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.	TO MAINTAIN THE EFFECTIVENES IMMEDIATELY.
RESPONSE: ALL STORM SEWER STRUCTURES THAT WILL BE SUBJECT TO RUNOFF FROM THE PROJECT AREA WILL BE PROTECTED WITH INLET PROTECTION SO SEDIMENT-LADEN RUNOFF CANNOT ENTER THE SYSTEM WITHOUT BEING FILTERED OR TREATED TO REMOVE SEDIMENT.	
1. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.	
RESPONSE: ALL STORMWATER CONVEYANCE CHANNELS WILL BE PROPERLY SEEDED AND STABILIZED PRIOR TO EING MADE OPERATIONAL.	
2. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.	
RESPONSE: THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT. 3. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.	
RESPONSE: THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT. 4. ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.	
RESPONSE: THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT. 5. THE BED AND BANKS OF WATERCOURSES SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE	
WATERCOURSE IS COMPLETED. RESPONSE: THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT.	
 UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. 	
 B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY. D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS. 	
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH. RESPONSE: ALL UNDERGROUND UTILITY LINES TO BE INSTALLED WILL BE INSTALLED IN ACCORDANCE WITH THE ABOVE STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA.	
17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.	
RESPONSE: MEASURES WILL BE USED TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO PAVED OR PUBLIC ROADS. ROAD SURFACES WILL BE CLEANED THOROUGHLY AT THE END OF THE DAY WHEN SEDIMENT IS TRACKED ONTO A PAVED OR PUBLIC ROAD SURFACE. SEDIMENT WILL BE REMOVED BY SWEEPING OR SHOVELING AND TAKEN TO A SEDIMENT CONTROL DISPOSAL AREA. NO STREET WASHING WILL BE ALLOWED UNTIL AFTER SEDIMENT IS REMOVED.	
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.	
RESPONSE: ALL TEMPORARY MEASURES WILL BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION, UNLESS AUTHORIZED BY THE TOWN OF DAMASCUS. ALL TRAPPED SEDIMENT AND DISTURBED SOIL AREAS FROM REMOVAL OF MEASURE WILL BE PERMANENTLY STABILIZED.	
19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE	
FOLLOWING STANDARDS AND CRITERIA: A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.	
 B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER: 1. THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM 	
2A. TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS; AND ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM	
2B. TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM 2C. TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.	
C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL: (1) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS	
AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A	
TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES	
WHICH IS SATISFACTORY TO THE PLAN APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION. D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE	
ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT. F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR	
PERFORMING THE MAINTENANCE.	
G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO	
G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY	
 G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL. H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE. I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT 	

awings/2829(ENGINEERING/Design/Plans/Sheets/2829_Sht_C5_ESC_Details.dwg PLAN AND SEDIMENT CONTED/1 DETAILS 1 - 10/15/2010 11:32:38 AM 7morce AuthCAD DDE /Censer ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO: DETAIL THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS DETAIL AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM iii. REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATES PURSUANT TO \$10.1-562 OR 10.1-570 OF THE ACT. FOR PLANS APPROVED ON AND AFTER JULY1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF \$10.1-561 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE

WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§10.1-503.2 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-60-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO

SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19. RESPONSE: THE SITE MEETS THE REQUIREMENTS OF THE ENERGY BALANCE EQUATION FOR CHANNEL PROTECTION. FOR FLOOD PROTECTION, THE FLOW FROM THE PROPOSED SITE IS BELOW THE PRE-DEVELOPMENT CONDITION FLOWS FOR THE 10 YEAR STORM. REFER TO THE EROSION AND SEDIMENT

STANDARD EROSION & SEDIMENT CONTROL NOTES:

S-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE <u>VIRGINIA EROSION AND SEDIMENT CONTROL</u> <u>HANDBOOK</u> AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.

THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
 ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
 A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED

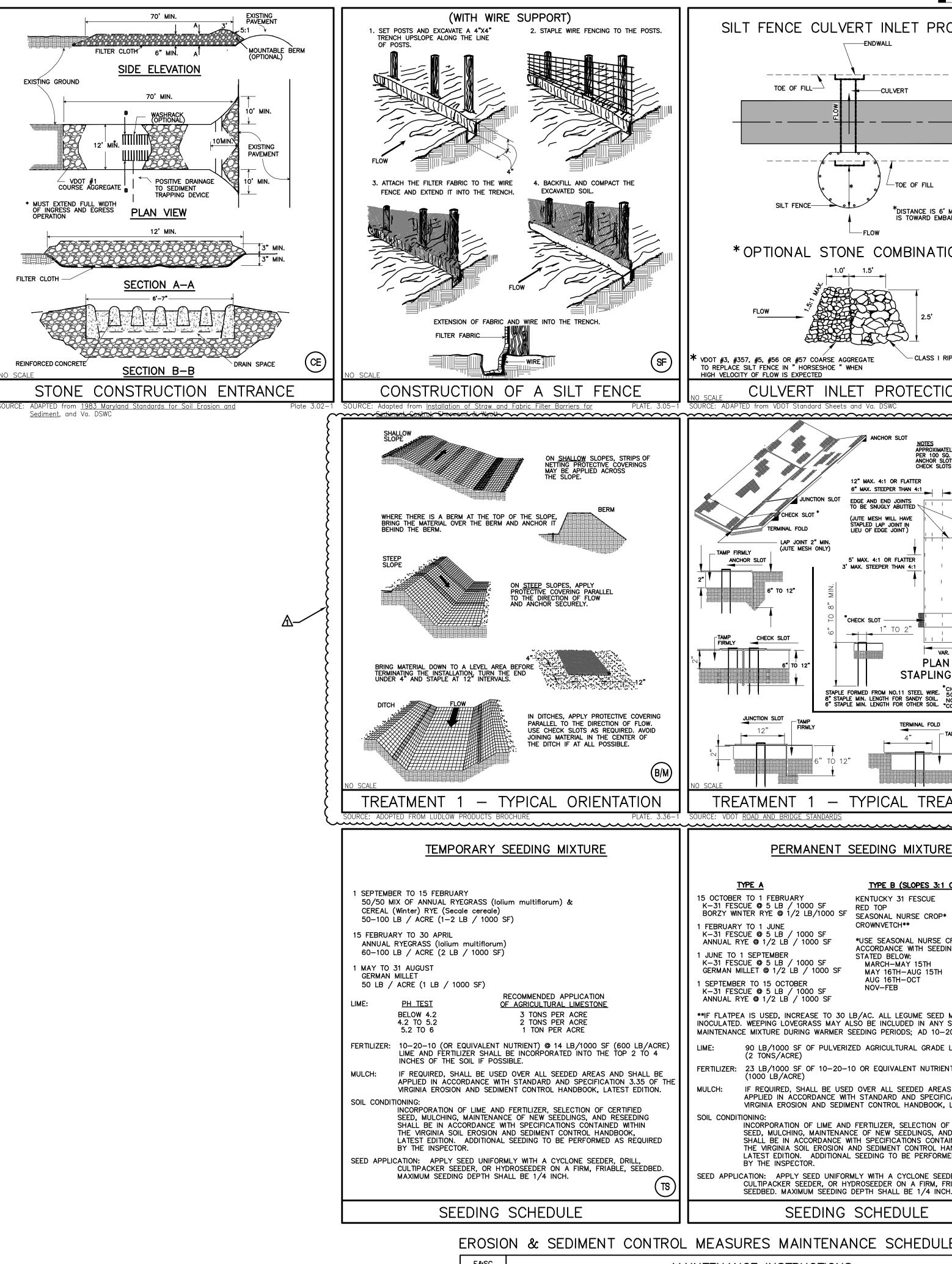
ON THE SITE AT ALL TIMES. S-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE

THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE

PLAN APPROVING AUTHORITY. ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL

STABILIZATION IS ACHIEVED. S-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

S-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.



EROSI	ON & SEDIMENT CONTROL MEASURES MAINTENANCE SCHEDULE
E&SC SYMBOL	MAINTENANCE INSTRUCTIONS
Œ	THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD OFFSITE OR RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKI EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIME MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS V PERMITTED UNDER ANY CIRCUMSTANCES.
(3 F)	SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAIN REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCE SHOULD THE FABRIC OF A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED US AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REAC APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO WITH THE EXISTING GRADE, PREPARED AND SEEDED.
CP	THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDMENT HAS ACCU ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN S MANNER THAT IT WILL NOT ERODE. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPE STABILIZED.
TS	AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RE-SEEDED AS S SUCH AREAS ARE IDENTIFIED
PS	EVEN WITH CAREFUL, WELL-PLANNED SEEDING OPERATIONS, FAILURES CAN OCCUR. WHEN IT IS CLEAR THAT PLANTS H GERMINATED ON AN AREA OR HAVE DIED, THESE AREAS MUST BE RESEEDED IMMEDIATELY TO PREVENT EROSION DAMA HOWEVER, IT IS EXTREMELY IMPORTANT TO DETERMINE FOR WHAT REASON GERMINATION DID NOT TAKE PLACE AND MA CORRECTIVE ACTION NECESSARY PRIOR TO RESEEDING THE AREA.
	ALL MULCHES AND SOIL COVERINGS SHOULD BE INSPECTED PERIODICALLY (PARTICULARLY AFTER RAINSTORMS) TO CHE EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS, ADDITIONAL MULCH SHOULD BE APPLIED. NETS AND MATS BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE-INSTALL NE MATTING AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. IMSPECTIONS SHOULD TAKE PLACE UP U GRASSES ARE FIRMLY ESTABLISHED. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE; REF NEEDED.

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	MCCARTY
	MCCARTY HOLSAPLE MCCARTY
-	MHM
MINIMUM IF FLOW ANKMENT	ARCHITECTS & INTERIOR DESIGNERS
ON	17063
	550 W. MAIN STREET, SUITE 300 KNOXVILLE, TENNESSEE 37902 CONTACT: DAVID COLLINS, AIA, LEEP AP
	EMAIL: DCollins@mhminc.com TELEPHONE: (865) 544-2000 FACSIMILE: (865) 544-0402
	INTERNET: mhminc.com PROJECT INFORMATION CONTRACT: SBC-000000000000000000000000000000000000
ON ON	
PLATE. 3.08–1	DAMASCUS TRAIL CENTER 223 W Laurel Ave. Damascus, VA
ELY 200 STAPLES REQUIRED). YDS. OF MATERIAL ROLL. DTS, JUNCTION SLOTS & S TO BE BURIED 6" TO 12".	DAMASCUS , VIRGINIA 24236
•	SCHEMATIC DESIGN Design development REDI-CHECK
	CONSTRUCTION DOCUMENTS CONSTRUCTION BIDDING PHASE CONSTRUCTION ADMINISTRATION
	SEAL:
	O TREVOR M. KIMZEY
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CHECK SLOTS AT MIN. 50' C-C INTERVALS; NOT REQ.'D WITH ALL COMBINATION"BLANKETS	© McCarty Holsaple McCarty, Inc. Do NOT scale drawings, use given dimensions only. If not shown, verify correct dimension with ARCHITECT. Contractor shall check and verify all dimensions and conditions at job site.
TAMP FIRMLY	
" ² B/M	
ATMENT PLATE. 3.36–2	GAY AND NEEL, INC. ENGINEERING & LANDSCAPE ARCHITECTURE & SURVEYING
Ε	
<u>-</u> <u>or steeper)</u>	
@ 108 LB/AC @ 2 LB/AC @ 20 LB/AC @ 20 LB/AC @ 20 LB/AC	1260 Radford Street Christiansburg, Virginia 24073 Phone: (540) 381-6011 Fax: (540) 381-2773
CROP IN NG DATES AS	Web: www.gayandneel.com CODES OFFICIAL REVIEW
ANNUAL RYE FOXTAIL MILLET ANNUAL RYE WINTER RYE	
MUST BE PROPERLY SLOPE OR LOW- 20 LB/AC IN MIXES.	
LIMESTONE	
S AND SHALL BE CATION 3.35 OF THE	
LATEST EDITION. - CERTIFIED ID RESEEDING MINED WITHIN	KEY PLAN:
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PERLY	DRAWING INFORMATION SCALE: As indicated SCALE GUIDE: 10/15/2019
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PARTITION ASSEMBLY TYPES

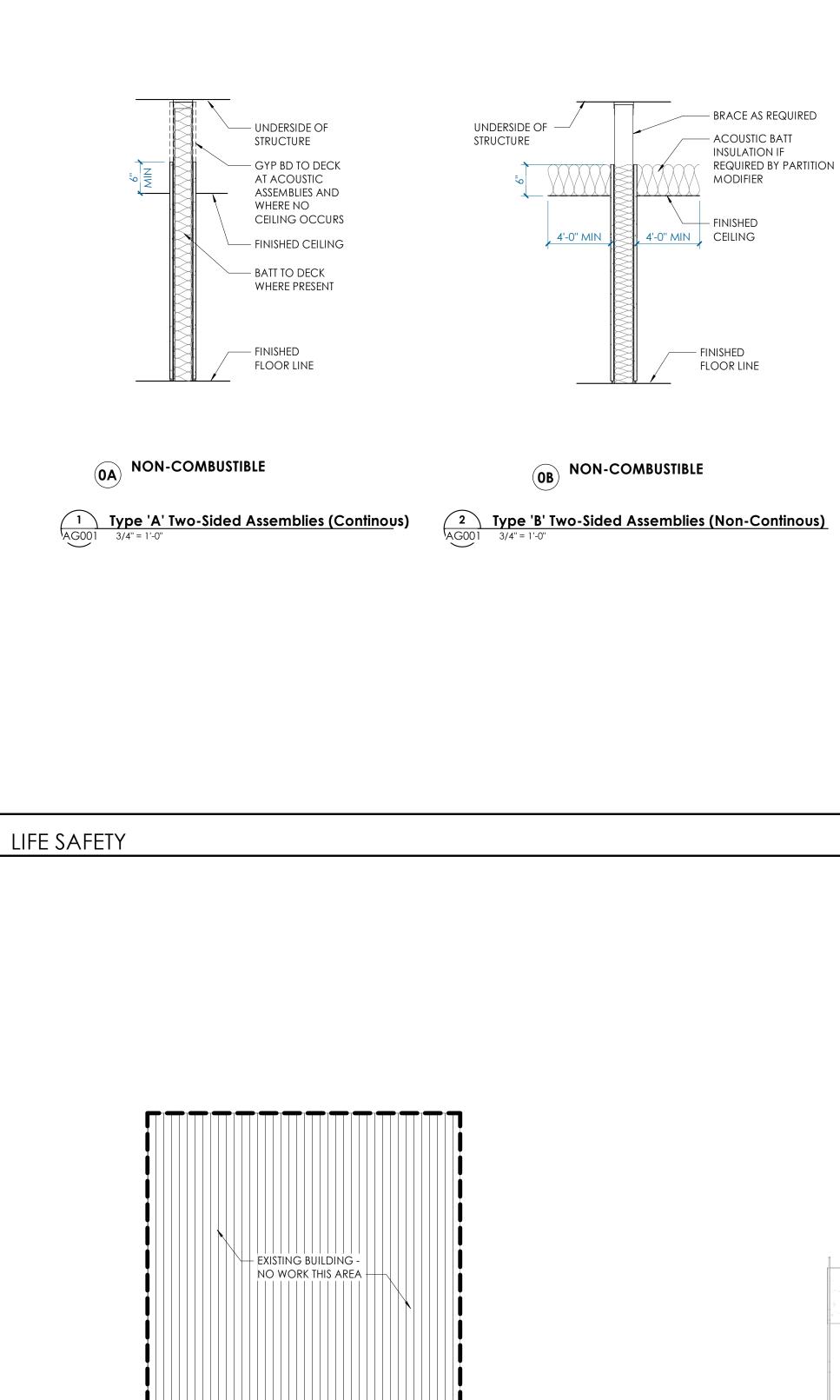
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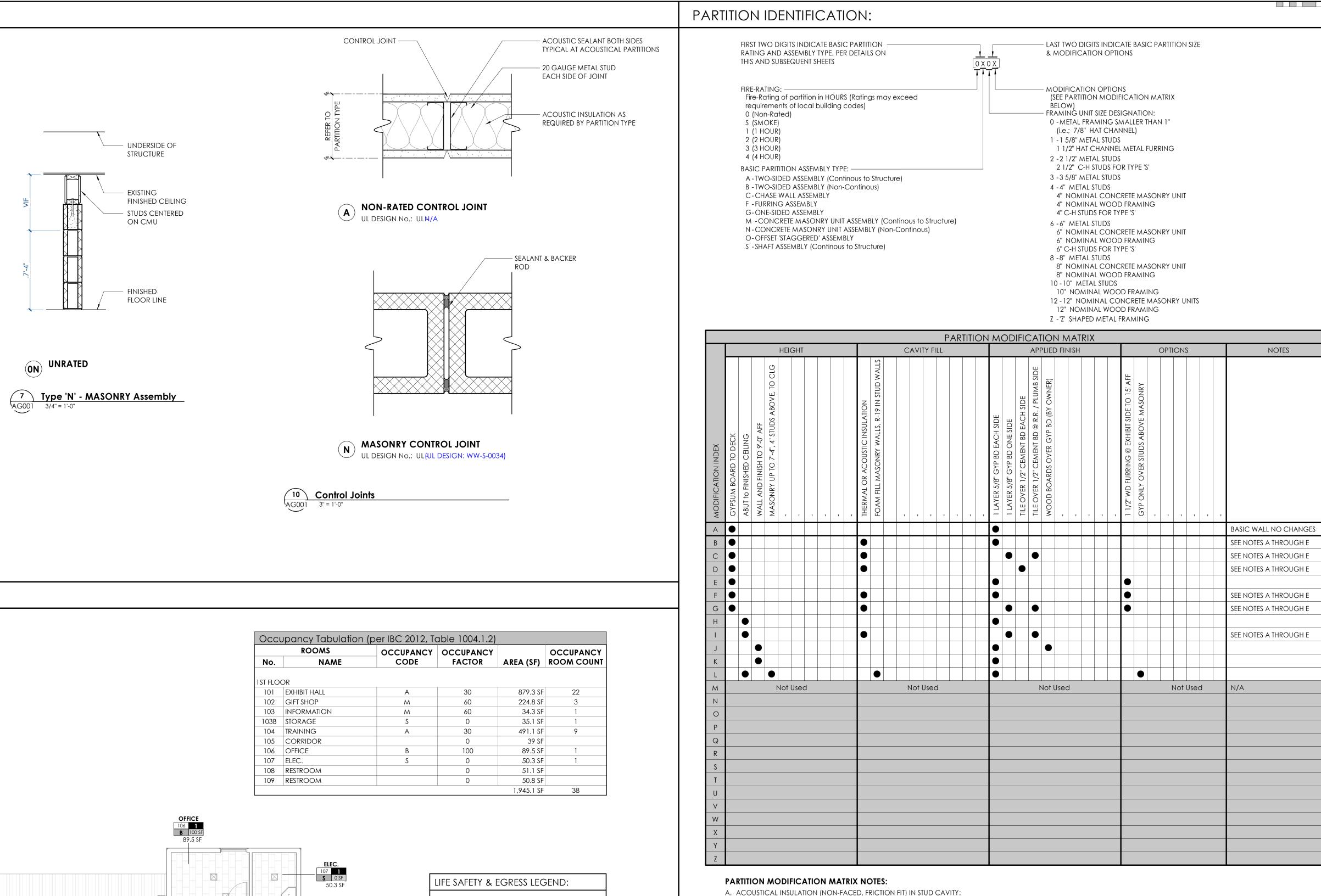
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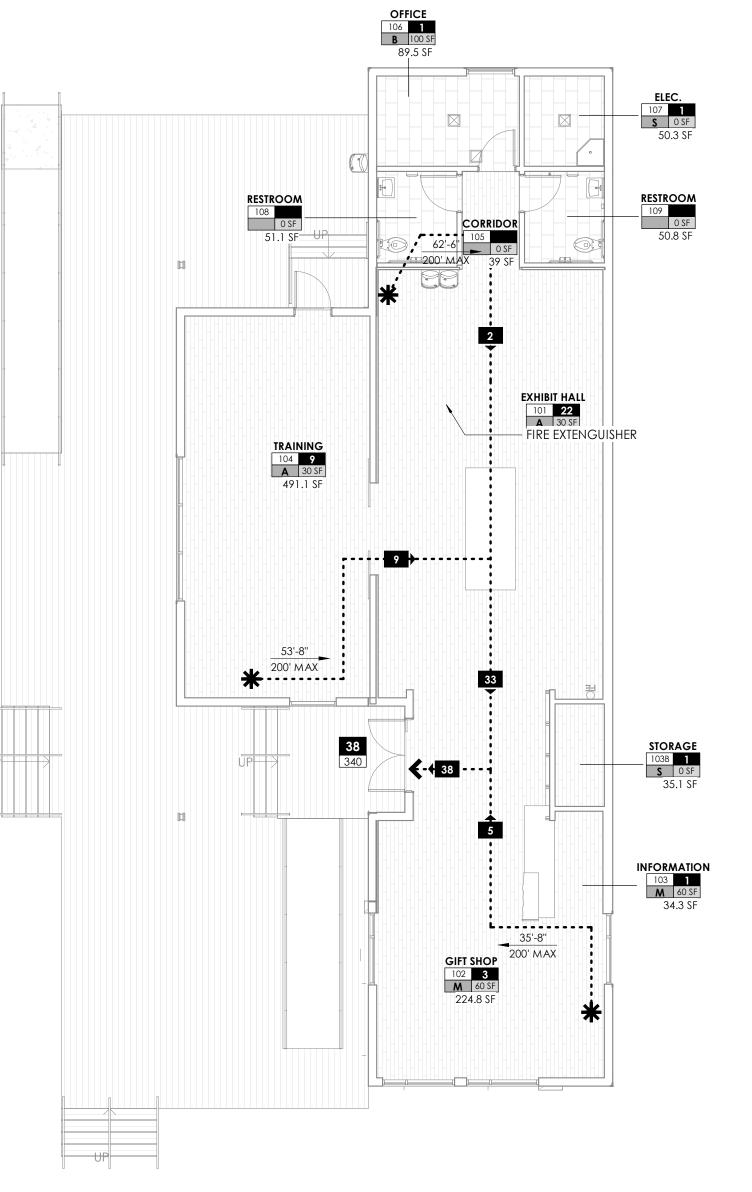


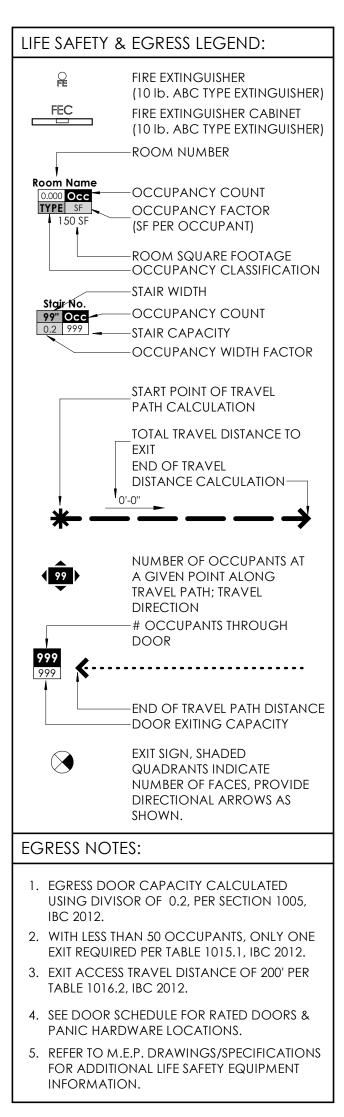
CODE SYNOPSIS Local Regulations PARCEL: BUILDING SETBACKS: FRONT SIDE1: SIDE2: REAR: LOT COVERAGE: MAXIMUM HEIGHT ALLOWABLE: 0" ALLOWABLE NUMBER OF STORIES: 0 ASEMENTS ADJACENT PROPERTY USE: PARKING: Parking Spaces Required: 0 Handicap Spaces Required: 0 arking Space Size Requirement: LANDSCAPING / SCREENING: YES SITE DRAINAGE / RUN-OFF & RETENTION REQUIREMENTS: Building Description: New Structure, Existing Structure, Tenant Space, Etc. **Construction Classification:** IBC Type VB (IBC TABLES 601 & 602) Occupancy Classification: (IBC Ch. 3, LSC Ch. 4) Occupancy Type (IBC 302.1): MIXED NON SEPARATED (IBC 508.3) A-3 - ASSEMBLY B - BUSINESS M - MERCANTILE Hazard Type (LSC 6-2): XX Fire District: Physical Properties (IBC Ch. 5): Number of Stories: Floor Area per Story: Floor Level: Gross SF: 2,046 SF Net SF: 1,762 SF

(3) 1st Floor Life Safety Plan AG001 1/8" = 1'-0"



	ROOMS		OCCUPANCY		
No.	NAME	CODE	FACTOR	AREA (SF)	ROOM COUNT
1ST FLO	OR				
101	EXHIBIT HALL	A	30	879.3 SF	22
102	GIFT SHOP	M	60	224.8 SF	3
103	INFORMATION	M	60	34.3 SF	1
103B	STORAGE	S	0	35.1 SF	1
104	TRAINING	A	30	491.1 SF	9
105	CORRIDOR		0	39 SF	
106	OFFICE	В	100	89.5 SF	1
107	ELEC.	S	0	50.3 SF	1
108	RESTROOM		0	51.1 SF	
109	RESTROOM		0	50.8 SF	
				1,945.1 SF	38





- PROVIDE 3 1/2" THICK INSULATION WHERE STUD DEPTH IS 3 1/2" OR GREATER. PROVIDE 6" THICK INSULATION WHERE STUD DEPTH IS 6" OR GREATER. B. FOR ALL STUD ASSEMBLIES EXCEPT NON-CONTINUOUS (TYPE B), RUN GYPSUM BOARD AND ACOUSTICAL INSULATION FROM FLOOR TO UNDERSIDE OF
- ROOF/FLOOR DECK ABOVE. C. FOR NON-CONTINUOUS (TYPE B) WALL ASSEMBLIES, RUN ACOUSTICAL INSULATION FROM FLOOR TO MIN 6" ABOVE FINISHED CEILING AND HORIZONTALLY FOR A DISTANCE OF 4'-0" MIN ON TOP OF THE FINISHED
- CEILING, BOTH SIDES OF THE WALL, FOR THE ENTIRE LENGTH OF THE WALL D. SEAL PERIMETER OF PARTITION WITH CONTINOUS BEAD OF ACOUSTIC SEALANT. CLOSE ALL GAPS THROUGH OR AROUND PARTITION BY SEALING ALL JOINTS, GAPS AROUND OUTLET BOXES AND PENETRATIONS, INCLUDING THOSE ABOVE FINISH CEILINGS. ISOLATE PARTITION FROM ALL PIPE AND DUCT PENETRATIONS BY STOPPING GYPSUM BOARD 1/2" MIN. TO 1" MAX. FROM AROUND PIPE OR DUCT. SEAL GAP BETWEEN GYPSUM BOARD AND
- PIPES/DUCTS WITH BACKER ROD AND ACOUSTIC SEALANT. E. PROVIDE ACOUSTICAL OUTLET BOX PADS AT ALL ELECTRICAL, TELEPHONE AND DATA OUTLET BOXES AS WELL AS AT ALL SWITCH BOXES. MOLD PAD CAREFULLY AROUND BOX AFTER BOX IS SECURELY ATTACHED TO STUD BEFORE GYPSUM BOARD IS INSTALLED. SEAL ALL OPENINGS WITH OUTLET BOX SEALANT MATERIAL. STAGGER ALL WALL PENETRATIONS OCCURRING AT OPPOSITE SIDES OF WALL.

FRAMING NOTES:

- ALL NON-LOAD-BEARING INTERIOR METAL STUD PARTITION FRAMING SHALL BE 22 GAUGE, UNLESS OTHERWISE NOTED BELOW. REFER TO SPECIFICATION 05.40.00 Cold-Formed Metal Framing sections: 09.21.16 Gypsum Board Assemblies
- 2. PROVIDE MINIMUM 20 GAUGE METAL WALL FRAMING AT THE FOLLOWING LOCATIONS, UNLESS NOTED OTHERWISE.
- A. DOUBLE STUD JAMB ASSEMBLIES.
- B. FIRST STUD IN THE PARTITION BEYOND THE DOUBLE STUD JAMB ASSEMBLY. LOCATE STUD 6" FROM DOUBLE STUD ASSEMBLY.
- C. STUDS TO WHICH CEMENTITOUS BACKER UNITS, SPECIFIED IN SECTION 09.30.00 Tiling, ARE INSTALLED FOR WET AREAS.
- D. STUDS TO WHICH REINFORCING GYPSUM WALL PANELS ARE ATTACHED. E. STUDS TO WHICH WALL MOUNTED EQUPMENT, INCLUDING OWNER
- FURNISHED EQUIPMENT, IS FASTENED TO.
- F. STUD INFILL AND SILL TRACK BELOW WINDOW OPENINGS. G. STUDS INSTALLED FOR OPENING HEADS BETWEEN DOUBLE STUD JAMB
- ASSEMBLIES. 2. GAUGES SHALL BE BASED ON SPECIFIED MANUFACTURER HEIGHT LIMITATIONS AND OTHER REQUIREMENTS; 25 GA IS NOT ACCEPTABLE. GUIDELINES SHOWN IN THE CHART BELOW ARE FOR DESIGN PURPOSES
- ONLY AND ARE BASED STANDARD PARTITION ASSEMBLY WITH THE FOLLOWING CRITERIA:
- ONE LAYER GYP EACH SIDE - 16" O.C. SPACING
- 5 PSF LATERAL LOAD - L/240 DEFLECTION LIMITS

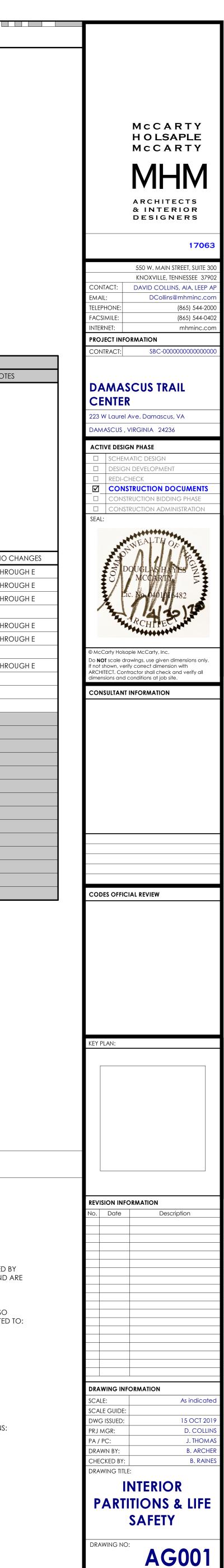
HEIGHT LIMITATION	IEIGHT LIMITATION GUIDELINES										
	22 GA	20 GA	18 GA	16 GA							
2 1/2" C STUDS	11'-0"	11'-6"	13'-0"								
3 5/8" C STUDS	11'-6"	15'-6"	17'-6"	18'-6"							
6" C STUDS	13'-0''	23'-0"	26'-0''	28'-0''							
8" C STUDS			35'-0"	38'-0''							

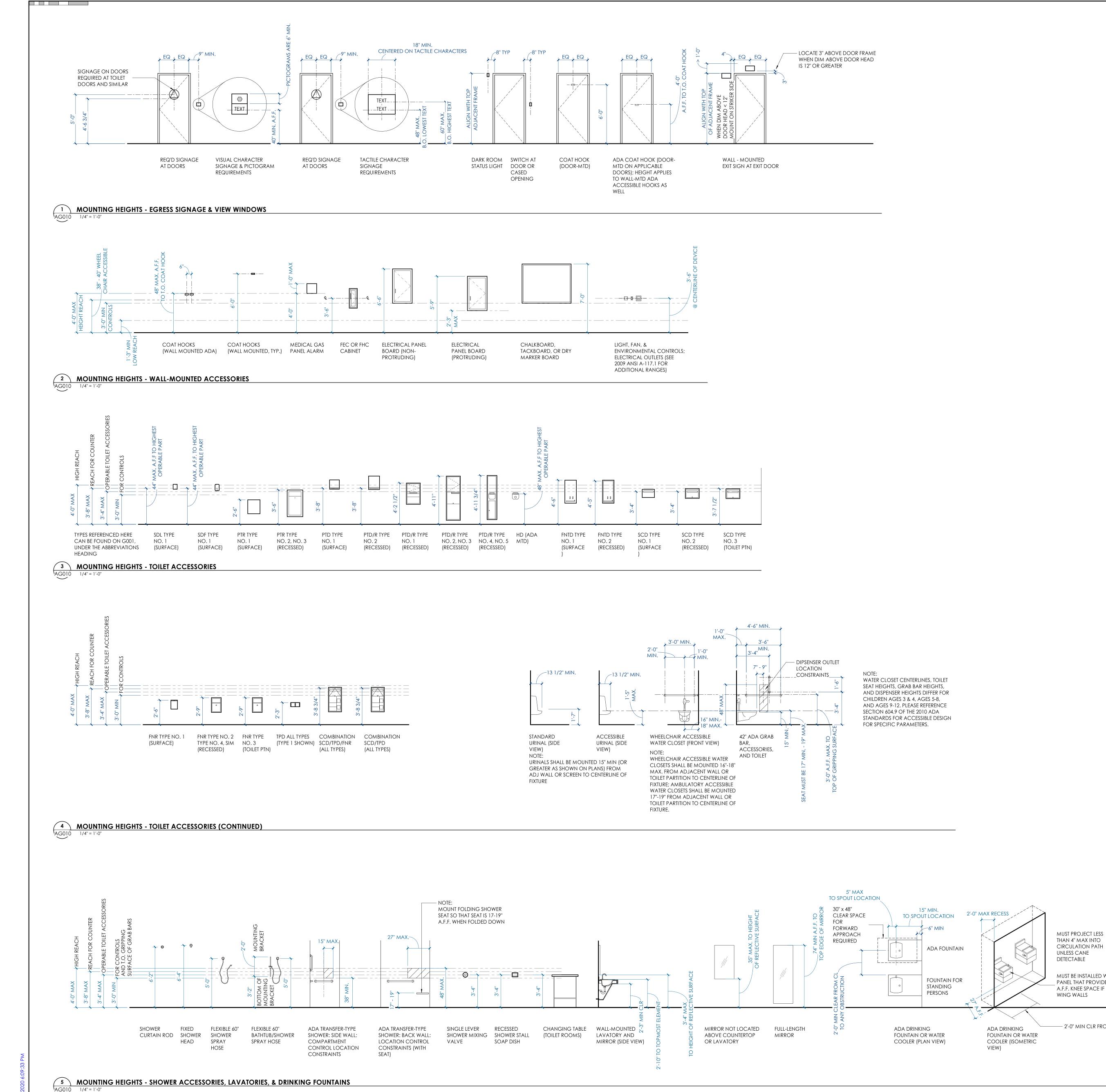
PARTITION NOTES:

- . PARTITIONS AND FURRING ARE DIMENSIONED TO THE FACE OF STUD
- (NOT TO FACE OF APPLIED FINISH), UNLESS OTHERWISE NOTED. 2. PARTITION TYPE INDICATIONS ARE INDEPENDENT OF APPLIED FINISHES. SEE
- FINISH SCEDULE (if applicable) AND/OR THE DESIGNATIONS ON THE PLANS FOR ADDITIONAL INFORMATION REGARDING APPLIED FINISHES.
- 3. WHERE PARTITION TYPE DESIGNATION ON FLOOR PLANS IS INTERRUPTED BY DOOR OPENING, GLAZED PARTITION, ETC., CONSTRUCTION ABOVE OR BELOW (where applicable) IS TO BE THE SAME AS THE DESIGNATED FOR THE PARTITION IN WHICH THE INTERRUPTION OCCURRED.
- 4. THE MINIMUM REQUIREMENTS FOR CONSTRUCTION OF EACH TYPE AS EXPRESSED BY THE INDICATED FIRE RATING REFERENCE ARE INCORPORATED BY REFERENCE AND ARE INCLUDED IN THE WORK OF THIS PROJECT.

HOWEVER, ADDITIONAL AND/OR MORE RESTRICTIVE REQUIREMENTS MAY BE INDICATED BY THE SPECIFICATIONS AND DRAWINGS. SUCH REQUIREMENTS ALSO APPLY AND SHALL GOVERN. SUCH REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO: A. USE 5/8" THICK GYPSUM BOARD THROUGHOUT.

- B. USE 1'-4" (16") OC MAXIMUM STUD SPACING UNLESS OTHERWISE
- NOTED. THE SPACING STATED BY THE REFERENCED APPROVAL OR TEST REPORT IS THE MAXIMUM SPACING.
- C. USE STUDS OF GAGE INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS. GAGE STATED BY THE REFERENCED APPROVAL OR TEST REPORT IS THE MINIMUM GAGE. D. USE STUDS OF DEPTH INDICATED BY THE DRAWINGS. THE DEPTH STATED BY
- THE REFERENCED APPROVAL OR TEST IS THE MINIMUM DEPTH. INSTALL ONE LAYER OF 5/8" TYPE X WATER RESISTANT GYPSUM BOARD (WHERE
- GYPSUM BOARD OCCURS) OF BASIC PARTITION AT THE FOLLOWING LOCATIONS: A. WITHIN 2'-0" HORIZONTALLY and 4'-0" VERTICALLY OF JANITORS SINKS. 6. INSTALL ONE (1) LAYER OF 1/2" CEMENT BACKER BOARD IN LIEU OF GYPSUM BOARD (WHERE GYPSUM BOARD OCCURS) OF BASIC PARTITION WHERE
- THERE IS NO FIRE RATING AND OVER GYPSUM BOARD FACE LAYER AT FIRE RATED PARTITIONS AT THE FOLLOWING LOCATIONS: A. AT WET LOCATIONS, SUCH AS SHOWER STALLS AND TUB SURROUNDS.
- B. WHERE CERAMIC TILE FINISHES ARE INDICATED. REFER TO FINISH SCHEDULE, PLANS AND/OR INTERIOR ELEVATIONS.
- 7. FOR ADDITIONAL INTERIOR PARTITION SYSTEM DETAILS AND INFORMATION, REFER TO DRAWINGS:
- 8. FOR ADDITIONAL INTERIOR PARTITION SYSTEM DETAILS AND INFORMATION, SEE SPECIFICATIONS AND SHEETS:





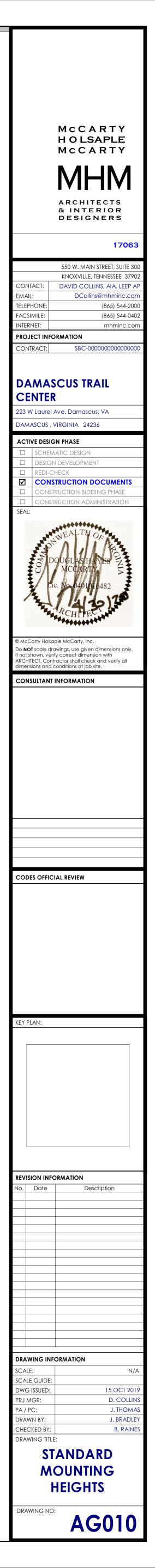
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2'-0" MIN CLR FROM CENTERLINE OF ACCESSIBLE FOUNTAIN

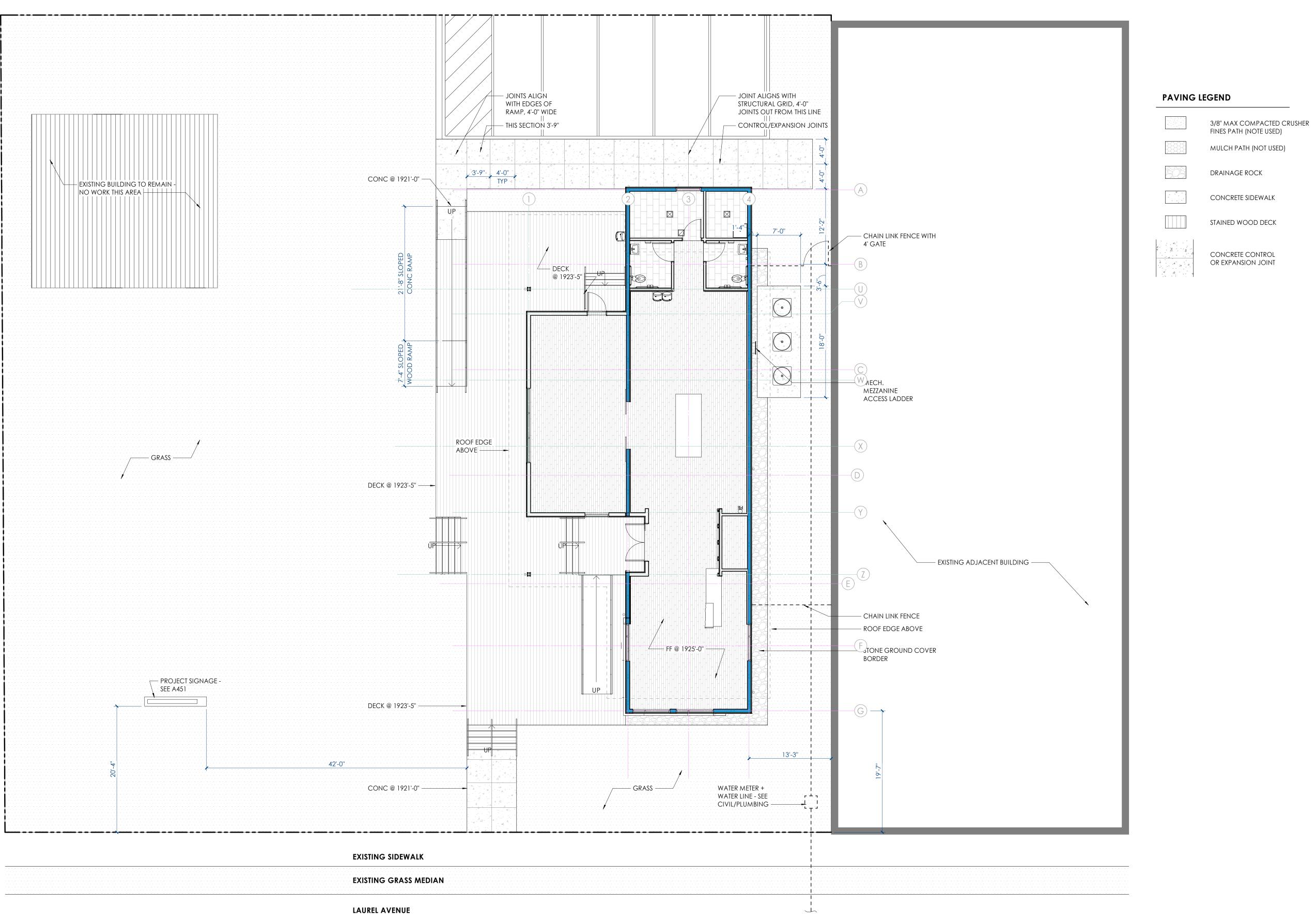
A.F.F. KNEE SPACE IF NO WING WALLS

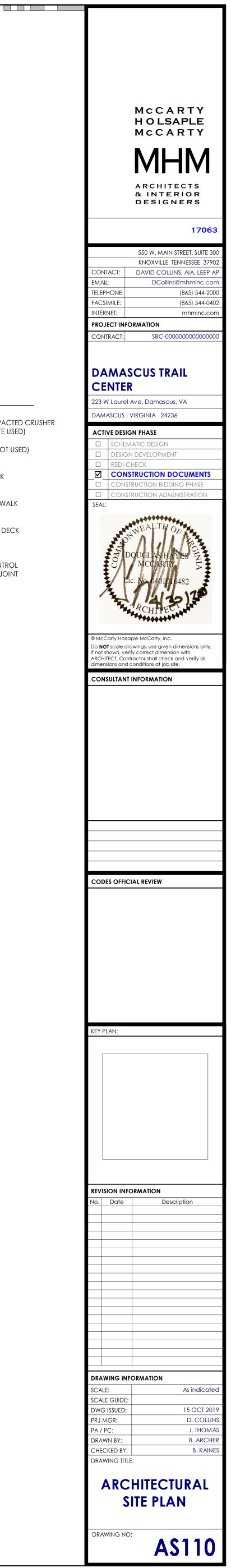
MUST BE INSTALLED WITH PANEL THAT PROVIDES 27"





