

Division 3
Pre-cast concrete
Easiset Slenderwall



Division 4

Cultured Stone Veneer

Stack Stone - Midnight



Division 5

Steel Pan Stairs with terrazzo

Custom Fabricated with Glass Railings



Division 7

TPO Roofing

Everguard TPO - white



Division 8

Curtain Wall

Guardian Climaguard 53/23



Division 8

Doors

Marvin Windows - Ultimate Commercial Doors Extruded Aluminum



Division 9

Metal Panel Cladding

Larson Polyethylene Core – Titanium Brushed Finish



Division 9
Acoustical Ceiling Tiles
Decoustics – Claro Finish



Division 9

Carpet Tile

Patcraft Transverse Modular – Rebar



Division 9

Gym Wood Flooring

Kiefer USA Third Grade Maple Flooring



Division 9

Resilient Athletic Flooring

Rubber Flooring Inc. – ½" Black Pre-Cut Mega Rolls

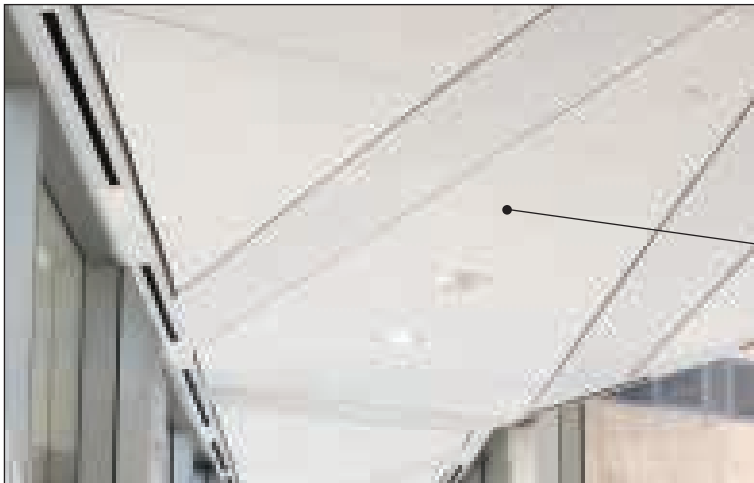


Division 9

Terrazzo Flooring

Terrazzo Company Custom Thin Set Epoxy Terrazzo Flooring – White





DESIGN AND SPECIFICATIONS

Description

Claro is a coated finish that is specifically formulated to provide acoustical transparency and exhibits a very white flat painted gypsum board/plaster appearance. The finish is applied to both the panel face and edges.

Claro comes in a standard white colour but can be custom coloured to match Pantone and other type paint chips.

Panels

Panel Size: 48" x 72" (1220mm x 1830mm) is largest size recommended by Decoustics. Panels larger than this are susceptible to coating damage during handling and installation. Consult Decoustics for larger size availability for specific applications.

Features and Advantages

Provides excellent light reflectance of 90% for standard white CSW-100.

Provides Class A flame spread (less than 25) for an assembled (composite) panel when tested to ASTM E84.

Provides excellent acoustical absorption: Tested in accordance with ASTM C423 yields an NRC 0.90 and an SAA of 0.87 for Type E400

Maintenance

Can be cleaned using water or recommended cleaners. Refer to "Claro Cleaning & Maintenance Instructions" for specific data.

Painting will significantly reduce acoustical absorption, and may also affect panel finish integrity and fire flame spread performance.

The Claro finish itself cannot be field applied.

DO NOT APPLY PAINT TO THE FACE OF THE PANEL

The finish is factory applied in a strictly controlled environment and method, however, small scratches or blemishes can be touched up in the field.

Each Claro panel has an individual number printed on the reverse side. Damaged panels can be remade and replaced by referring to this number.

Claro- Handling and Cleaning Instructions

Panels must only be handled by persons wearing clean light-weight gloves. It is very important that personnel working with panel hardware, HVAC, electrical, sprinkler, or similar equipment, do not handle the panels before putting the clean lightweight gloves on.