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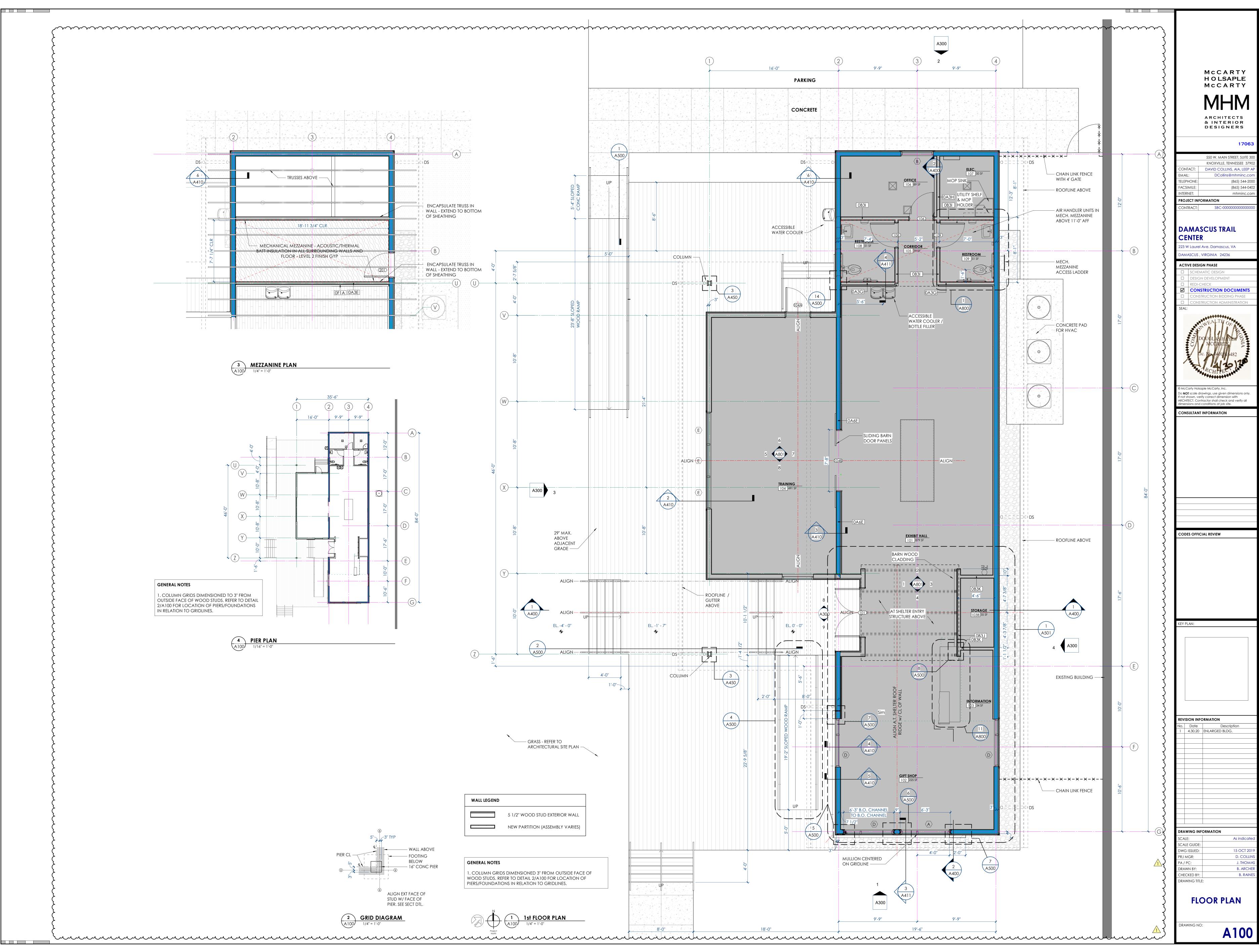


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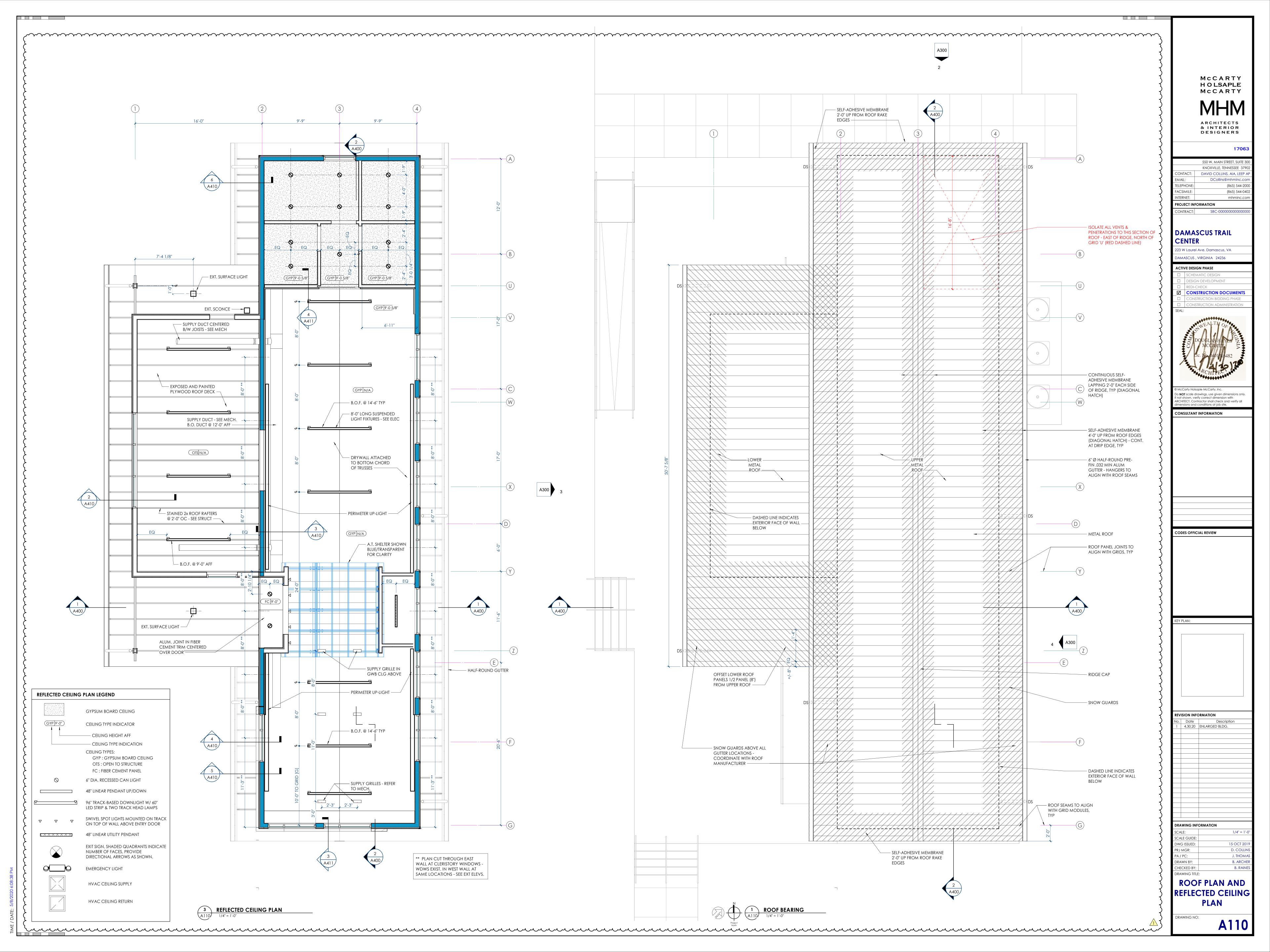
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BINDING EDGE



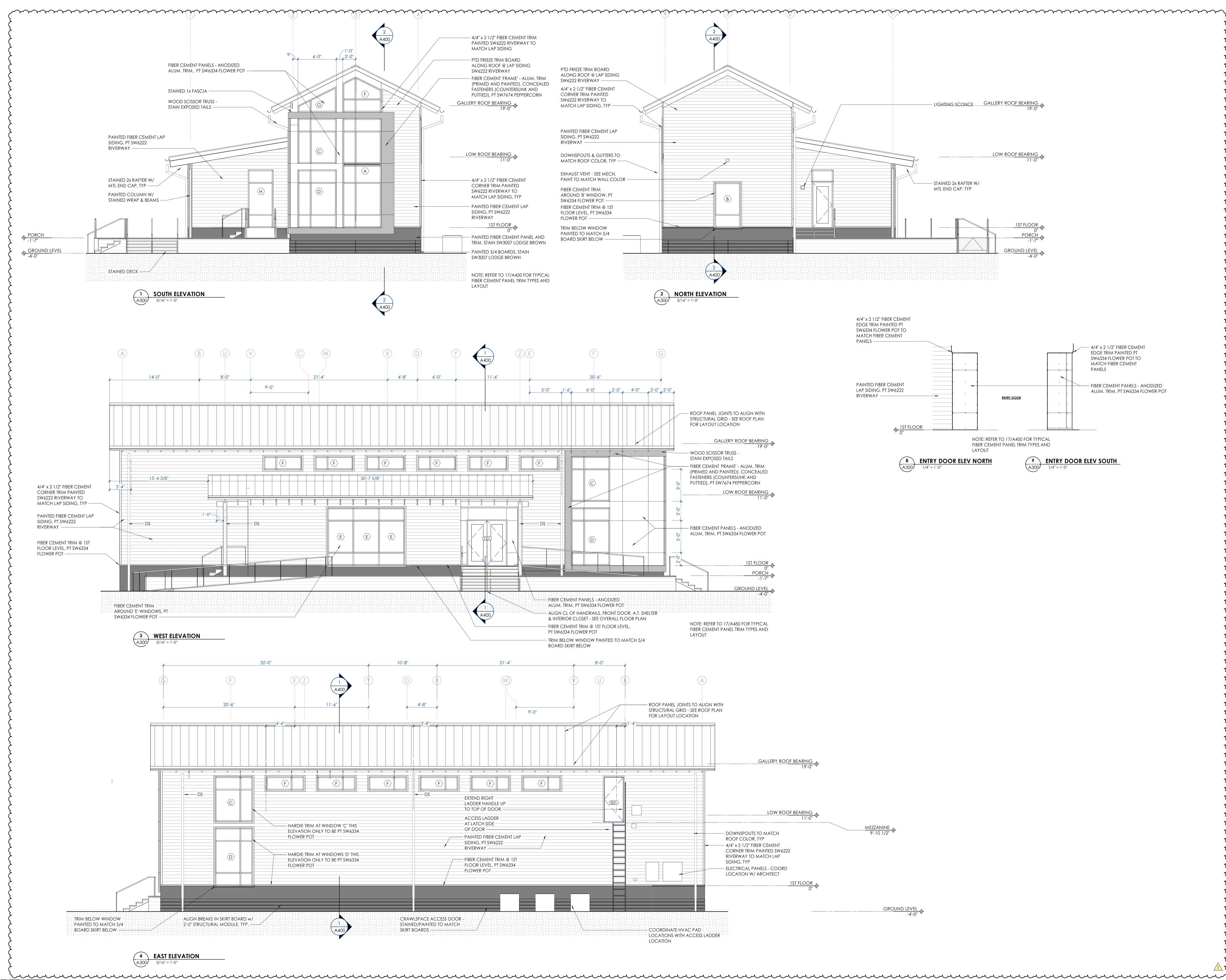


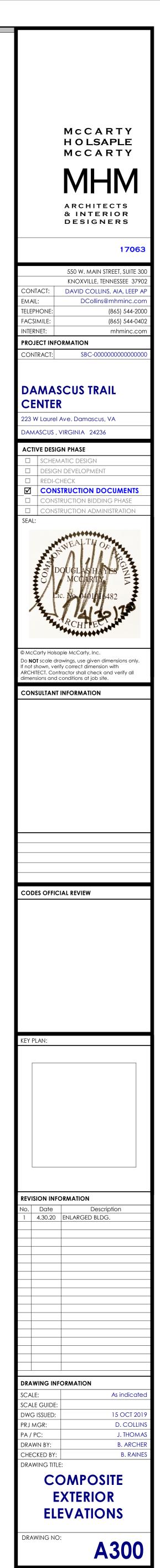


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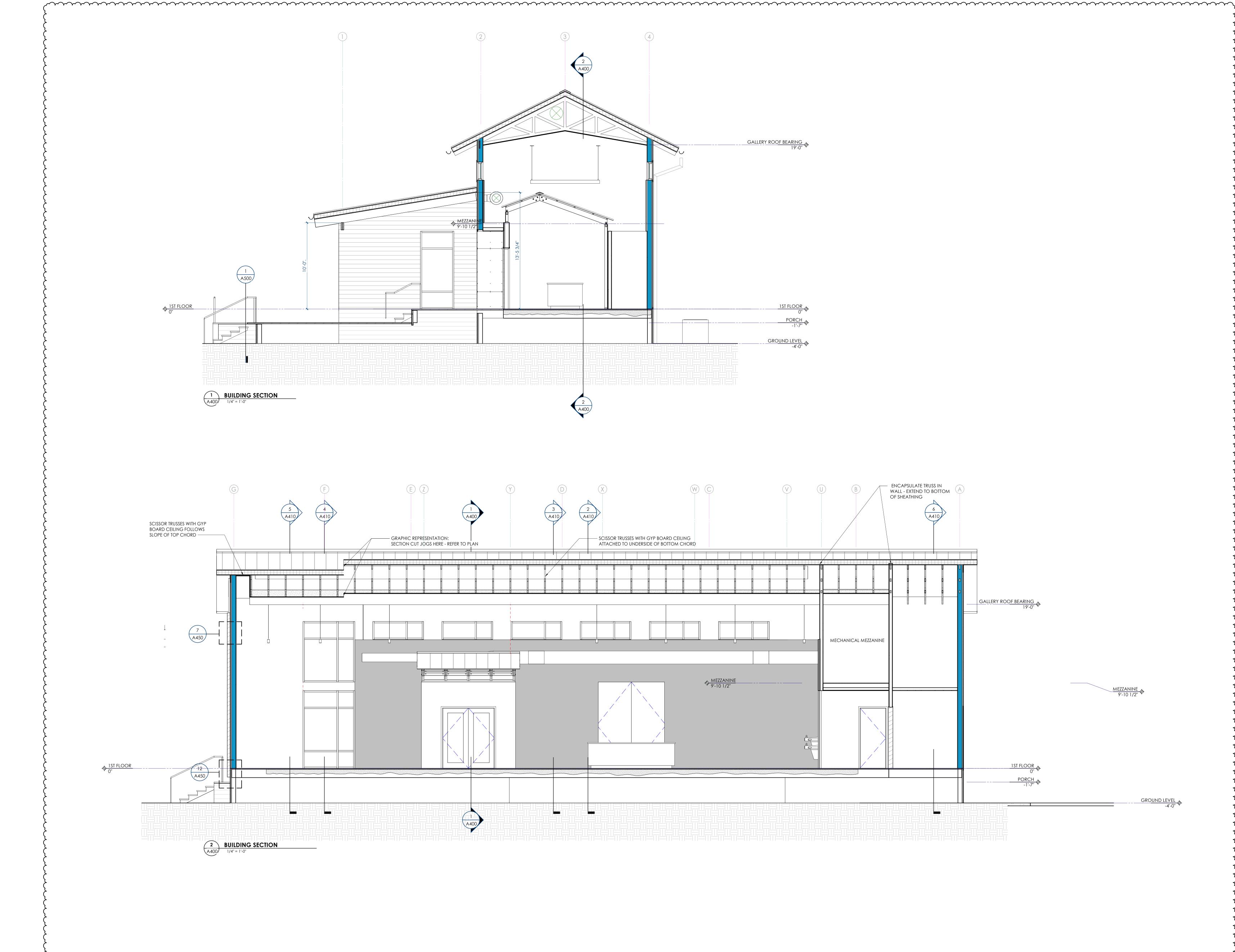


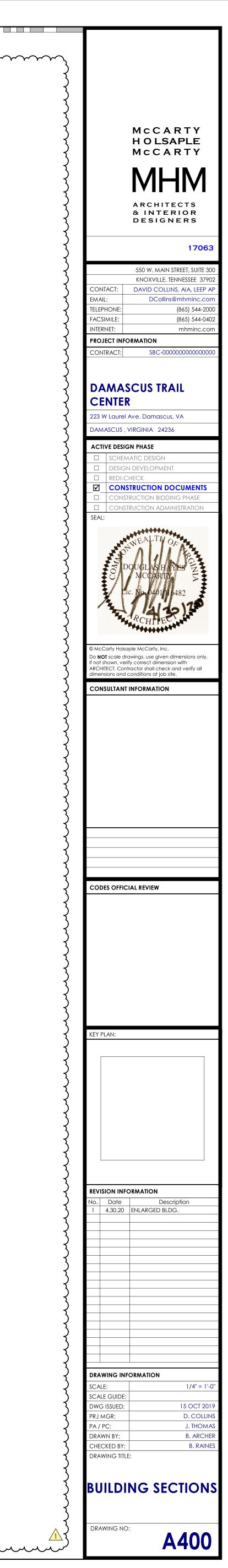


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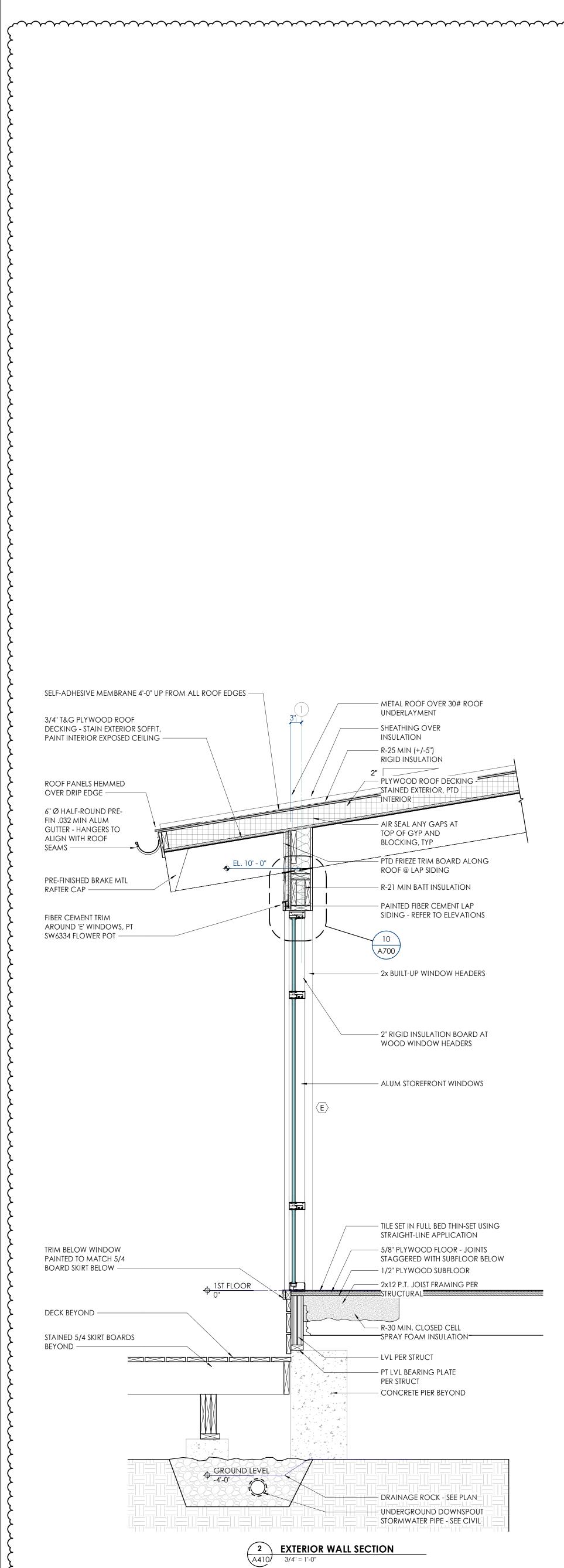


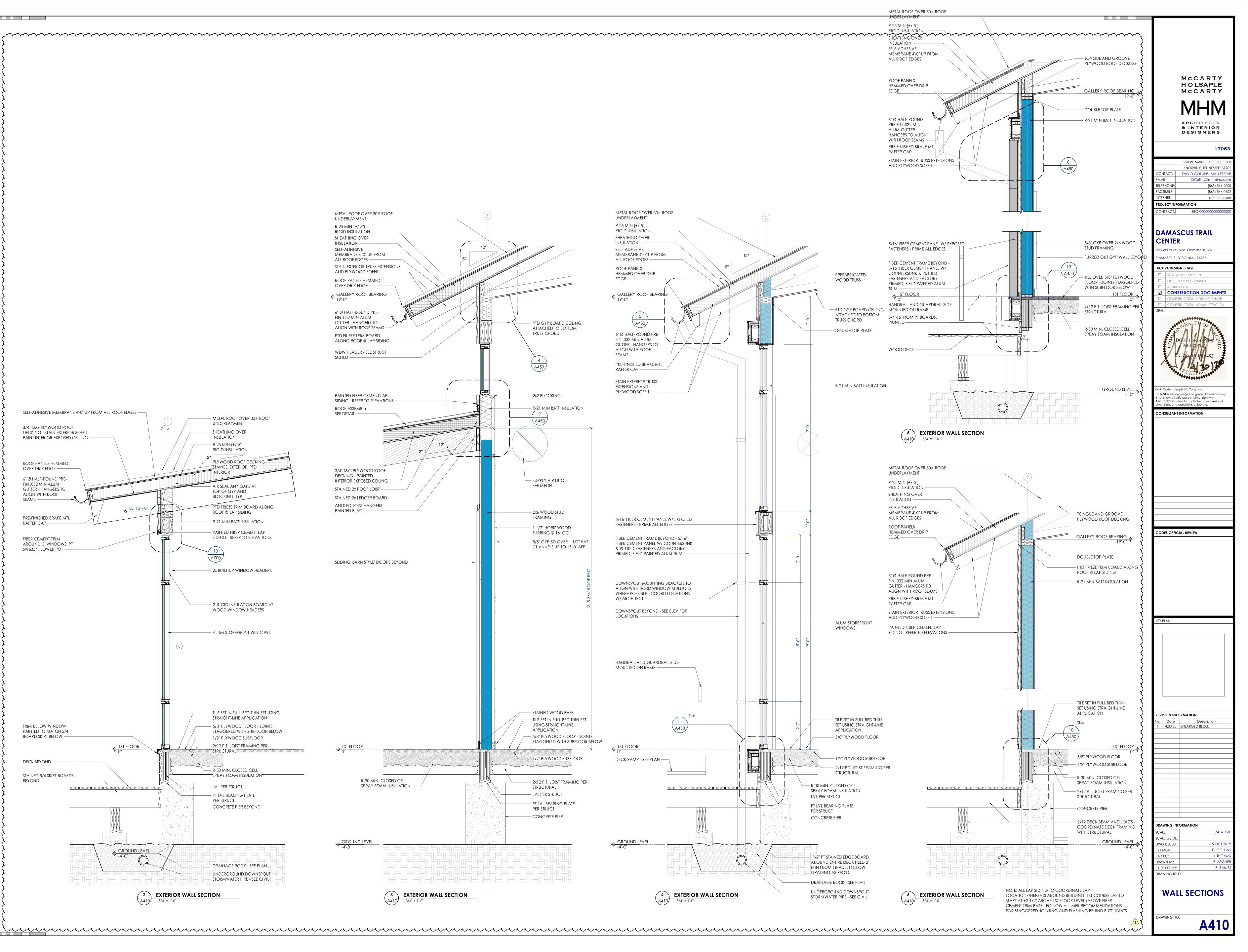


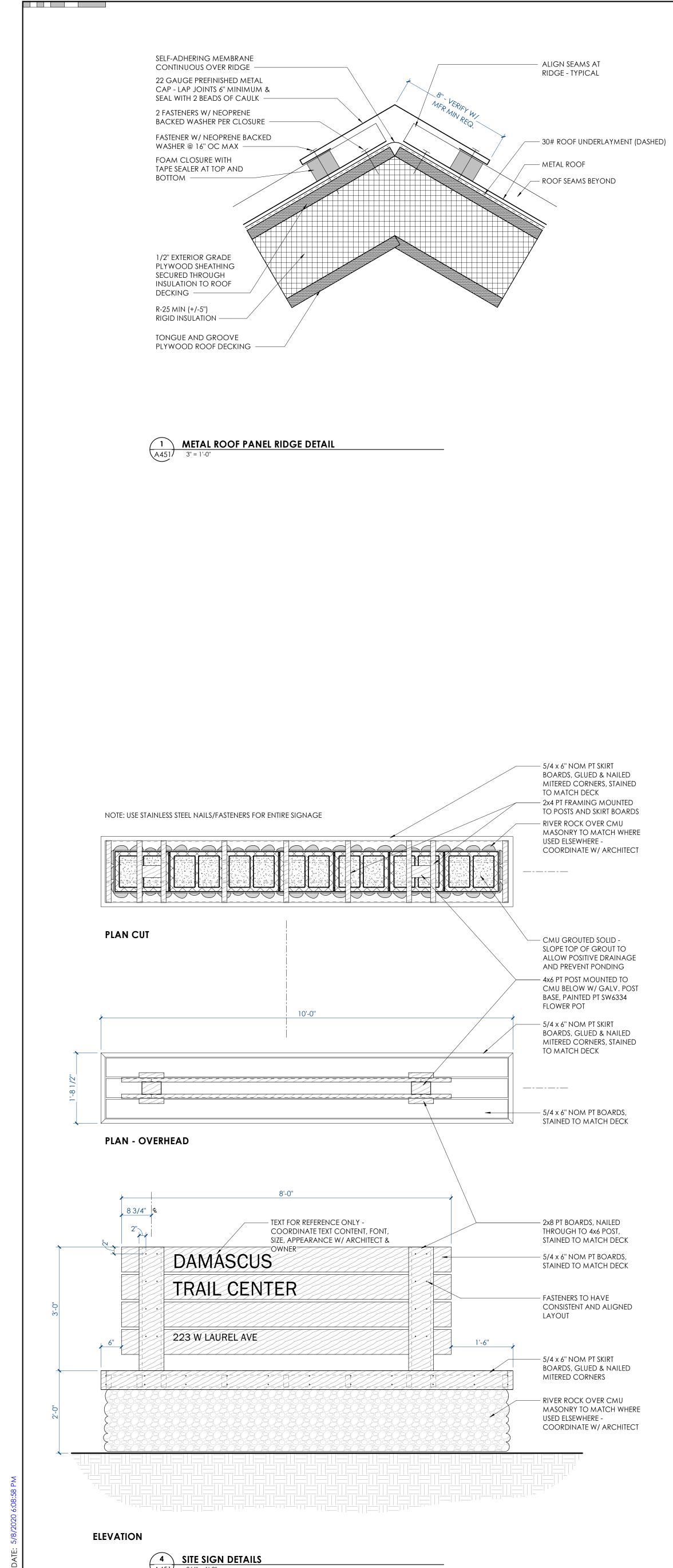


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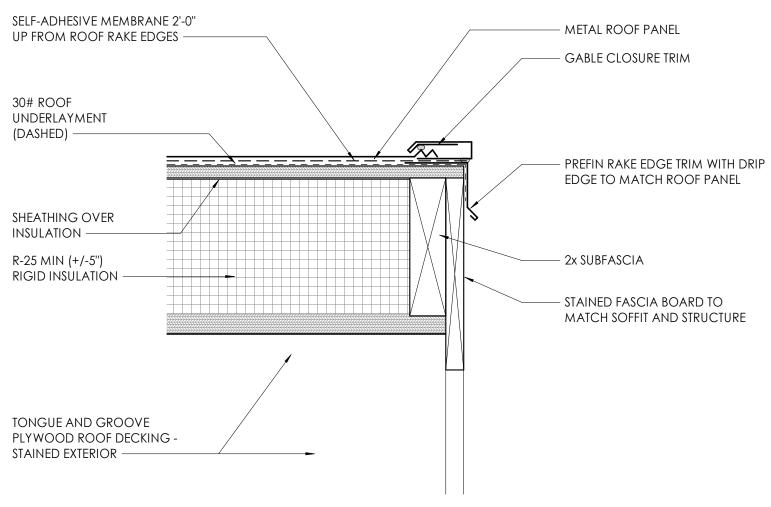


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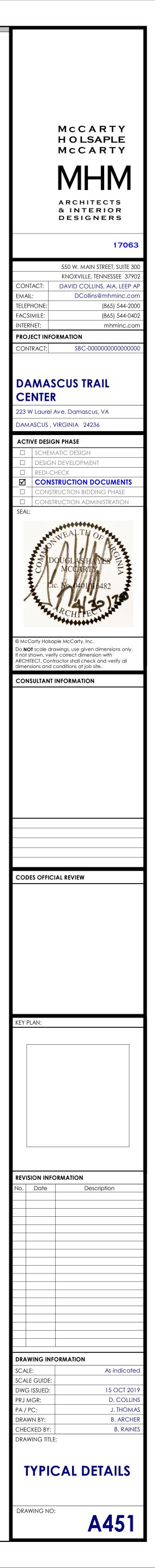
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\A451/ 3/4" = 1'-0"

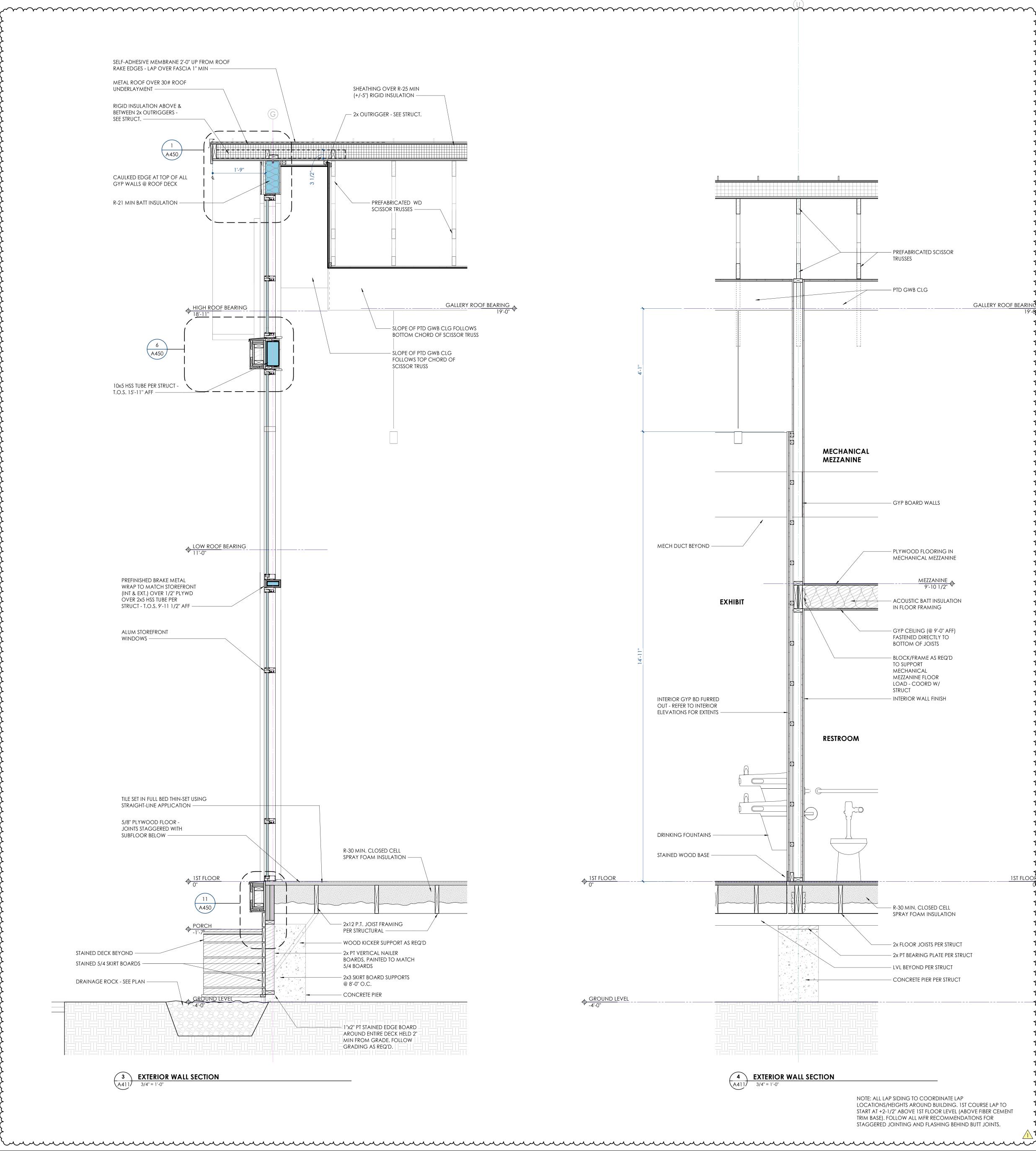


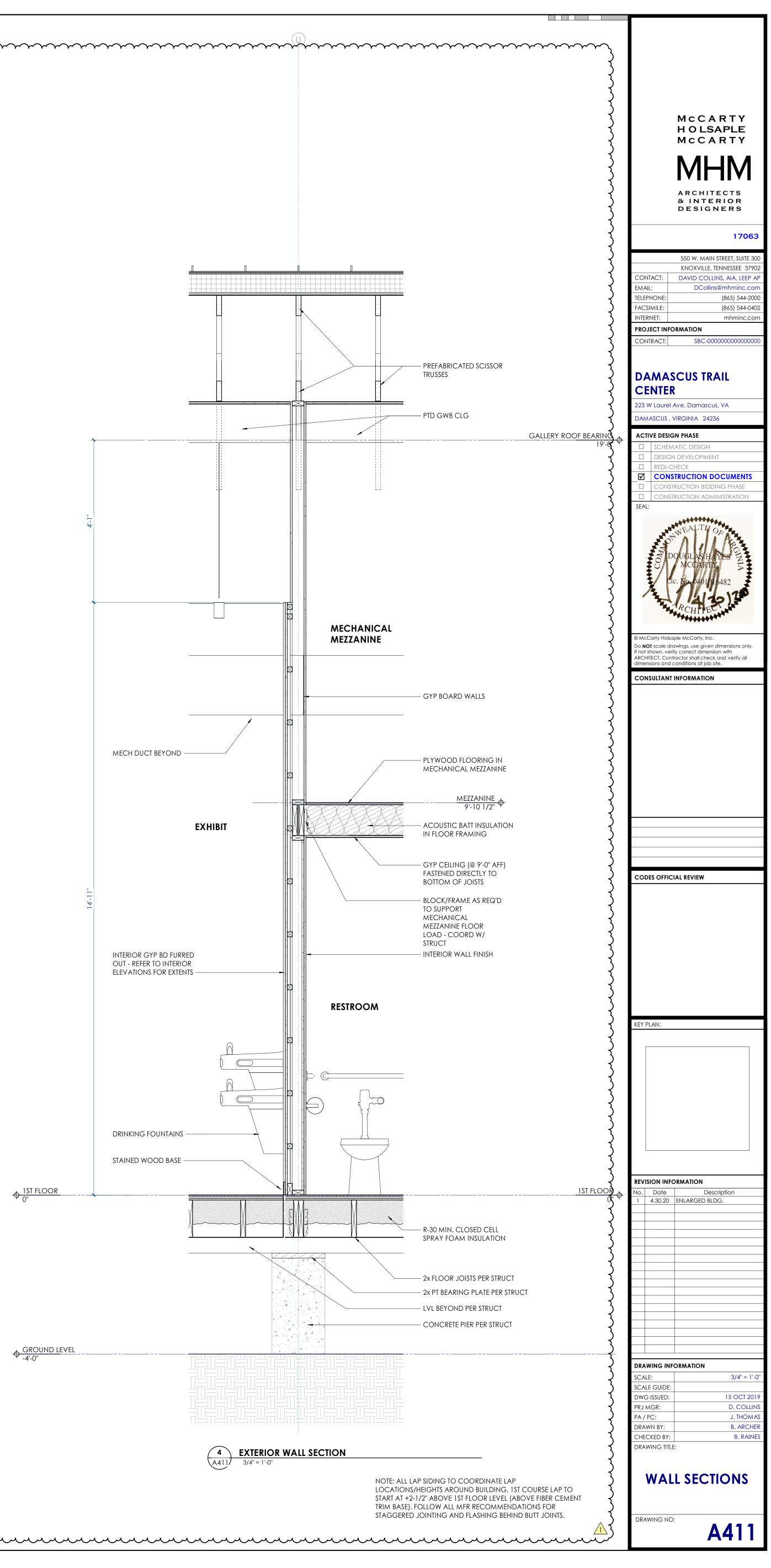
2 ROOF RAKE EDGE DTL (A451) 3" = 1'-0"





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SIDING VENT INSECT SCREEN @ TOP

AND BOTTOM OF WALL -

FIBER CEMENT PANELS -

SW6334 FLOWER POT -

ANODIZED ALUM. TRIM, PT

R-21 MIN BATT INSULATION -

MEMBRANE FLASHING UNDER

PREFIN METAL FLASHING CAP

W/ DRIP EDGE, INTERIOR AND

END DAMS - MATCH FIBER

WEATHER BARRIER WRAPS

AROUND PLYWOOD BOX

5/16" FIBER CEMENT PANEL

W/ COUNTERSUNK &

PUTTIED FASTENERS, PT

SW7674 PEPPERCORN

PAINTED ALUM TRIM

AROUND FC "FRAME"

FACTORY PRIMED, FIELD

MEMBRANE FLASHING UNDER

WINDOW AND WRAPPING DOWN

FRAME AND UNDER

WINDOW FRAMES

(dashed) —

CEMENT 'FRAME' PAINT -

WINDOW AND WRAPPING DOWN

PLYWOOD BOX FRAME (DASHED) -----

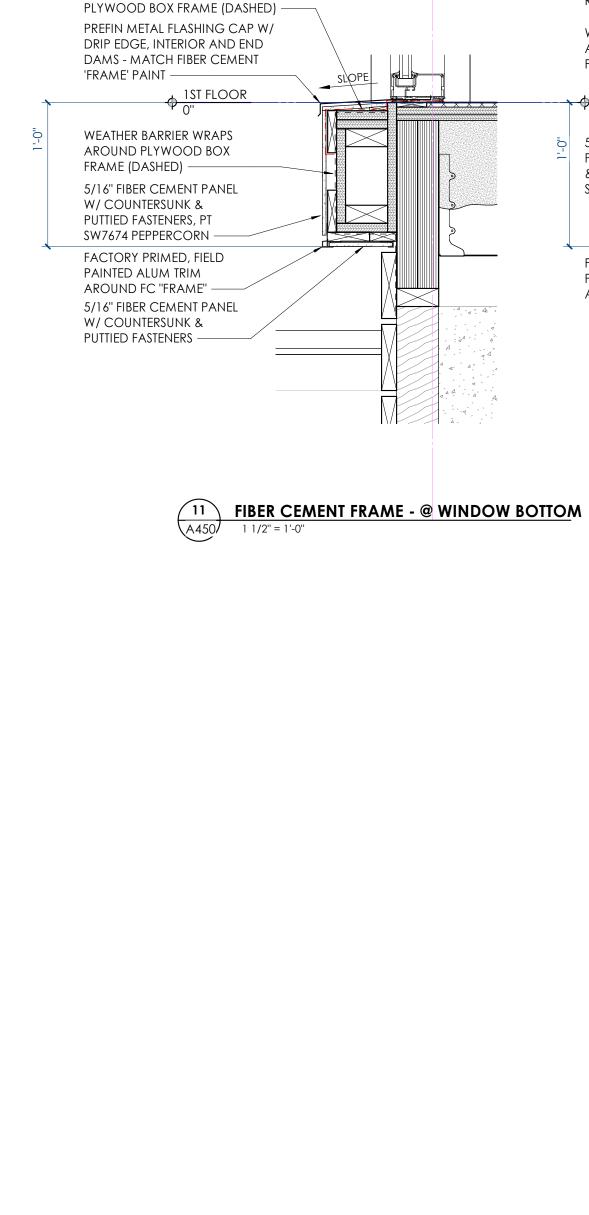
PREFABRICATED WOOD TRUSS -

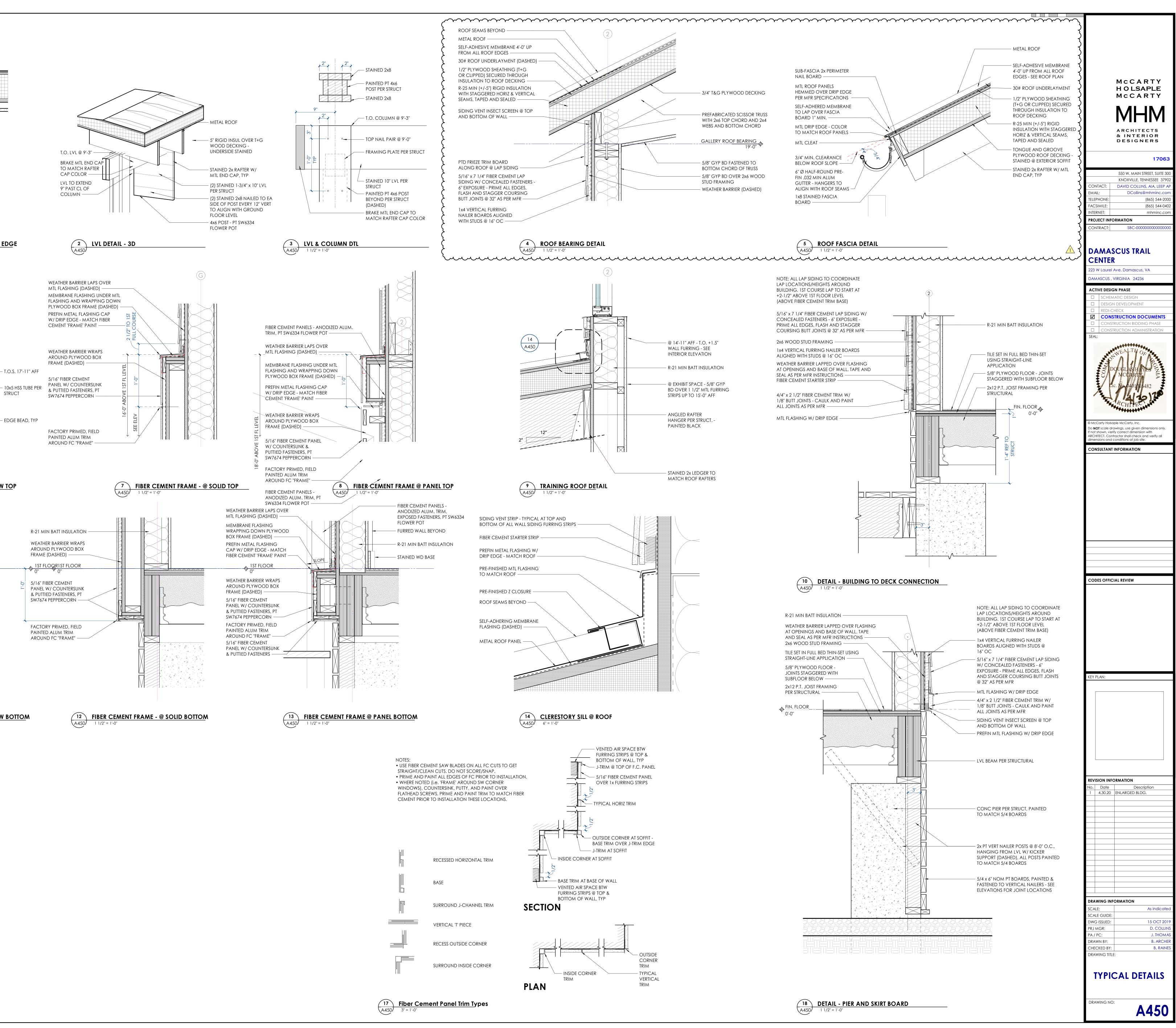
FIBER CEMENT PANEL @ TOP RAKE EDGE

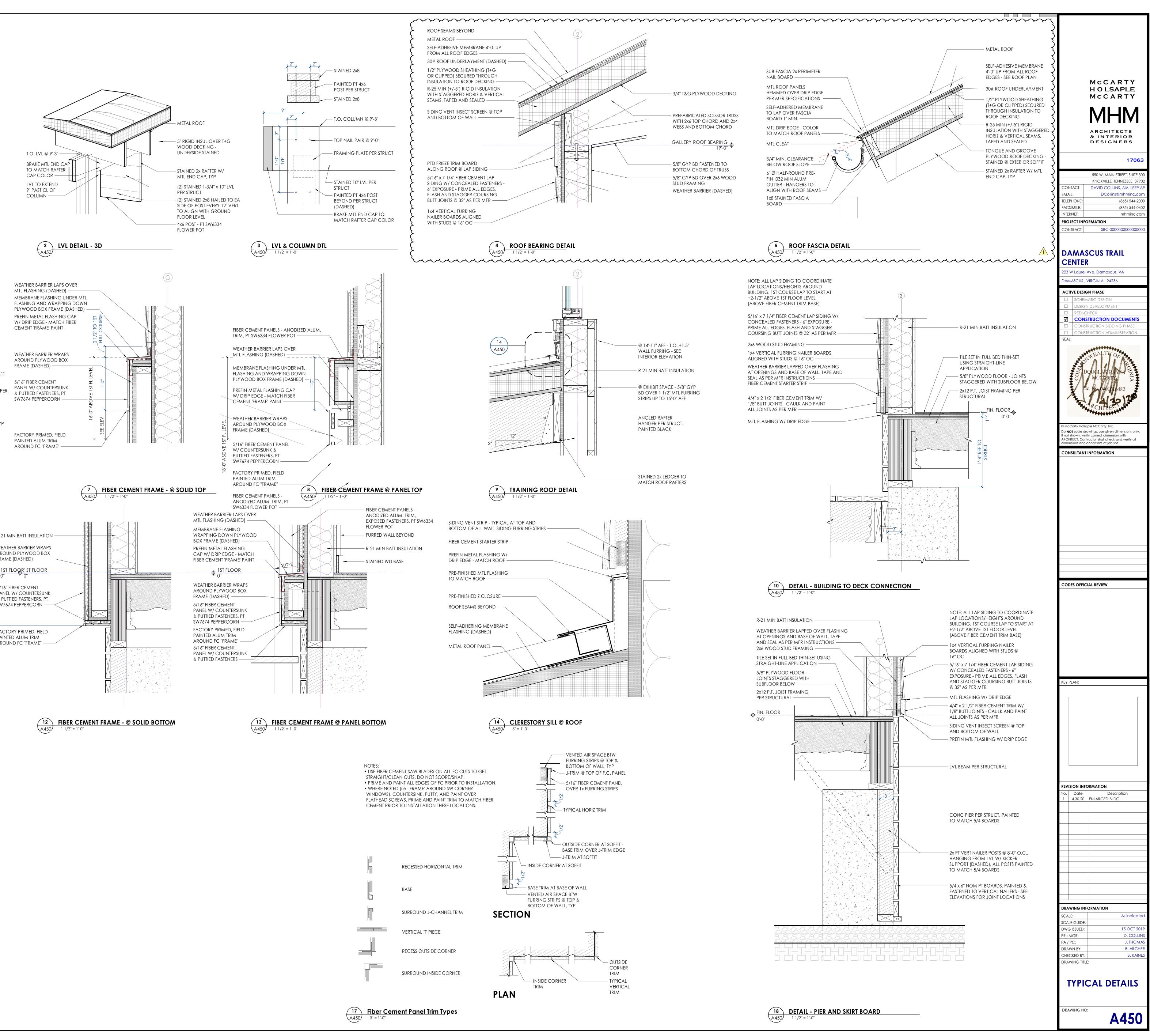
6 FIBER CEMENT FRAME - @ WINDOW TOP

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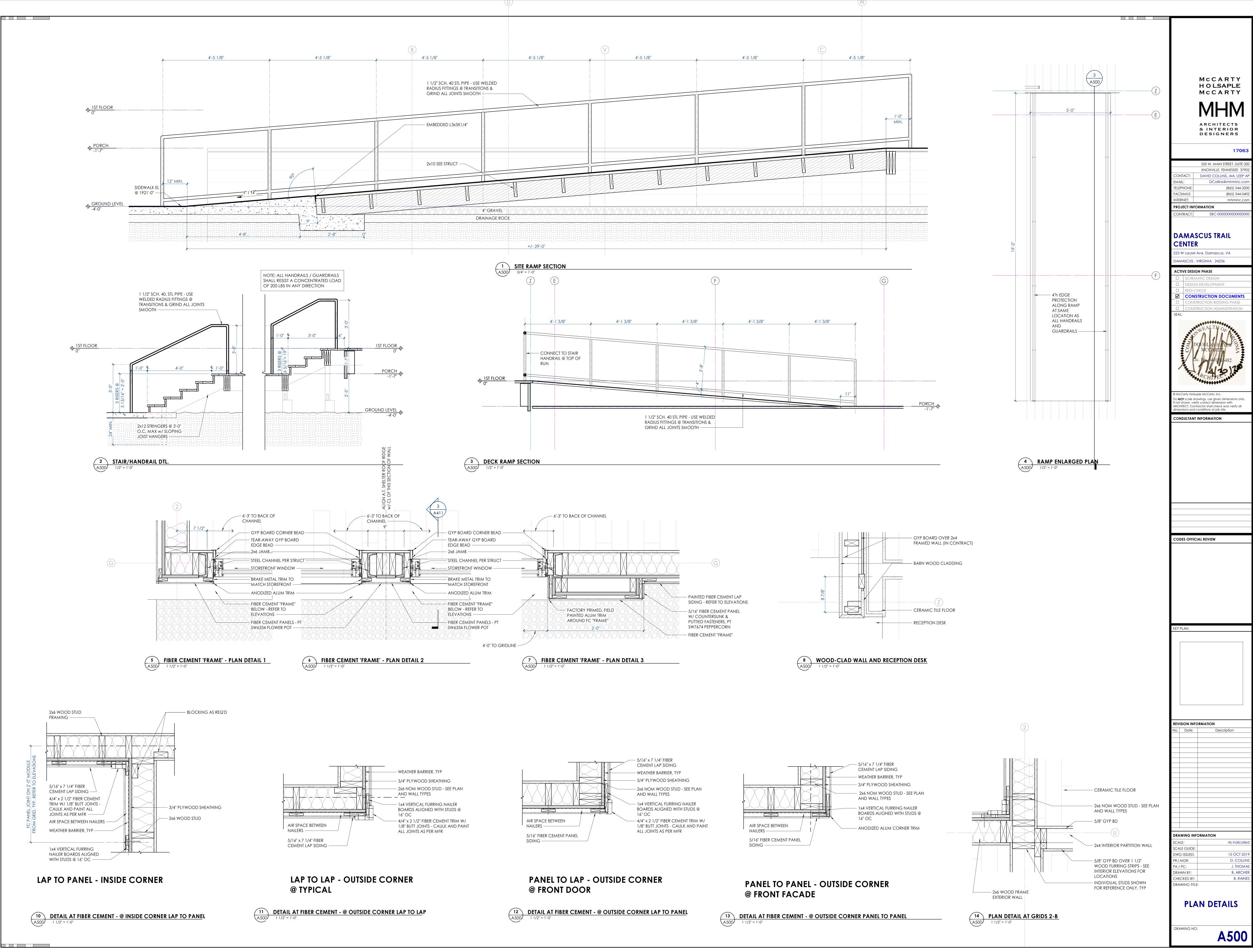


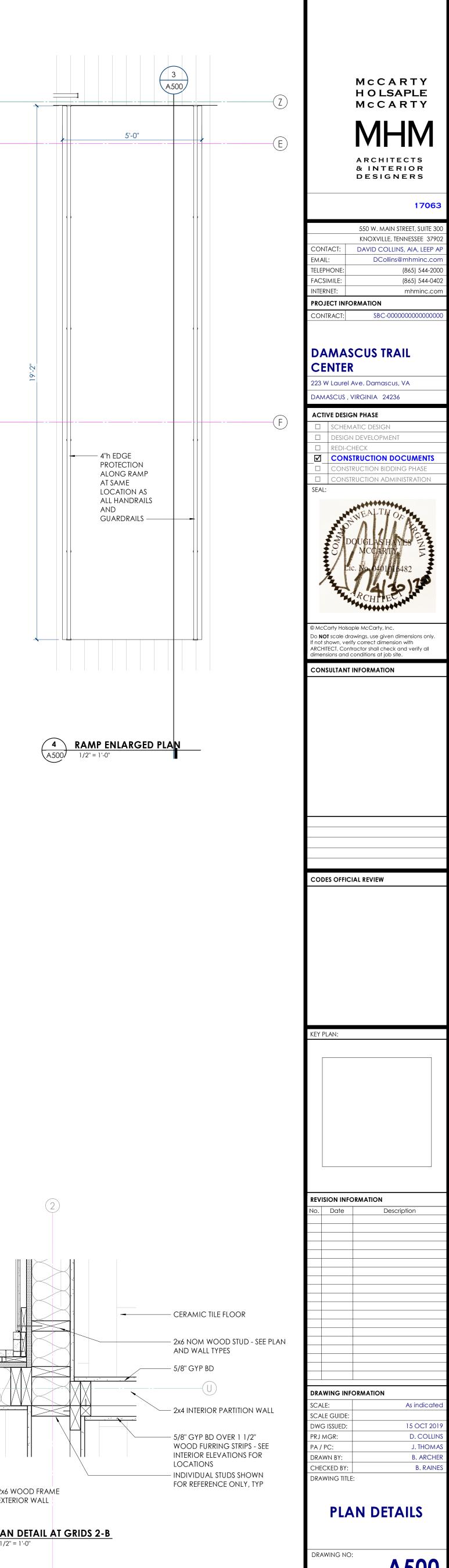




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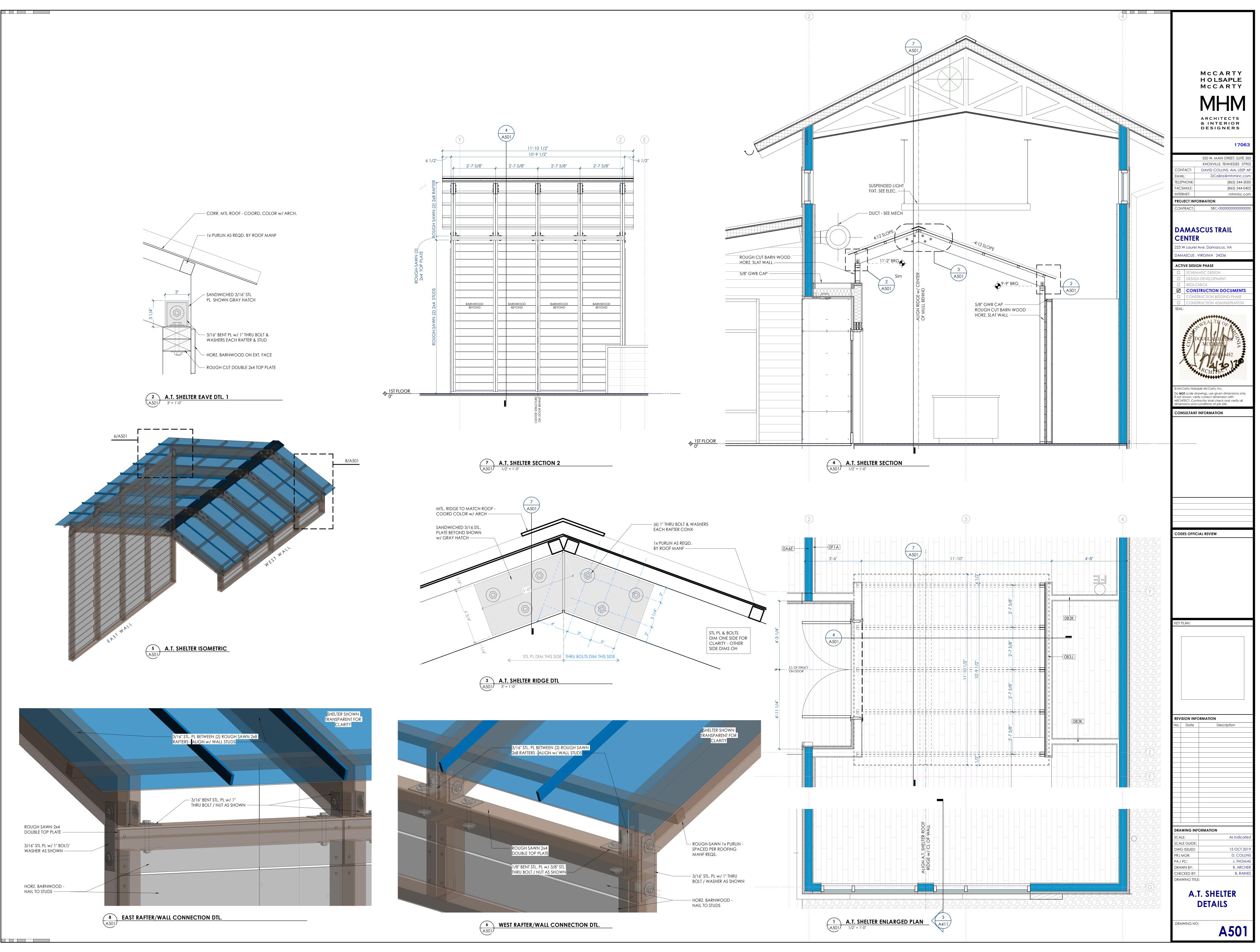


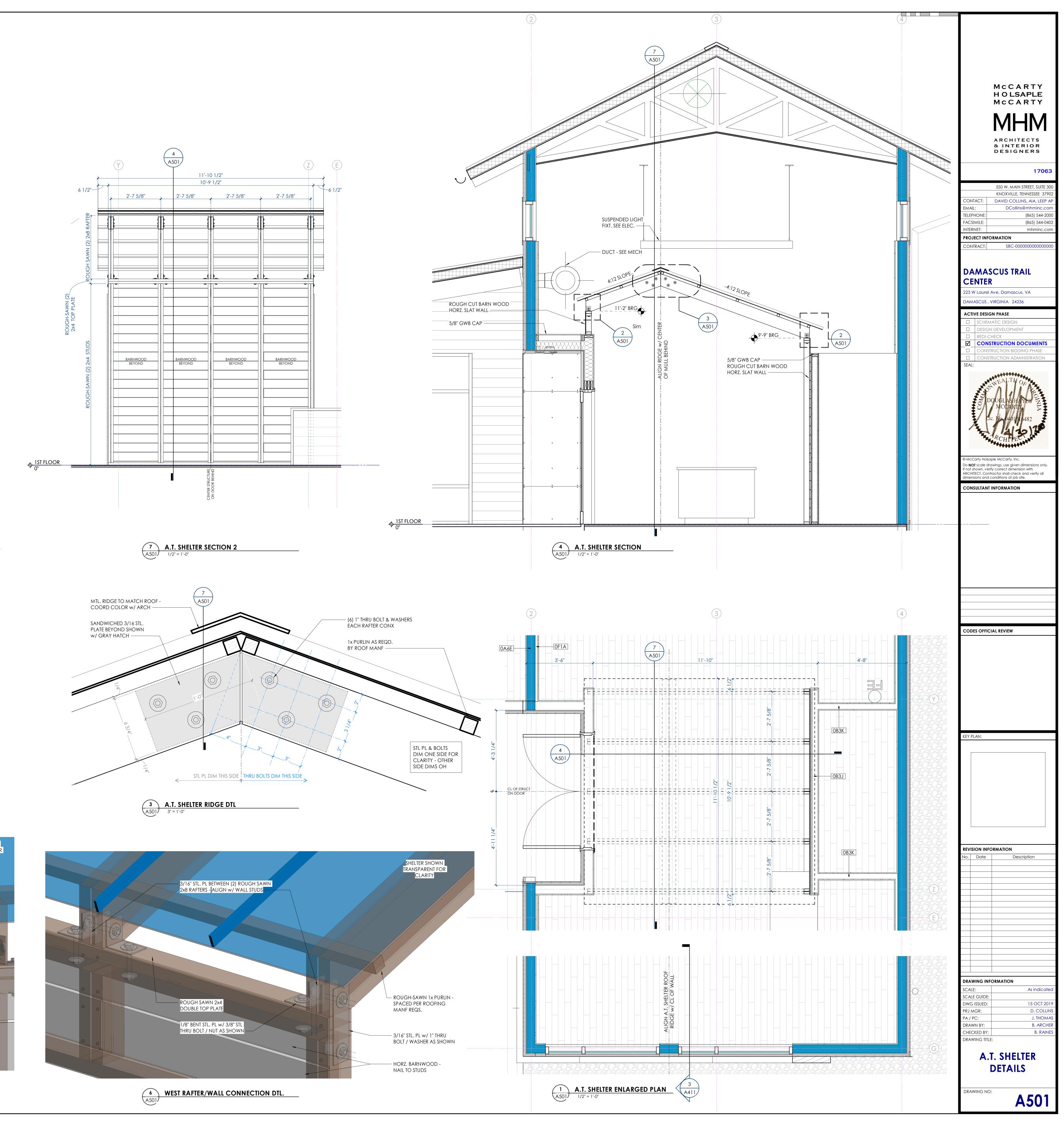


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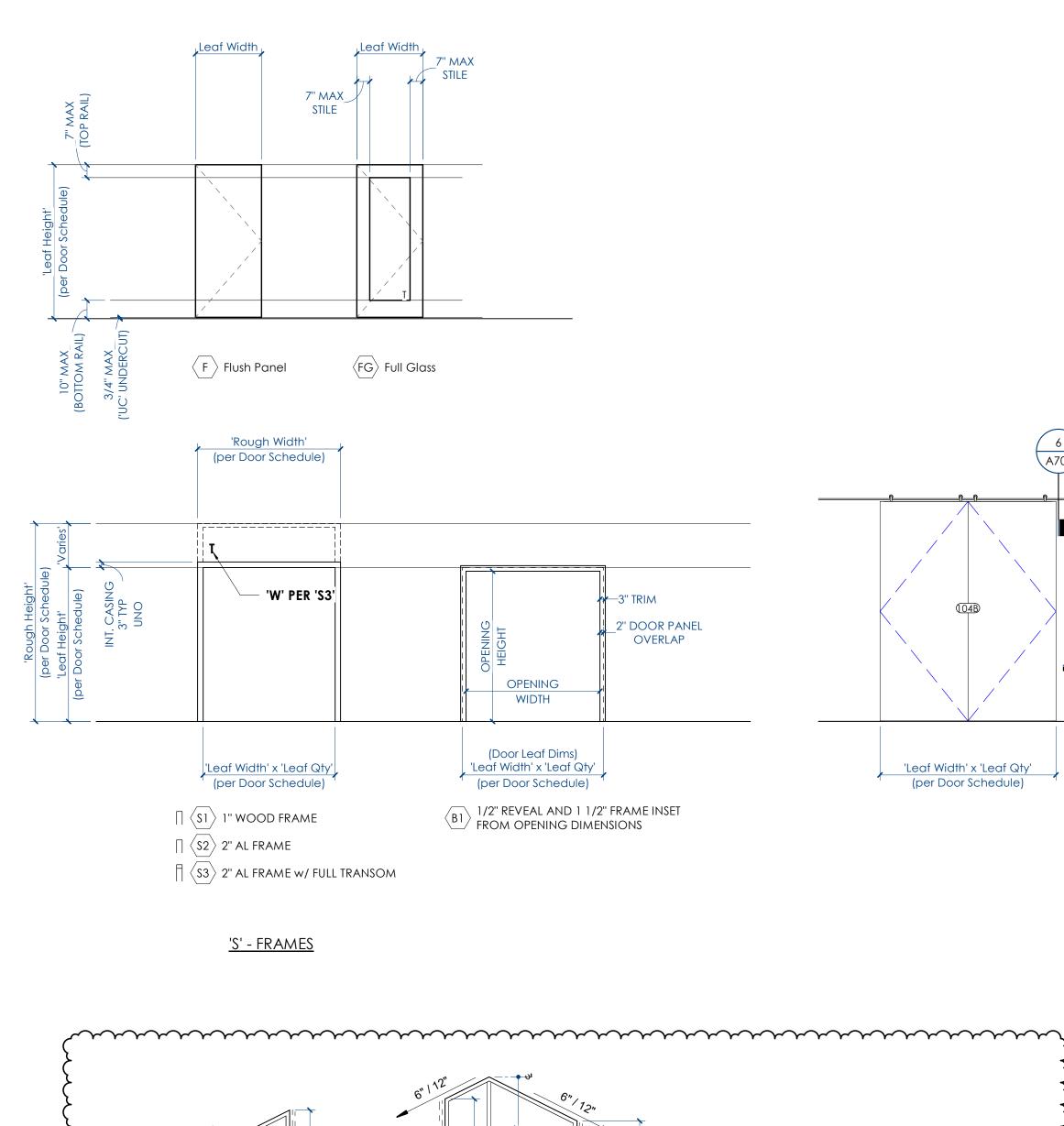


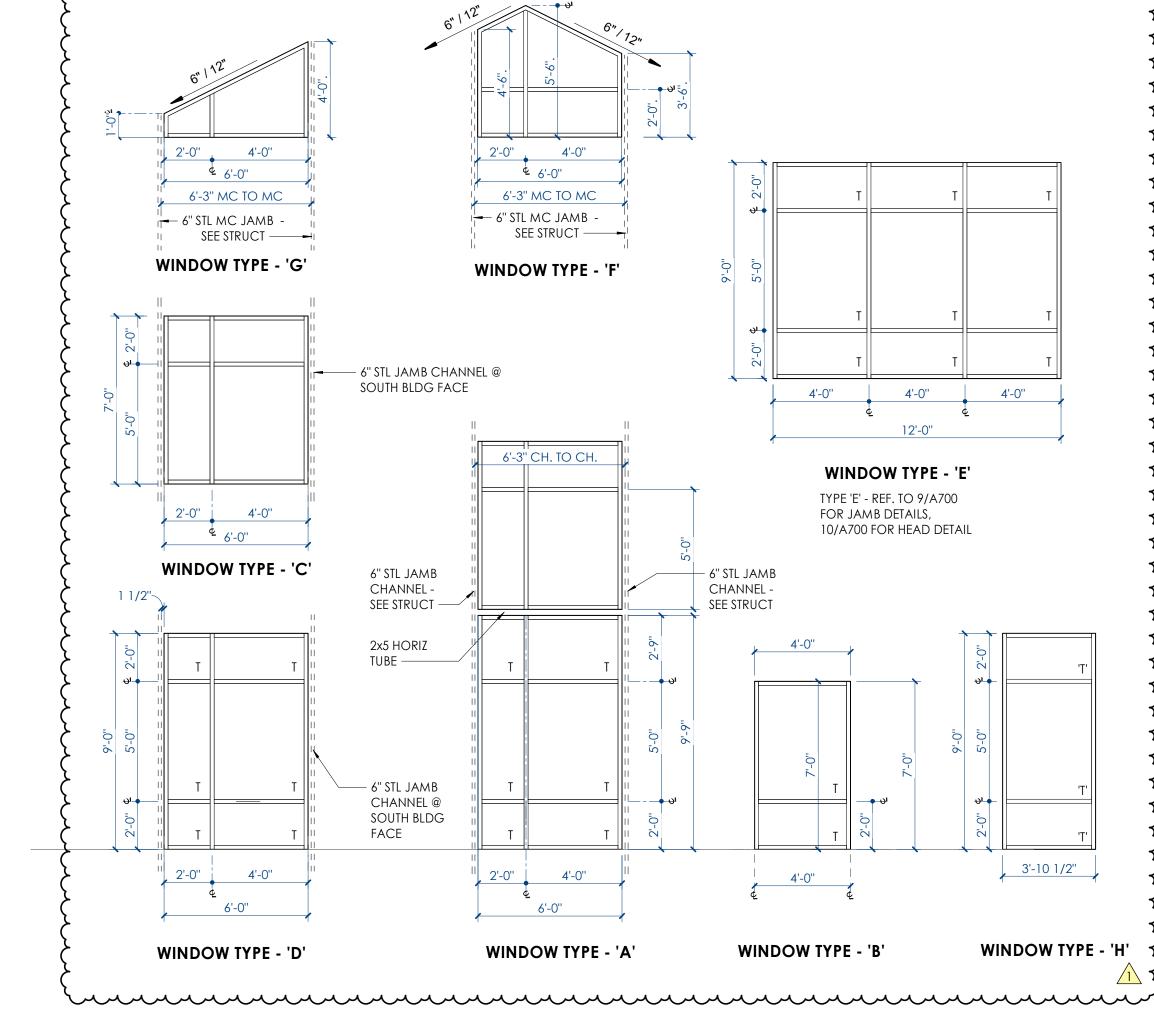


Door Schedule

						DAMAS	SCUS TRAIL CE	NTER DOC	OR SCHEDULE						
		D	OOR LEAI	F INFORMATI	ON		FRAME INFORMATION			HARDWARE SET					
Mark (Door										DETAILS			KEYSIDE	-	
Number)	QTY	WIDTH	HEIGHT	THICKNESS	MATERIAL	TYPE	MATERIAL	TYPE	HEAD	JAMB	SILL	SET NO.	ROOM NO.	FIRE RATING	COMMENTS
ST FLOOR															
101	2	3'-0''	7'-0''	1 3/4"	ALUM	FG	ALUM	S2	7/A700	8/A700	7/A700	#1			
104A	1	3'-0''	7'-0''	1 3/4"	ALUM	FG	ALUM	S2	7/A700	8/A700	7/A700	#4			
104B	2	4'-0''	10'-0''	1 3/4"	WD	F	-	B1	6/A700	5/A700	-	#3	101		7'-8" OPENING WIDTH, 9'-10" OPENING HEIGHT
106	1	3'-0''	7'-0''	1 3/4"	WD	FG	WD	S1	4/A700	3/A700		#5	105		
108	1	3'-0''	7'-0''	1 3/4"	WDWD	F		S1	4/A700	3/A700		#7	105		
109	1	3'-0''	7'-0''	1 3/4"	WD	F	WD	S1	4/A700	3/A700		#7	105		
MEZZANINE					.										
201	1	3'-0''	7'-0''	1 3/4"	WD	F	WD	S1				#8			LEAF/FRAME PAINTED TO MATCH SIDING

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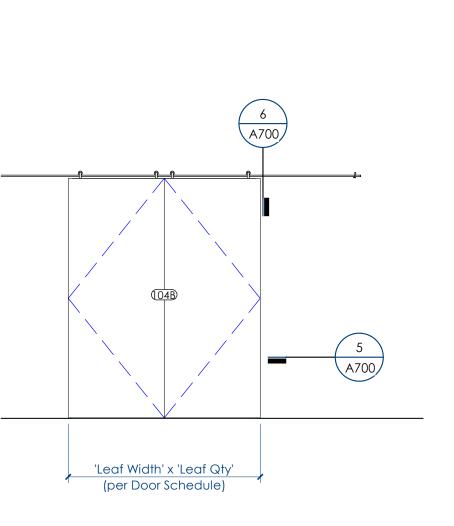


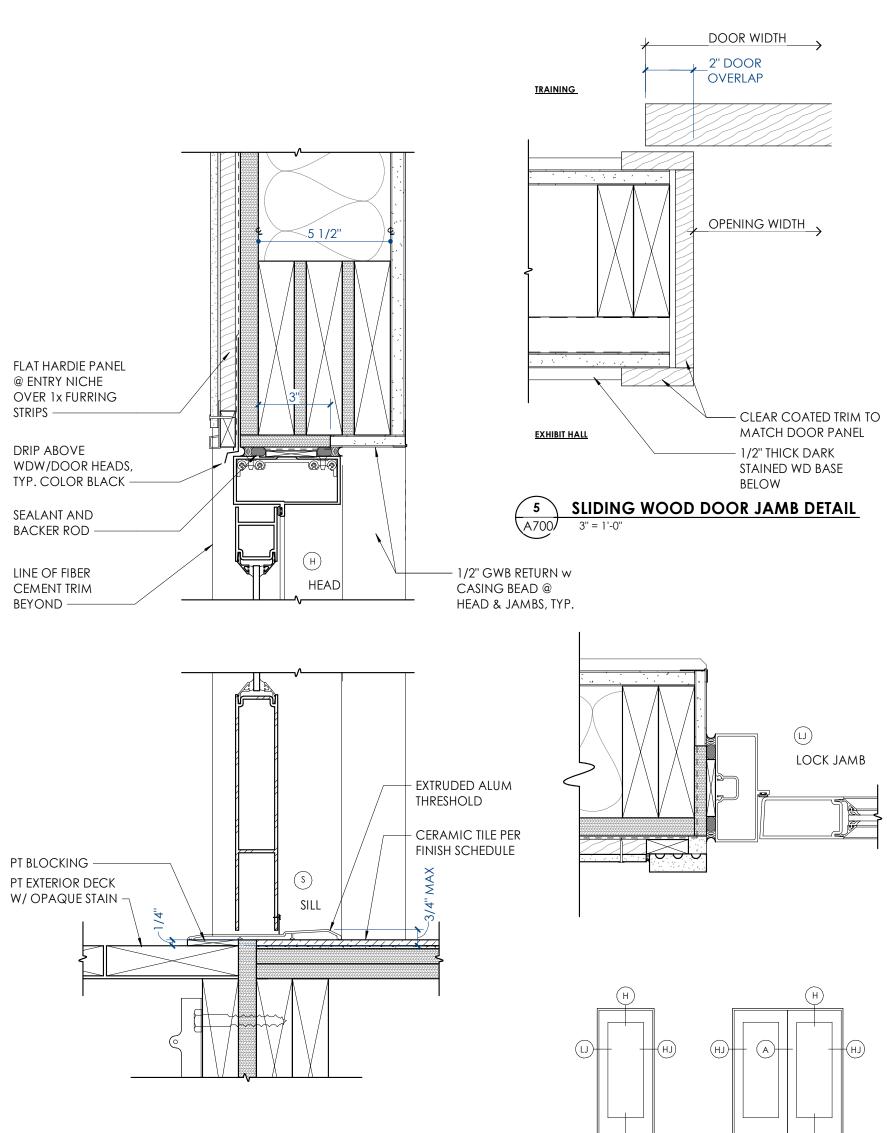


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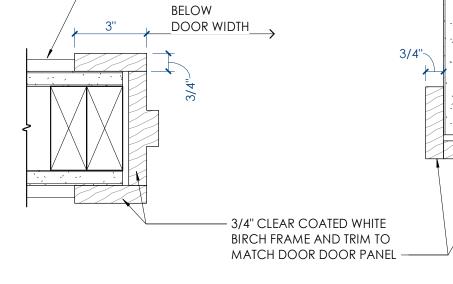
MATERIALS:	
WD - WOOD	
AC WD - ALUMINUM-CLAD WOOD	



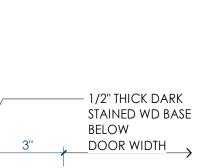




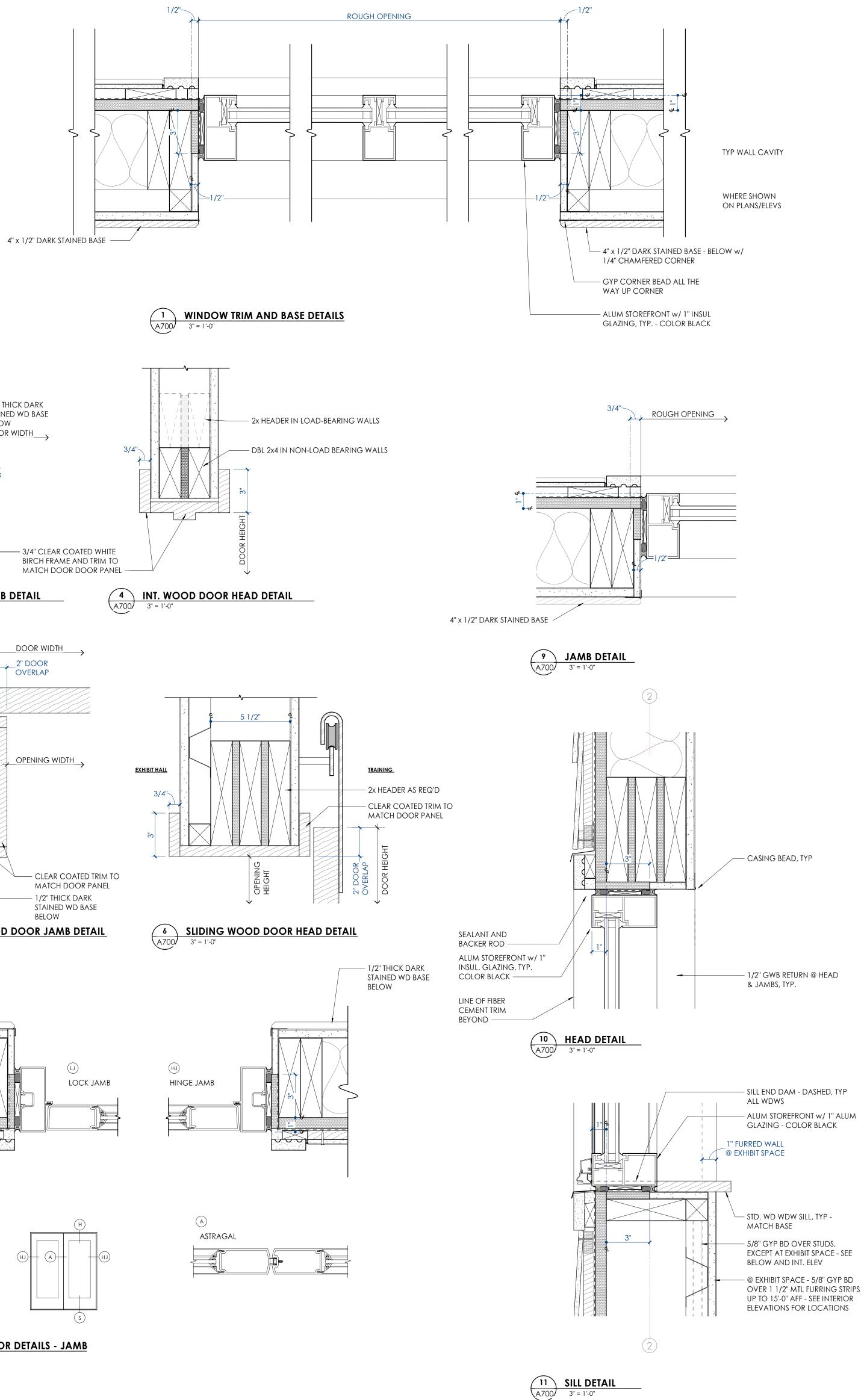


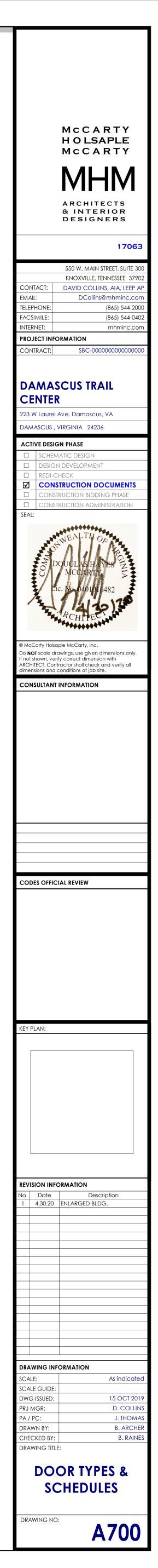


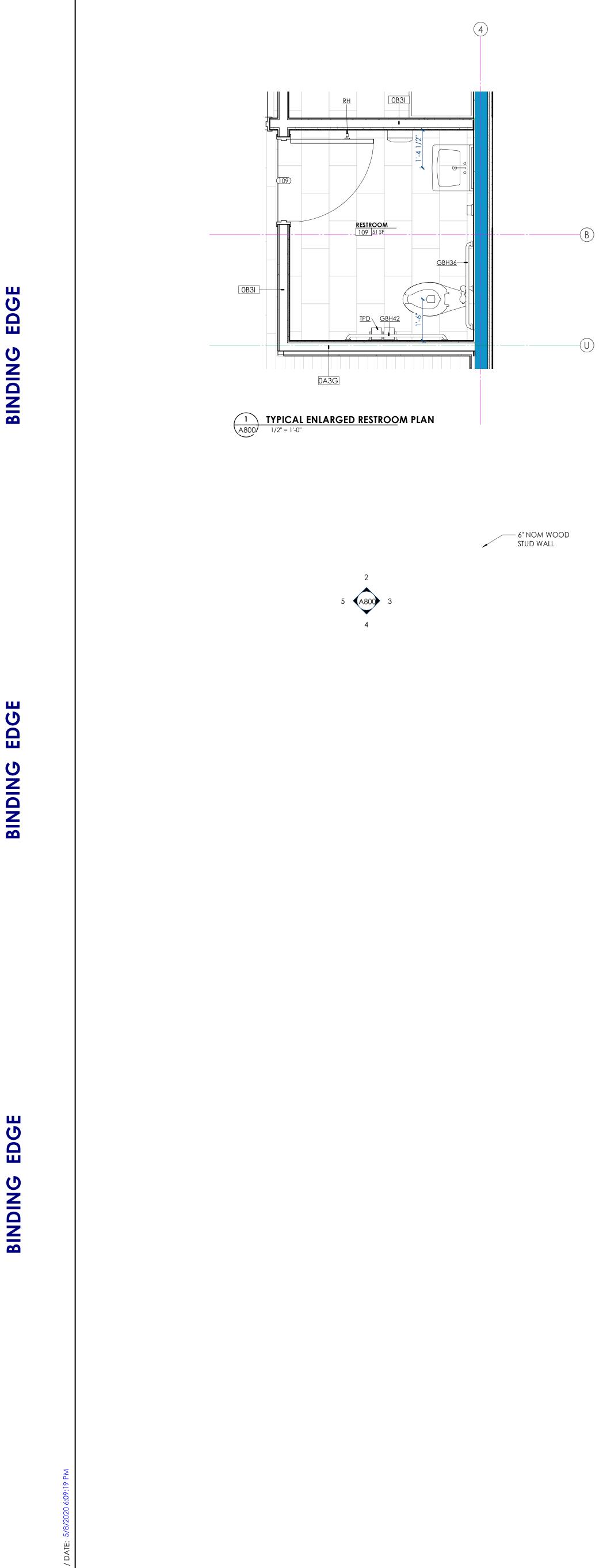










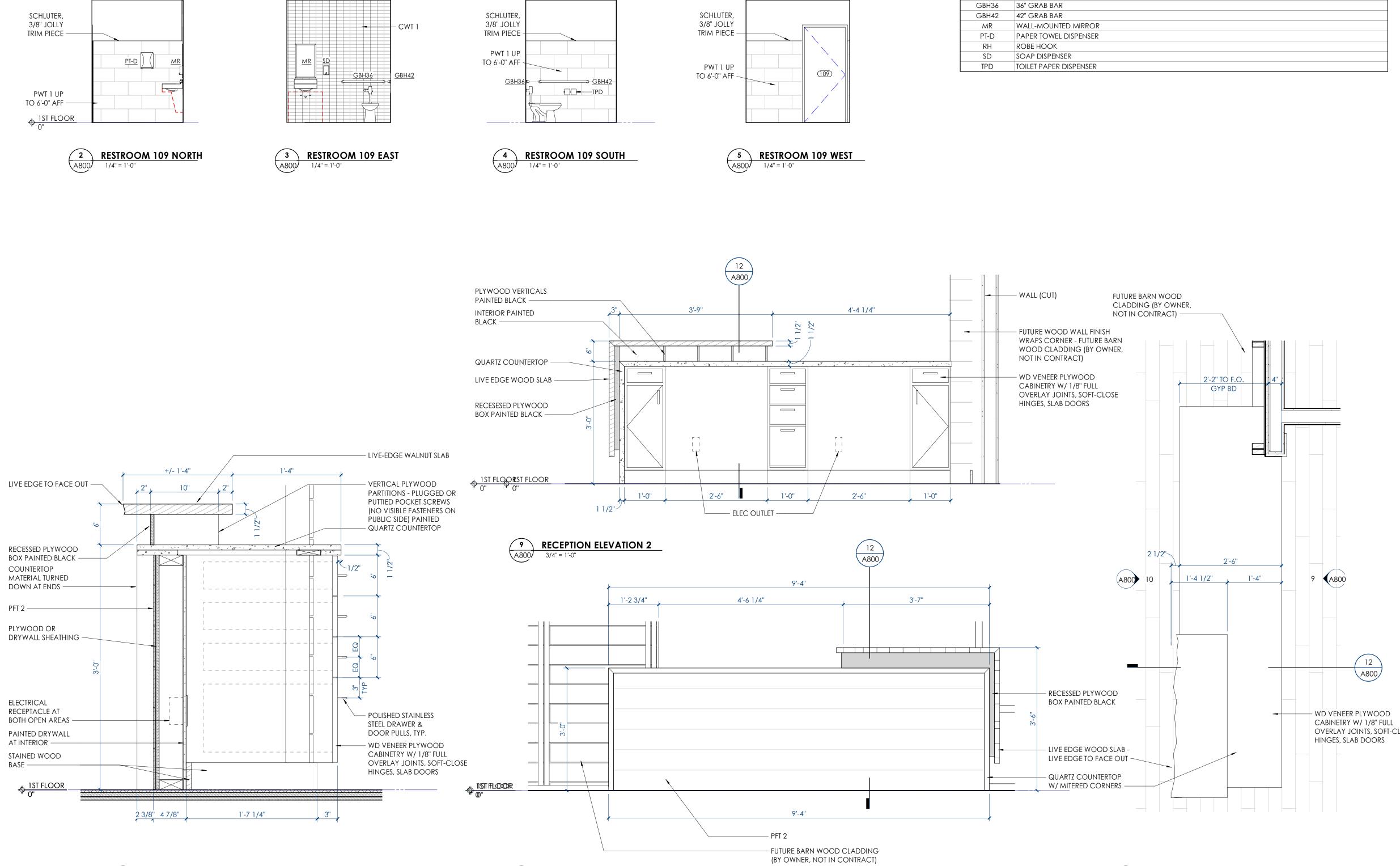


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NOTE: REFER TO AG010 FOR ACCESSORY MOUNTING HEIGHTS



 12
 RECEPTION SECTION

 A800
 1 1/2" = 1'-0"

 10
 RECEPTION ELEVATION 1

 A800
 3/4" = 1'-0"

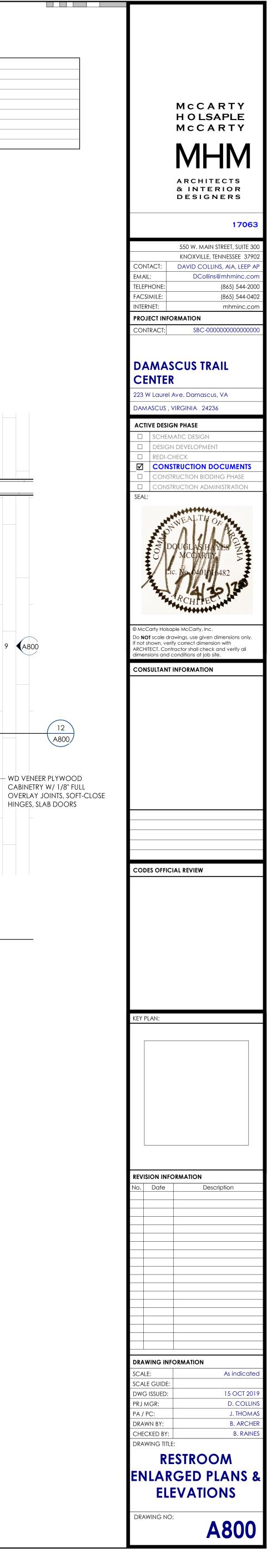
TOILET ACCESSORY LEGEND

Type Mark	Description	
GBH36	36" GRAB BAR	
GBH42	42" GRAB BAR	
MR	WALL-MOUNTED MIRROR	
PT-D	PAPER TOWEL DISPENSER	
RH	ROBE HOOK	
SD	SOAP DISPENSER	
TPD	TOILET PAPER DISPENSER	



 11
 RECEPTION DESK PLAN

 A800/
 3/4" = 1'-0"





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 $\Phi \frac{1 \text{ST FL}}{0"}$

3 EXHIBIT 101 EAST (A801) 1/4" = 1'-0"

 $\Phi \frac{1\text{ST FLOOR}}{0"}$

5 TRAINING 104 WEST (A801) 1/4" = 1'-0"

DARK STAINED WD BASE TRIM, TYP

+1.5"