To prevent overall soil, vacuum with a light brush attachment, or brush lightly to remove dust and grime.

For dirty marks and hand-prints, use a white rubber eraser and erase the marks.

For more stubborn stains, use a cleaner such as a clear, streak free, foaming window cleaner (e.g. "Windex"), to lift the stains from the surface. Experiment first with an area that is not too prominent, on one panel, to ensure cleaner is effective before treating all soiled panels.

Be sure to blot the area with a clean dry cloth to remove as much water or cleaner as possible, so the area will dry faster and cleaner.

Note: The information provided in this Data Sheet is accurate to the best of our knowledge at the time of printing. However, we reserve the right to make changes when necessary without further notification. Suggested applications may need to be modified to conform with local building codes and conditions. We cannot accept responsibility for products that are not used, or installed to our specifications. Please refer to our website for most current data.

Note: Only handle panels wearing clean, lightweight, white gloves during installation. Follow manufacturer's printed instructions for installation as well as field cutting of panels.

Storage

Assure that all panels and associated materials are protected from damage, and storage area is climatically controlled to normal operational levels.

Installation

Prior to panel installation, the site must be free of all wet and dusty trades and the climatic conditions stabilized to normal operational levels. Panels shall be allowed to stabilize on site 24 hours prior to installation.

Claro is a directional product. Install product by utilizing the directional arrows on the back of each panel. If not done correctly, a checkered pattern may result.

Normal Operational Levels

Typical Indoor Comfort Standards state a temperature range of 20°C - 27°C (68°F - 81°F), and a relative humidity of less than 60%. These would be considered as normal operational levels

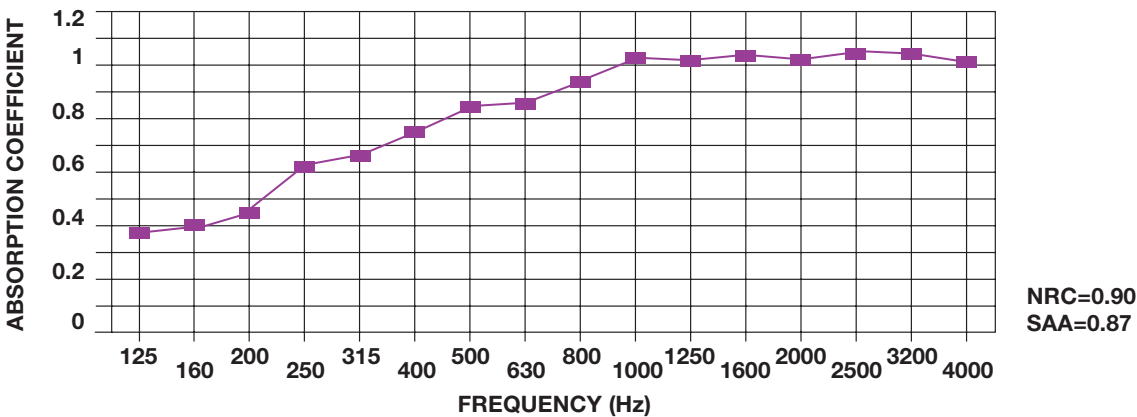
Recommended Uses

As a finish for ceiling panels.

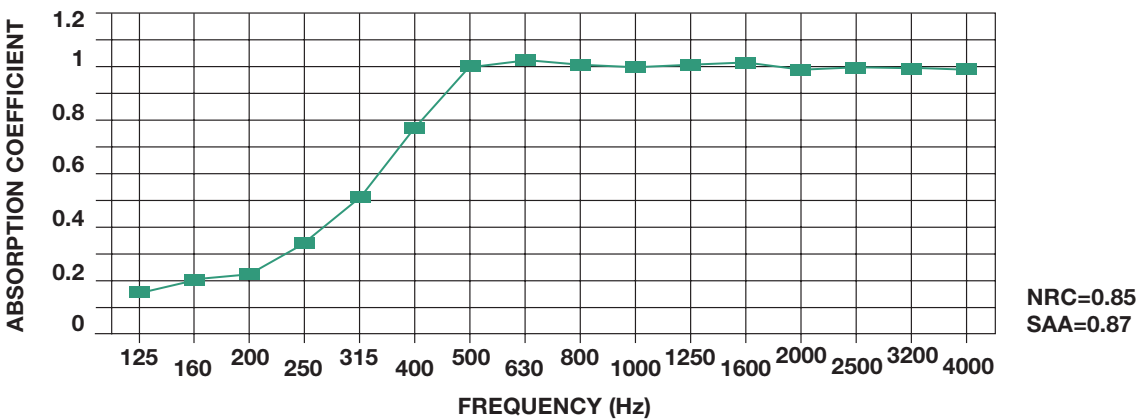
Suitable for flat, shaped and 2-dimensional pre-curved panels