GWB JOINT - ALIGN

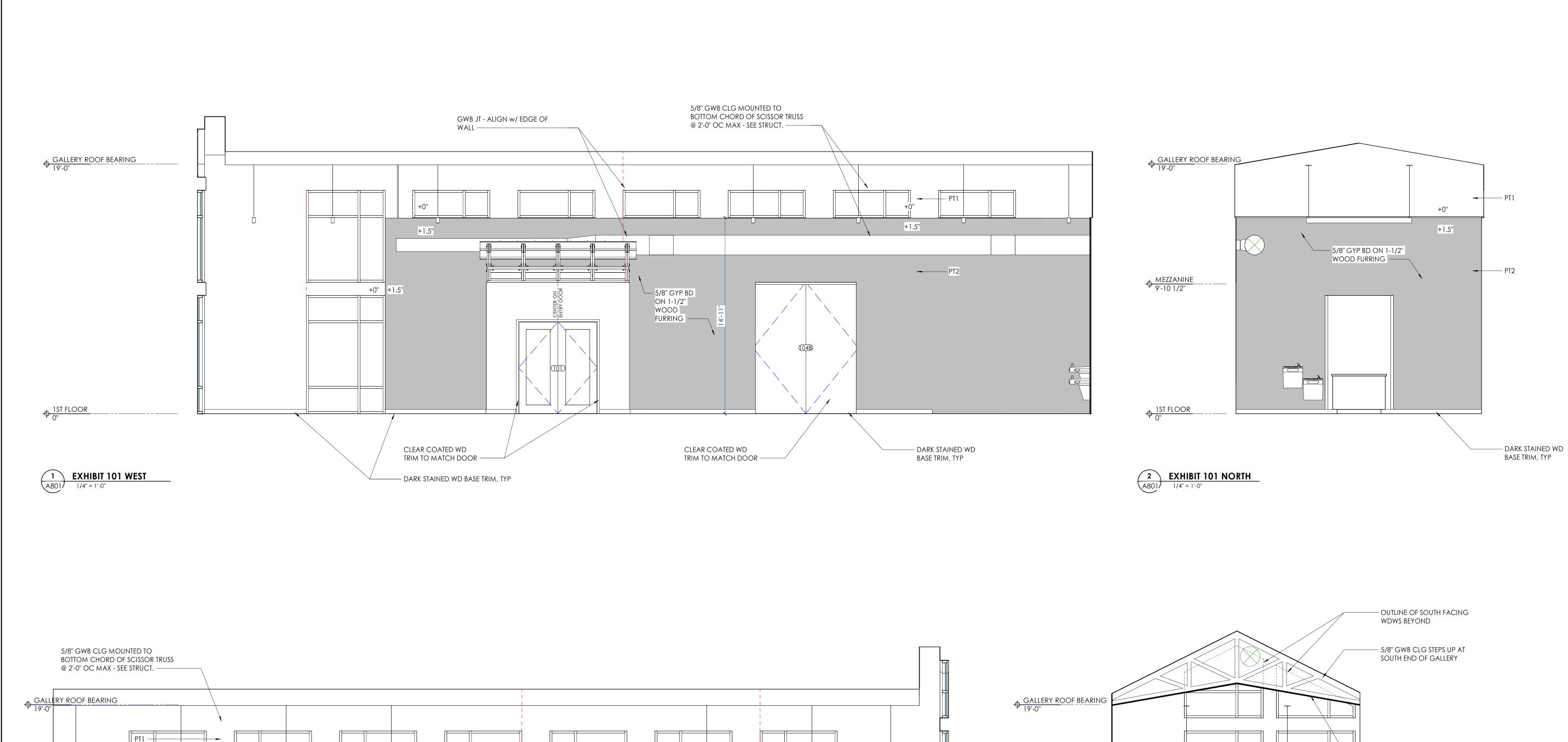
w/ EDGE OF WDW ------

PT1 DECK

------ PT1

ALUM STOREFRONT, TYP

В В B BINDING



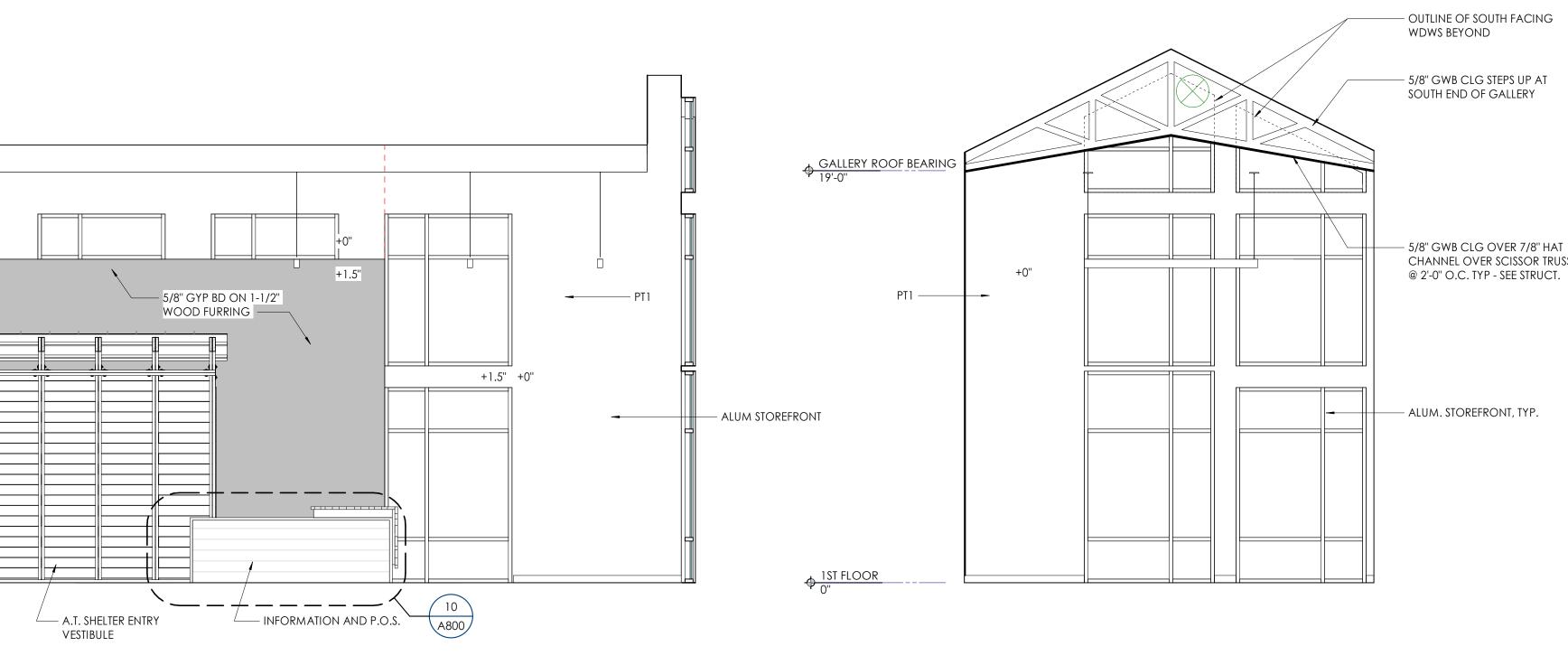
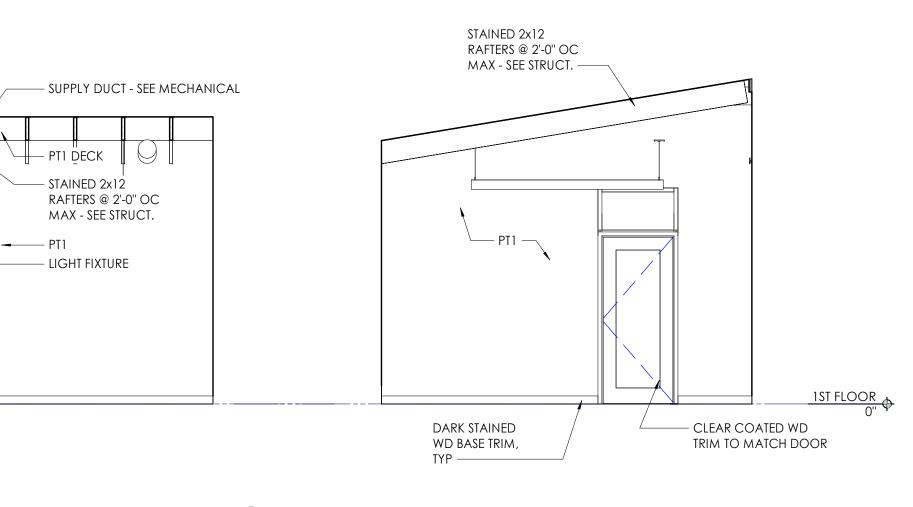
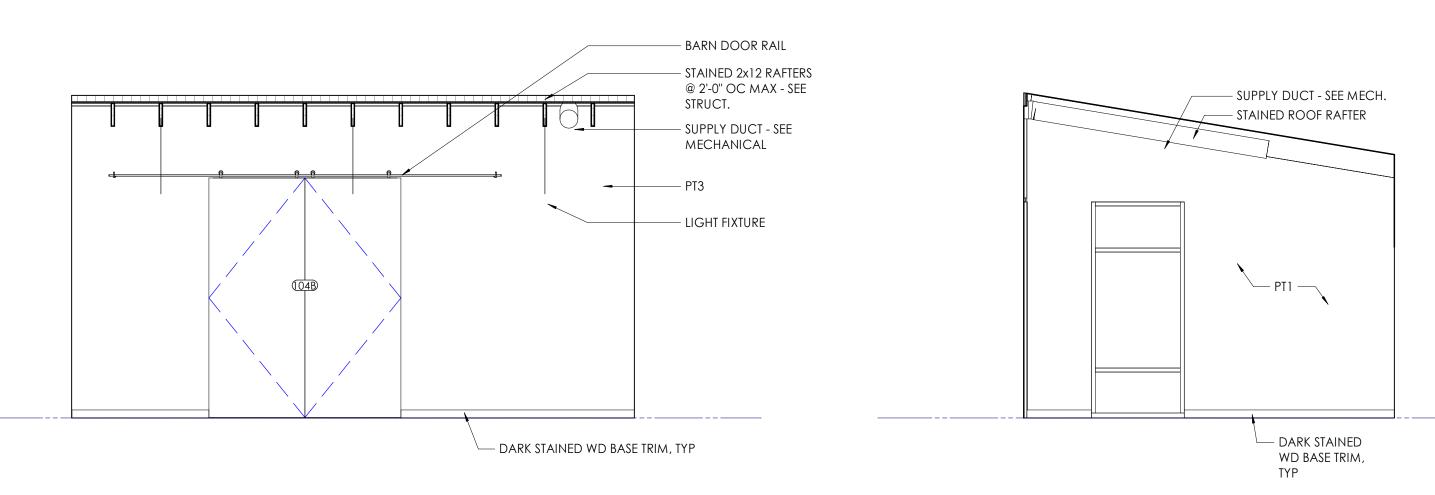


EXHIBIT 101 SOUTH (A801) 1/4" = 1'-0"



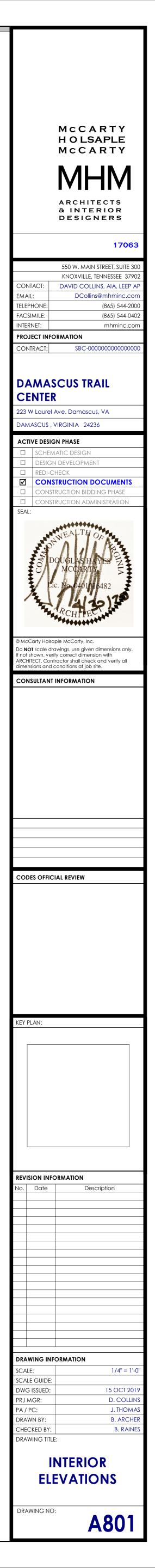


6 TRAINING 104 NORTH A801 1/4" = 1'-0"

7 TRAINING 104 EAST A801) 1/4" = 1'-0"

— 5/8" GWB CLG OVER 7/8" HAT CHANNEL OVER SCISSOR TRUSS

8 TRAINING 104 SOUTH A801 1/4" = 1'-0"



R	OOM INFORMATION		WALL		WALL FINISHES			MILL	VORK		
NUMBER	NAME	FLOOR	BASE	NORTH	EAST	SOUTH	WEST	HORZ	VERT	CLG	NOTES
ist floor											
101	EXHIBIT HALL	PFT 1	WDB	PT 1, PT 2	PT 1, PT 2, WD 2	PT 1, PT 2	PT 1, PT 2			GYP	
102	GIFT SHOP	PFT 1	WDB	PT 1, PT 2	PT 1, PT 2	PT 1	PT 1, PT 2			GYP	
103	INFORMATION	PFT 1	WDB	PT 1, PT 2	PT 1, PT 2	PT 1, PT 2	PT 1, PT 2	QTZ, WD 3	WD 1, PFT	GYP	
103B	STORAGE	PFT 1	RWB	PT 2	PT 2	PT 2	PT 2			GYP	
104	TRAINING	PFT 1	WDB	PT 1	PT 3	PT 1	PT 1			OPEN	
105	CORRIDOR	PFT 1	WDB	PT 2	PT 2	PT 2	PT 2			GYP	
106	OFFICE	PFT 2	WDB	PT 1	PT 3	PT 3	PT 1			GYP	
107	ELEC.	PFT 2	RWB	PT 1	PT 1	PT 1	PT 1			GYP	
108	RESTROOM	PFT 2	-	PT 2, PWT 1	PT 2, PWT 1	PT 2, PWT 1	CWT 1			GYP	PWT 1 ONLY UP TO 6'0" A.F.F.
109	RESTROOM	PFT 2	-	PT 2, PWT 1	CWT 1	PT 2, PWT 1	PT 2, PWT 1			GYP	PWT 1 ONLY UP TO 6'0" A.F.F.

FINISH PLAN LEGEND

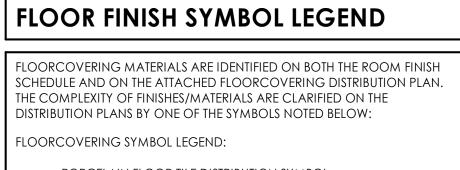
PFT 1

PFT 2

SC SC

BINDING EDGE

KEY NAME	MATERIAL	SPECIFICATION	LAST REVISION
ABBREVIATION	2		
GYP	GYPSUM WALL BOARD		
FLOOR FINISHE			
PFT 1	PORCELAIN FLOOR TILE	FLORIDATILE, COLLECTION: BERKSHIRE, COLOR: 25555 OLIVE, 6"X24", INSTALLED RUNNING BOND	
PFT 2	PORCELAIN FLOOR TILE	FLORIDATILE, COLLECTION: NY2LA, COLOR: NY230 RIVERSIDE STEEL, 12"X24", INSTALLED RUNNING BOND	
BASE/TRIM FINIS			1
RWB	RUBBER WALL BASE	JOHNSONITE, 4" STANDARD RUBBER COVE BASE, COLOR: #TBD	
WDB	WOOD BASE	STAINED WOOD SIMILAR TO FLOOR TILE PFT 1, COORDINATE W/ ARCHITECT	
WALL FINISHES			
CWT 1	CERAMIC WALL TILE	DALTILE, SEMI-GLOSS GROUP 4, COLOR: #Q093 FIRE BRICK, 3"X6", INSTALLED VERTICAL STACK BOND	
PT 1	PAINT	SHERWIN WILLIAMS, COLOR: #SW7005 PURE WHITE, EGGSHELL FINISH (WHITE)	
PT 2	PAINT	SHERWIN WILLIAMS, COLOR: #SW7015 REPOSE GRAY, EGGSHELL FINISH (COOL GRAY)	
PT 3	PAINT	SHERWIN WILLIAMS, COLOR: #SW7673 PEWTER CAST, EGGSHELL FINISH (WARM GRAY)	
PT 4	PAINT	SHERWIN WILLIAMS, COLOR: #SW6222 RIVERWAY, EGGSHELL FINISH (BLUE)	
PT 5	PAINT	SHERWIN WILLIAMS, COLOR: #SW6334 FLOWER POT, EGGSHELL FINISH (RED)	
PWT 1	PORCELAIN WALL TILE	FLORIDATILE, COLLECTION: NY2LA, COLOR: NY230 RIVERSIDE STEEL, 12"X24", INSTALLED RUNNING BOND	
WD 2	WOOD	SALVAGED WOOD (BY OWNER, N.I.C.)	
MILLWORK FINI	SHES		1
QTZ	QUARTZ	WILSONART, COLOR: #Q1009 GREY LAKE, 3CM	
WD 1	WOOD	WHITE BIRCH, CLEAR COATED	
WD 3	WOOD	WOOD SLAB, COORDINATE W/ ARCHITECT	
CEILING FINISH	ES		1
GYP	GYP BOARD CEILING	TO BE PAINTED PT 1	
MISCELLANEOU	Z		
GT 1	GROUT	TEC POWER GROUT, 1/8", COLOR: #994 DARK WALNUT (TO BE USED WITH PFT 1)	
GT 2	GROUT	TEC POWER GROUT, 1/8", COLOR: #939 MIST (TO BE USED WITH PFT 2 AND PWT)	
GT 3	GROUT	TEC POWER GROUT, 1/16", COLOR: #949 SILVERADO (TO BE USED WITH CWT)	





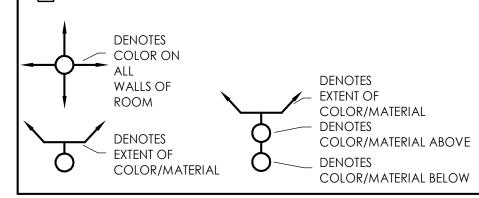
SEALED CONCRETE

WALL FINISH SYMBOL LEGEND

WALL COVERING MATERIALS ARE IDENTIFIED ON BOTH THE ROOM FINISH SCHEDULE AND ON THE ATTACHED WALL COVERING DISTRIBUTION PLAN. THE COMPLEXITY OF FINISHES/MATERIALS ARE CLARIFIED ON THE DISTRIBUTION PLANS BY ONE OF THE SYMBOLS NOTED BELOW: WALL COVERING SYMBOL LEGEND:

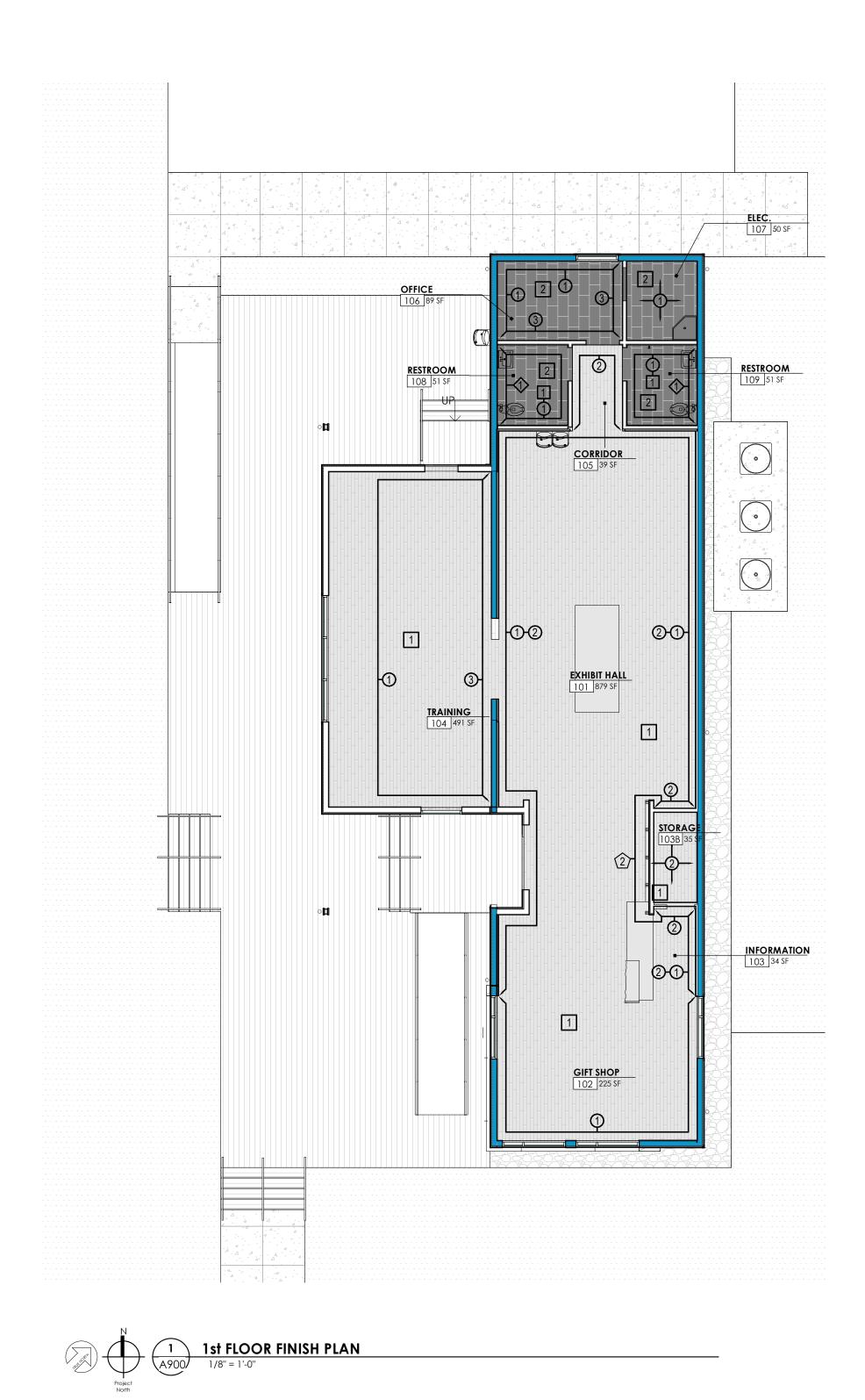
- PAINT DISTRIBUTION SYMBOL MATERIAL CODE
- CERAMIC WALL TILE DISTRIBUTION SYMBOL
- PORCELAIN WALL TILE DISTRIBUTION SYMBOL

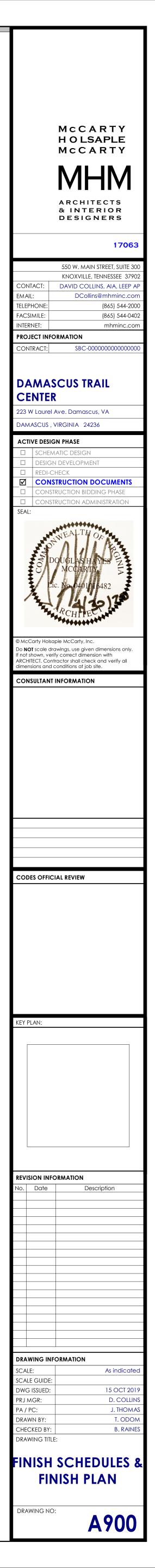
WOOD WALL DISTRIBUTION SYMBOL



FINISH NOTES:

- 1. FINISH SCHEDULE ASSUMES PLAN NORTH.
- 2. SEE FLOOR & WALL FINISH PLANS FOR MATERIAL LOCATIONS.
- 3. ALL SAMPLES TO BE SUBMITTED TO ARCHITECT IN DUPLICATE FOR APPROVAL.
- 4. SEE INTERIOR ELEVATIONS FOR PAINT COLOR LOCATIONS.





	LOAD CHART	
BUILDING CODE		
	2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE	
	PART I - VIRGINIA CONSTRUCTION CODE	
	2015 INTERNATIONAL BUILDING CODE	
	ASCE 7-10	
RISK CATEGORY	2015 IBC TABLE 1604.5	II
SLAB ON GRADE		
	NOT DESIGNED FOR CONCENTRATED LOADS SUCH AS RACKS OR FORK TRUCKS.	100 PSF
FLOOR LIVE LOAD	LIVE LOAD REDUCTION HAS NOT BEEN USED	ASCE 7 - TABLE 4-1
	INTERIOR ELEVATED FLOORS	100 PSF
	EXTERIOR DECK	100 PSF
ROOF LIVE LOAD	MINIMUM UNIFORM DESIGN LOAD	20 PSF
	MINIMUM CONCENTRATED LOAD (ALL PRIMARY ROOF MEMBERS)	300 LBS
SNOW		
	SNOW IMPORTANCE FACTOR, Is	1.0
	GROUND SNOW LOAD, Pg	25 PSF
	FLAT ROOF SNOW LOAD, Pf	18 PSF
	SNOW EXPOSURE FACTOR, Ce	1.0
	THERMAL FACTOR, Ct	1.0
	SLOPE FACTOR, Cs	1.0
	RAIN ON SNOW SURCHARGE	0 PSF
WIND	PROCEDURE	
	PROCEDURE	DIRECTIONAL (CH. 27 ASCE 7
	BASIC WIND SPEED, V	120 MPH
	ALLOWABLE STRESS DESIGN WIND SPEED, Vasd	93 MPH
		B +/-0.18
	INTERNAL PRESSURE COEFFICIENT, GCpi COMPONENTS & CLADDING	SEE CHART
SEISMIC	COMPONENTS & CLADDING	SEE CHART
	SEISMIC IMPORTANCE FACTOR, le	1.0
	MAPPED SPECTRAL RESPONSE, Ss	27.40%
	MAPPED SPECTRAL RESPONSE, S1	9.60%
	SITE CLASS	D
	SPECTRAL RESPONSE COEFFICIENT, Sds	28.90%
	SPECTRAL RESPONSE COEFFICIENT, Sd1	15.40%
	SEISMIC DESIGN CATEGORY	В
	SEISMIC-FORCE RESISTING SYSTEM	ASCE 7 - TABLE 12.2-1
		LIGHT FRAME WALLS WITH WOOD PANELS
	SEISMIC RESPONSE COEFFICIENT, Cs	0.04
	SEISMIC MODIFICATION FACTOR, R	6.5
	ANALYSIS PROCEDURE	EQ. LATERAL FORCE
	DESIGN BASE SHEAR	4 KIPS

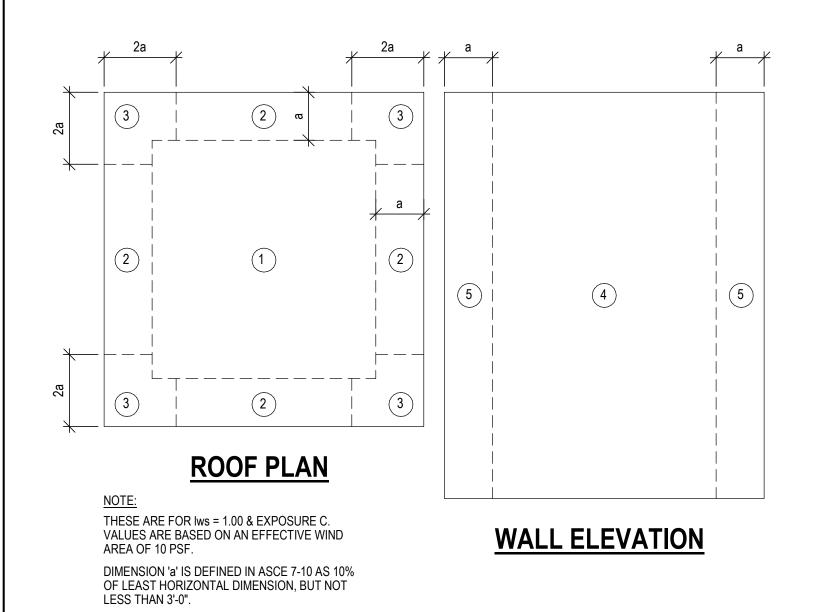
				COMPONENTS (OVER 1 SQUARE FOOT) 50 LBS	
--	--	--	--	--	--

50 PLF

UNIFORM LOAD - ANY DIRECTION - APPLIED TO TOP

ROOF		SURFACE PRESSURE (PSF)								
AREA	10 SF	50 SF	100 SF	200 SF	300 SF					
NEGATIVE ZONE 1	-23.7 PSF	-22.2 PSF	-21.5 PSF	-21.5 PSF	-21.5 PSF					
NEGATIVE ZONE 2	-41.3 PSF	-33.6 PSF	-30.3 PSF	-30.3 PSF	-30.3 PSF					
NEGATIVE ZONE 3	-61.0 PSF	-51.8 PSF	-47.9 PSF	-47.9 PSF	-47.9 PSF					
POSITIVE ALL ZONES	16.0 PSF	16.0 PSF	16.0 PSF	16.0 PSF	16.0 PSF					
OVERHANG ZONE 1 & 2	-48.3 PSF	-48.3 PSF	-48.3 PSF	-48.3 PSF	-48.3 PSF					
OVERHANG ZONE 3	-81.2 PSF	-62.8 PSF	-54.9 PSF	-54.9 PSF	-54.9 PSF					
a	= 3.7 ft									

WALLS	SURFACE PRESSURE (PSF)								
AREA	10 sf	50 sf	100 sf	200 sf	500 sf				
NEGATIVE ZONE 4	-28.1 PSF	-25.4 PSF	-24.2 PSF	-23.1 PSF	-21.5 PSF				
NEGATIVE ZONE 5	-34.7 PSF	-29.3 PSF	-26.9 PSF	-24.6 PSF	-21.5 PSF				
POSITIVE ZONE 4 & 5	25.9 PSF	23.2 PSF	22.0 PSF	20.9 PSF	19.3 PSF				



RAILINGS

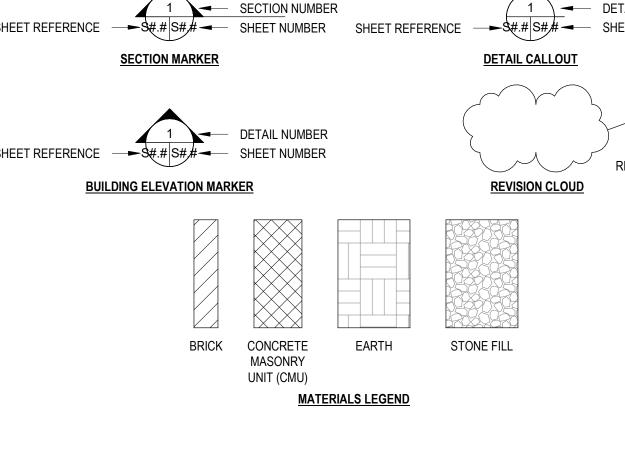
					STRUCTURAL	ABBREVIA	TIONS
GENERAL NOTES:	CONCRETE AND REINFORCEMENT:			ABBREVIATION AFF	DESCRIPTION ABOVE FINISH FLOOR	ABBREVIATION	DESCRIPTION LONG LEG VERTICAL
A. SPECIAL INSPECTIONS ARE REQUIRED BY THE BUILDING CODE. REFER TO PROJECT SPECIFICATIONS, AND SCHEDULE OF SPECIAL	A. GENERAL CONCRETE SHALL BE:			AFF	ABOVE FINISH FLOOR	LLV LSH	LONG LEG VERTICAL
INSPECTIONS FOR SPECIFIC REQUIREMENTS.				ALT	ALTERNATE	LSV	LONG SIDE VERTICAL
B. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL		2I) (0/) (IN.)	MAX W/C RATIO	ANC	ANCHOR	LVL	LAMINATED VENEER LU
DRAWINGS AND SPECIFICATIONS.		(⁷⁰⁾ (+/1 1/2)		ARCH	ARCHITECT/ARCHITECTURE	MANUF	MANUFACTURER
C. CONTRACTOR SHALL VERIFY THE REQUIREMENT OF OTHER TRADES FOR SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND ADDITIONAL ITEMS TO BE PLACED OR SET SIMULTANEOUS WITH STRUCTURAL WORK.	FOUNDATIONS NW 300		0.50	BLDG B/DECK	BUILDING BOTTOM OF DECK	MATL MAX	MATERIAL MAXIMUM
	MISCELLANEOUS NW 300 FIELD SAMPLING SHALL BE OBTAINED FROM MIDDLE OF		0.50	BOT	BOTTOM	MCJ	MASONRY CONTROL JO
D. DETAILS SHOWN ARE TYPICAL AND APPLY TO SIMILAR OR LIKE CONDITIONS.				BRG	BEARING	MECH	MECHANICAL
E. DO NOT SCALE DRAWINGS, FOLLOW DIMENSIONS ON PLANS.	 NORMAL WEIGHT (NW) CONCRETE SHALL BE 145 – 150 PCF SLUMPS ABOVE ARE PRIOR TO ADDITION OF PLASTICIZERS 			C-C	CENTER TO TCENTER	MID	MIDDLE
F. DO NOT CHANGE THE SIZE, LENGTH OR SPACING OF STRUCTURAL ELEMENTS WITHOUT APPROVAL OF STRUCTURAL ENGINEER.	APPROVED ADDITIVES SHALL BE 8 INCHES.	S OR MID RANGE WATER REDU	ER. MAXIMUM SLUWF AFTER	CJ	CONTROL JOINT CENTER LINE	MIN MOS	MINIMUM MIDDLE OF SLAB
G. DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF	 MATERIALS: CEMENT: ASTM C 150 TYPE I/II 			CL CLR		MOS	MIDDLE OF SLAB
CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH OSHA SAFETY REGULATIONS.	FLY ASH: ASTM C618 CLASS C OR F, 20% MAX. AGGREGATE: ASTM C33, GRADED, 1-1/2 INCH MAX			CMU	CONCRETE MASONRY UNIT	(N)	NEW
H. CONTRACTOR SHALL VERIFY FLOOR / ROOF MOUNTED MECHANICAL EQUIPMENT WEIGHTS, FLOOR / ROOF / WALL OPENINGS SIZES				COL	COLUMN	NIC	NOT IN CONTRACT
AND LOCATIONS, AND SIZES OF EQUIPMENT PADS, WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SUPPLIERS. NOTIFY ENGINEER IF LOADS ARE HIGHER THAN THOSE SHOWN.	B. CONCRETE WORK SHALL BE IN FULL ACCORDANCE WITH: AMERICAN CONCRETE INSTITUTE (ACI) 301, 315, AND 318			CONC	CONCRETE	NS	
I. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS INCLUDING DIMENSIONS TO EXISTING STRUCTURES. GRADES, UTILITIES.	CRSI RECOMMENDED PRACTICE OF PLACING REINFORCIN ACI 117 FOR PLACEMENT TOLERANCES (CONCRETE AND R			CONT COORD	CONTINUOUS COORDINATE	NTS OC	NOT TO SCALE ON CENTER
FRAMING, FOUNDATIONS AND HIDDEN CONDITIONS AND COORDINATE THESE CONDITIONS WITH THE CONTRACT DOCUMENTS.	ACI 306 AND ACI 305 COLD/HOT WEATHER CONCRETING	EINFORGEMENT)		CSJ	CONSTRUCTION JOINT	OPH	OPPOSITE HAND
NOTIFY THE ARCHITECT AND ENGINEER OF EXISTING CONDITIONS THAT ARE NOT AS SHOWN.	ACI 308.1 FOR CURING OF CONCRETE ACI 309R-05 GUIDE FOR CONSOLIDATION OF CONCRETE			CTJ	CONTROL JOINT	OPNG	OPENING
J. PENETRATIONS: FOLLOW APPROPRIATE PENETRATION DETAIL ON DOCUMENTS AND REFER TO NOTES. SHOULD CORING OR CUTTING BE REQUIRED:	ACI "MANUAL OF STANDARD PRACTICES FOR DETAILING R	EINFORCED CONCRETE STRUC	IURES".	CU	CONDENSING UNIT	PERIM	PERIMETER
INSPECT BOTH SIDES OF WALL/FLOOR FOR BEAMS OR OTHER ELEMENTS THAT CAN BE HARMED BY PENETRATION. ADJUST	C. SLABS ON GRADE			CS	COLUMN STRIP	PL	PLATE
PENETRATIONS TO MISS STRUCTURAL ELEMENTS.	 CEMENTITIOUS MATERIAL CONTENT IN ACCORDANCE WITH 2. SAND: NATURAL 	H TABLE 6.2 OF ACI 302.1.		DBL DIA	DOUBLE DIAMETER	PLCS PLYWD	PLACES
K. BEAMS/JOISTS/COLUMNS: DO NOT CUT/CORE/DAMAGE EXISTING BEAMS/JOISTS/COLUMNS OR OTHER MAJOR STRUCTURAL	3. MODULUS OF RUPTURE (MOR) PER ASTM C 496:			DIA	DIAMETER	PSI	PLYWOOD POUNDS SQUARE INCH
ELEMENTS OF THE BUILDING UNLESS SPECIFICALLY DETAILED. SHOULD ACCIDENTAL DAMAGE OCCUR, CONTACT STRUCTURAL ENGINEER PRIOR TO PROCEEDING.	3000 PSI MIX – 492 PSI			DN	DOWN	PSF	POUNDS SQUARE FOO
	 D. REINFORCING: 1. ASTM A615, GRADE 60 FOR DEFORMED BARS 			DWGS	DRAWINGS	R	RADIUS
	 DEVELOPMENT LENGTH FOR REINFORCEMENT(db = BAR D 	IAMETER):		DWL(S)	DOWEL (S)	PT	PRESSURE TREATED
	STRENGTH DEVELOPMENT LENGTH, LE)		(E)	EXISTING EACH	RC	ROUGH CUT
EARTHWORK FOR STRUCTURES:	#6 AND SMALLER #7 AND LARGE 3000 PSI 44 db 55 db	ER HOOK, LDH 22 db		EA	EACH EACH FACE	RD REF	ROOF DRAIN REFERENCE
A. SUBGRADES AND COMPACTED FILL SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER REGISTERED AS A PROFESSIONAL				EJ	EXPANSION JOINT	REINF	REINFORCEMENT
ENGINEER IN THE COMMONWEALTH OF VIRGINIA TO VERIFY CONFORMANCE.	 DEVELOPMENT LENGTH MINIMUM OF 12 INCHES. HOOK DE ADJUSTMENTS: 		6 INCHES. DEVELOPMENT LENGTH	EL	ELEVATION	REQD	REQUIRED
B. SOIL DESIGN PARAMETERS:	TOP BAR REINFORCING: ABOVE MULTIPLIED BY 1.3. CLASS B TENSION LAPS: ABOVE MULTIPLIED BY 1.3.			ELEV	ELEVATOR	SF	STEPPED FOUNDATION
MIN. ALLOWABLE BEARING PRESSURE 2000 PSF UNIT WEIGHT OF SOIL 110 PCF	4. SPLICES SHALL BE CLASS B TENSION SPLICES UNLESS NO	TED. MECHANICAL OR WELDED	SPLICES SHALL DEVELOP 125% OF	EOD	EDGE OF DECK	SHT	SHEET
	THE BAR YIELD STRENGTH. 5. CONCRETE CLEAR COVER SHALL BE (UNLESS NOTED OTH	ERWISE):		EQ EQ SP	EQUIPMENT EQUAL SPACE	SIM	SIMILAR SLOPE
C. COMPACTED FILL/BACKFILL: 1. PROOFROLL SUBGRADE PER BELOW	BELOW GRADE (UNFORMED) 3"			EW	EACH WAY	SLH	SHORT LEG HORIZONT
 PERFORM DENSITY AND MOISTURE TESTING: MINIMUM OF ONE FIELD DENSITY TEST PER 2000 SQ FT PER LIFT PLACED (MINIMUM OF ONE TEST PER LIFT) 	BELOW GRADE (FORMED) 2" EXPOSED TO WEATHER OR WATER 2"			EXIST	EXISTING	SLV	SHORT LEG VERTICAL
3. PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS FOR GENERAL BACKFILL/FILL, 4 INCHES IN THICKNESS USING	 PROVIDE DOWELS IN FOUNDATIONS TO MATCH THE SIZE A REINFORCEMENT. 	AND QUANTITY AS VERTICAL WA	LL, PIER OR COLUMN	EXP	EXPANSION	SPA	SPACES
LIGHT WEIGHT EQUIPMENT (LESS THAN 3000-LBS). 4. COMPACTED TO AT LEAST 96 PERCENT MAXIMUM DRY DENSITY PER ASTM D-698, STANDARD PROCTOR.	7. PROVIDE CORNER BARS AT CORNERS AND INTERSECTING	WALLS.		EXT		SPECS	SPECIFICATIONS
5. CONSIST OF MATERIALS CLASSIFYING SC, SM, SP, SW, GC, GM, GP OR GW PER ASTM D-2487	E. CONCRETE FINISHES:			FD FDN	FULL DEPTH CLIP CONNECTION FOUNDATION	SS STD	STAINLESS STEEL STANDARD
 MOISTURE CONTENT WITHIN (2) PERCENT OF OPTIMUM SHALL BE FREE OF BOULDERS, ORGANICS, TRASH, PARTICLES OF 3 INCHES OR MORE IN DIAMETER, AND OTHER DELETERIOUS 	1. PROVIDE 1-INCH CHAMFER AT EXPOSED CONCRETE CORN	IERS		FF	FINISH FLOOR	STR	STRUCTURAL
MATERIAL 8. PLASTICITY INDEX LESS THAN (20)	F. CONDUITS, PIPES OR DUCTS (EXCEEDING ONE-THIRD THE FOU			FIN FLR	FINISH FLOOR	T/FDN	TOP OF FOUNDATION
9. USE ONLY MECHANICAL HAND TAMPS OR SMALL VIBRATORY COMPACTORS/ROLLERS, NOT EXCEEDING 3000 POUNDS WEIGHT,	SHALL NOT BE PLACED WITHIN THE THICKNESS OF THE FOUND MECHANICAL AND/OR ELECTRICAL PORTION OF THE CONTRAC			FRMG	FRAMING	T&B	TOP AND BOTTOM
WHEN CLOSER TO BELOW GRADE WALLS THAN A DISTANCE EQUAL TO THE HEIGHT OF THE BACKFILL ABOVE THE TOP OF THE FOUNDATIONS (1:1 SLOPE)	PIPES AND DUCTS SHALL BE LOCATED BETWEEN THE LAYERS DETAILS. DETAIL ALL SUCH PENETRATIONS AND EMBEDDED IT			FS	FAR SIDE	THK	THICKNESS/THICK
 SUBGRADES REQUIRING UNDERCUTTING SHALL BE FILLED WITH FLOWABLE FILL (200 PSI MINIMUM) OR BACKFILLED WITH COMPACTED FILL TO THE ORIGINAL DESIGN SUBGRADE ELEVATION. 				FV GA	FIELD VERIFY GAUGE/GAGE	TOF TOM	TOP OF FOUNDATION TOP OF MASONRY
	G. REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE ACCUR/ BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT B		,	GALV	GALVANIZED	TOS	TOP OF STEEL
 D. PROOFROLLING: 1. NATURAL SUBGRADES BELOW AREAS TO RECEIVE COMPACTED FILL 	H. EPOXY GROUTING OF DEFORMED BAR DOWELS OR ANCHOR R			HORIZ	HORIZONTAL	TS	THICKENED SLAB
 USE A LOADED DUMP TRUCK OR RUBBER TIRED ROLLER. AREAS WHICH EXHIBIT EXCESSIVE PUMPING, WEAVING OR RUTTING SHALL BE UNDERCUT, ALLOWED TO DRY AND 	ACCORDING TO EPOXY MANUFACTURERS RECOMMENDATION			HSS	HOLLOW STRUCTURAL SHAPE	TYP	TYPICAL
RECOMPACTED OR EXCAVATED AND REPLACED WITH COMPACTED FILL OR OPEN GRADED STONE.	SPECIFIC CONCRETE STRENGTH AT POINT OF ATTACHMENT. 1. APPLY LOADS ONLY AFTER EPOXY HAS REACHED FULL ST	RENGTH.		INFOR		UNO	UNLESS NOTED OTHER
E. UNSUITABLE, LOOSE OR SOFT SOIL SHALL BE REMOVED FROM THE EXCAVATION PRIOR TO PLACING FILL, STONE OR CONCRETE.	2. ALL PARTS OF ANCHORING SYSTEM (RODS, NUTS, WASHE	RS, BITS, EPOXY, ETC.) SHALL E	E FROM A SINGLE SUPPLIER.	INT JST	INTERIOR JOIST	VERT VIF	VERTICAL VERIFY IN FIELD
DISTURBED, UNSUITABLE, OR EXCAVATED MATERIAL OCCURRING BELOW 45 DEGREES FROM HORIZONTAL BEGINNING AT THE BOTTOM MOST OUTER EDGE OF WALLS OR FOUNDATIONS SHALL BE REPLACED WITH COMPACTED FILL.	3. WORK MUST BE PERFORMED BY ACI CERTIFIED EPOXY AN	ICHOR INSTALLER.		LBS	POUNDS	W/	WITH
				LD	DEVELOPMENT LENGTH	WP	WORK POINT
F. EXCAVATIONS SHALL BE BRACED OR SLOPED IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. THE CONTRACTOR SHALL STAGE CONSTRUCTION SEQUENCE SO AS NOT TO UNDERMINE AN ADJACENT BUILDING, PREVIOUSLY CAST FOUNDATION, SLOPE OR OTHER STRUCTURE DURING THE CONSTRUCTION.				LG LLH	LONG LONG LEG HORIZONTAL	WWF WO#	WELDED WIRE FABRIC WEB OPENING (SEE SC
G. BLASTING IS NOT PERMITTED.							
 H. IF NON-UNIFORM ROCK OR DISINTEGRATED ROCK IS ENCOUNTERED AT FOUNDATION DESIGN SUBGRADE ELEVATION, UNDERCUT THIS MATERIAL ONE FOOT MINIMUM AND REPLACE WITH COMPACTED FILL. 							
 EVIDENCE OF KARST ACTIVITY OR SINKHOLES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCCEDING. 							
J. SLOPE EXCAVATIONS, INSTALL SWALES AND/OR DEWATERING PUMPS TO MAINTAIN DRY SOIL CONDITIONS AND PREVENT STANDING WATER IN EXCAVATIONS FOR FOUNDATIONS AND SLABS.				GENERA	AL NOTES FOR S	ECTIONS .	AND DETA
				SHEET REFERENCE	SHEET NUMBER	SHEET REFERENCE	DETAIL N S#.# S# # - SHEET N ETAIL CALLOUT
STRUCTURAL STEEL:						= ^	
 A. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH: 1. ANSI/AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" - ALLOWABLE STRESS DESIGN 2. AISC 303-10 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" 3. AWS D1.1 "STRUCTURAL WELDING CODE - STEEL" 4. AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. 				SHEET REFERENCE	DETAIL NUMBER S## S## DETAIL NUMBER SHEET NUMBER		REVIS REVISION CLOUD NU

- B. MATERIALS SHALL COMPLY WITH:
 1. STRUCTURAL STEEL SHAPES (EXCEPT W) ASTM A36 2. STRUCTURAL BOLTS ASTM A325 ASTM A563 3. STRUCTURAL NUTS
- 4. STRUCTURAL WASHERS 5. ANCHOR RODS
- ASTM F1554 GRADE 36 C. AISC PLANT CERTIFICATION IS NOT A REQUIREMENT.

- D. COATINGS: 1. PRIME PAINT STRUCTURAL STEEL
- 2. STRUCTURAL STEEL EXPOSED TO WEATHER, WATER, ELEMENTS, EXTERIOR TO PRIMARY BUILDING ENVELOPE (OUTSIDE OF EXTERIOR SHEATHING/INSULATION LAYER) OR AS INDICATED SHALL BE GALVANIZED PER ASTM A-123. 3. STEEL BELOW GRADE SHALL BE COATED WITH HEAVY CONSTRUCTION GRADE MASTIC MATERIALS.

ASTM F436

- E. WELDING SHALL BE: 1. PERFORMED BY AWS CERTIFIED WELDERS
- 2. USE E70XX ELECTRODES FOR A36 STEEL 3. ELECTRODES PER TABLE 4.1 OF ANSI/AWS D1.1 FOR OTHER GRADES
- F. CONNECTIONS SHALL BE:
- 1. IN ACCORDANCE WITH AISC SPECIFICATIONS
- MINIMUM BOLT SIZE SHALL BE 3/4-INCH A325 3. SHALL BE IN ACCORDANCE WITH PARTS 9 THROUGH 15 OF THE STEEL CONSTRUCTION MANUAL.
- 4. BOLTS SHALL BE INSTALLED SNUG TIGHT UNLESS INDICATED OTHERWISE
- G. PROTECTION OF EXISTING BUILDING: CONTRACTOR SHALL PROTECT EXISTING BUILDING DURING STRUCTURAL MODIFICATIONS. 1. PROTECT ALL AREAS FROM WELDING SPARKS BY USE OF WELDING MATS OR OTHER NON-FLAMABLE PROTECTIVE DEVICES.



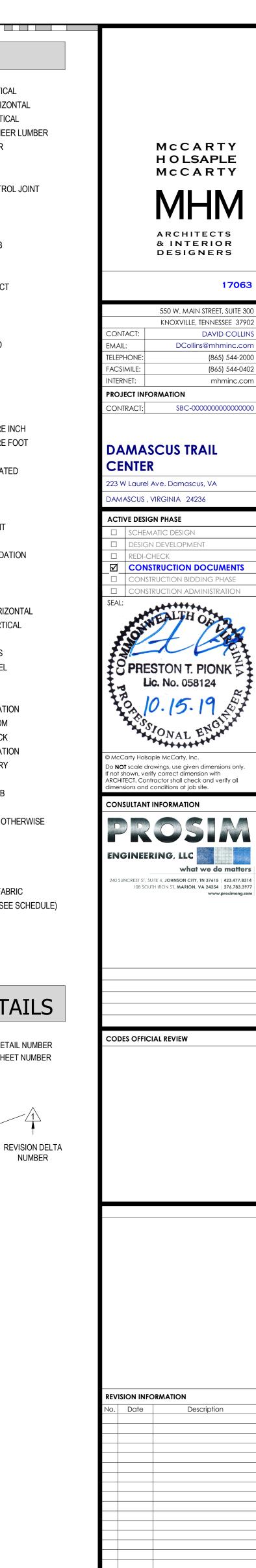
₽\$	RE-ENTRANT BARS (2) #4 x 4'-0" LG. CENTER ON CORNER
С	CAMBER

- C CAMBER
- #k CONNECTION LOAD (KIPS)
- F## FOUNDATION TYPE (SEE SCHEDULE)
- C# COLUMN DESIGNATION

S5.0

STRUCTURAL SHEET INDEX SHEET NUMBER SHEET NAME STRUCTURAL NOTES, LEGEND & ABBREVIATIONS S0.0 SPECIAL INSPECTIONS AND STRUCTURAL NOTES S0.1 S1.0 S2.0 FOUNDATION & FLOOR FRAMING PLANS ROOF FRAMING PLANS, ELEV. & SECTIONS S3.0 STRUCTURAL SECTIONS

TYPICAL DETAILS



DRAWING INFORMATION As indicate scale: SCALE GUIDE: DWG ISSUED: 10/15/20 PRJ MGR: PA / PC: DRAWN BY: CHECKED BY: DRAWING TITLE: STRUCTURAL NOTES, LEGEND & **ABBREVIATIONS**

SO.O

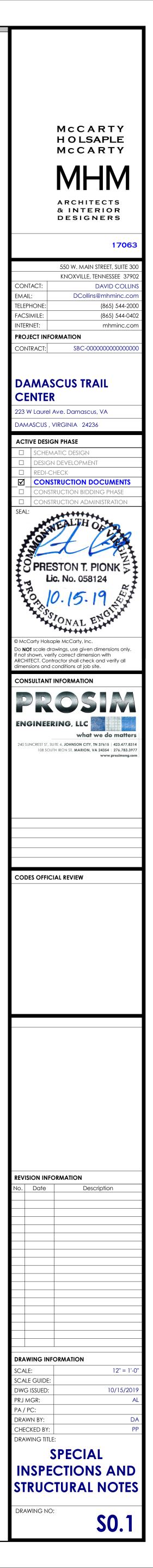
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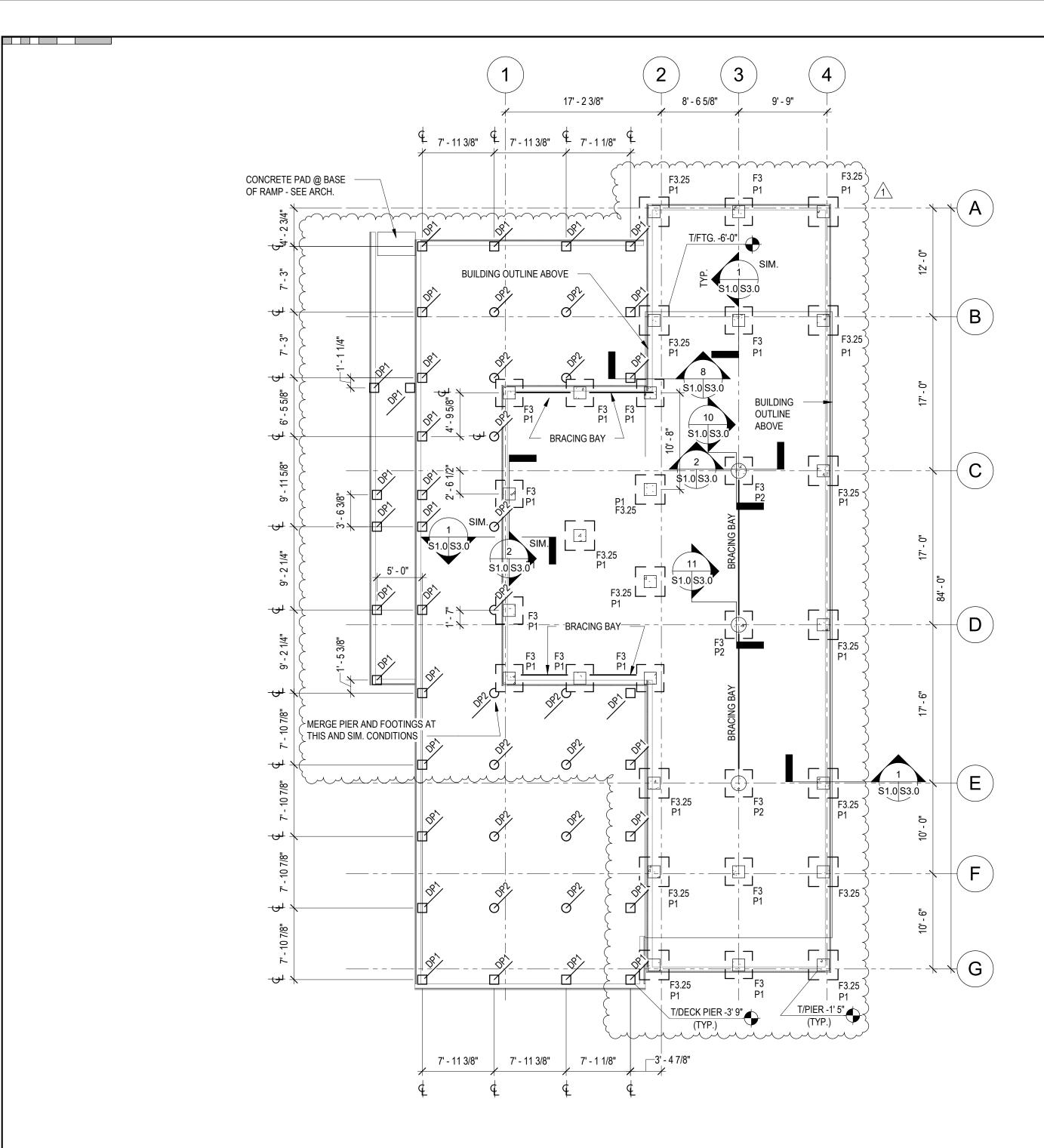
			20	12 IRC 2	SIRUCI	IUKAL	SPECIA	L INSPECTIONS					
MATERIAL /		THIS			PECTION / TEST B		MATERIAL /		THIS		11	NSPECTION / TEST B	BY *
ACTIVITY	TYPE OF INSPECTION	PROJ.?	REFERENCE	THIRD PARTY INSPECTOR	A/E OF RECORD	CONTRACTOR / SUPPLIER	ACTIVITY	TYPE OF INSPECTION	PROJ.?	REFERENCE	THIRD PARTY INSPECTOR		CONTRACT SUPPLIE
OUNDATIONS							WOOD & LIGHT GA	GE STEEL CONSTRUCTION					
oil	Classify & Test Existing Soils & Fill Materials	Y	Specs/Notes, 1705.6	X (Spot)			Fabrication	Quality Control Inspection Of Shop	N	1704.2.5		2	X, 1
oil	Compaction Of Fill Materials	Y	Specs/Notes, 1705.6	X			Wood	Grade Stamp	Y	Specs/Notes, 1703.5		X (Spot)	5
oil	Bearing At Bottom Of Footing Excavations	Y	Specs/Notes, 1705.6	X (Spot)			Wood/Light Gage	Fastening Per Code And Drawings	Y	1705.2.2.1.1, 1705.5.1		X (Spot)	
Piles	Driving Records, Tip & Cutoff Elevations	N	1705.7, 1705.9	X	4		Trusses	Shop Drawings	Y	Specs/Notes		X	
Piles Caissons	Load Test Drilling, Size, Bearing Conditions, Materials	N	1705.7 1705.8, 1705.3	X X	4		Trusses Laminates	Truss Placement, Bracing and Fastening & Anchorage Shop Drawings	Y Y	Specs/Notes, 1705.5.2 Specs/Notes		X (Spot)	
81550115	Drining, Size, Bearing Conditions, Materials	N	1705.0, 1705.5	X			Laminates	Identification Per Shop Drawings	T Y	Specs/Notes		X (Spot)	5
ONCRETE CONST	RUCTION						Sheathing	Grade Stamp, Thickness & Fastening	Y	Specs/Notes, 1705.5.1	X	X (Spot)	
Concrete	Ready-Mix Plant Quality Control	N	Specs/Notes, 1704.2.5		2	X, 1							
Concrete	Mix Design Tests And Certificates	Y	Specs/Notes, 1705.3		Х	X, 1	FIREPROOFING						
einf. Steel	Shop Drawings Of Reinforcing Steel	Y	Specs		Х		Spray-on	Manufacturer's Data	N	Specs/Notes		X	3
einf. Steel	Placement Of Reinforcing Steel	Y	1705.3	X (Spot)	X (Spot)		Spray-on	Surface Conditions	N	1705.13.2	X		
einf. Steel	Welding	N	1705.2.2	X (Spot)	2	X,1	Spray-on	Application	N	1705.13.3	X		3
ormwork	Shape, Location, Dimensions	N	1705.3	X (Spot)		Х	Spray-on	Thickness	N	1705.13.4	X		
ormwork	Removal and Reshoring	N V	1705.3	X (Spot)	A		Spray-on	Density Bond Strongth	N N	1705.13.5	X		
oncrete	Test Cylinders & Strength Test Mix Proportions & Mix On Delivery Tickets	r v	1705.3, 1910.10 1705.3	X (Spot)	4		Spray-on Mastic/Intumescent	Bond Strength Fire-Resistant Coatings - Materials, Application	N	1705.13.6 1705.14	X V	X (Spot)	3
	Slump Test	r Y	1705.3	X	4		GWB Fireproof	Manufacturer's Data	N	Specs/Notes	^	X	3
Concrete	Placement Procedures	Y	1705.3	X (Spot)	X (Spot)		GWB Fireproof	Placement Of Materials	N	Specs/Notes	X	X (Spot)	5
Concrete	Curing Temperatures & Techniques	Y	1705.3	X			Fire Wall Assembly	Manufacturer's Data	N	Specs/Notes, 706.2		X	3
restressed	Prestressing Procedures & Forces	N	1705.3	X	2	X,1	Fire Wall Assembly	Placement Of Materials	N	Specs/Notes, 706.2	X	X (Spot)	
restressed	Shop Drawings Of Prestressed Units	N	Specs/Notes		Х					·			
recast	Quality Control Of Manufacturer	N	1704.2.5		2	X, 1	STRUCTURAL SPE	CIAL INSPECTION NOTES:					
recast	Shop Drawings Of Precast	N	Specs/Notes		Х			upplier, ready-mixed plant or other production plant shall pro	vide certificate	es from an approved independent ins	spection, testing or qua	ality assurance agency	y attesting th
recast	Erection Of Precast	N	1705.3	X (Spot)	X (Spot)	Х	plant						
recast	Inspection Of Connections	N	1705.3	X (Spot)			a. The plant	is a certified production plant meeting the quality assurance	standards of	recognized national standards organ	nization for product.		
nchors	Anchors Cast In Concrete	Y	Specs/Notes, 1705.2.1, 1909	X (Spot)				maintains an agreement with an independent inspection or is shall be less than one every six months.	quality assura	nce agency to conduct periodic in-pla	ant quality assurance i	inspections. The frequ	uency of thes
ASONRY CONSTR									indonondont t	acting or quality appurates against f	for the work/product		
uality Assurance	Indicate Quality Assurance Level (A, B or C)	N/A	ACI 530-13, 3.1.1, 2, 3		X			has an in-shop quality assurance inspection program by an ew fabricator/supplier/producer certificates for conformance	-		-		
Clay Masonry	Certificates, Tests & Technical Data	N	ACI 530-13, Table 3.1.2	X (Spot)	X	3	_	upplier shall submit manufacturer's certificates of compliance					
Concrete Masonry	Certificates, Tests & Technical Data	N	ACI 530-13, Table 3.1.2	X (Spot)	X	3	_	ords and test results for conformance with requirements.					
Reinf. Steel	Size, Grade, Type, Location, Spacing Of Reinf Steel	N	ACI 530-13, Table 3.1.2	X (Spot)			-	1					
Inchors	Manufasturala Data	N					5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
	Manufacturer's Data	N	ACI 530-13, Table 3.1.2	X (Spot)	X	3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
Accessories	Manufacturer's Data Manufacturer's Data	N N	ACI 530-13, Table 3.1.2 Specs/Notes	X (Spot)	X X	3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
	Manufacturer's Data Mix Design And Data	N N N	,	X (Spot)		3 3 3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
Accessories Nortar & Grout Nortar & Grout	Manufacturer's Data Mix Design And Data Field Samples	N N	Specs/NotesSpecs/NotesACI 530-13, Table 3.1.2	X (Spot)	Х	3 3 3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
Accessories Nortar & Grout Nortar & Grout Nasonry Strength	Manufacturer's Data Mix Design And Data Field Samples Masonry Strength Verified	N N N N	Specs/NotesSpecs/NotesACI 530-13, Table 3.1.22105.2.2		Х	3 3 3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
Accessories Nortar & Grout Nortar & Grout Nasonry Strength Nasonry	Manufacturer's Data Mix Design And Data Field Samples Masonry Strength Verified Placement Of Units, Mortar & Accessories	N N N N	Specs/NotesSpecs/NotesACI 530-13, Table 3.1.22105.2.2ACI 530, Table 1.19.2		Х	3 3 3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
Accessories Nortar & Grout Nortar & Grout Nasonry Strength Nasonry Nasonry	Manufacturer's Data Mix Design And Data Field Samples Masonry Strength Verified Placement Of Units, Mortar & Accessories Production Of Masonry Work	N N	Specs/Notes Specs/Notes ACI 530-13, Table 3.1.2 2105.2.2 ACI 530, Table 1.19.2 ACI 530, Table 1.19.2		Х	3 3 3	5. Grade stamps	s not to be placed on wood elements that are exposed in final	project.				
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REFERENCE IBC TABLE 1604.3 (NOTE F), FOR COMPONENTS & CLADDING WIND LOAD DEFLECTIONS, MODIFY NOTE F, FOR THIS PROJECT, WHERE THE MAXIMUM REDUCTION IS TAKEN AS 0.7W.

- LOADING REFER TO LOADING INFORMATION IN STRUCTURAL NOTES
- D. PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT WHERE REQUIRED ON THE TRUSS DESIGN DRAWINGS, COMPLY WITH IBC SECTION 2303.4.1.2. TRUSS MANUFACTURER SHALL PROVIDE INFORMATION, HARDWARE AND ACCESSORIES REQUIRED FOR TRUSS BRACING AND CONNECTIONS.
- E. WOOD TRUSS FRAMING MATERIALS SHALL BE: 1. WOOD MATERIAL:
 - a. MINIMUM NO. 2 GRADE SOUTHERN PINE PER AGENCY CERTIFIED BY ALSC b. SURFACE DRY AT 19 PERCENT MAXIMUM MOISTURE CONTENT
 - 2. METAL FRAMING ANCHORS AND ACCESSORIES:
 - a. GALVANIZED G60 b. ASTM A 653, OR HSLAS TYPE A OR B
 - 3. BOLTS/NUTS: ASTM A307 / ASTM A563 4. LAG SCREWS: ANSI/ASME STANDARD B18.2.1
 - 5. WOOD SCREWS: ASME B18.6.1
 - 6. NAILS: ASTM F1667
- F. WOOD CONNECTORS BASIS OF DESIGN 1. ALL WOOD CONNECTORS TO BE MANUFACTURED BY SIMPSON STRONG TIE OR APPROVED EQUAL. TO BE CONSIDERED EQUAL, THE CONNECTOR MUST CONFIGURED SIMILAR AND HAVE THE SAME OVERALL STRUCTURAL QUALITIES AS THE SIMPSON EQUIVALENT MODEL.
- G. ALIGN WEBS OF TRUSSES, CONTRACTOR TO COORDINATE ANY UTILITIES IN TRUSSES WITH TRUSS SUPPLIER

RI	UCTURAL NOTES:
TURA	AL WOOD:
A.	FASTENING: 1. AS INDICATED ON PLANS, SECTIONS AND DETAILS WITH MINIMUM OF: a. IBC 2015 TABLE 2304.10.1
В.	MISCELLANEOUS MATERIALS SHALL COMPLY WITH: 1. STEEL PLATES ASTM A36
	a. WELDING E70XX ELECTRODES 2. BOLTS / NUTS ASTM A307 / ASTM A563
	3. LAG SCREWS ANSI / ASME STANDARD B18.2.1 4. WOOD SCREWS ASME B18.6.1 GALVANIZED
	 5. NAILS 6. ALL PRESSURE TREATED LUMBER FASTENERS ASTM F1667 GALVANIZED AISI/ASTM GRADE 316 / 305 / 304 STAINLESS
	 7. CONNECTORS TO MASONRY OR CONCRETE: a. RED HEAD TAPCON b. HILTI KWIK-CON II c. SIMPSON TITEN 2
C.	METAL FRAMING CONNECTORS AND ACCESSORIES: 1. STEEL SHEET GALVANIZED G60; ASTM A 653 OR HSLAS TYPE A OR B a. PRESSURE TREATED WOOD: STEEL SHEET GALVANIZED G185; ASTM A 653 2. SEE WOOD CONNECTION SCHEDULE
D.	SAWN LUMBER:
	 DEPT. OF COMMERCE (DOC) VOLUNTARY PRODUCT STANDARD PS 20 AMERICAN SOFTWOOD LUMBER STANDARD AMERICAN WOOD COUNCIL (AWC):
	 a. ANSI/AWC NDS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION b. NATIONAL DESIGN SPECIFICATION SUPPLEMENT
	c. AWC SDPWS SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC3. GRADE STAMP ALL LUMBER OR PROVIDE WRITTEN CONFIRMATION OF GRADE AND COMPLIANCE WITH THESE
	REQUIREMENTS a. CONCEAL STAMPS OR PROVIDE NON-STAMPED MATERIAL FOR EXPOSED LUMBER.
	 GRADE: NO. 2 (MIN.) SOUTHERN PINE (SP) PER AGENCY CERTIFIED BY AMERICAN LUMBER STANDARD COMMITTEE (ALSC)
	5. MOISTURE CONTENT: SURFACE DRY AT (19) PERCENT MAXIMUM
E.	WOOD STRUCTURAL PANELS: 1. DEPT. OF COMMERCE (DOC) VOLUNTARY PRODUCT STANDARD PS 1 STRUCTURAL PLYWOOD
	 DEPT. OF COMMERCE (DOC) VOLUNTARY PERFORMANCE STANDARD PS 2 "PERFORMANCE STANDARD FOR WOOD- BASED STRUCTURAL-USE WOOD PANELS"
	 APA PDS PANEL DESIGN SPECIFICATION AND SUPPLEMENTS AS DESCRIBED AND SPECIFIED IN IBC 2303.1.5
	 SHALL BE INSTALLED CONTINUOUS OVER TWO OR MORE SPANS WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. ALL PANEL JOINTS SHALL OCCUR OVER FRAMING.
	 PROVIDE EDGE SUPPORT WHERE INDICATED ON DRAWINGS OR AS RECOMMENDED BY ABOVE REFERENCES. 8. ROOF SHEATHING
	a. PLYWOOD b. SPAN RATING 24/0
	c. GRADE STRESS LEVEL S-3 d. SPECIES GROUP 4
	e. EXPOSURE CLASSIFICATION EXTERIOR f. THICKNESS 3/4-INCH THICK
	g. TONGUE & GROVE
	h. ATTACHMENT i. PER IBC TABLE 2304.10.1
	9. FLOOR SHEATHING
	a. PLYWOOD b. SPAN RATING 32/16
	c.GRADE STRESS LEVELS-3d.SPECIES GROUP4
	e. EXPOSURE CLASSIFICATION EXTERIOR f. THICKNESS 5/8-INCH THICK
	g. TONGUE & GROVE h. ATTACHMENT
	i. GLUE AND USE SPIRAL SHANK NAILS ii. PER IBC TABLE 2304.10.1
	10. WALL SHEATHING
	a. PLYWOOD b. SPAN RATING 24/0
	c. GRADE STRESS LEVEL S-3 d. SPECIES GROUP 4
	e. EXPOSURE CLASSIFICATION EXTERIOR f. THICKNESS 1/2 IN.
	g. ATTACHMENT i. PER IBC TABLE 2304.10.1
F.	LAMINATED VENEER LUMBER (LVL) 1. ASTM D 5456 STANDARD SPECIFICATION FOR EVALUATION OF STRUCTURAL COMPOSITE LUMBER PRODUCTS
G.	STRUCTURAL INSULATED PANELS (SIP)
	 APA PLYWOOD DESIGN SPECIFICATION SUPPLEMENT 4 – DESIGN & FABRICATION OF PLYWOOD SANDWICH PANELS. PANEL DESIGN IS BASED UPON R-CONTROL PRODUCTS MANUFACTURED BY AFM CORPORATION (WWW.R- CONTROL COMPARISON OF PRODUCTS MANUFACTURED BY AFM CONTROL COMPARIS
	CONTROL.COM). SUBSTITUTE PRODUCTS MUST MEET OR EXCEED R-CONTROL PANEL PRODUCT PERFORMANCE SPECIFICATIONS.
	 PROVIDE SIP'S CAPABLE OF WITHSTANDING DESIGN LOADS INCLUDING DEAD LOAD, LIVE LOADS, WIND LOADS AND SEISMIC LOADS AS INDICATED ON THE PLANS.
	 PANEL DEPTH: 6 1/2 IN. R-CONTROL TYPICAL SPLINE CONNECTION DETAIL: 102 R-CONTROL TYPICAL SPLINE CONNECTION DETAIL: 102
	6. ROOF PANELS: CONNECT TO SUPPORTS USING R-CONTROL SCREWS AT 8 IN. ON CENTER AND 6 IN. ON CENTER AT BOUNDARIES. COMPLY WITH REQUIREMENTS OF R-CONTROL LOAD DESIGN CHART #7 FOR ADDITIONAL INSTALLATION
	REQUIREMENTS. 7. DIAPHRAGM BOUNDARY ELEMENTS MUST CONSIST OF FULL-DEPTH, SOLID SAWN LUMBER, 2 IN. MINIMUM NOMINAL
	 WIDTH, MIN. SPECIFIC GRAVITY OF 0.50, INSERTED IN SIP CORE, CONTINUOUS ACROSS PANEL JOINTS. 8. UNLESS SHOWN OTHERWISE, DIAPHRAGM BOUNDARY ELEMENTS MUST CONSIST OF FULL-DEPTH, SOLID SAWN
	LUMBER, 2 IN. MINIMUM NOMINAL WIDTH, MIN. SPECIFIC GRAVITY OF 0.50, INSERTED IN SIP CORE, CONTINUOUS ACROSS PANEL JOINTS.
	 SHOP DRAWINGS CLEARLY INDICATING CONNECTIONS AND MATERIALS TO BE USED SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
H.	LATERAL SUPPORT FOR FLOOR AND ROOF FRAMING (2015 IBC 2308.4.6): WHERE NOMINAL DEPTH TO THICKNESS RATIO OF
	THE FRAMING MEMBER EXCEEDS 6:1; THERE SHALL BE ONE LINE OF BRIDGING FOR EACH 8 FT. OF SPAN. BRIDGING SHALL CONSIST OF NOT LESS THAN 1 IN. X 3 IN. LUMBER, DOUBLE NAILED AT EACH END, OF EQUIVALENT METAL BRACING OF
_	EQUAL RIGIDITY OR FULL DEPTH BLOCKING.
I.	WOOD FRAME IS DESIGNED AS A NON-SELF SUPPORTING SYSTEM, CONTRACTOR SHALL ADEQUATELY BRACE FRAME (FOR FULL WIND LOADS) UNTIL ROOF SHEATHING, SHEAR WALLS AND CONNECTORS HAVE BEEN COMPLETELY INSTALLED AND ACCEPTED. TEMPORARY BRACING SHALL BE DETAILED SO AS NOT TO INTERFERE WITH ANY OTHER TRADES.
J.	DO NOT CUT OR NOTCH BUILT UP OR SOLID WOOD COLUMNS, POSTS, JACK OR KING STUDS, LINTELS, GIRDERS OR OTHER KEY STRUCTURAL ELEMENTS. FOR NOTCHES OR HOLES IN OTHER ELEMENTS, REFER TO THE WOOD SECTION OF THE
	 BUILDING CODE FOR LIMITATIONS (IBC 2015 2308). OPENINGS IN ENGINEERED WOOD PRODUCTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS.
K.	PRESERVATIVE TREATMENT - PER AMERICIAN WOOD PRESERVERS ASSOCIATION (AWPA) U1 PER TABLE 2-1 SERVICE
	CONDITIONS FOR USE CATEGORY DESIGNATIONS: 1. ABOVE GROUND – PROTECTED UC3A SILL PLATES
	ABOVE GROUND – EXPOSED UC3B UC3B DECKING, RAILS OF CONTACT – GENERAL USE UC4A DECK FRAMING, POSTS
	 GROUND CONTACT – HEAVY DUTY UC4B TYPICAL APPLICATIONS PROVIDED ABOVE ARE REPRESENTATIVE BUT NOT EXHAUSTIVE. USE APPROPRIATE USE
	CATEGORY FOR VARIOUS INSTALLATIONS PER TABLE 2-1. 5. PROVIDE AWPA VERIFICATION FOR MATERIALS TO BE USED.
	 a. CONCEAL STAMPS OR PROVIDE NON-STAMPED MATERIAL FOR EXPOSED LUMBER. 6. KILN-DRY LUMBER <u>AFTER</u> PRESERVATIVE TREATMENT TO 19 PERCENT MAXIMUM MOISTURE CONTENT.





FOUNDATION PLAN SCALE: 1/8" = 1'-0"

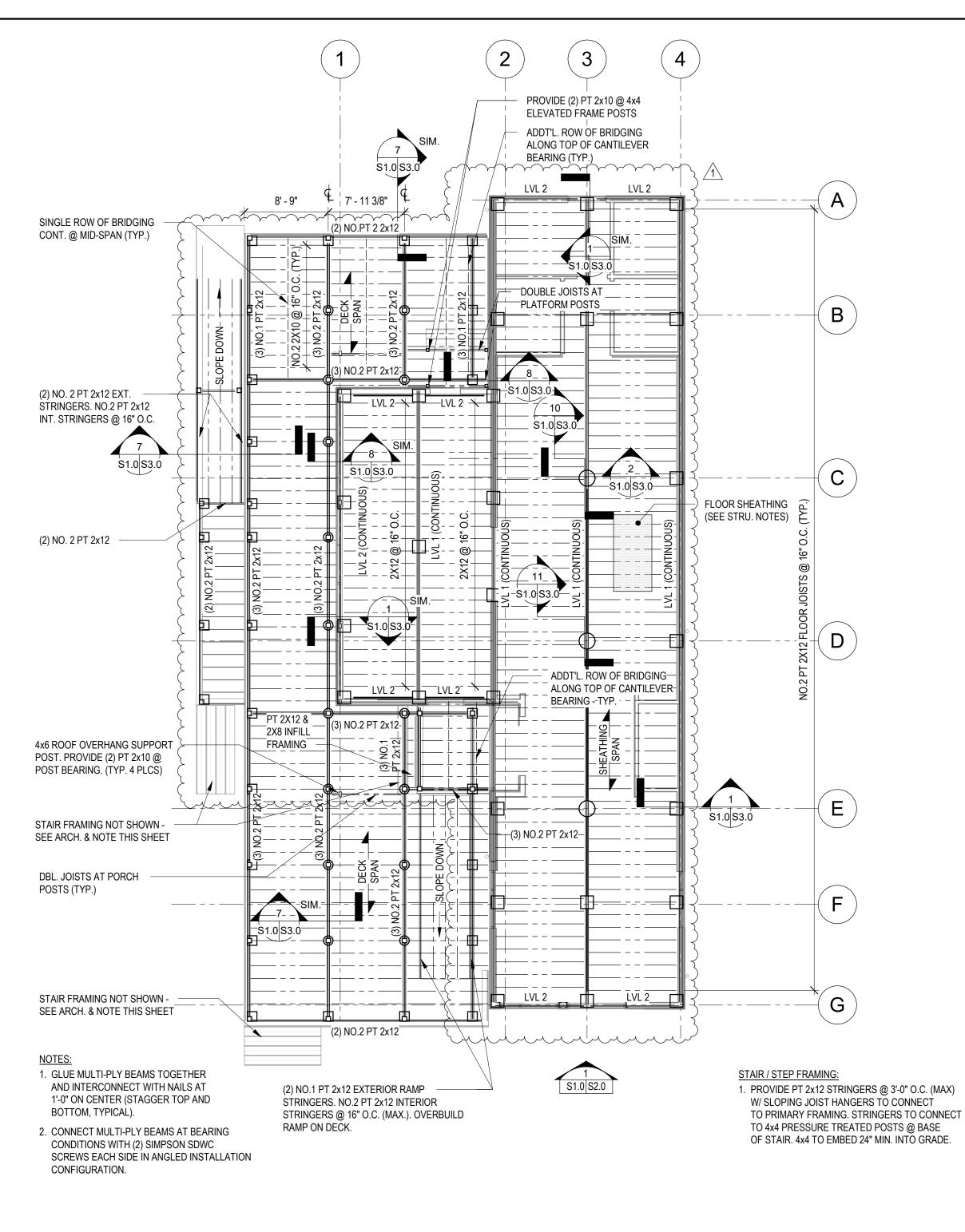
COLUMN FOUNDATION SCHEDULE							
PLAN	SIZE	THICKNESS					
Width	Length		REINFORCEMENT				
3'-0"	3'-0"	1'-0"	(4) #5 EW - BOT				
3'-3"	3'-3"	1'-0"	(4) #5 EW - BOT				
	PLAN Width 3'-0"	PLAN SIZE Width Length 3'-0" 3'-0"	PLAN SIZE THICKNESS Width Length 3'-0" 3'-0"				

DECK PIER SCHEDULE							
MARK	SIZE	REINFORCEMENT					
DP1	12 IN. SQ.	(4) #6 VERTICAL					
DP2	12 IN. DIA.	(4) #5 VERTICAL					

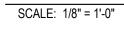
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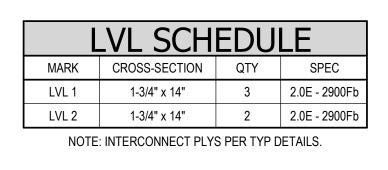
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CON	CRETE F	PIER SCHEDULE
MARK	SIZE	REINFORCEMENT
P1	16" x 16"	(8) #4 VERT DWLS & #3 TIES @ 12" O.C.
P2	20" DIA	(6) #5 VERT DWLS & #3 TIES @ 12" O.C.

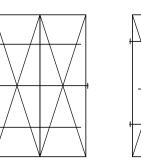


FLOOR FRAMING PLAN





<u>NOTE:</u> USE FULL DEPTH SPACERS EACH SIDE AS REQUIRED.

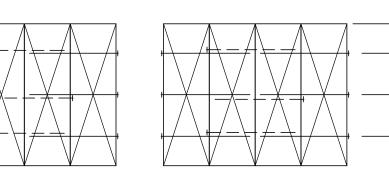


LVL FASTENING REQUIREMENTS FOR MULTIPLE PLY MEMBERS (MINIMUM REQUIREMENTS -VERIFY COMPLIANCE W/ SUPPLIER RECOMMENDATIONS)

• FOR 12" DEEP (OR LESS) MEMBERS, NAIL PLIES TOGETHER WITH (2) ROWS OF 16d x 3 1/2" COMMON NAILS AT 12" ON CENTER (ADD 1 ROW FOR 16d SINKERS).

2-PLY

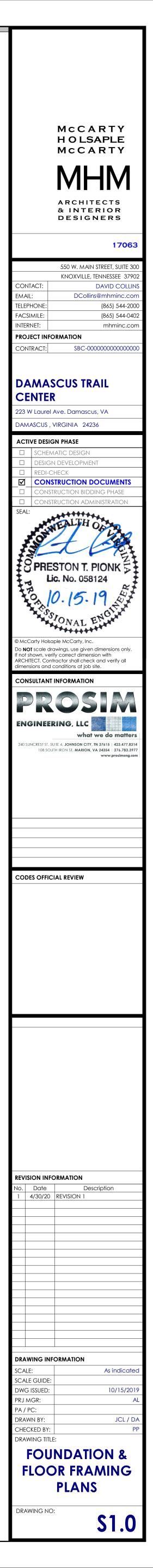
- FOR 14", 16" OR 18" DEEP MEMBERS, NAIL PLIES TOGETHER WITH (3) ROWS OF 16d x 3 1/2" COMMON NAILS AT 12" ON CENTER (ADD 1 ROW FOR 16d SINKERS).
- FOR 20", 22" OR 24" DEEP MEMBERS, NAIL PLIES TOGETHER WITH (4) ROWS OF 16d x 3 1/2" COMMON NAILS AT 12" ON CENTER (ADD 1 ROW FOR 16d SINKERS). NOTE: SIMPSON SDS WOOD SCREWS MAY BE SUBSTITUTED FOR NAILS.