Note: There are some radii limitations for pre-curved panels. Consult Decoustics for specific data. Available with factory installed custom edge returns. Consult factory for details.

Typical Sound Absorption Data 1-1/16" Thick ME/VATT - Claro Panel, Type E400 Mounting



Typical Sound Absorption Data 1-1/16" Thick ME/VATT - Claro Panel, Type F5 Mounting



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 Woodbridge, Ontario L4H 1X9 Canada
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 Phone: 905-652-5200
 Toll Free: 800-387-3809
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 Code No. CTC-DC-0715-3000-3



CLIMAGUARD®—RESIDENTIAL GLASS SOLUTIONS





BUILD A BETTER WINDOW WITH GUARDIAN CLIMAGUARD®.

Being recognized as a global leader in your field doesn't happen overnight. It takes consistent excellence, unparalleled reliability, and the use of cutting-edge technology to earn that distinction. With more than 85 years in business, Guardian Glass is proud to be recognized as a leader in float and fabricated glass products while servicing the architectural, residential, interiors, technical and transportation segments.

The Guardian ClimaGuard portfolio represents intelligent glass science and the skillful application of manufacturing and fabrication know-how. Our depth of expertise, service and support resources all work together to optimize window performance and meet customer's demands by providing:



ENERGY EFFICIENCY: Help control energy inside and out with a full range of ClimaGuard® Low-E products formulated for every North American region and climate.



SAFETY AND SECURITY: High-strength glass that helps protect against violent storms and break-ins.



SOUND CONTROL: Glass solutions that reduce noise from traffic, construction, neighbors and airports.



FADE AND UV PROTECTION: Products that block 99.9% of the sun's UV rays for superior fade protection.