4-PLY

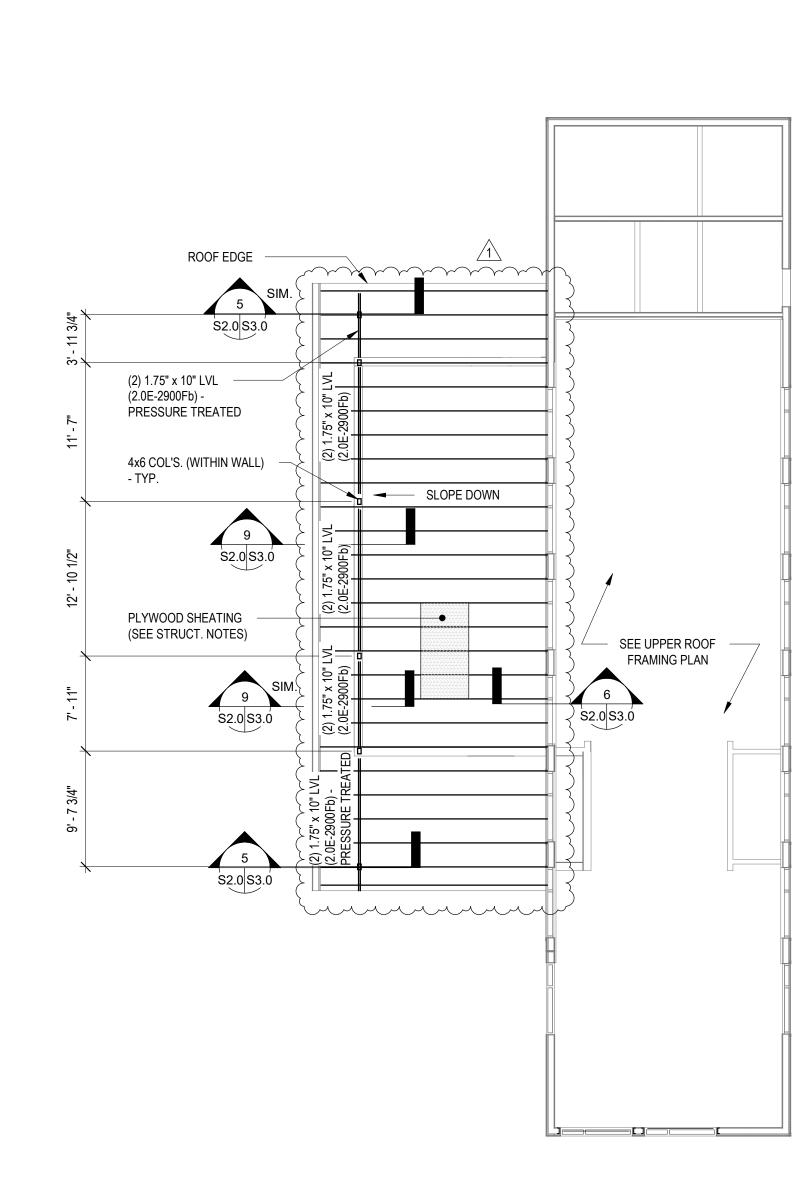
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3-PLY



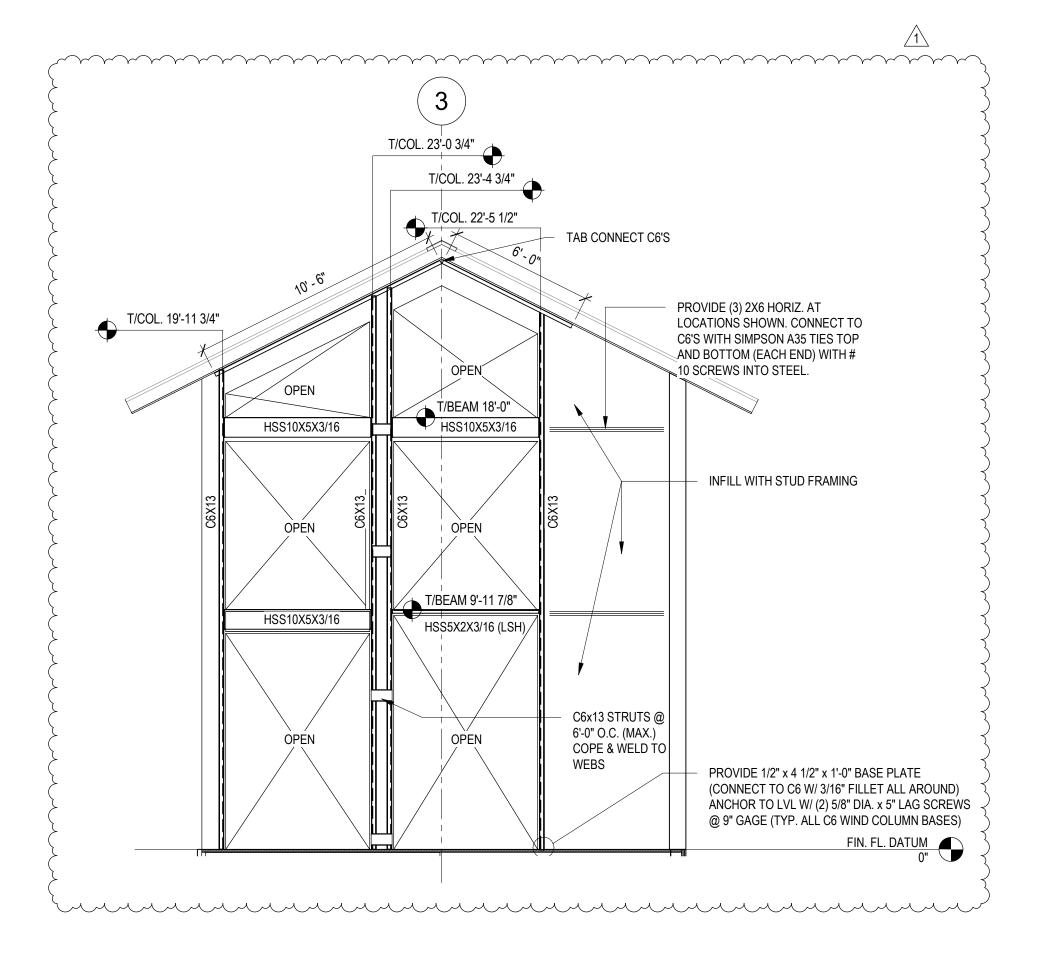
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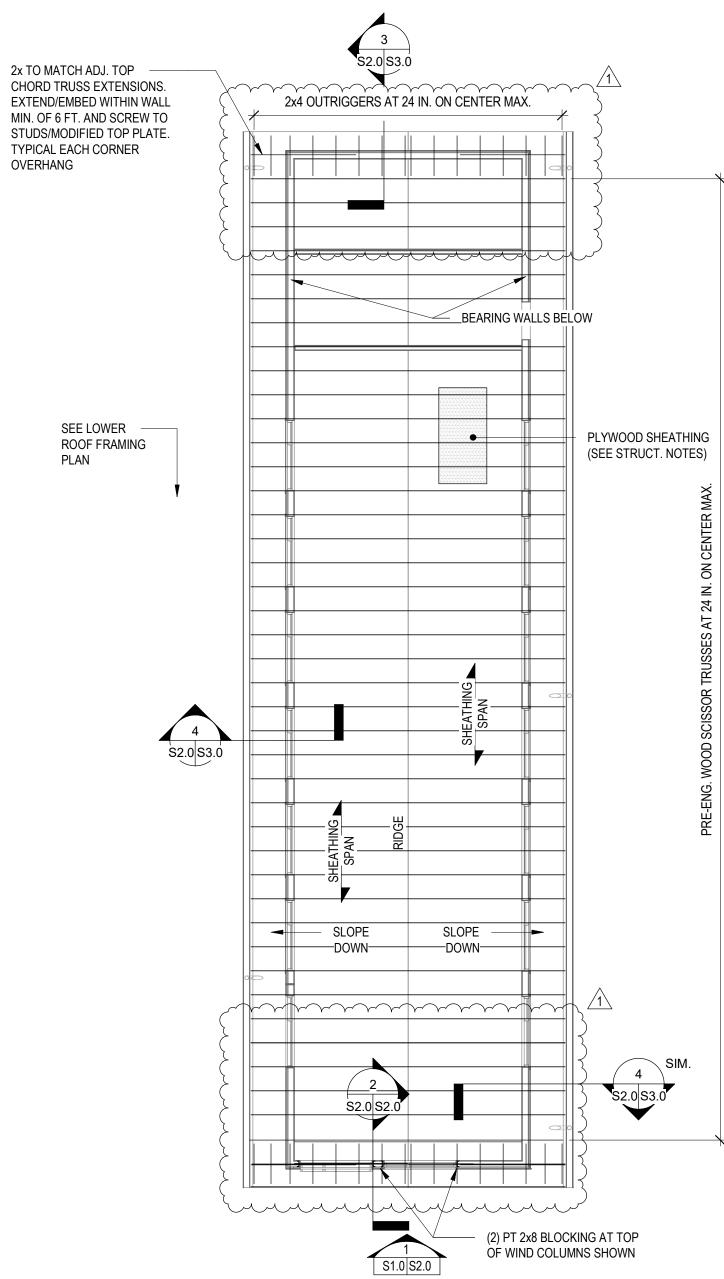


S1.0 S2.0

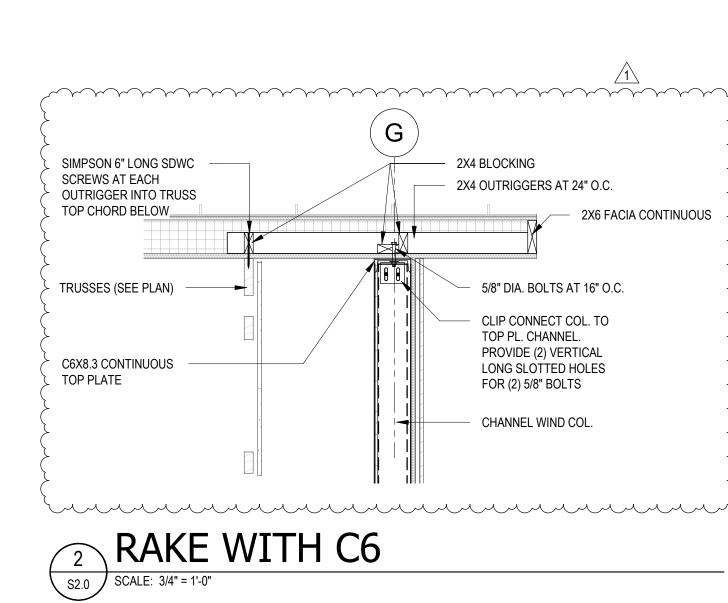


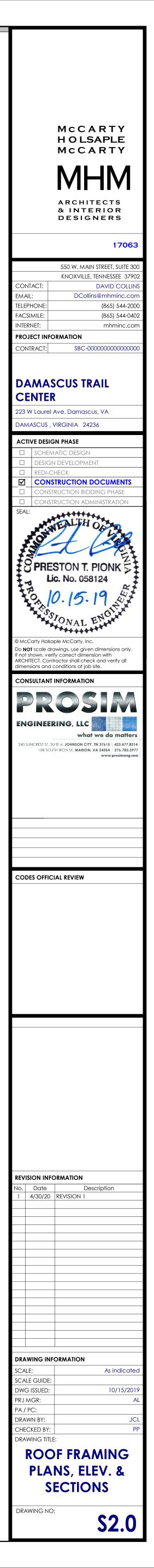


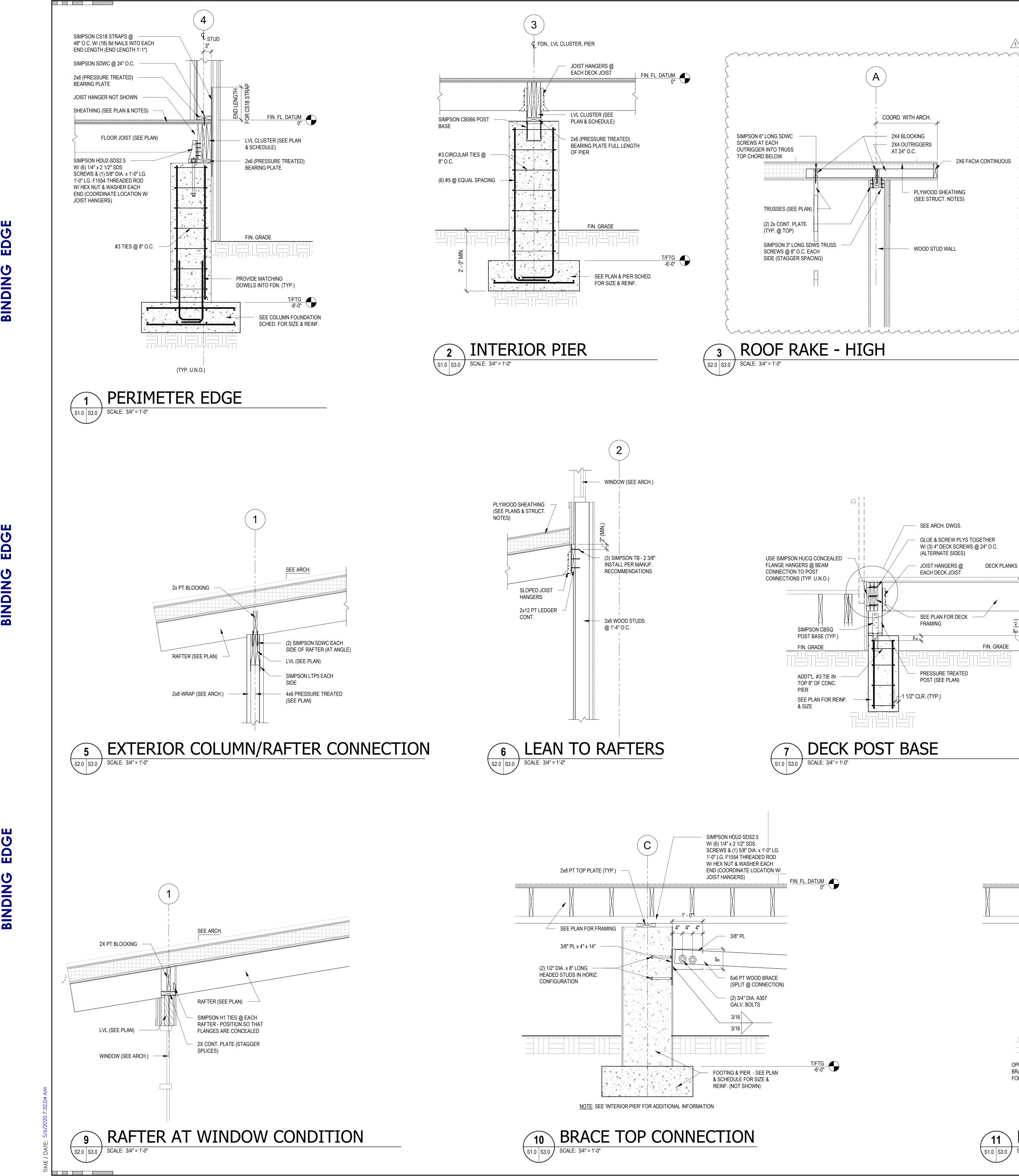




UPPER ROOF FRAMING PLAN SCALE: 1/8" = 1'-0"



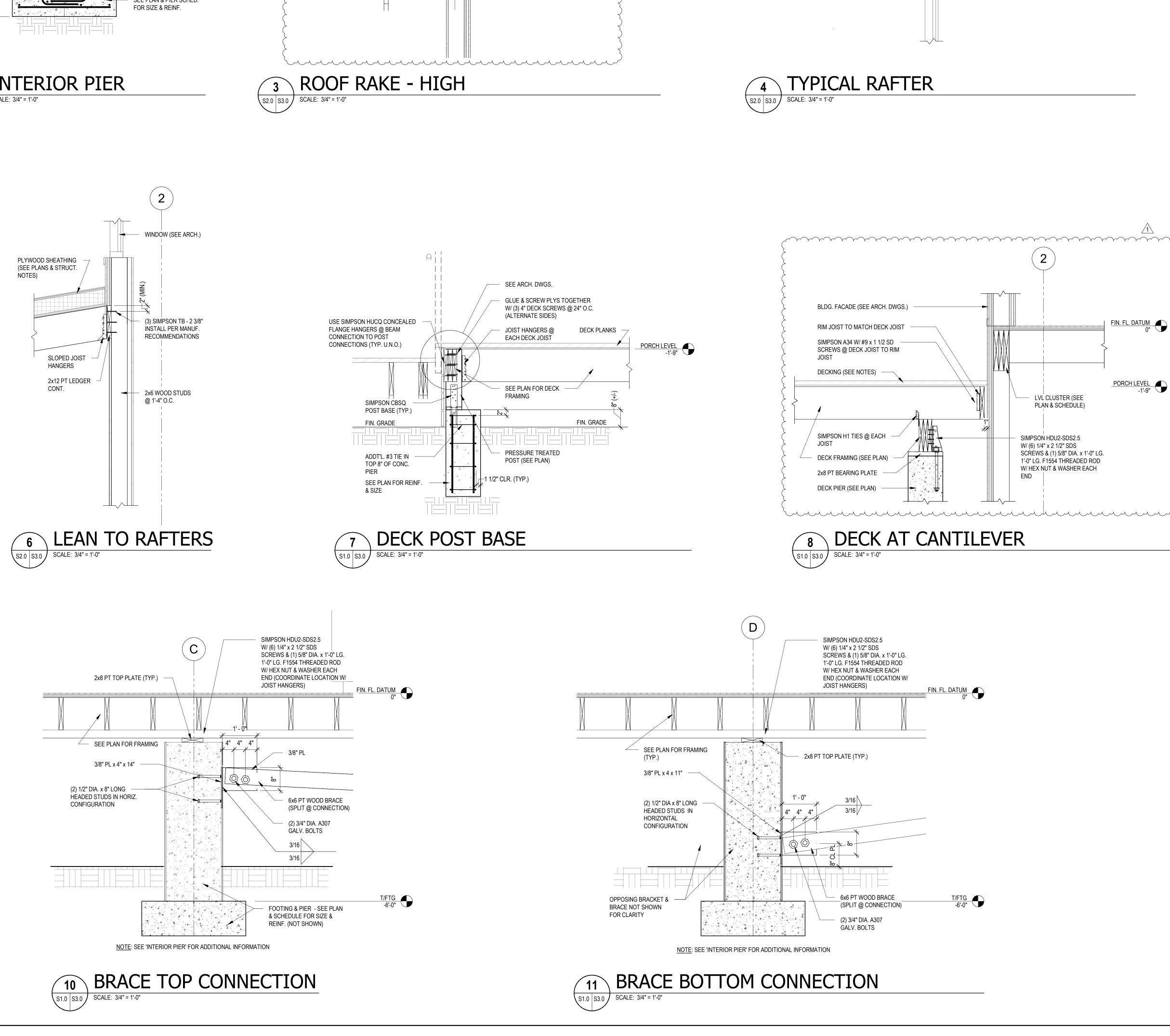


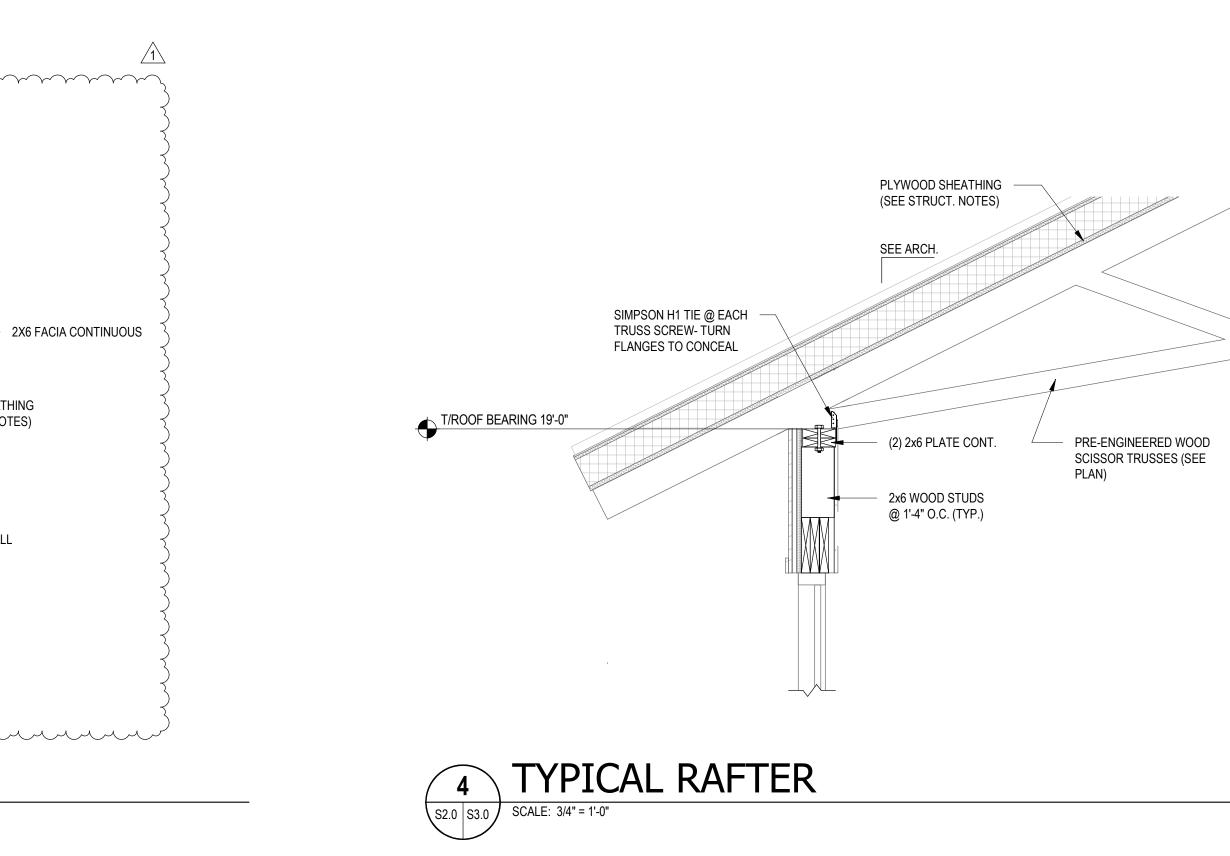


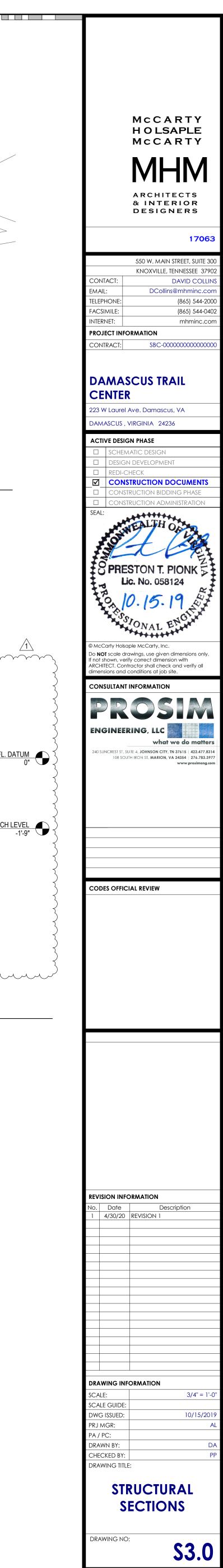
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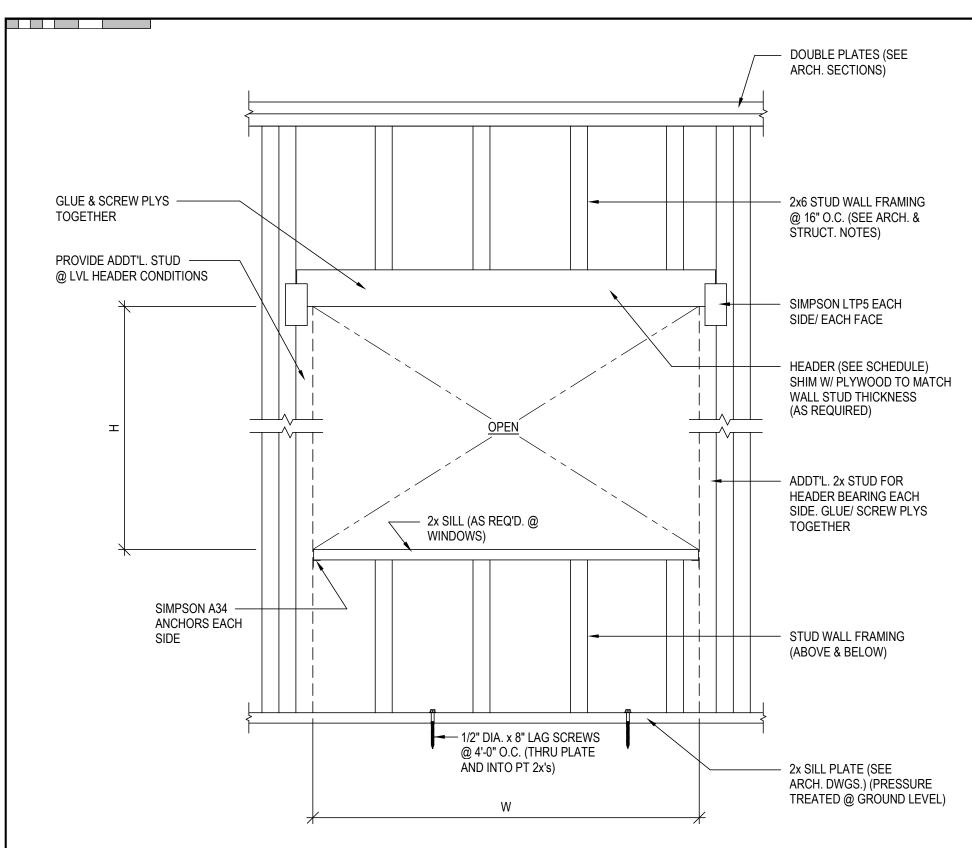






 $\overline{1}$ $\sim\sim\sim\sim\sim$ FIN. FL. DATUM PORCH LEVEL -1'-9"





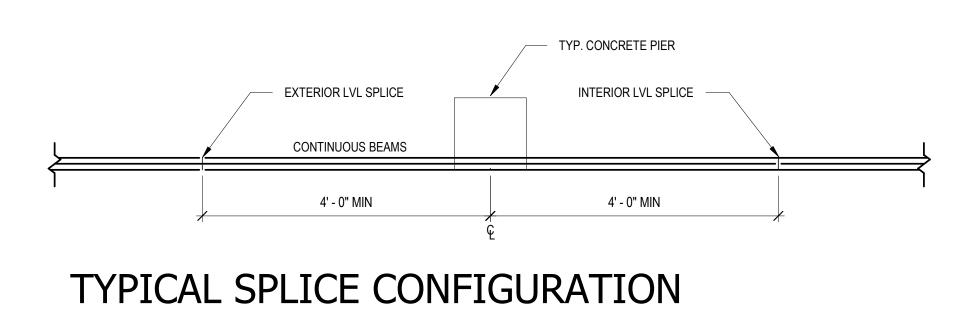
NT.S NOTE: SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION.

BEARING WALL HEADER SCHEDULE									
W (MAX.)	H (MAX.)	SPEC.	JACK STUDS						
7'-6"		(3) 2x10	NO.2	2					
4'-6"		(2) 2x10	NO.2	2					
12'-0"		(3) 2x12	NO.2	2					

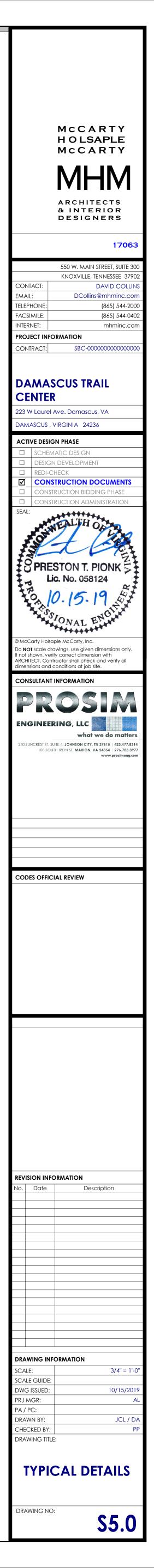
BINDING EDGE

/ DATE: 5/6/2020 7:32:05 /

		MANUFACTURER					
CONNECTOR TYPE	MEMBER SIZE	SIMPSON	MITEK / USP	CLEVELAND STEEL SPECIALTY COMPAN			
CONCEALED FLANGE JOIST HANGER	(2) 2x10	HUCQ210-2-SDS	HDQ210-2IF				
CONCEALED FLANGE JOIST HANGER	(3) 2x10	HUCQ210-3-SDS	HDQ210-3IF				
FRAMING ANGLE		A35	MPA1	FA-1,FA-2,FA-3			
HURRICANE TIE	2x	H1	RT15	TA-6			
JOIST HANGER	2x8	LUS28	JUS28	PH 28			
JOIST HANGER	2x10	LUS210	JUS210	PH 210			
JOIST HANGER	2x12 / 2x14	LUS210	JUS210	PH 210			
MUDSILL ANCHOR		MASA	FA4				
POST BASE	6x6	CBSQ66-SDS2	CBSQ66-TZ				
POST BASE	4x4	ABW44Z / ABA44Z	PA44 / PA44E	ST44			
POST CAP	6x6	BCS2-3/6	BCS23-6				
POST CAP	6x6	LPC6Z	PB66-6TZ	PC-66			
RAFTER HANGER	2x8	LRU28Z	LS268				
TIE DOWN #1		H2.5A	RT7A				
TIE DOWN #2	2x	H4	RT4	TA-4			
TIE DOWN #3	2x	H8 / LTS12	RT8A				



N.T.S <u>NOTE:</u> SEE PLAN AND SECTION FOR ADDITIONAL INFORMATION.



Contractor shall and hereby agrees that he will read carefully all paragraphs and be bound by their conditions

WORK DESCRIPTION: Provide all labor, equipment, material, (tools, services), etc. required to complete installation specified herein and/or shown or scheduled on the drawings. This section supplements all sections of this Division and shall apply to all phases of work hereinafter specified, shown on the drawings or required to provide a complete installation of systems shown. The specifications and drawings are complementary and are for the complete interpretation of the work. Unless noted or modified by specific notation to the contrary, the modification and/or description of any item in the documents carries with it the instruction to furnish, install and connect same. It shall be understood that the intent governs the work, regardless of whether or not this instruction is explicitly stated. No exclusion from, or limitation in the drawings or specifications, for the work

shall be the reason for omitting the appurtenances or accessories necessary to complete any required system or

SPECIAL CONDITIONS: By the act of submitting a bid, this Contractor agrees that all of the "Contract Documents" in each of the Divisions of the complete specifications have been reviewed and studied and all requirements and coordination resulting therefrom are included in his proposal. The Contractor further acknowledges that he has visited the site to become familiar with existing conditions. In the Mechanical Division, the word "Contractor" means the Mechanical/Plumbing Contractor. In the Electrical Division, the word "Contractor" means the Electrical Contractor. The word "provide" means furnish, install and connect. Do not

scale drawings having 1/4" or smaller scale. Because of small scale, it is not possible to indicate all offsets fittings and accessories: provide such as are required for complete installation. The right is reserved to move any element as much as ten (10) feet at no increase in cost provided the Contractor is notified before work in question is started. The Contractors shall coordinate between trades responsible for determining and verifying the characteristics of electrical current available to operate all the mechanical and plumbing equipment prior t ordering such equipment. RELATED WORK SPECIFIED ELSEWHERE: Foundations and pads required for equipment furnished under

this Division of the Specifications are specified elsewhere. Field painting, except such painting as is required to maintain shop coat painting and factory finish painting are specified elsewhere. Flashing of conduits into roofing and outside walls are specified elsewhere. Heating, ventilating, and air—conditioning equipment are specified elsewhere. Plumbing equipment is specified elsewhere.

REGISTRATION: Contractors and Sub—Contractors furnishing and installing work under the Mechanical and Electrical divisions of these specifications shall be registered in the Commanwealth of Virginia whether they are bound by legal contracts with the Owner of the project, with the General Contractor or another Sub-Contractor CODES AND STANDARDS: The intent is that the complete installation shall comply with applicable law and ordinances, utility company regulations, and applicable requirements of the latest editions of the following:

International Building Code, Plumbing Code, Mechanical Code, Gas Code. NEPA: National Fire Protection Associatio AGA: American Gas Association. FM: Association of Factory Mutual Fire Insurance Company.

ASME: American Society of Mechanical Engineers.

ASTM: American Society of Testing Materials. NSF: National Sanitary Foundation. PDI: Plumbing Drainage Institute.

item of equipment.

- UL: Underwriters Laboratories. NEC: National Electrical Code. NEMA: National Electrical Manufacturer's Association. SMACNA: Sheet Metal and Air Conditioning Contractors National Association.
- ARI: American Refrigeration Institute. PFMA: Power Fan Manufacturer's Association MSS: Manufacturer's Standard Society of Valve and Fittings Ind.
- ANSI: American National Standard Institute. ASHRAE: American Society of Heating, Refrigerating and Air Conditioning Engineers. ADA: Americans with Disabilities Act NESC: National Electrical Safety Code.

OSHA: Occupational Safety and Health Act Where the contract documents exceed minimum requirements, the contract documents take precedence. Comply with all requirements for permits, licenses, fees and codes. Permits, licenses, fees, inspections and arrangements required for the work under this contract shall be obtained at the completion of the work unless

otherwise specified. Comply with the requirements of the applicable utility companies serving this work. Make all arrangements with the utility companies for proper coordination of the work. Pay all charges required by the utility. COORDINATION OF WORK: Plan all work so that it proceeds with a minimum of interference with other trades. Inform all parties concerned, of the openings required for equipment or conduit in the building construction for work and provide all special frames, sleeves, inserts, supports, anchor bolts, etc. as required

Coordinate the work with all tradesmen. Conceal all work where possible. All work shall be installed as neatly as possible in the locations shown but shall be subject to such deviations, modifications and relocations as may be necessary to conform to the requirements of the architectural drawings and as necessary to avoid interferences with the structural work and the work of other trades, and interferences between the various trades This shall be done at no cost to the Owner. No work or equipment shall be installed which would require ceilings to be lower than required by drawings, unless approval is obtained from the Architect. It is th responsibility of the General Contractor to coordinate the work of his subcontractors. To this end, the General Contractor shall require that the various subcontractors carefully examine and familiarize themselves with the architectural and structural drawings and drawings covering all other trades so that the work may be coordinated. If necessary to coordinate and expedite the work, the Contractor shall prepare "interference drawings" and submit them to the Architect for approval. Such drawings shall shown the work of the various

clearly indicate any deviations from contract reauirements. EXECUTION OF THE WORK: Prior to installation, submit certified prints and/or descriptive brochures for all major electrical and mechanical pieces of equipment, fixtures, materials, etc. Submittals shall show: manufacturer's catalog number, finishes, optional features and modifications. When work in accordance with manufacturer's recommendation is specified, a copy of recommendations will be kept in the job office. Reference shall be made to drawing schedules and details for: manufacturer, model, catalog number, size capacity, performance, installation, etc. of equipment, fixtures and materials. Equipment of manufacturers other than those named will be acceptable provided, in the opinion of the Engineer, it is of equal substance, function, performance and appearance.

trades involved, illustrate proposed details of construction and arrangement of equipment and apparatus, and

CHOICE OF MATERIALS AND EQUIPMENT: In submitting substitutions, bidders should note the following minimum considerations:

- Capacities shown are absolute minimum and must be equaled. Physical size limitations for space allotted. Structural properties.
- Static and dynamic weight limitation. Noise level. Interchanae ability.
- Vibration generation Accessibility for maintenance and replacement. Compatibility with other materials, assemblies and equipment.

Similar items shall be same manufacturer and style, etc. except where specifically exempted All material and equipment, for which a UL Standard, a NEMA Standard, an AGA approval, or an ASME requirement is established, shall be so approved and labeled or stamped. Label or stamp shall be conspicuous and not covered, painted or otherwise obscured from visual inspection. Adhesives are not acceptable as a mounting, supporting, or assembling technique. The Contractor shall pay any costs added to the total contract as a result of any substitutions. Equipment, etc. shall not be purchased without the Engineer's written approval (shop drawinas)

EXISTING SERVICES: No service shall be interrupted without permission of the Owner. When encountered in work, protect existing active: sewer, water, gas, electric, other utility service, structures; when required fo proper execution of work, relocate them as directed. If existing active services are not indicated, request Engineer for instructions. When encountered in work, whether or not indicated, cap or plug or otherwise discontinue existing inactive: sewer, water, gas, electric, other utility services, structures which interfere with work execution. Notify the Engineer of action taken. If removal is required, request instructions.

DRAWINGS: Drawings are diagrammatic. The Contractor shall install the work in such manner that the equipment, piping, vents, conduit, panels, ductwork, etc. will fit in space provided, maintain head room, and if in finished areas, be neatly installed and as "out-of-the-way" as physically possible. All equipment, piping, ductwork, conduits, etc., shall be installed to provide needed maintenance and passage space. FEES: The Contractor shall pay for fees and inspections as may be required for electric, gas, H.V.A.C., plumbing, etc and all other systems requiring inspections by agencies having jurisdiction COMPLETION ITEMS: Provide all labor, equipment, materials, etc. required to complete installation specified herein and/or shown on the scheduled drawings

EQUIPMENT OPERATION: This Division is responsible for: proper rotation, observing that lubricating has been properly performed, motors operate within nameplate limits, overload heater elements properly sized, and reporting observed discrepancies to the Engineer. Operate all motors for at least one hour. At the end of this hour's run, check for motor temperature. On equipment furnished by other sections, if lubricating is not correct. or if motors do not operate within proper limits, this Division is responsible for notifying the General Contractor as to the deficiencies and for leaving the piece of equipment involved in a locked "OFF" condition.

OPERATING INSTRUCTIONS: Furnish to the Owner written operating and maintenance instructions for each system and each piece of equipment. Include in the equipment data binder specified above, instructions to start and stop each piece of equipment, itemized maintenance schedule and submittals. When systems are completely adjusted, furnish personnel for one full day to instruct the Owner's operators CUTTING AND PATCHING: All cutting of surfaces will be by the General Contractor except for minor cutting for piping, conduit, etc. which shall be accomplished by these contractors. All major patching back will be by the General Contractor. Minor patching for piping, etc. shall be by these contractors. It will be the contractor's responsibility to advise the General Contractor of all locations and to size all openings. The contractors shall coordinate with the General Contractor for the best routing of piping and ductwork to clear existing construction. The contractors shall provide sleeves where required. The contractors shall coordinate

with the General Contractor prior to bid and advise the General Contractor of anticipated requirements for cutting and patching so that the General Contractor may include these in his bids. BACKFILLING: For earth backfill, remove from spaces to be filled all unsuitable material, including all rubbish, trash, refuse, and other debris. Place no backfill until foundations are braced and have cured rubbish, trash, refuse, and other debris. Place no backfill until foundations are braced and have cured sufficiently to develop adequate strength to withstand pressures of backfilling operations. Trenches shall not remain open for extended periods of time during set weather. Secure approval of the Local Authority prior to commencing this work. Material for backfill shall be clean and unfrozen, free from substance subject to rot, corrosion, or termite attack and rock. If fill is required on both sides of a wall, it shall be brought up simultaneously and evenly on both sides. Backfilling around piping shall be by hand and for a depth of one foot above the pipe, taking care not to disturb the pipe or injure pipe coatings. Deposit backfill in horizontal layers not to exceed 6" depth, measured loose, compacting each layer thoroughly by approved mechanical devices. Work shall be at once discontinued if damage to waterproofing, piping or other construction occurs, and such damage shall be satisfactorily repaired before work is resumed. Bring all backfill to required subgrades. Unless otherwise noted on the drawings or in the Specifications, see paragraph "COMPACTION" below, backfill to be compacted by suitable mechanical means in 6" layers to be at least 95% maximum density at optimum moisture content as determined by Standard Proctor Density Test. (A.S.T.M. Designation D-1557-58T).

COMPACTION: Fill material at optimum moisture content shall be placed in uniform horizontal layers not more than 6" thick, measured loose, over the fill areas involved. Compact each layer fully and uniformly at optimum moisture content to a minimum density in percentag of Standard Proctor Maximum As determined by ASTM D-698 or AASHO Standard Method T-99 as follows: 1. Top two (2) feet of fill under roadways, and fill below footings of buildings supported on compacted earth fill.....100%

2. Fill under floor slabs and surfaced areas such as walks, steps, concrete paving, parking bays, curbs, etc., and remainder of fill under 3. Fill under lawn and planted areas...

Fill material shall be allowed to air dry to proper moisture content as each layer is placed, if necessary, prior to compaction. For the guidance of the Contractor: The following method is suggested as procedure for achieving the specified degree of compaction. Compact each layer of fill material fully and uniformly by making continuous runs over material with a sheeps foot roller containing teeth not less than 7" long and having an end area of not less than 5 square inches each. The sheeps foot roller weight should impose a load upon each tooth between 1000 and 2200 pounds. Sheeps foot rollers should be made of not less than two sections, operated side by side and mounted in such a manner that each section may oscillate independently of the other. Continue rolling until the teeth of the roller penetrate a maximum of 3/4" over the entire surface of each lift. The moisture content of the fill material must be rigidly controlled during compaction by additional wetting to obtain a ratio to within 2% of the optimum as determined by the field tests. Material containing excessive moisture must be permitted to dry to proper moisture content before being rolled. If soil classification is proper for its use, a 10 ton vibrating type roller may be used for compaction of fill to obtain required degree of compaction, subject to approval by the Local Authority of such equipment. GUARANTEE AND WARRANTY: Provide all labor, equipment, material, etc. required to complete installation specified herein and/or shown or scheduled on the drawings. Each piece of equipment shall meet performance specifications after one (1) year actual operation. The Contractor shall replace or make good any defect due to faulty workmanship or material which shall develop within one (1) year from date of acceptance. This guaranty shall cover both materials and labor. For the first year after final acceptance, the Contractor shall provide, at no cost to the Owner, any required maintenance and service necessary to assure the proper operation of the system. Date of acceptance shall be that date on which the contract has been satisfactorily completed in accord with contract documents and verified by the Engineer. If a whole or partial system, or equipment, is put into use for benefit of any party, other than the Contractor, and with prior written permission of the Owner, this agreed date shall become the "date of acceptance".

END OF SECTION

SCOPE: Furnish and install all labor, materials and equipment shown on the mechanical drawings and as

GENERAL PROVISIONS: See the Electrical and Mechanical General Provisions which are a part of this specification Division

specifications herein pertain, including all items and specialties required for complete working systems whether specified or not. Power wiring and connections required for this work will be furnished and installed under the electrical work.

according to details and standards as follows. Cross break all rectangular sheet metal work, install transitions with side angles not over 30 degrees from run, and turns and elbows with centerline radius equal to 1-1/2 times duct width unless factory built turning vanes are installed. Provide vibration isolator hangers and fireproof flexible duct connections at fans and air handling units. All sheet metal installations shall meet the following standards:

1. ASHRAE Guide and Data Book - Equipment, current chapter on duct construction. 2. ADC Standard 1062R2, Air Diffusing Equipment Test Code.

SHEET METAL WORK AND AIR DISTRIBUTION: Install sheet metal work of galvanized steel erected

3 ADC Standard 1062:GRD-84. Test Code for Grilles, Registers and Diffusers. 4. ADC Test Code FD 72-R1, Flexible Air Duct Test Code.

5. AMCA Standard 210, Test Code for Air Moving Devices 6. ASHRAE Standard 70–72, Method of Testing for Rating the air flow performance of outlets and inlets. 7. NFPA 90-A, Standard for the installation of Air Conditioning & Ventilating Systems, 1980 edition 8. NFPA 101

9. SMACNA Publications as follows: a. High Pressure Duct Construction Standards, 3rd edition, 1975 b. Low Pressure Duct Construction Standards, 5th edition, 1976 10. SMACNA HVAC Duct Construction Standard — Metal & Flexible, First Edition,1985

11. Fire and Smoke Rating Test Standard: ASTM E84, NFPA 255 and UL 723 12. All duct sizes given are clear outside sizes. Seal all ductwork joints("S" locks, drives, etc.) with Durkee-Atwood "insta-seal" class I; Hardcast

#P301; Tremco 440; or United Mcgill, Uni-Cast Tape. For all ducts with longest side 24 IN and over: Construct using the Ductmate: Nexus: Quicduc: Traverse Duct Connection(TDC) or Pyramid-Lok duct connection systems.

A. Seal flanged ends with pressure sensitive, high density, closed cell, neoprene or polyurethane tape gasket or "tremco 440". B. For smaller duct sizes: Above systems are optional.

C. For smaller duct sizes(longest side 23 IN or less): Above systems are optional. All ductwork hangers & supports must be in accordance with SMACNA HVAC duct construction standard section IV

Install registers and air diffusers in accordance with schedule and with opposed blade volume control and sponge rubber gaskets for each unit. A certified Balancing Contractor shall balance air flows according to drawings reporting on AABA forms — See equipment start up. Duct sizes given on drawings are "clear outside" sheet metal sizes

DOUBLE WALL SPIRAL DUCT AND FITTINGS Material: Galvanized steel confirming to ASTM standards A653 and A924

Double Wall: Perforated inner liner will consist of 0.125 inch perforations on 0.250 inch staggered centers corresponding to an overall open area of 23% Glass fiber insulation will have a maximum conductivity factor (k) of 0.26 BTU-in/hr x ft x *F at 75* F mean

ambient temperature. Retaining fabric will be 0.08 inch thick, 15.6 lb/ft density non-woven polyester fabric with an air permeability rate of 9.2 ft/ft x s.

nsulation stop will be a closed—cell elastomeric foam with a mzximum conductivity factor (k) of 0.28 BTU-in/hr x ft x °F and an operating temperature range of -70° F to +220° F. Surface Finish: Paint grip application Galvanized steel (galvanized in accordance with latest SMACNA standards).

Thickness: Material thickness constructed from galvanized steel in accordance with the latest SMACNA's HVAC Duct Construction Standards for +10" water gauge pressure.

Construction: Duct is of spiral lock seam construction with a mechanically formed seam locking indentation evenly spaced along the spiral seam. All spiral duct 8" dia and larger shall incorporate multiple corrugations between spiral seams. Inner and outer duct will be of spiral lockseam construction

Double wall duct and fittings will consist of a perforated or solid inner liner, 1" 1.50 lb/ft layer of glass fiber insulation, and a solid outer pressure steel. When a perforated inner liner is specified, a retaining fabric must be wrapped, between the perforated inner and the glass fiber insulation. This is to prevent glass fiber tearing into the airstream and maintains the desired acoustical properties.

Double wall shall have 1" thick insulation The outer pressure shell diameter shall be two times the insulation thickness larger than the inner liner. Fittings shall be manufactured using one or more of the following construction methods: Overlapped edges stitch welded along the entire length of the fitting.

• Standing seam gore locked and internally sealed Button punched and internally sealed Elbows 3" through 12" diameter will be die stamped and continuously stitch welder

Connections: Fitting ends shall be sized to slip-fit into spiral duct of the same nominal size

Joint Sealing: Fitting ends are equipped with factory installed, triple lipped gaskets. When installed in spiral duct per manufacturer's installation instructions, the gasket creates a seal against the interior of the spiral duct. The system tightness shall be factory warranted to meet SMACNS's Leakage Class 3 performance.

Gasket: The gasket shall be EPDM rubber. The gasket is located in a groove at the end of the fitting. In order to achieve optimum sealing for all diameters, different size gaskets shall be used. The gasket shall be classified by Underwriters Laboratories for flame spread and smoke developed in accordance with ASTM F84-91a

Manufacturer: All double wall spiral duct and fittings shall be manufactured by the same manufacturer. The manufacturer shall be EHG or prior approved equal. CABLE LOCK: All spiral round ductwork and other equipment in exposed areas shall be supported using wire rope cable terminated by Cable Locks. All Cable Locks shall have an Ultimate Breaking! Strength (U.B.S.) of at

least 5 times the wire rope published Working Load Limit (W.L.L.). All wire rope shall have a U.B.S. of at least 5 times the published W.L.L. Wire ropes shall be of the size and spacing per the manufacturer's printed specifications. Wire Rope and Cable Locks shall be equal to Duro Dyne Corporation.

All wire rope supplied must be tested to minimum breaking strength. All Working Load Ratings of Cable Locks must be tested and verified by independent testing laboratories. Cable Lock pawls to be constructed of corrosion resistant sintered steel. Cable Lock springs to be constructed of tempered stainless steel. Wire rope sizes must be in strict conformance with manufacture recommendations.

Externally insulate supply, return, relief and outside air ductwork with 2" thick fiberglass 25/50 foil faced duct wrap per UL 723. All seams shall be stapled 6" on centers with outward clinching staples then sealed vapor tight with foil tape in strict accordance with the manufacturer's recommendations. See legend. SPLIT SYSTEM HEAT PUMP: Furnish and install at location shown and as detailed and specified herein a "split system" all electric reverse cycle (heat pump) heating, ventilation and air conditioning unit.

All components shall be UL listed and carry a UL label. Unit to have filter frames to accept throwaway filters. Auxiliary heaters shall consist of nichrome elements with controls necessary for operation. Safety controls shall include primary over temperature and over current protection. Heaters shall be UL listed

Unit compressor shall be serviceable semi-heremetic or welded, fully hermetic with crankcase heaters and suitable vibration isolators. Indoor and outdoor coils shall be of nonferrous construction with plate fins mechanically bonded to seamless copper

tubes with all joints brazed Indoor blower shall be forward curved, centrifugal, belt-driven if available. Motor pulleys shall be adjustable pitch. Indoor blower motor with permanently lubricated bearings. Outdoor fans shall be of the propeller type, with direct driven permanently lubricated motor. Outdoor fans shall discharge upward.

Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked enamel finish. Cabinet interiors shall be insulated with 1" thick neoprene coated fiberglass. Cabinet panels shall be easily removable for service to all operating components. A condensate drain for indoor coil shall be provided. The heat pump cooling/heating system shall be protected with high pressurestat, low pressurestats, loss of charge protection, indoor coil freezestats, and current and temperature sensitive overload devices. Unit to be

Each of these devices shall be wired through the Signal LOC circuit to prevent compressor restart until reset at the thermostat. Units shall have built-in electric strip heat lock out to prevent resistance heat operation above 40°F

provided with low ambient controls to operate cooling at 0° F.

An outdoor coil defrost control system shall be incorporated into the base unit to prevent frost accumulation during heating cycle. The defrost cycle shall function on the basis of time and coil temperature.

A 90 minute timer shall actuate a defrost mode only if coil temperature is low enough to indicate a heavy frost condition. Defrost shall have a positive termination time of a maximum of 10 minutes or when the defrost thermostat is satisfied to prevent prolonged operation of a defrost cycle. Electric resistance heaters shall be operational automatically during the defrost cycle.

Each section shall have single point power connection to a terminal block. If multiple point connection is required, the HVAC tradesman shall coordinate With the electrical tradesman and arrange for multipoint connection with all costs born by the H.V.A.C. tradesman. Cabinets shall contain suitable openings for routing of all utility connections. The base units shall contain a terminal strip in the control compartment to allow for terminal-to-terminal connection of controls and field-installed accessories.

Thermostat shall provide staged heating and cooling, manual or automatic changeover and fan control. Standard

sub-base shall include compressor malfunction light designed to illuminate if compressor lockout is activated. Emergency heat control shall consist of emergency heat control box containing emergency heat relays and outdoor thermostats. Control shall allow for manual bypass of compressor and outdoor thermostats if compressor becomes inoperative, or for service. Outdoor thermostats shall provide for staging of electric resistance heat according to outdoor temperature. Thermostats shall be wired into the electric heater contactors and shall have an adjustable set point to provide economical resistance heat staging.

Time guard circuit to prevent compressor short cycling as a result of a rapid change in thermostat setting. Also, automatically prevents compressor restart at least 5 minutes after shutdown. REFRIGERANT PIPING: Type K hard drawn copper with sweat wrought copper fittings except piping 3/8" O.D. and smaller may be soft drawn. Clean joint surfaces to bright finish and make up with non-acid flux and silver brazing compound. Run dry nitrogen through joint while brazing. Pre-charged refrigeration piping may be used at the Contractor's option. Install in strict conformance with the manufacturer's recommendations.

Furnish all required accessories such as expansion valves, refrigerant specialties, high capacity dryers, refrigerant line adapters and connections, and any and all accessories for complete and operating systems, with the piping sized by the manufacturer. Unit to be provided with indoor/outdoor interlocking controls and all accessories for a complete and operating system. See H.V.A.C. schedule on drawings.

Insulate suction piping with 1/2" cellular foam and paint all exterior insulation with tow coats cellular foam

EXHAUST FANS: Exhaust fans shall be equal to Acme sizes as indicated on schedule; approved equivalents will be acceptable. Provide starters as a part of this section or as shown on the drawings. Air deliveries shall be as indicated; units shall bear the AMCA Certified Performance Ratings Seal, AMCA Certified Sones Rating Seal and U.L. Label. Wheels shall be of centrifugal, forward curved design and shall be statically and dynamically balanced. Generally, all fans shall be provided with back draft dampers. For cabinet type, above ceiling fan housings shall be reinforced phosphatized steel construction; interior surfaces shall be finished in a dark color and grille for ceiling-installed fans shall be white metal with three-dimensional grid and shall have symmetrical, finished appearance. Grille screws shall be concealed from view. Grids shall have a minimum of 80% free area. Electrical connections — see Electrical Provisions of the Specifications & electrical drawings. Exhaust Fans: Exhaust fan on/off controls by electrical tradesmen.

EQUIPMENT START-UP: Initial start-up and service, including heat balance, of all operating equipment, together with any components factory-furnished, shall be done by service employees of equipment manufacturer according to the printed service and installation manuals for the equipment. A written report of start-up and service data, together with copies of the service and installation manuals, will be required by the designer prior to Final Inspection. After start-up a certified independent balancina contractor must ballance all H.V.A.C. systems Prior to balancing install clean air filters throughout and furnish owner with two (2) full sets of filters or

CONTROLS: Except as noted, install under this division heating and air conditioning controls as described and as detailed with all wiring, conduit, control devices, connections, calibration, check—out and adjustment for a complete working system and with installation according to the electrical work specifications. Prior to final inspection, install an "As Built" diagram and description of controls, including operating instructions in the maintenance manuals. Whether field or factory installed, install relays and contactors equal to ASCO, electric controls equal to Mercoid & Honeywell and breakers and starters equal to Square D.

HVAC system shall be furnished and installed with programmable thermostats equal to Honeywell Pro-8000, with sub-bases which shall be wall mounted in locations as shown on the drawings. Programmable thermostat assemblies shall provide staged heating and cooling, automatic changeover, fan control with programming to operate all HVAC blower fans continuously during occupied schedules, day/night programmable schedules, holiday schedules, etc. Time guard circuit to prevent compressor short cycling as a result of a change in the thermostat setting. Also, automatically prevents compressor restart at least 5 minutes after shutdown. Each unit controller shall include a display and key pad for 7-day programming. Each unit controller to open motorized outside air damper during occupied times and close when unoccupied. Each unit controller to maintain space temperature and humidity set point control capabilities. Energizing first stage heating while in cooling mode

Control wiring between the remote thermostat and the unit will be required and must be installed in conduit continuously Units require connection between thermostat and outdoor section. Provide all interlocking controls. All air handling equipment and supply fans shall operate continuously during occupied times. Install duct detectors

FIELD TOUCH UP PAINTING: Field touch up painting of all equipment furnished must maintain factory shop coat painting and factory finish painting as required per equipment manufacturers recommdations

this Section

END OF SECTION PLUMBING PROVISIONS

RELATED DOCUMENTS: Drawings and general provisions of contract, including General Conditions and General Requirement sections, apply to work of this Section. General Conditions apply to work of

SCOPE - PLUMBING: Furnish and install all labor, materials, and equipment shown on the Plumbing Drawings and specified herein, including all items and specialties required, whether specified or not, for complete working systems. In general, the Plumbing Work consists of the following: 1. Sanitary soil, waste, and vent piping systems and related items with connections as shown on the

drawings. 2. Domestic hot and cold water piping and and related items with hot and cold water connections as shown on the drawings

WORK UNDER OTHER SPECIFICATIONS: All electrical connections required for plumbing work will be furnished and installed under the Electrical Work Specifications Electrical Contractor to furnish all power wiring required for the equipment except as shown or noted. Under this work, rough out any additional items of equipment furnished under other sections of work. Coordinate closely with the Owner's

VALVES, DRAINS AND SPECIALTIES - GENERAL PLUMBING: Approved equivalents by Walworth Powell, Crane, Josam, Wade and Zurn acceptable as they apply. Valves and strainers shall be full size of pipe run: install valve stems vertical up.

1. Check Valves: Crane #36 threaded and #1342 solder. 2. Escutcheons: Split, chrome plated brass with deep recess where required for sleeves extending above

- finished floor. Install at sleeves in finished areas 3. Gate Valves: Crane #424 threaded 2-1/2" and smaller; #7-1/2E flanged 3" and larger; and #1334
- solder. Jenkins #32A and #1100R ball type acceptable except as noted 4. Pipe Cleanouts: Zurn Supremo, Series 1400, with cast iron ferrule, all bronze plug and with nickel
- bronze covers to match surrounding finish 5. Pipe Hangers: Either adjustable trapeze type, ring type, clevis type or "auto-grip" with minimum 1/4" hanger rod. Install copper plated hangers for uninsulated copper piping. Size hangers to clear insulation on pipework; no cutting of insulation is permitted. See a detail on the drawings for piping supports
- above new ceilings, where the detail is applicable 6. Pipe Sleeves: Galvanized Schedule 40 steel pipe set flush with surface for horizontal and 1" above finish floor for sleeves through upper floors. Sleeves will not be required where openings are core drilled. Size sleeves to clear insulation on pipework; no cutting of insulation is permitted. Fire seal all piping extending through fire walls with 3M, or equal, Fire Barrier Penetration Sealing System #CP 25N/S for 2 hour penetrations. Submit the UL Assembly shop drawings for approval.
- 7. Pipe Unions: Crane ground joint brass-to-iron seat type through 1-1/2" size and flanged 2" and larger, except dielectric unions equal to EPCO shall be installed where different pipe materials join and at each water heater on both cold water and hot water piping.
- 8. Support Points: Inserts, ramsets, expansion shields, or anchors equal to Phillips Redhead. Power drive

PIPE, FITTINGS AND JOINTS: Pipe and fittings to be according to ASTM Standards for the duty and use. Where pipina materials are noted on the plans other than specified herein, make up joints according to manufacturer's directions. Install according to use as follows: DOMESTIC WATER PIPING HOT AND COLD POTABLE WATER DISTRIBUTION:

- REFERENCES A. ASTM International ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials ASTM F876 Standard Specification for Cross-linked Polyethylene (PEX) Tubing ASTM F877 Standard Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold Water Distribution Systems ASTM F1807 Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing ASTM F2159 Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
- B. National Sanitation Foundation (NSF) Standard 14 Plastics Piping System Components and Related Materials Standard 61 Drinking Water System Components – Health Effects
- C. International Code Council (ICC) International Mechanical Code International Plumbing Code
- D. International Association of Plumbing Officials (IAPMO) Uniform Plumbing Code
- Uniform Mechanical Code Plastic Pipe Institute (PPI) Technical Report TR-3 Policies and Procedures for Developing Recommended Hydrostatic Design Stresses
- for Thermoplastic Pipe Materials Technical Report TR-4 Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Piping and Fitting Compounds
- F. Zurn PEX Inc. Plumbing Installation Guide SYSTEM DESCRIPTION
- Design Requirements: Standard Grade hydrostatic pressure ratings from the Plastic Pipe Institute in accordance with TR-3 and listed in TR-4. The following three standard-grade hydrostatic ratings are required; 200 degrees F at 80 psi 180 degrees F at 100 psi
- 73 degrees F at 160 psi

Tubing tested in general accordance with ASTM E84 for a flame spread/smoke developed index of 25/50 or less for the following PEX tube sizes encased with 1/2 inch fiberglass insulation; 1. 1-1/4 inch 1-1/2 inch 3. 2 inch

Tubing tested in general accordance with ASTM E84 for a flame spread/smoke developed index of 25/50 or less for the following PEX tube sizes; 1. 3/8 inch 2. 1/2 inch

- 3. 5/8 inch 4. 3/4 inch 5. 1 inch
- B. Performance Requirements: To provide a PEX tubing hot and cold potable water distribution system, which is manufactured, fabricated and installed to comply with regulatory agencies and to maintain performance criteria stated by the PEX tubing manufacturer without defects, damage or failure Comply with NSF Standard 14 Comply with NSF Standard 61 Show compliance with ASTM F877
- OUALITY ASSURANCE A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity and possesses the skills and knowledge to install a PEX potable water distribution system. Installer will utilize skilled workers holding a trade qualification license or equivalent or apprentices under the supervision of a licensed tradesperson
- DELIVERY, STORAGE AND HANDLING A. Delivery — Deliver materials in manufacture's original, unopened, undamaged containers with identification labels intact until ready for installation
- B. Storage and Protection Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer. Store PEX tubing indoors, in cartons or under cover to avoid dirt or foreign material from entering the

encountered, cover the tubing that is exposed to direct sunlight. WARRANT

Manufacturer's Warranty: Shall cover the repair or replacement of properly installed tubing and fittings proven defective as well as incidental damages Warranty period for PEX tubing and subsequent system shall be 25 year non-prorated warranty against failure due to defect in material or workmanship, beginning with the date of installation. It is the installer's responsibility to avoid mixing fittings manufactured by others as it will reduce the owner's warrantv

HOT AND COLD POTABLE WATER DISTRIBUTION SYSTEM: All products, components, etc. specified herein are manufactured by and/or are available from Zurn PEX, Inc. tubing manufacturer PRODUCT SUBSTITUTION: No substitutions are permitted MATERIALS

- A. Tubing Cross-linked polyethylene (PEX) manufactured by the Silane method Non barrier type a. Shall have a pressure and temperature rating of 160 PSI at 73°F, 100 PSI at 180°F and 80
- PSI at 200°F b. Tubing shall have a minimum of 6 months UV protection 3. Manufactured in accordance with ASTM F876 and ASTM F877 and tested for compliance by an
- independent third-party agency Must have Pex 5006 chlorine design Plenum tested in accordance with ASTM E84
- Must have a 25 year non-prorated warranty B. Fittings: Fittings shall be manufactured by Zurn PEX Inc, identified by the letters "Q" or "Z".
- Manufactured in accordance with ASTM F1807 or ASTM F2159 and/or comply with ASTM F877 system standard as identified on the fitting
- C. Crimp Systems Qickclamp: Listed to ASTM F877, identified as a Zurn PEX Inc, Qickclamp by the "Qickclamp" and "Q" markina. Copper Crimp Ring: Listed to ASTM F1807 and/or ASTM F877, black in color and identified as a Zurn
- PEX Inc, ring by the letter "Q." Tools Qickclamp tools shall be supplied by the PEX tubing manufacturer, identified by the name "Zurn" on
- Copper Crimp Ring tools shall be supplied by the PEX tubing manufacturer or approved by the PEX tubing manufacturer for use.
- Manifold QickPort Preassembled Manifold
- Copper Manifold System CR Manifold Multi Port Fittings
- Copper Manifold Header
- F. Valves: Shall be of the plastic or metal type, meeting the requirements of ASTM F877, identified as such with the appropriate mark on the product

in return ductwork to shut down units in alarm conditions. Coordinate shut down requirements with equipment

Do not expose PEX tubing to direct sunlight for more than six months. If construction delays are

MANUFACTURER'S INSTRUCTIONS: Comply with manufacture's product data, including product technical bulletins, technical memo's, installation instructions and design drawings, including; Zurn PEX Plumbing Installation Guide EXAMINATION:

A. Site Verification of Conditions

Verify that site conditions are acceptable for the installation of the PEX potable water system Do not proceed with installations of the PEX potable water system until unacceptable conditions are

INSTALLATION A. Install Zurn PEX tubing in accordance with tubing manufacturer's recommendations and as indicated in the Zurn PEX Plumbing Installation Guide

B. Do not install PEX tubing within 6 inches of gas appliance vents or within 12 inches of any recessed light fixtures C. Do not solder within 18 inches of PEX tubing in the same waterline. Make sweat connections prior to

makina PEX connections D. Ensure no glues, solvents, sealants or chemicals come in contact with the tubing without prior

permission from the tubing manufacturer

E. Do not expose PEX tubing to direct sunlight for more than 6 months F. Use grommets or sleeves at the penetration for PEX tubing passing through metal studs

G. Use a PEX manufacturer recommended fire stop sealant manufacturer

H. Protect PEX tubing with sleeves where abrasion may occur

I. Use nail plates where PEX tubing penetrates wall stud or joists and has the potential for being struck with a screw or nail

Allow slack of approximately 1/8 inch per foot of tube length to compensate for expansion and

K. Minimum horizontal supports are to be installed not less than 32 inches between hangers in accordance with model plumbing codes and the Zurn PEX Plumbing Installation Guide

Pressurize Zurn PEX tubing in accordance with applicable codes or in the absence of applicable codes, test pressure shall be at least equal to normal system working pressure, but not less than 40 PSI water or air and not areater than 225 PSI water, 125 PSI ai

M. Refer to other sections listed in Related Sections paragraph herein for related products installation FIELD QUALITY CONTROL

To ensure system integrity, pressure test the system before covering tubing in concrete and after other trades have worked in the vicinity of the tubing Repair and replace any product that has been damaged according to manufacturer's recommendation

PROTECTION: Protect installed work from damage due to subsequent construction activity on the site SANITARY SOIL, WASTE and VENT: Schedule 40 P.V.C. with long sweep elbows

BACKFLOW PREVENTION ASSEMBLY ENCLOSURE: Provide manufactured backflow prevention assembly enclosure. QUALITY ASSURANCE: The backflow prevention assembly enclosure manufacturer shall be a company specializing in the manufacture of backflow prevention assembly enclosures with at least 5 years of successful experience designing and selling enclosures to various customers in different climatic regions.

STORAGE AND HANDLING: Store products in shipping containers and maintain in dry place until installation. ACCEPTABLE MANUFACTURERS: Safe-T-Cover or Engineer approved equal.

REFERENCES: ASTM B209

A. Site Tests

2. ASSE 1060-Performance Requirements for Outdoor Enclosures for Backflow Prevention Assemblies MODEL NO. & SIZE: Model No. shall be 300-AL or equal. Inside dimensions shall be 22"W x 72"L x 38"H.

MATERIALS OF FABRICATION: Material of fabrication shall be 5052-H32 marine grade aluminum (.050/18 gauge), mill finish and shall meet ASTM B209. Insulation shall be 1.5" (9.0 "R" value) minimum thickness polyisocyanurate foam laminated to a glass fiber

reinforced facer (each side). The insulation shall have the following properties: 1. Dimensional Stability-Less than 2% linear change, ASTM D-2126; 2. Compressive Strength-20PSI, ASTM D-1621;

. Water Absorption-Less than 1% by volume, ASTM C-209; 4. Moisture Vapor Transmission-Less than one (1) perm, ASTM E-96;

5. Product Density-Nominal 2.0 lbs. per cubic foot, ASTM D-1622; 5. Flame Spread=25. ASTM E-84:

. Service Temperature= -100°F to +250°F maximum. 8. The insulation shall be of uniform thickness.

Structural members shall be redwoo

ROOF, WALLS & PANELS: The roof, walls & panels of the enclosure shall be constructed of 5052-H32 (.050/18 gauge) marine grade aluminum, mill finish, ASTM B209 outside with insulation 1 1/2" (9.0 "R" value) thick in the walls and panels and 3" (18.0 "R" value) thick in the roof. The aluminum, insulation and redwood shall be securely bonded together to form a composite panel. The aluminum panels shall be provided with a PVC or similar exterior film to prevent damage before installation. The film shall be removed before installation

The complete assembly, including valve stems, shall be protected by being inside the enclosure. The roof shall be securely attached to the walls with screws and inside roof connections. All screws shall attach to redwood members. The walls of the enclosure shall be securely attached to the concrete base with inside anchoring brackets. Access panels shall be two (2) in number and each shall be 26 1/2"W x 38"H. One access panel shall contain the drain panel. Access panels shall be completely removable

Access panels shall be provided with built-in pad lockable folding T-handles. Clear opening drain panel area shall be 26 1/2"W x 6 1/2"H. Drain panel shall have a stainless steel hinge and a stainless steel light strength spring as a positive means of closure so that the drain panel will not be activated by wind. Drain panel shall be designed to remain closed except during water discharge.

Heating Equipment (ASSE 1060 Class I-Required; ASSE 1060 Class II-Optional): Heating equipment shall be furnished and designed by the manufacturer of the enclosure to maintain an interior temperature of +40°F with an outside temperature of -30°F. The heater shall have two electrical resistance elements completely enclosed within a solid aluminum cast platen base. The platen heater shall be designed for installation to the concrete base with mounting hardware provided. The platen heater shall be suitable for installation underneath a reduced pressure zone device and designed to sustain water spray without damage to or impeding the performance of the heater. The platen heater shall be provided with a thermostat adjustable from +40°F to +100°F. The thermostat, all conduit and wiring fittings provided shall be suitable for "water-tight" installation

MOUNTING HARDWARE: Mounting hardware shall be furnished and shall be 300 series stainless steel and/or T-6 aluminum. All threaded fasteners shall be furnished and shall be 400 series stainless steel and/or Hilti type Tap-Fast w/Quickcoat™ and Flo Seal washer or equal. All masonry fasteners shall be furnished and shall be stud type Hilti Kwik Bolt II™ and/or Hilti type Hit Anchors or equal. All necessary drill bits shall be furnished. INSTALLATION: Enclosure shall be mounted on a concrete pad 36"W x 86"L x 6" Thick. Enclosure shall be

assembled and mounted to concrete pad according to manufacturer's instructions. Enclosure shall be assembled and mounted to concrete pad in such a way that it will remain locked and secured to pad even if outside screws are removed. PLUMBING FIXTURES: Fixtures and trim shall be American-Standard, Crane, Eljer or Kohler according to

Schedule or as selected by owner. Install fixtures and trim of one make and design in each area or location and with Zurn chair carriers, Josam Bulldog Carriers or Smith for fixtures at chases and for all lavatories, urinal and water coolers. Where walls supporting plumbing fixtures without chases are built of steel studs, install fixture carriers with block bases in the wall for fixture support, setting the block bases flush with or below the finished floor line and connecting minimum of three (3) studs with steel plates for support of fixture. Install minimum 1/2" water supplies with stops to fixtures. Install P-traps at any fixture of 17 gauge semi-cast brass with cleanouts. P-traps below floor shall be cast iron. Plumbing fixture trim shall be chrome plated

INSTALLATION — PLUMBING PIPING: Cut pipe square, ream, and thread with sharp dies for threaded fittings. Install piping straight, plumb, without sags and parallel with building elements, maintaining minimum 1/4" per foot grade on gravity systems. Install hangers on maximum centers of 5' for cast iron pipe, 6' for other pipes 1-1/2" and smaller, 10' for other pipes 2" and larger and at elbows or as recommended by the manufacturer for the material. Support stacks at base. Fill space between pipe and sleeves through floor slabs on grade with poured compound. Install cleanouts on sewer within the building line at a minimum distance of 50'—O" and set flush with finished floor materials. Install unions and manual valves, whether shown or not, at each side of operating equipment, maintenance points, water heaters, and as shown in details. Install shut-off valves in water supplies to groups of fixtures. Where required for valves, install Milcor aluminum access panels inside primed paint grade where ceiling system is not accessible.

TESTS: After complete erection of piping systems and before installation of fixtures or equipment completely test piping, check for leaks and make tight. No caulking or peening—over of leaking fittings shall be permitted. After completion of tests piping systems shall be flushed as indicated herein and domestic water piping system sterilized as specified herein. Tests may be made in sections, but flushing and sterilization shall be accomplished after complete erection. Where state code specifies method of test, such code shall take precedence over the test specified herein.

Sanitary, Soil, Waste and Vent: Isolate or close with test plugs and fill with water for minimum 5 PSIG (10'—0" foot head) hydrostatic pressure placed on the highest joint for minimum of 24 hours. No

2. Domestic Water and Treated Water: Water test with water furnished for the service at 150 PSIG for domestic and 50 PSI for treated for minimum of 24 hours, flushing before and after test. No exfiltration allowed.

DOMESTIC WATER PIPING STERILIZATION: Flush out the pipe lines until the water runs clear. This shall be done after the pressure test and before disinfection. Drain and clean strainers and dirt pockets. After the domestic piping system has been tested and cleaned, the system shall be sterilized in accordance with the State Department of Public Health by the following methods: 1. Introduce HTH solution, chlorine gas, or similar chlorination agent in sufficient quantity to produce a residual of 50 ppm of chlorine as determined by residual chlorine tests at the ends of the lines, and allow to stand for not less than 24 hours. Fill the lines slowly and open and close all valves while the chlorine

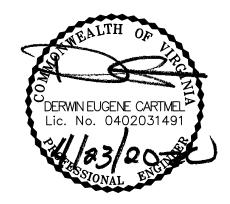
s being introduced into the system. Operate valves, pumps, etc. at least 5 times, or 5 minutes. After the disinfecting solution has been left standing for 24 hours, flush out the system until chlorine content is less than 1.0 ppm and/or water is comparable to that supplied by the water utility. If after lushing out the system, bacteriological samples are not satisfactory, repeat the disinfection process until

Disinfection of new supply mains shall be performed before these mains are connected to the existing water supply mains. Where connecting into the existing mains and it is not practical to include the connection pieces (i.e. pipe, fittings and valves) in normal disinfecting process, these connecting pieces shall be swabbed with chlorine solution containing not less than 100 ppm available chlorine prior to making connection. Have samples obtained from the end of the longest piping run, analyzed by the water utility chemist and submit a copy of the test to the Engineer. END OF SECTION

satisfactory bacteriological samples can be obtained.

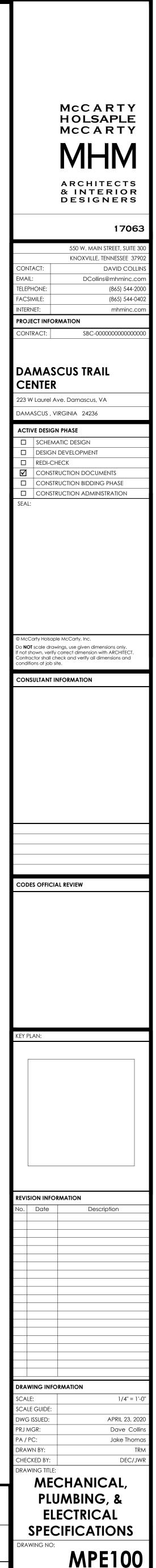
SEE SHEET MPE101 FOR CONTINUATION OF SPECIFICATIONS





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INSULATION PROVISIONS

RELATED DOCUMENTS: Drawings and general provisions of contract, including General Conditions and General Requirement sections, apply to work of this Section. SCOPE — INSULATION SYSTEMS: Furnish and install all labor, materials and equipment shown on the mechanical drawings and as specified berein including all items and specialties required whether spec

mechanical drawings and as specified herein, including all items and specialties required, whether specified or not, for complete systems of pipe insulation. External ductwork insulation specified in other sections of this DIVISION are not a part of this section and will be furnished and installed under other sections of this DIVISION. In general, the insulation work consists of the following work: 1. Insulation of domestic hot and cold water piping systems. (all existing & new of this suite.)

INSULATION: HOT AND COLD PIPING: Install molded fiberglass insulation with vapor-barrier jacket and butted solidly together with joints and seams staggered. Cover fittings with molded insulation sections. For hot piping, seal joints and flaps with Lagtone and cover fittings with 8 oz. canvas jacket over Lagtone sealer and sealed on with Lagtone, sealing off insulation ends with jacket and Lagtone. For cold piping, seal joints and flaps with adhesive, sealing off insulation ends with mastic. Cover insulated fittings with 0.002" thick aluminum foil sealed on with adhesive and cover with 8 oz. canvas jacket and coat of mastic. Fitting covers equal to one piece PVC "Zeston" covers shall be used.

Equal materials, mastic, adhesives, and sealers made by Manville, Gustin-Bacon, Foster, Armstrong and PPG Industries are acceptable when labeled and/or listed. Adhesives, mastics and insulation materials used shall be Underwriter's labeled and/or listed for a maximum rating of 25 for flame and 50 for smoke. INSTALLATION - INSULATION SYSTEMS: Install this work using mechanics experienced in the trade. Systems shall be completely erected and tested and all surfaces shall be clean and dry prior to application of insulation. For insulation, install saddles between support and insulation at all piping support points equal to Fee & Mason, Figure 171, for hot piping and minimum 20 gage galvanized steel saddles 18" long for cold piping. Install rigid insulation sections in cold piping insulation at saddles, sealing the rigid section to the run of insulation. Install insulation continuous through sleeves or core drilled holes for cold piping. Stapling of pipe insulation on cold water is not acceptable unless all staples are vapor sealed with mastic to the Engineer's satisfaction. No duct tape will be allowed on any insulation system. A continuous vapor barrier seal will be required on all cold water systems. Failure to maintain this barrier will not be allowed. END OF SECTION

ELECTRICAL PROVISIONS

RELATED DOCUMENTS: Drawings and General Provisions of Contract, including General Conditions and Division I General Requirement Sections, apply to work of this section.

DESCRIPTION OF WORK: Furnish and install all labor, materials, and equipment shown on the drawings and specified herein, including all items and specifications required, whether specified or not, for complete working systems. In general, the Electrical Work consists of the following: 1. Secondary distribution with connections as detailed.

- 2. Wiring and equipment for lighting and power, together with lighting fixtures and devices.
- Wiring and connecting equipment of other trades.
 Power service shall be 1 phase 3 wire 120/240 volts.

plumbing, and Owner-supplied equipment.

CONNECTION TO OTHER SPECIFICATION WORK: Under this work division, furnish and install all labor and materials, together with the required switches, for connecting power to heating, air conditioning and ventilation,

SECONDARY WIRE AND CABLE: Except as noted, install minimum #12 AWG 600—volt copper Type THHN/ THWN or as noted on the drawings. Install solid conductors for #10 size and smaller. No aluminum wire will be allowed. #8 wire and larger shall be stranded copper. Although not necessarily shown, provide a complete ground throughout bonded and grounded as per NEC.

BOXES, CABINETS, SUPPORTS AND SPECIALTIES: Install of galvanized malleable steel alloy. Install cabinets with grey baked finish on exposed surfaces and removable trim with hinged doors and flush locks, all keyed alike. Install boxes underground, for exterior outlets and as required by the National Electric Code with threaded cast hubs and gasketed covers attached with screws. Pressed boxes will not be allowed. Unless noted otherwise, install other switches, receptacles, and lighting outlets of pressed steel box with proper cover and size and with ears and studs where required. Ceiling outlet boxes shall be minimum 4" octagon 2-1/8" deep and with extension rings where additional volume is required. Single gang wall boxes shall be minimum 4" high X 2-1/8" wide X 2-1/8" deep except boxes in masonry shall be 2-1/2" deep. Boxes shall be equal to Steel City, Appleton or Raco. Use solid gang box for two gangs or more.

PANELBOARD & BREAKERS: Install safety dead front breaker type, surface mounting as required and shown. All breakers quick—make and quick—break with trip free handles, thermal—magnetic trip. Two /three pole breakers shall have a common trip. All breakers ambient compensated and all interiors with integrated capacity bussing. All branch breaker handles shall operate in the same plane. Furnish all "spare" breakers. All H.V.A.C. equipment breakers shall be H.A.C.R. rated. See the plans for schedules indicating number of branch circuits, ratings, arrangements, etc. Provide neutral bars for all 3 ø system feeders isolated from the panel box. Provide separate "ground" bars installed with lugs or connectors on the bar grounded to the panel box. Bus bars shall be of sequence phase type arranged for the specified service. All circuits shown as common neutral shall be installed as per N.E.C.

SAFETY SWITCHES: Install safety switches of general duty rating, and with dual element, time lag, cartridge type fuses. Except as noted, install all units with general purpose enclosures inside or NEMA 3R outside. Furnish owner with 1 set of "spare" fuses in addition to all required fuses. LIGHTING FIXTURES: Install according to schedule and complete with lamps and any hangers, plaster frames

and other accessories. Verify ceiling systems for recessed fixture trim. Coordinate fixtures with owner. INSTALLATION: Install gear with operating handles maximum 6-feet from floor and trims in line. Provide completed directory for panelboard. Close any conduit runs during construction. Apply waterproofing compound to joints in rigid conduit runs. Install fittings and supports of same material and finish as conduit. Support raceways with brackets, hangers, or other approved devices. Use no perforated strap or wire

Support raceways with brackets, hangers, or other approved devices. Use no perforated strap or wire hangers. Install pull boxes or points for maximum 200' run and 3 quarter bends in wiring conduit runs and 100' of run and 2 quarter bends in signal and communications conduit runs. Install long sweep elbows in signal and communications conduit runs. Except for terminations in threaded hubs, lock conduit in place with proper fittings and install bushing. Leave bare copper pull wires in all empty conduit runs. Bond and ground all systems in accordance with N.E.C. As required or as shown

on plans, install boxes and devices on surface or flush with building finish, with units rigidly fastened in place properly aligned. Box extensions may be used. Verify door swings prior to roughing for lighting switches. Install a plate for all devices, including blank plates over blank boxes, plates to be in continuous contact with building finish and not to support box. Pull wire only after areas are cleaned and pull with proper lubricants and continuous between boxes without splice. Make up splices in Wire #10 or smaller with Ideal "Wing Nuts" and in larger wire with approved mechanical connectors and tape. After installation, megger electrical work for grounds and shorts and correct as required. All receptacles shall be installed with ground hole on top.

TESTING: In conjunction with his work, the Contractor shall do the following:

Check outlets for proper polarity and correct as required in accordance with N.E.C.
 Megger all motor and solenoid windings before connection for insulation resistance and record readings.

If found low, advise supplier so that steps may be taken to dry out insulation or otherwise raise insulation resistance to an acceptable value. 3. Check running currents of all motors and if there is any major unbalance or variation from rated, determine the cause.

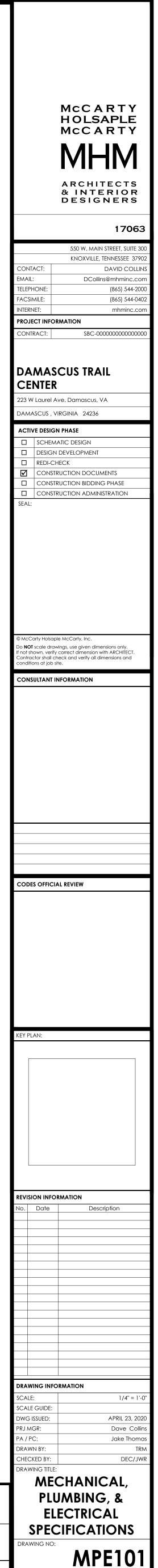
END OF SECTION END OF MECHANICAL & ELECTRICAL PROVISIONS

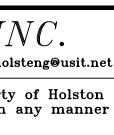


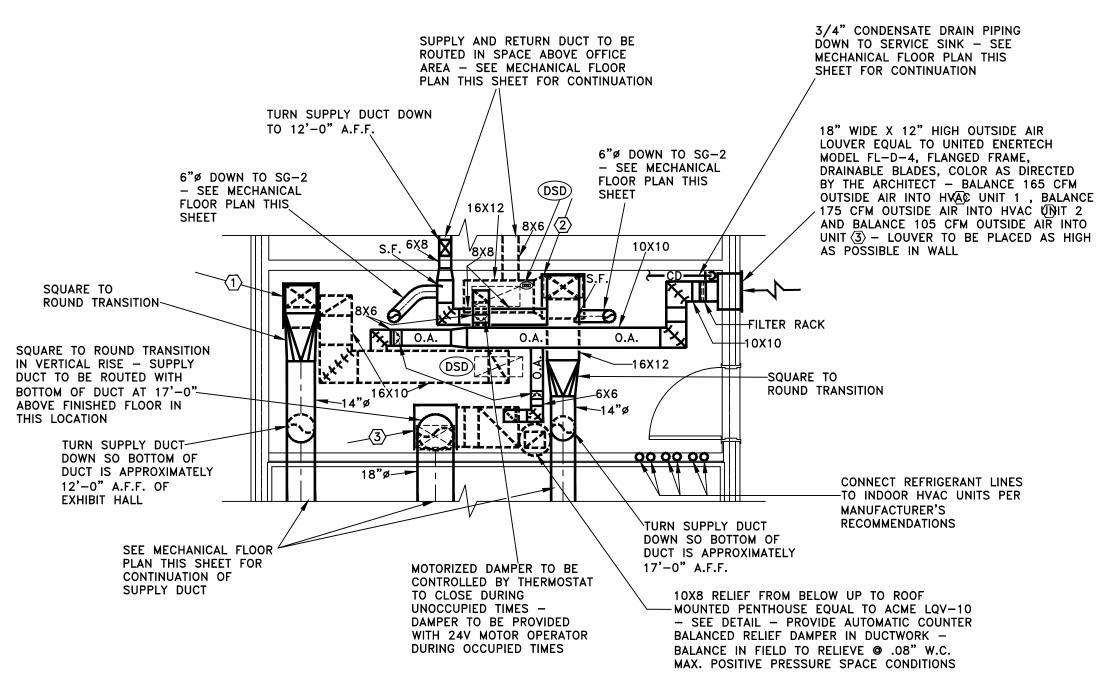


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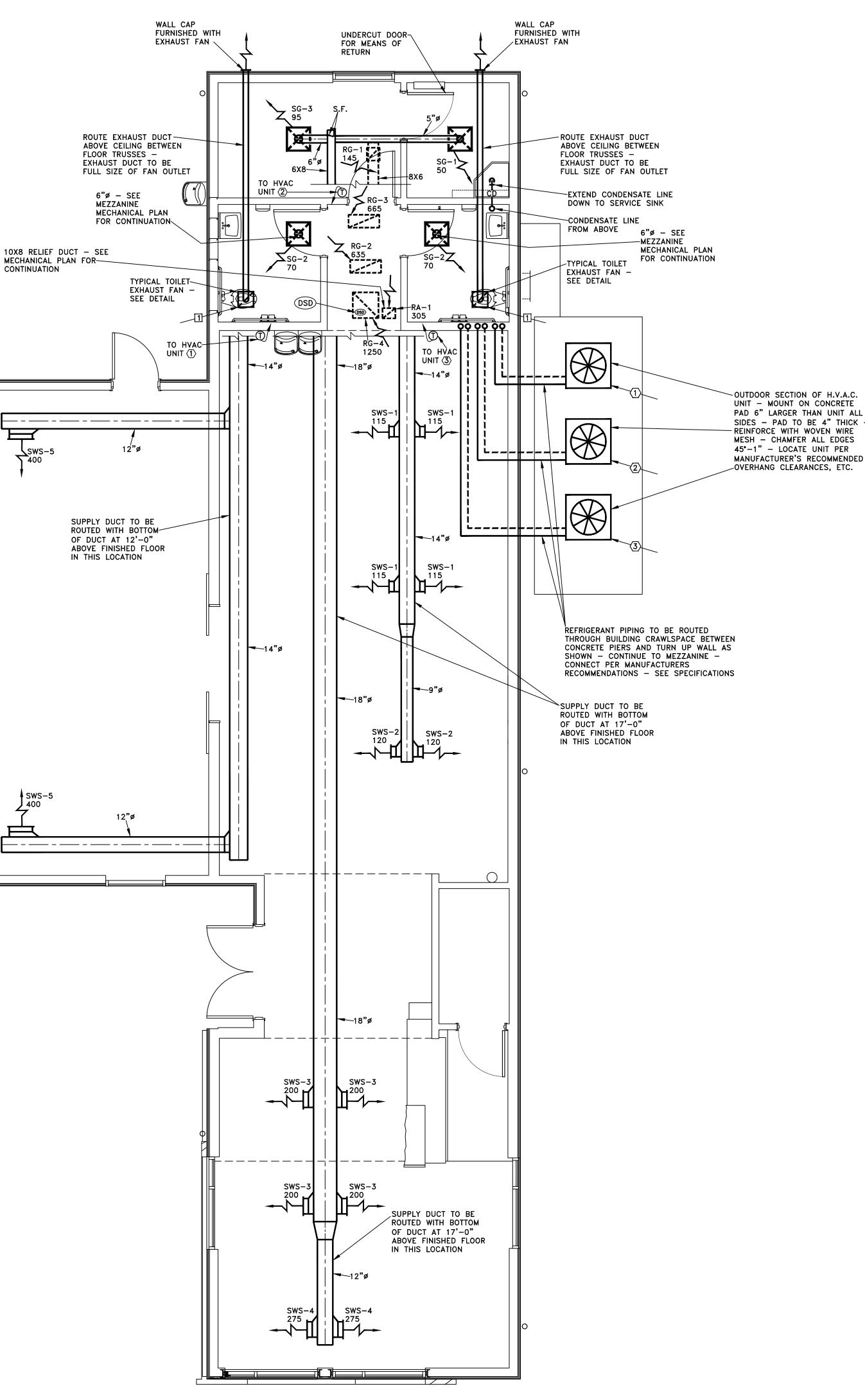
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MEZZANINE MECHANICAL PLAN - TRAIL CENTER

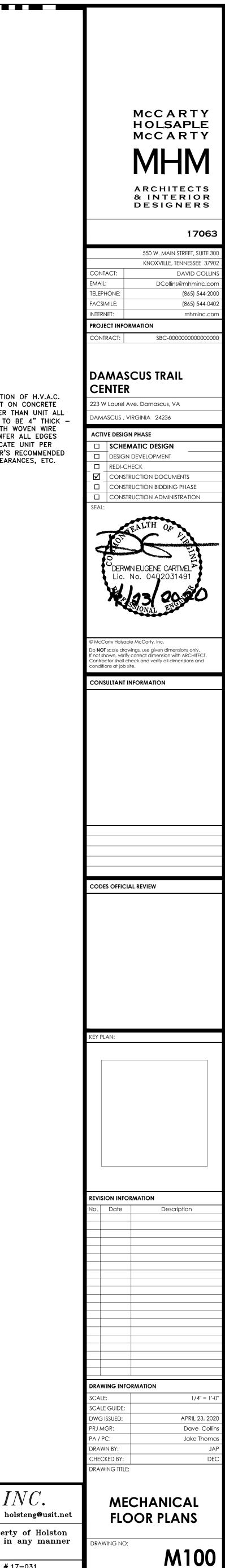
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MECHANICAL FLOOR PLAN - TRAIL CENTER 1/4" = 1'-0"



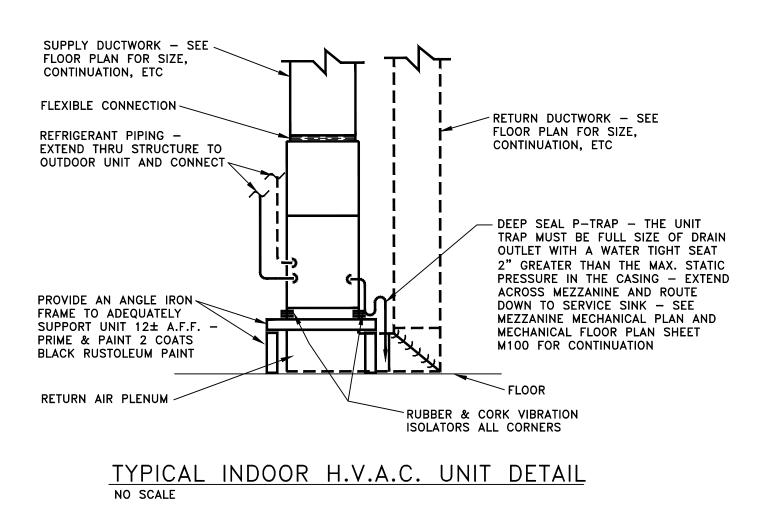
PLOT DATE: 04/23/2020



HE PROJECT # 17–031

	H.V.A.C. LEGEND
	SUPPLY DUCTWORK WITH 2" EXTERNAL INSULATION
투국	RETURN/RELIEF DUCTWORK WITH 2" EXTERNAL INSULATION
	FLEXIBLE DUCTWORK EQUAL TO GENFLEX 1L-1
<u>↓</u>	ROUND DUCTWORK WITH 2" EXTERNAL INSULATION
↓ 0.A. ↓	OUTSIDE AIR DUCTWORK WITH 2" EXTERNAL INSULATION
T	ROOM THERMOSTAT - SEE CONTROL SPECIFICATION
	H.V.A.C. UNIT – SEE SCHEDULE AND DETAILS
-1/	AIR DISTRIBUTION OUTLET - SEE SCHEDULE
[]	EXHAUST FAN - SEE SCHEDULE AND DETAIL
S.F.	SPIN-IN FITTING WITH AIR SCOOP
B.D.	BALANCING DAMPER - SEE DETAIL
DSD	DUCT MOUNTED SMOKE DETECTOR – TIE INTO H.V.A.C. UNIT FAN CIRCUIT

FOR EMERGENCY SHUT DOWN CONTROL



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В ED C BINDING

.A.C. EQUIPMENT SCHEDULE								
$\langle 1 \rangle$	2	3						
SPLIT SYSTEM HEAT PUMP	SPLIT SYSTEM HEAT PUMP	SPLIT SYSTEM HEAT PUMP						
CARRIER FX4DNF025	CARRIER FX4DNF031	CARRIER FX4DNF043						
10 KW @ 240V/1ø	15 KW @ 240V/1ø	15 KW @ 240V/1ø						
1/3 H.P.	1/3 H.P.	1/3 H.P.						
800	985	1350						
.50" AFTER WET COIL	.50" AFTER WET COIL	.50" AFTER WET COIL						
230V/1ø	230V/1ø	230V/1ø						
58.5 A	83.4 A	83.4 A						
60 A	90 A	90 A						
25HBC524A	25HBC530A	25HBC542A						
23,800	28,800	41,500						
17,890	21,980	30,870						
24,000	28,600	41,500						
3.96	3.98	3.82						
14,700	17,000	26,400						
2.68	2.66	2.62						
15.3	15.3	15.0						
1.90	2.30	3.36						
208/230V/1ø	208/230V/1ø	208/230V/1ø						
16.5 A	18.1 A	27.6 A						
25 A	30 A	40 A						
165 CFM	175 CFM	100 CFM						

H.V

UNIT DESIGNATION

TYPE INDOOR UNIT MANUFACTURER MODEL #

HEATER KW

E.S.P.