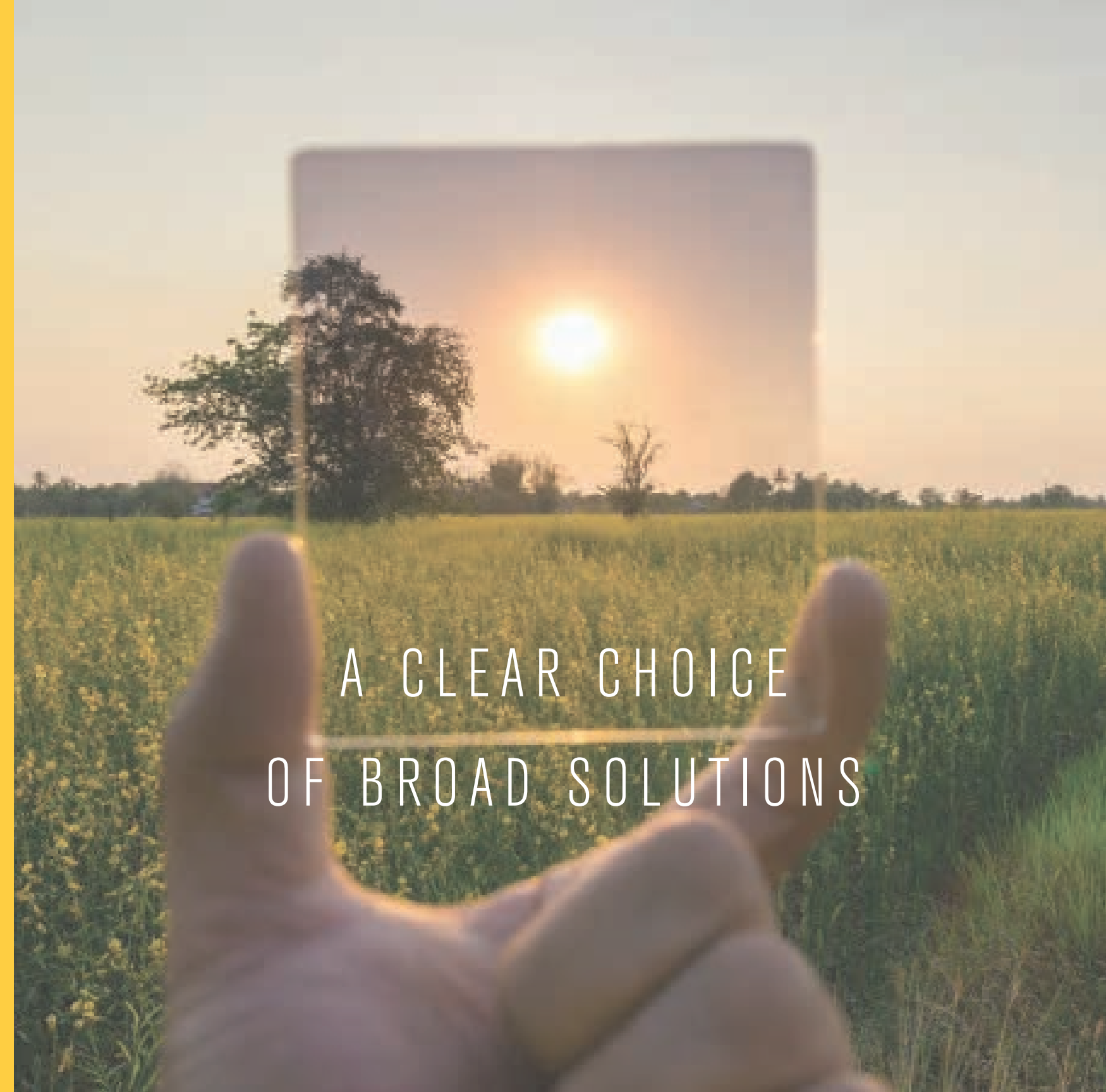


PRIVACY: Acid-etched, patterned glass substrates and more.

CLIMAGUARD® LOW-E GLASS PRODUCTS

Heating and cooling requirements differ across the various regions of North America, due to the height and intensity of the sun and varying elevations. Guardian ClimaGuard residential low-E coated glass products are expertly formulated to meet the specific solar- and energy-control needs of differing climates — while also aligning to energy codes and guidelines — including ENERGY STAR. No matter the intensity of the sun, there is a combination available to help achieve the right balance of capturing and reflecting solar heat.

ClimaGuard 80/70	In cold northern climates with increased heating requirements, ClimaGuard 80/70 maximizes solar heat gain and retains indoor heat.
ClimaGuard 72/57	Made for northern U.S. climates, ClimaGuard 72/57 provides selective passive solar heat gain and retains indoor heat.
ClimaGuard 70/36	For mixed climates that require improved solar control and excellent U-factor, ClimaGuard 70/36 provides balanced performance.
ClimaGuard 62/27	In all climate zones, ClimaGuard 62/27 offers the power of triple-silver to provide energy savings.
ClimaGuard 55/27	For western, southern, waterfront and homes exposed to bright sunlight, ClimaGuard 55/27 reduces both solar heat gain and glare.
ClimaGuard 53/23	Southern homes exposed to bright sunlight will remain cool thanks to the low solar heat gain of ClimaGuard 53/23 and the benefit of triple-silver.
ClimaGuard IS-20 (Interior Surface Coating)	ClimaGuard IS-20 provides an additional boost to help windows meet energy codes.



A CLEAR CHOICE
OF BROAD SOLUTIONS

CLIMAGUARD® LOW-E PERFORMANCE DATA

Double-Glazed	Visible Light			UV Trans %	SHGC	U-Factor	
	Trans %	Reflect Out %	Reflect In %			1/2" Gap Argon	Air
ClimaGuard 80/70 (#3)	81	13	13	41	0.70	0.27	0.31
ClimaGuard 72/57 (#3)	71	13	14	27	0.57	0.25	0.30
ClimaGuard 72/57	71	14	13	27	0.47	0.25	0.30
ClimaGuard 70/36	70	11	13	25	0.38	0.25	0.29
ClimaGuard 62/27	62	11	12	8	0.28	0.25	0.29
ClimaGuard 55/27	56	17	19	21	0.28	0.25	0.29
ClimaGuard 53/23	53	13	12	11	0.23	0.24	0.29

Triple-Glazed	Visible Light			UV Trans %	SHGC	U-Factor			
	Trans %	Reflect Out %	Reflect In %			1/2" Gap Argon	Air	5/16" Gap Argon	Air
80/70 + 80/70	73	17	17	26	0.58	0.14	0.17	0.18	0.23
80/70 + 70/36	63	17	14	16	0.45	0.13	0.16	0.17	0.22
72/57 + 80/70	64	17	17	17	0.43	0.13	0.17	0.18	0.22
72/57 + 72/57	56	16	16	12	0.40	0.13	0.16	0.17	0.22
70/36 + 80/70	63	14	17	16	0.35	0.13	0.17	0.18	0.22
70/36 + 70/36	55	14	14	10	0.33	0.12	0.16	0.17	0.22

Double-Glazed w/ IS-20 (#4)	Visible Light			UV Trans %	SHGC	U-Factor		ENERGY STAR® ZONES
	Trans %	Reflect Out %	Reflect In %			1/2" Gap Argon	Air	
80/70 + IS-20	79	14	14	39	0.64	0.22	0.25	N
72/57 + IS-20	69	14	13	25	0.45	0.21	0.24	N, NC
70/36 + IS-20	68	12	13	23	0.37	0.20	0.24	NC, SC
62/27 + IS-20	60	12	13	8	0.27	0.20	0.24	All
55/27 + IS-20	54	18	20	19	0.27	0.20	0.24	SC, S
53/23 + IS-20	51	14	13	10	0.23	0.20	0.24	SC, S
Monolithic								
ClimaGuard IS-20	88	9	9	69	0.79	n/a	0.68	

All configurations: 3.0mm clear glass, U-factor is measured with: argon= 90% argon/10% air fill, air=100% air fill.
 Double-glazed: low-E coatings are on the #2 surface unless noted #3, IS-20 coating is on the #4 surface.
 Triple-glazed: low-E coatings are on #2 and #5 surfaces. Performance data calculated using LBNL Window 7, IGDB v.57.
 All measurements taken from center of glass values. The performance values shown are nominal and subject to variations due to manufacturing tolerances. Guardian reserves the right to change product performance characteristics without notice or obligation.

A wide range of performance for a wide range of climates. Guardian ClimaGuard Low-E glass products can be matched to meet the energy and comfort requirements of a specific region or climate. Use the performance data to find the right products for your window mix.



Double-Glazed

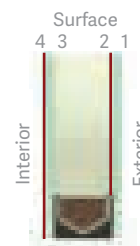
Double-glazed insulating glass units are typical for most climates.