VOLTAGE M.C.A.

M.O.C.P.

OUTDOOR UNIT MODEL #

TOTAL COOLING

SENSIBLE COOLING

HEATING 47°

C.O.P.

HEATING 17•

C.O.P. S.E.E.R.

SYSTEM KW

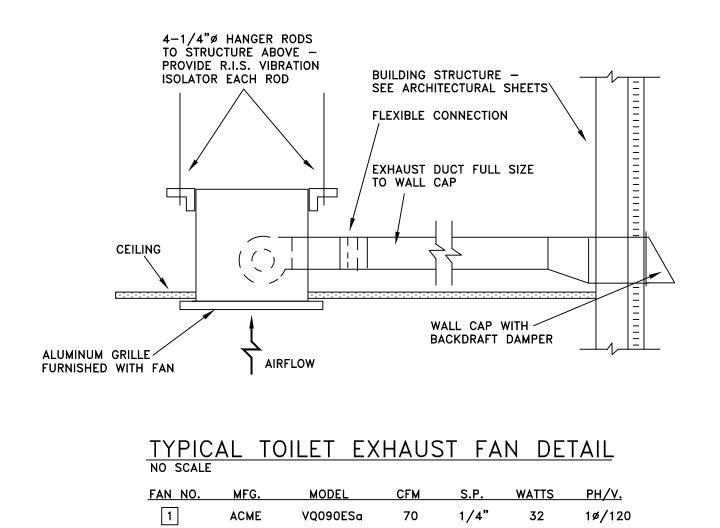
VOLTAGE M.C.A.

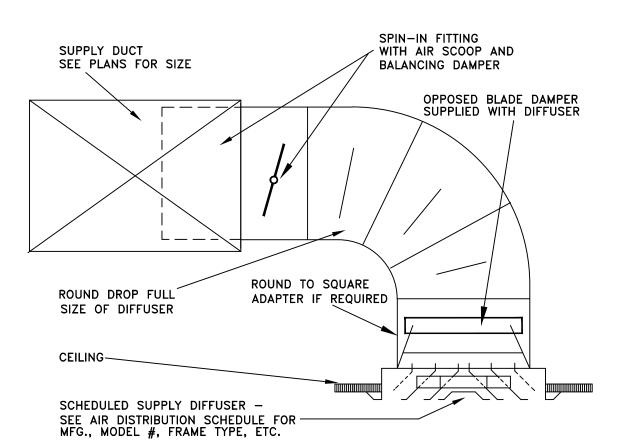
D.E.F./HACR BREAK

OUTSIDE AIR

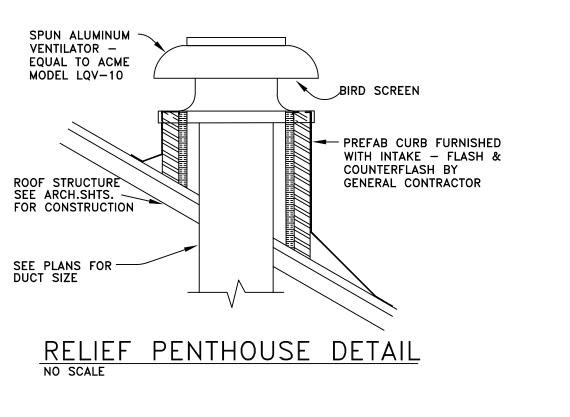
MOTOR HP CFM

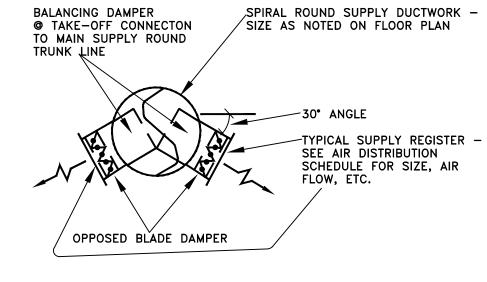
	AIR DISTRIBUTION SCHEDULE								
MARK	MANUFACTURER & MODEL NO.	SERVICE	SIZE	C.F.M.	F.P.M.	DESCRIPTION	MATERIAL	FINISH	ACCESSORIES & FEATURES
SG-1 SG-2 SG-3 SG-4	KRUEGER SHPC-04	SUPPLY	6X6 6X6 6X6	50 70 95	200 280 380	FOUR WAY THROW DIFFUSER WITH FLANGED FRAME FOUR WAY THROW DIFFUSER SURFACE MOUNT FLAT	STEEL	WHITE	FULLY ADJUSTABLE WITH AIR PATTERN CONTROLLERS AND OPPOSED BLADE DAMPER WITH FLANGED FRAME
SWS-1 SWS-2 SWS-3 SWS-4 SWS-5 SWS-6	KRUEGER 880	SUPPLY	6X6 6X6 12X6 12X8 18X10	115 120 200 275 400	460 480 400 410 320	SIDEWALL SUPPLY GRILLE	STEEL	COLOR BY ARCHITECT	OPPOSED BLADE DAMPER DOUBLE DEFLECTION
RG-1 RG-2 RG-3 RG-4 RG-5	KRUEGER S580	RETURN	10X6 24X10 24X10 20X20	145 635 665 1250	345 380 400 450	RETURN GRILLE WITH 1" FILTER FRAME	ALUMINUM	WHITE	HORIZONTAL BLADES ANGLED TO PREVENT SEE THROUGH AND OPPOSED BLADE DAMPER MODEL 5FF FILTER FRAME WITH 1" FILTER, AND 1/4 TURN FASTENERS
RA-1 RA-2	KRUEGER S580 NOT USED	RELIEF	12X8	305	455	RELIEF GRILLE WITH FLANGED FRAME	ALUMINUM	WHITE	HORIZONTAL BLADES ANGLED TO PREVENT SEE THROUGH





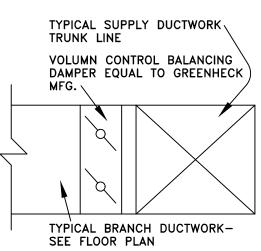
CEILING SUPPLY DIFFUSER CONNECTION DETAIL





SPIRAL ROUND SUPPLY DUCTWORK -SIZE AS NOTED ON FLOOR PLAN

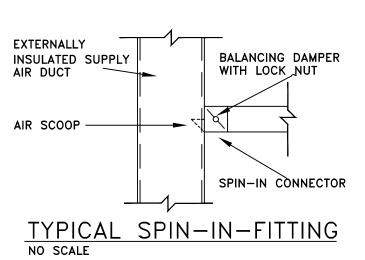
TYPICAL ROUND DUCT AIR DISTRIBUTION CONNECTION DETAIL

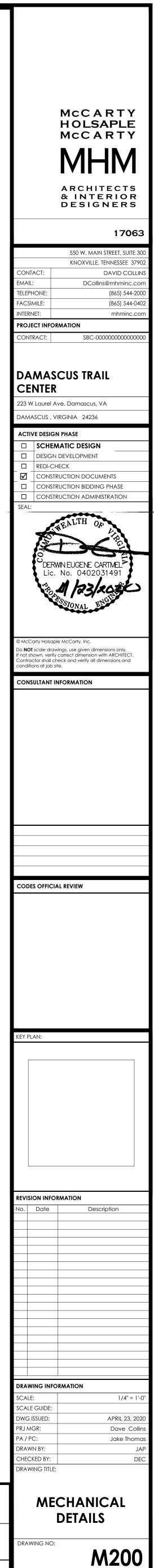


BALANCING DAMPER

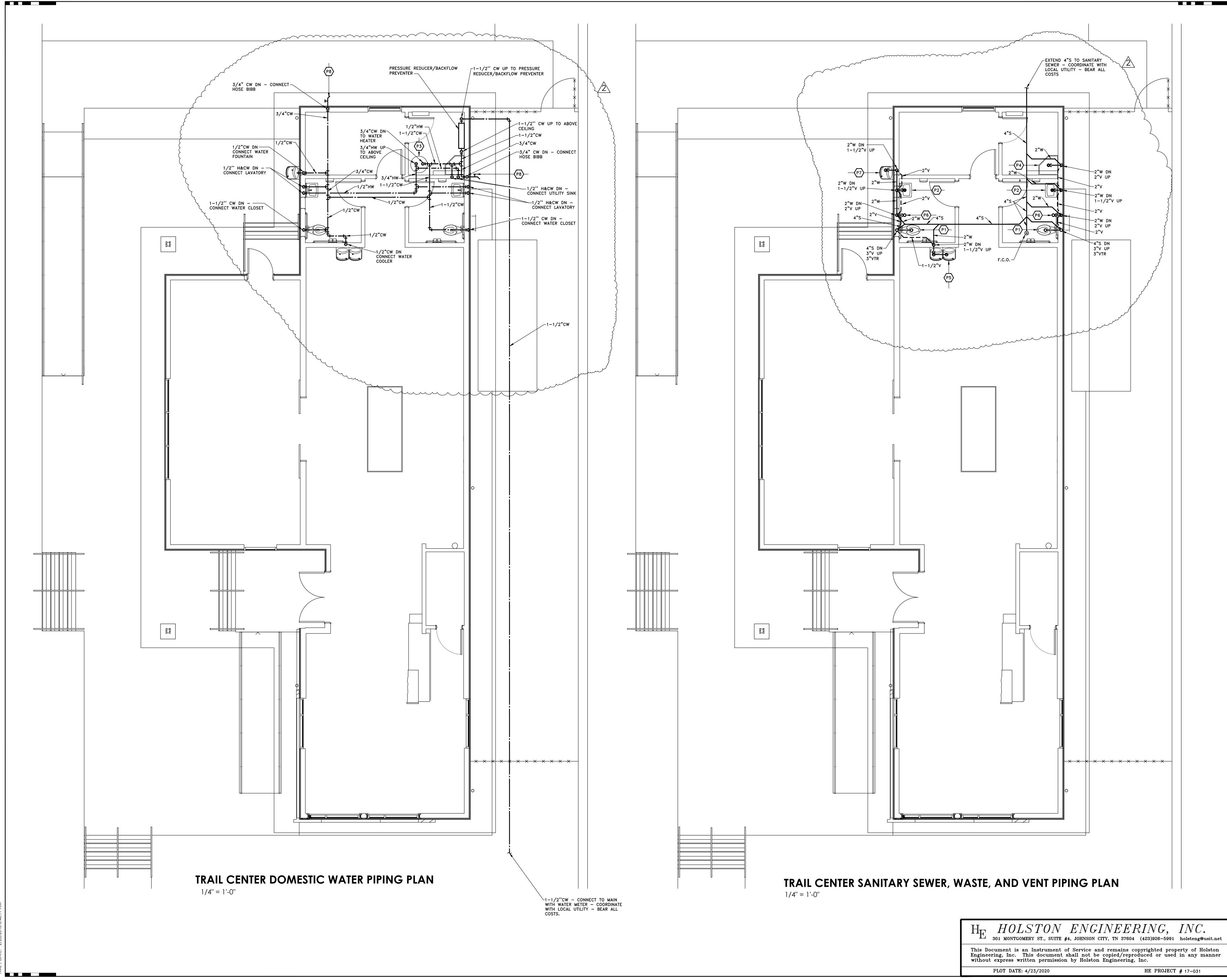


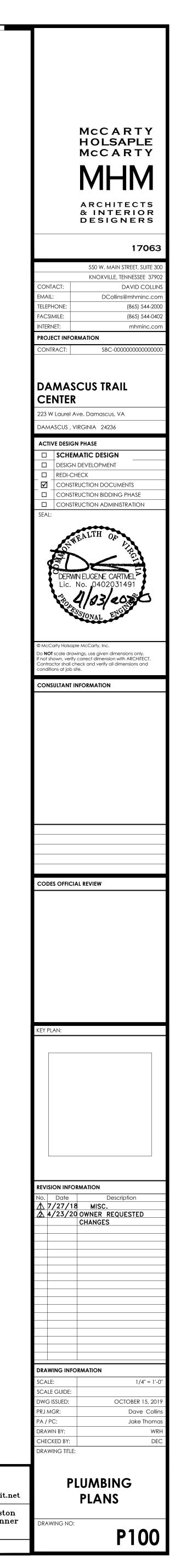
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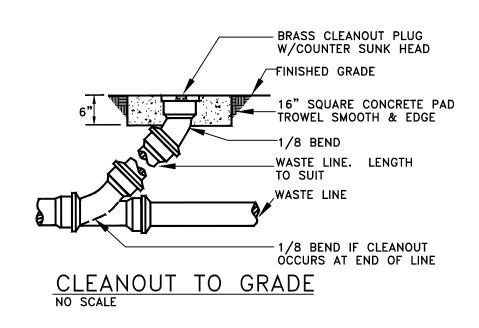


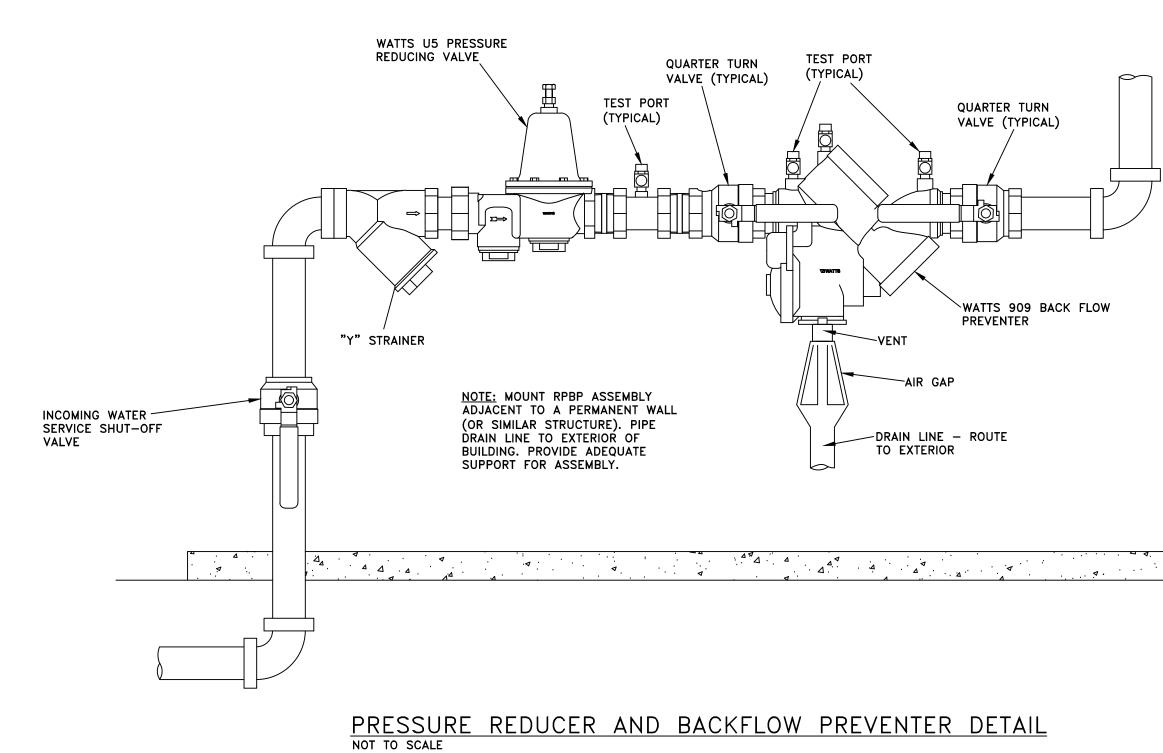
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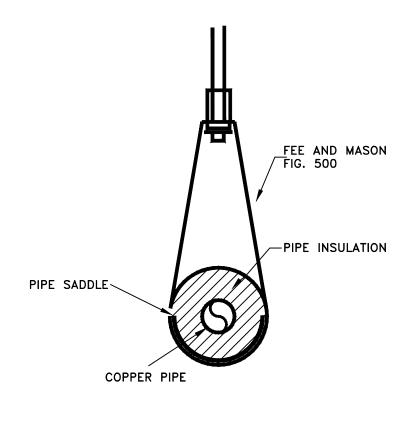


NO.	ТҮРЕ	SIZE	REMARKS	MAKE	MODEL
P1	WATER CLOSET HANDICAPPED	16—½"Н.	EVERCLEAN FLOOR MOUNTED, ELONGATED BOWL, SIPHON JET, WITH ZURN FLUSH VALVE Z6000AV-WS1 EXPOSED FLUSH VALVE, WHITE MOLTEX LID AND SEAT WITH OPEN FRONT. CONNECT 1-1/2" COLD WATER AND 4" SOIL. 1.6 GALLON FLUSH	AMERICAN STANDARD	3461.001
P2	WALL-HUNG LAVATORY HANDICAPPED	20"X18"	VITREOUS CHINA, WALL-HUNG WITH $\#7385.043$ SINGLE LEVER FAUCET ON 4" CENTERS WITH INTEGRAL GRID DRAIN AND AERATOR FOR 2-1/2 GPM FLOW. CONNECT 1/2" HOT AND COLD WATER, 1-1/4" WASTE. MOUNT 34" ABOVE FINISHED FLOOR. NEATLY INSULATE ALL EXPOSED PIPING WITH FACTORY INSULATION KIT EQUAL TO "LAV-GUARD 2" BY TRUEBRO INC. MODEL $\#102$ E-Z (WHITE). PROVIDE CHAIR CARRIER	AMERICAN- STANDARD	0355.012
P3	ELECTRIC WATER HEATER	19 GAL.	FOAM INSULATED WITH 6 YEAR GUARANTEE, FACTORY INSTALLED AUTOMATIC RESETTING RELIEF VALVE WITH WASTE TO DRAIN. DIELECTRIC UNIONS GATE VALVES ON EACH WATER CONNECTION AND DRAIN VALVE. SEE DETAIL FOR INSTALLATION. MAKE 3/4" WATER CONNECTIONS. UNIT FOR 1 PHASE, 240 VOLTS, 4.5 KW	STATE	ES6 20 SOM
P4	CORNER FLOOR SERVICE SINK	24 " X24" 12" DEEP	FLOOR MOUNTED, TERRAZZO, WITH STRAINER, RIM GUARD; SPEAKMAN #SC-5811-RCP FAUCET FOR HOT AND COLD WATER WITH STOPS IN SHANKS, VACUUM BREAKER, TOP BRACE AND 3'-0" HOSE WITH WALL HOOK. CONNECT 1/2" HOT AND COLD WATER, 3" WASTE THRU CAST IRON P-TRAP.	STERN- WILLIAMS	SBC-1502
P5	WATER COOLE DUAL LEVEL	.R	DUAL LEVEL, BARRIER-FREE, WALL-HUNG, AIR COOLED, WITH STAINLESS STEEL TOP, TOUCHLESS BOTTLE FILLER, HEAVY GAUGE GALVANIZED STEEL FRAME, NO LEAD DESIGN, CONTINUOUS FLOW BUBBLER, AUTOMATIC STREAM REGULATOR, STRAINER IN COLD WATER SUPPLY, 5 YEAR GUARANTEE AND WALL CARRIER. CONNECT 1/2" COLD WATER AND 1-1/4" WASTE.	ELKAY	LZSTL8WS
P6	FLOOR DRAIN W/ WATERLES	S TRAP	FLOOR DRAIN WITH TYPE "B" STRAINER, DEEP SEAL TRAP, POLISHED NICKEL STRAINER. WITH MAINLINE WATERLESS TRAP SEAL ML69020	ZURN	Z415
P7	OUTDOOR WA FOUNTAIN	TER	ADA COMPLIANT, TUBULAR WALL MOUNT BARRIER FREE, FREEZE RESISTANT, STEEL FOUNTAIN WITH POWDER COATED FINISH AND E-COAT IMMERSION, VANDAL RESISTANT BUBBLER. WATER INLET CONNECTION 3/8"O.D. – 1–1/4" WASTE OUTLET	ELKAY	LK4405FRK
P8	WALL HYDRANT		AUTOMATIC DRAINING, FREEZELESS WALL HYDRANT. CONNECT 1/2" COLD WATER. MOUNT 24" ABOVE FINISHED GRADE	WOODFORD	17

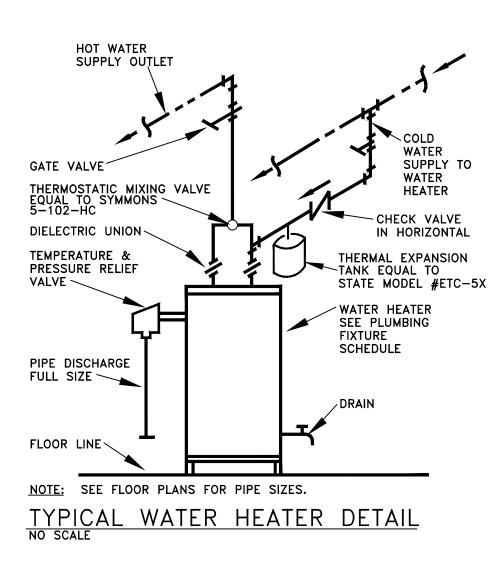




CLEANOUT AND ACCESS COVER. TOP OF COVER TO BE FLUSH WITH TOP OF FLOOR FLOOR LINE BALANCE OF PIPING SAME AS CLEANOUT TO GRADE 1/8 BEND FLOOR CLEANOUT (FCO)





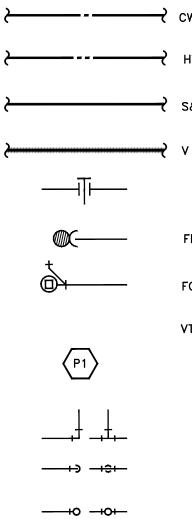


QUARTER TURN VALVE (TYPICAL)

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WATTS 909 BACK FLOW PREVENTER

PLUMBING LEGEND



→	cw	COLD WATER SUPPLY PIPING
~	HW	HOT WATER SUPPLY PIPING (112°F MAX)
~	S&W	SANITARY SOIL & WASTE PIPING
~	۷	SANITARY VENT PIPING
		GATE OR BALL VALVE
	FD	FLOOR DRAIN WITH P-TRAP AND WATERLESS TRAP PRIMER
	FCO	FLUSH CLEANOUT

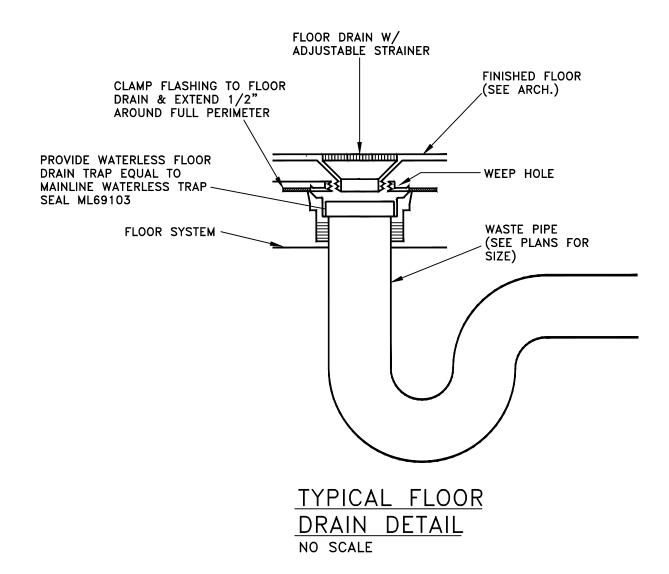
VTR VENT THRU ROOF

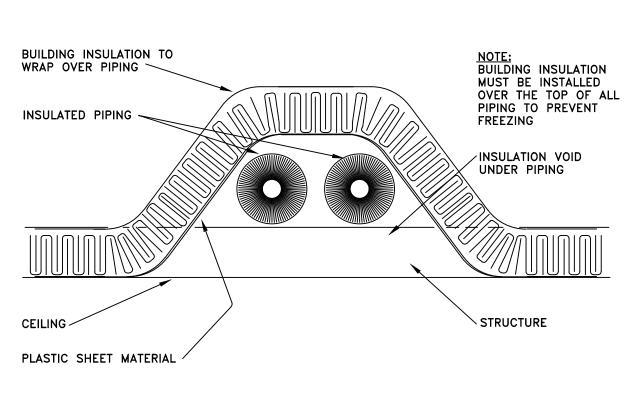
PLUMBING FIXTURES – SEE PLUMBING FIXTURE SCHEDULE

PIPE ELBOW AND TEE IN PLANE

PIPE ELBOW AND TEE TURNED DOWN

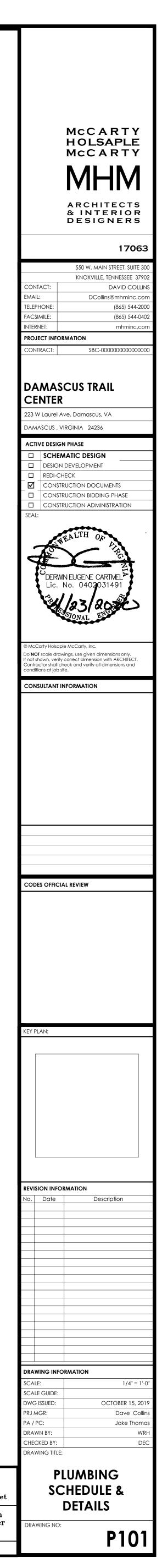
PIPE ELBOW AND TEE TURNED UP





DOMESTIC HOT & COLD WATER LINES IN ATTIC DETAIL NO SCALE

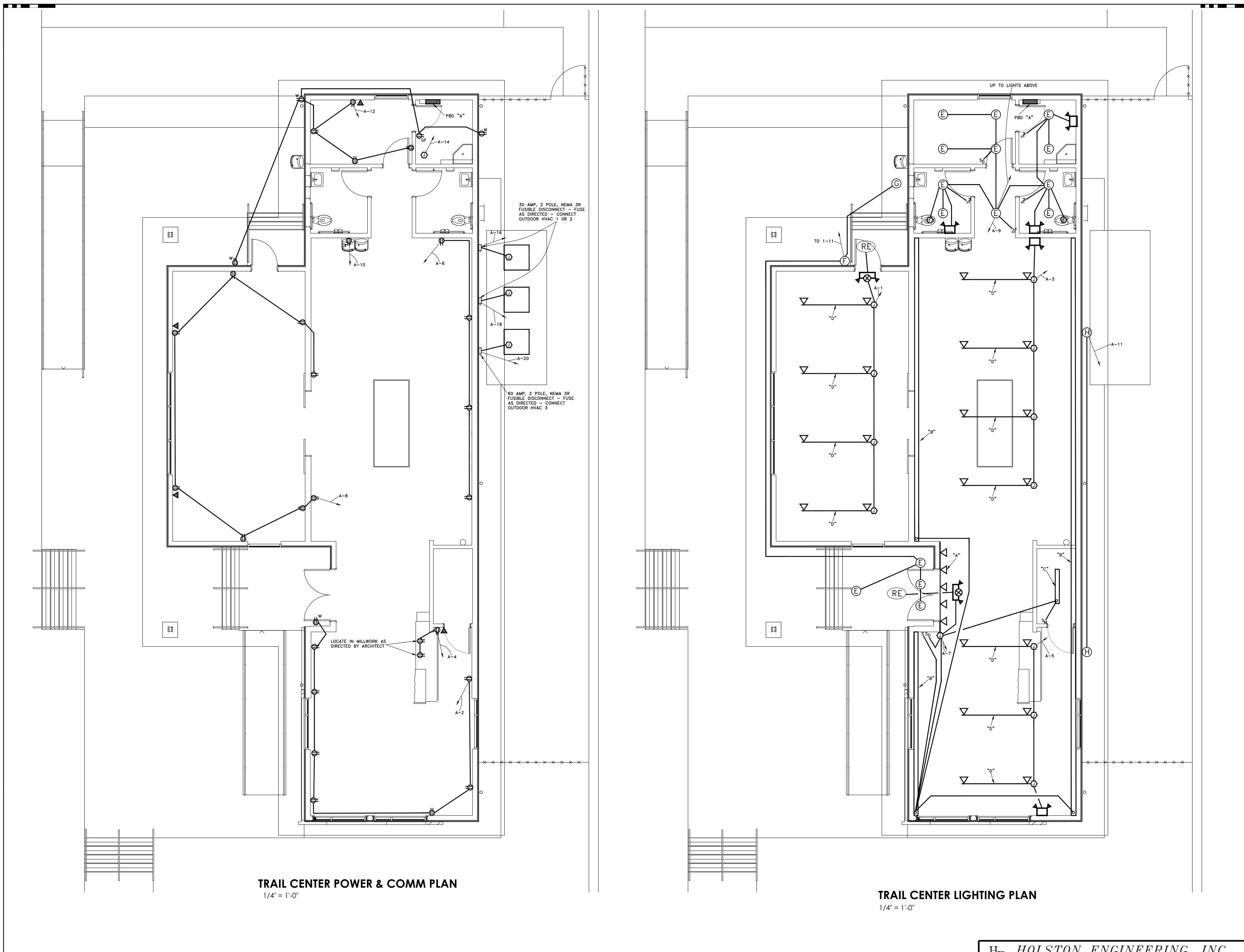
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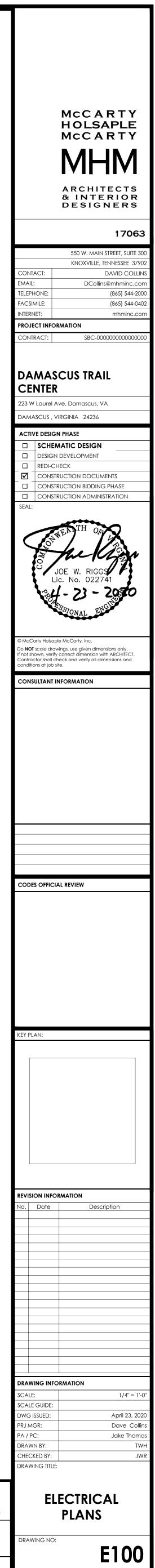


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BRANCH CIRCUIT PANELBOARD

					PA	NELE	BOARD	NO. A			
FEEDING	WIRE	CIRC	UIT	PBD.		CIRCUIT		WIRE	FEEDING	PHASE	LOADING-KW
		AMPS	N0.		60.	NO. AMPS		WINCE	TEEDING	A	В
LIGHTS	12	20	1		+	2	20	12	RECEPTACLE	3.2	
			3			4					2.4
			5		H_,	6 8				2.8	3.1
			9			10				1.7	5.1
			11			12		-		1.7	1.3
INDOOR HVAC 1	6	60 2	13		<u> </u>	14	5 30	10	WATER HEATER	9.0	
		3		^_+	♠^		2				9.0
INDOOR HVAC 2	3	90 🗸	15	17-∳	<u> </u>	16	\$ 25	10	OUTDOOR HVAC 1	11.5	
				^+	_∳ _^		2				11.5
INDOOR HVAC 3	3	90 🤇	17	ᡗ᠆♦	\mathbf{T}	18	30	10	OUTDOOR HVAC 2	2 11.7	117
SPARE	_	20	19			20	4 0	8	OUTDOOR HVAC 3	3.2	11.7
SPARE	_	20	21		T	20	} 4 0	0	UUIDOOK HVAC 3	<u> </u>	3.2
SPACE	_					-	<u> </u>	_	SPACE	_	5.2
	_	-	-	$ \neg $	$ \rightarrow $	-	_	_			_
	-	-	-	~_∳	\rightarrow	-	-	-		-	
	_	-	-	$ \rightarrow $		1	-	-			_
	_	_		~-∳	\rightarrow	_	_	-			
	_	-	-			_	_	-			
	_	-	-			_	-			47.1	40.0
C C PANELBOARD LOADING 43.1 42.2											
LOCATION SEE	PLANS					MA	INS	400	O AMPS WITH 400 A	MP MAIN	BREAKER
MOUNTING SURFACE TY				TYF	ΡE	NQ					
SERVICE 1ø 3W 120/240 VOLTS TO				тот	TAL LO	AD 85.	3 KW				

NOTE: CIRCUIT A-11 TO BE CONTROLLED BY AN ELECTRONIC TIME CLOCK WITH PHOTOCELL EQUAL TO TORK.

<u>DESIGN DATA</u>	
SERVICE CHARACTERISTICS 1ø 3W 12 CONNECTED LOADS:	0/240 VOLTS
LIGHTS	9.9 KW
HVAC	66.2 KW
WATER HEATER	4.5 KW
MISC. POWER	<u>6.7 KW</u>
TOTAL ESTIMATED CONNECTED LOAD	87.3 KW
ESTIMATED DEMAND	60.0 KW
ESTIMATED FUTURE LOAD	NONE
SERVICE CAPACITY	400 AMPS

	<u>ELECTRIC LEGEND</u>
<u> </u>	LIGHTING OUTLET FLUORESCENT. INSERT IS TYPE.
В	LIGHTING OUTLET INCANDESCENT OR H.I.D. INSERT IS TYPE.
$\overline{\bigotimes}$	EXIT LIGHTS, WITH ARROW AND REMOTE EMERGENCY HEAD WHERE NOTED. SEE LIGHTING FIXTURE SCHEDULE.
\bigcirc_{w}	DUPLEX 20 AMPERE WEATHERPROOF GROUND-FAULT CONVENIENCE OUTLET. BRYANT #GFR53FT WITH #GFRWPV WEATHERPROOF COVER.
	DUPLEX 15 AMPERE CONVENIENCE OUTLET WITH GROUND. BRYANT #5262–1. SUBSCRIPT "A" INDICATES 20 AMPERE SIZE.
GF	DUPLEX 15 AMPERE GROUND-FAULT CONVENIENCE OUTLET. BRYANT #GFR52FT-I.
$\langle L \rangle$	JUNCTION BOX OUTLET. CONNECT POWER. VERIFY LOCATION AND SERVICE PRIOR TO ROUGH-IN.
F	FAN OUTLET. CONNECT POWER. VERIFY LOCATION AND SERVICE PRIOR TO ROUGH-IN.
$\langle c \rangle$	COMPUTER OUTLET WITH 3/4" CONDUIT TO ABOVE CEILING FOR CABLE BY OTHERS. VERIFY REQUIREMENTS WITH THE COMPUTER VENDOR.
\bigcirc	BLANK BOX. (SPLICE AND JUNCTION BOX.) VERIFY LOCATION.
	WALL MOUNTED TELEPHONE OUTLET WITH STAINLESS STEEL PLATE WITH OPENING AS REQUIRED BY OWNER/VENDOR. EXTEND 3/4" CONDUIT TO ABOVE CEILING.
4	WALL MOUNTED COMBINATION LAN AND TELEPHONE OUTLET WITH STAINLESS STEEL PLATE WITH OPENING AS REQUIRED BY OWNER/VENDOR. EXTEND 3/4" CONDUIT TO ABOVE CEILING.
	FUSIBLE SAFETY DISCONNECT SWITCH.
	BRANCH CIRCUIT PANELBOARD.
SD	WALL BOX LED DIMMER SWITCH - LUTRON ARIADNI/TOGGLE LED COMPATABLE.
S	SINGLE POLE, QUIET ACTION, 20 AMPERE TOGGLE SWITCH - BRYANT #4901-1.
S ₃ S ₄	3 AND 4 WAY QUIET ACTION 20 AMPERE TOGGLE SWITCHES. BRYANT #4903–I AND #4904–I.
SM	WALL MOUNTED MOTION DETECTOR SWITCH WITH TIME DELAY OFF SETTING AND MANUAL ON/OFF SWITCH. SENSOR SWITCH WSX PDT
	CONDUIT CONCEALED. GROUND NOT SHOWN BUT REQUIRED.
+++	CONDUIT AND 3 WIRES. NO MARKS INDICATE 2 WIRES. GROUND NOT SHOWN BUT REQUIRED.
	CONDUIT AND WIRE HOME RUN. NUMBERS INDICATE PANELBOARD AND CIRCUIT NUMBERS. GROUND NOT SHOWN BUT REQUIRED.
OUTL	ALL SWITCHES $48^{\circ}\pm$ ABOVE FINISHED FLOOR AND RECEPTACLES AND PHONE/LAN ETS $18^{\circ}\pm$ ABOVE FINISHED FLOOR AND $8^{\circ}\pm$ ABOVE COUNTERS UNLESS NOTED RWISE. ALL DEVICES FLUSH MOUNTED UNLESS OTHERWISE REQUIRED.
2. ALL 3	SWITCH AND DEVICE PLATES SATIN FINISH STAINLESS STEEL.
ELEC	L SPEC GRADE DEVICES OF BRYANT, HUBBELL, P & S, LEVITON, AND GENERAL IRIC MAKE ACCEPTABLE. NONE OTHER ACCEPTABLE, EXCEPT WITH WRITTERN ISSION.

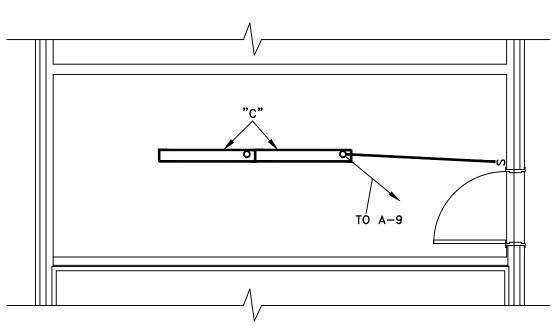
BINDING EDGE

BINDING EDGE

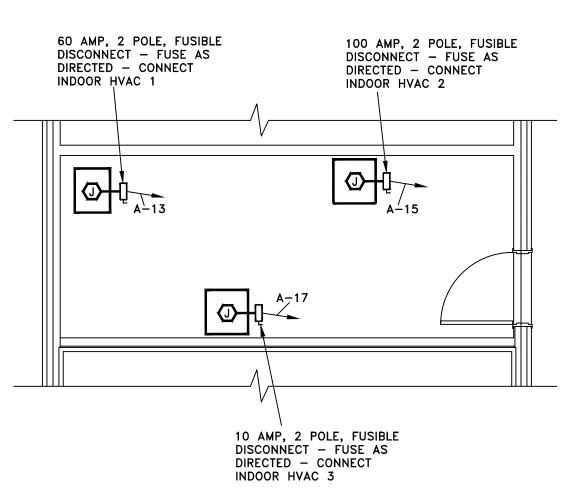
BINDING EDGE

	LIGHTING FIXTURE SCHEDULE
TYPE	DESCRIPTION
181 RE	SURFACE MOUNTED EMERGENCY EXIT/LIGHTING UNIT WITH EXTERIOR REMOTE EMERGENCY HEAD, LED LAMPS, NICAD BATTERY, RED FACE, WHITE HOUSING, & ELECTRONIC CHARGING/SWITCHING. LITHONIA LHQM-LED-R-HO/ELA-LED-WP-M1Z
	EMERGENCY BATTERY BACKUP LUMINAIRE WITH SOLID STATE CHARGING & SWITCHING AND ALL CATALOGUED FEATURES LITHONIA EU2-LED-M12 RECESSED
A	SINGLE CIRCUIT 8' TRACK WITH COLOR AS SELECTED BY ARCHITECT, COMPLETE WITH CONDUIT FEED BOX, NARROW FLOOD TRACK HEAD FOR 3000K COLOR TEMP, AND 90 CRI, AND ALL COMPONENTS FOR A SYSTEM. JUNO R-8-COLOR-R34-COLOR-R600L-G2-3000K-90CRI- PDIM-NFL-COLOR
В	SURFACE MOUNTED ASYMMETRIC WALL WASH WITH LENGTH AS SHOWN ON PLANS, COLOR AS SELECTED BY ARCHITECT, SINGLE CIRCUIT, DIMMABLE AND HIGH OUTPUT (947 LM/FT, 10 WATT/FT) PRUDENTIAL LIGHTING MW-LED3-HO-RX-COLOR-SC-UNV-SUR-DM10. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR EXACT PLACEMENT & CONNECTION REQUIREMENTS
с	SURFACE MOUNTED 4' LED DIMMABLE LUMINAIRE WITH STEEL HOUSING, WHITE FINISH, 4000 LUMENS, 3000 K COLOR TEMP 120 VOLT INPUT AND 29 WATTS. LITHONIA WL4–40L–MVOLT–GZ1–LP830
D	SURFACE MOUNTED SUSPENDED 96" LED LUMINAIRE WITH 9000 LUMENS, 4000K COLOR TEMP, 120 VOLT DRIVER, 135 WATTS, COLOR AS SELECTED BY ARCHITECT, DIMMING, WIDE BEAM OPTICS, & TWO SINGLE HEAD MEDIUM SPOT MODULES WITH 1600 LUMENS, COLOR TO MATCH. LOCATE SPOTS ON EACH END OF 96" UNIT. NORDEON BL-9-4000K- UNV-WB-7.4-COLOR-DIM/SK-1-19W-840-MB-COLOR-DIM
E	RECESSED ROUND 6" LED CAN WITH 120 VOLT INPUT, DAMP LABEL, 1500 LUMENS, 20.5 WATTS, BLACK TRIM, DIMMABLE & 3000K COLOR TEMP. LITHONIA LDN6-30/15-L06AR-LSS-MVOLT-GZ10
F	WALL MOUNTED DECORATIVE OUTDOOR LUMINAIRE WITH, 120 VOLT INPUT, 12 WATTS, 3000K COLOR TEMP, DIMMABLE & COLOR AS SELECTED. STONE LIGHTING WO886-BL-LED
G	SURFACE MOUNTED LED CANOPY LIGHT, 11,000 LUMENS, 4000K COLOR TEMP, DARK BRONZE FINISH, & 86 WATTS. LITHONIA CNY-LED-P3-40K-MVOLT-DDB

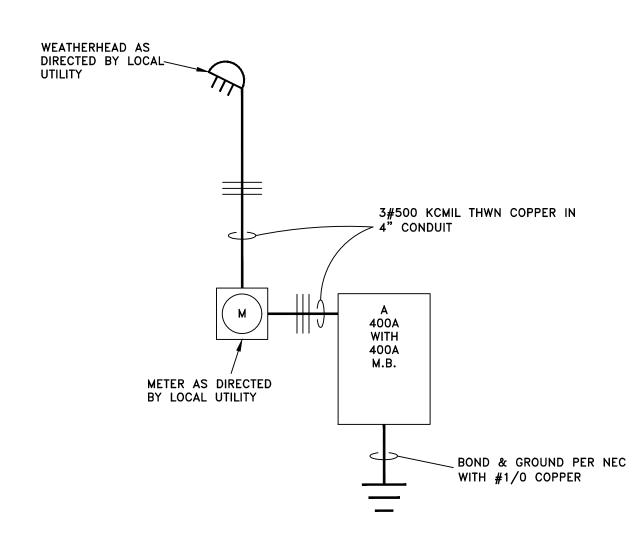
WALL MOUNTED PACK WITH COLOR AS SELECTED BY ARCHITECT, 3000 H LUMENS, 120 VOLT INPUT, WET LABEL, WIDE DISTRIBUTION, AND 3000K COLOR TEMP. LITHONIA WST-LED-P2-3000K-MVOLT-PE-COLOR



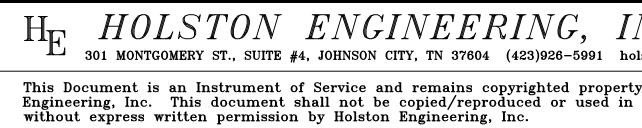
TRAIL CENTER MEZZANINE LIGHTING PLAN 1/4" = 1'-0"



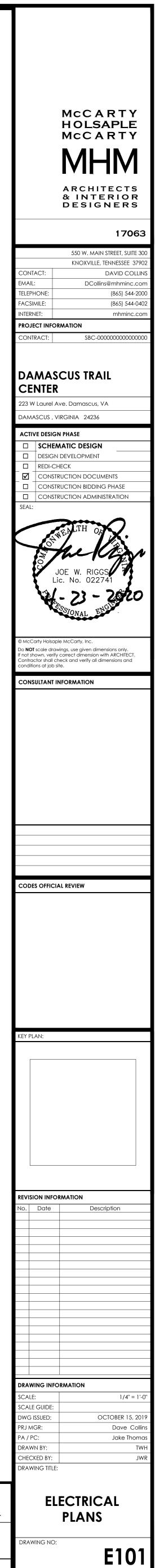
TRAIL CENTER MEZZANINE POWER & COMM PLAN 1/4" = 1'-0"



ELECTRIC SERVICE RISER DIAGRAM



PLOT DATE: 04/23/2020



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olsteng@usit.net
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i any manner

HE PROJECT # 17–031