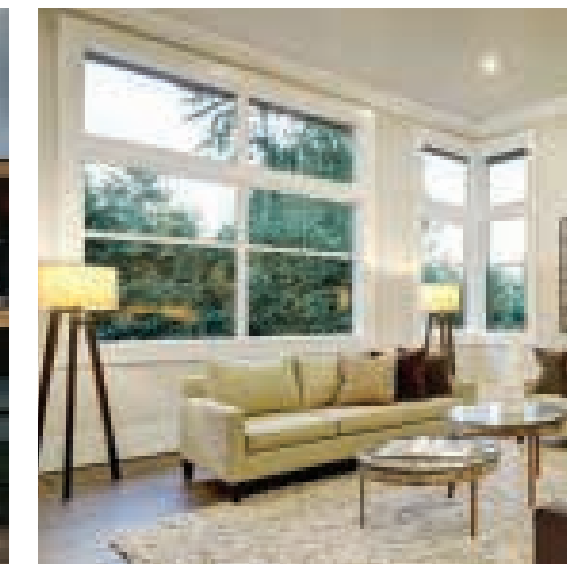
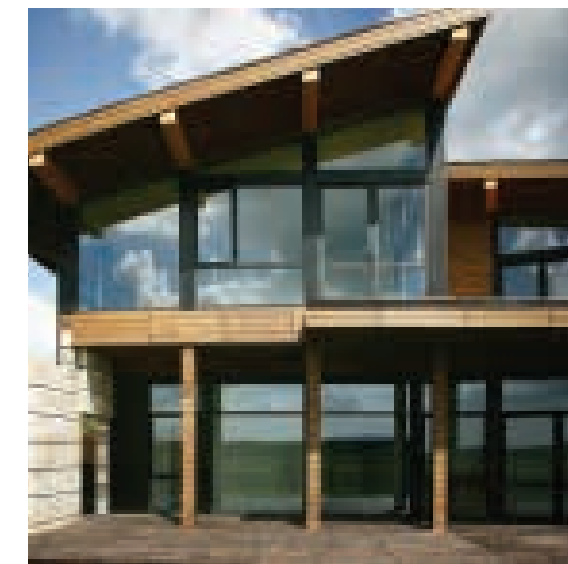
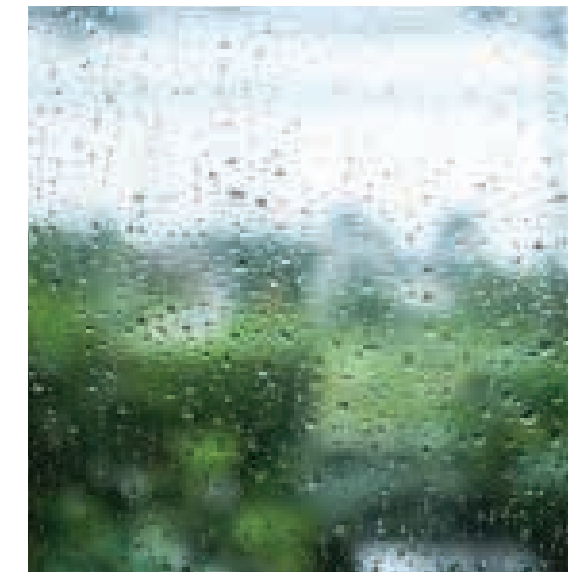
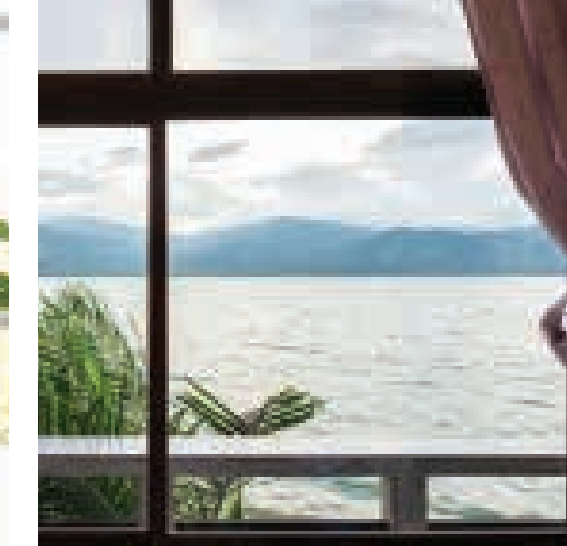
Triple-Glazed

Triple-glazed insulating glass units provide additional insulation against the cold in northern climates.

ClimaGuard IS-20 Interior Surface Coating to boost insulating capabilities. ClimaGuard IS-20 Interior Surface Low-E glass is engineered to lower the U-factor of standard low-E windows. When applied to the #4 (inside) surface of double-glazed or the #6 (inside) surface of triple-glazed windows, and used in conjunction with other ClimaGuard Low-E coatings, ClimaGuard IS-20 can improve energy saving. IS-20 is mechanically and chemically durable, with excellent optical properties making it ideal for exposed-surface applications, including monolithic usage in storm windows.



ClimaGuard IS-20 offers additional performance for wood windows and helps meet energy codes without using argon gas.



WE HELP YOU MEET ENERGY PERFORMANCE STANDARDS

ENERGY STAR® criteria, building and energy codes, and “green” incentives play increasingly large roles in the residential window business. We understand your need to stay one step ahead to maintain your long-term business success. You can trust that Guardian is on top of the latest state and local window-building codes, ENERGY STAR® programs as well as industry trends. Think of us as your residential energy efficiency expert.

Let us help you achieve compliance — When combined with an efficient window frame, Guardian Residential Glass can meet or exceed requirements for ENERGY STAR qualification throughout the U.S. and Canada, including new solar-heat gain standards in the southern states. Guardian’s Science & Technology Center and our experienced team of glass scientists keep us — and you — at the forefront of glass innovation and ahead of the curve as window efficiency standards change. Our sales and technical staff are knowledgeable partners, working to ensure that windows with Guardian Glass comply with:

- ENERGY STAR® criteria for windows, doors and skylights.
- Evolving national, state and local residential window-building codes across North America.



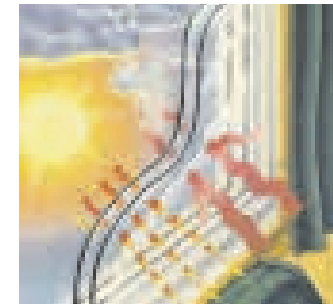
ENERGY STAR® CLIMATE ZONES	PRODUCTS
CANADA	
Zone 1	Triple-Glazed or High SHGC Double-Glazed
Zone 2	Double-Glazed w/ 4th Surface Coating or High SHGC Double-Glazed
Zone 3	Double-Glazed w/ 4th Surface Coating or High SHGC Double-Glazed
UNITED STATES	
Northern	Double-Glazed w/ 4th Surface Coating or High SHGC Double-Glazed
North-Central	Low SHGC Double-Glazed
South-Central	Low SHGC Double-Glazed
Southern	Low SHGC Double-Glazed



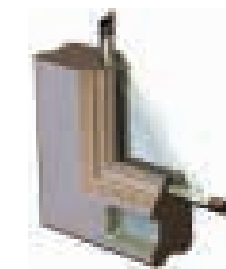
Homeowners can save up to 12% a year in energy costs by replacing single-pane windows with ENERGY STAR® qualified windows.*

The EPA recommends high-performance windows that employ advanced technologies, like Guardian Residential Glass, that can be used to construct ENERGY STAR® qualified windows.

*EPA ENERGY STAR: www.energystar.gov/products/building_products/residential_windows_doors_and_skylights

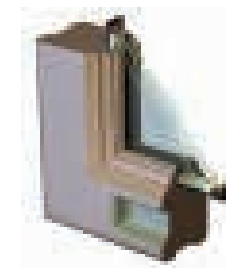


Windows are designed to help control your environment and maintain comfort. New technologies in low-E coatings and spacers are available that help regulate the transfer of heat through window glass. U-factor and solar heat gain coefficient (SHGC) are of primary concern and windows designed with various combinations of these measurements can meet the demands of different climate characteristics and energy standards.



SUPERIOR TRIPLE-GLAZED PERFORMANCE

Triple-glazed windows can provide excellent U-factor to meet energy standards in northern North America. Homes in all climate regions can benefit from windows with a low U-factor, but homes in cold climates benefit from a low U-factor most.



HIGH SOLAR HEAT GAIN DOUBLE-GLAZED WINDOWS

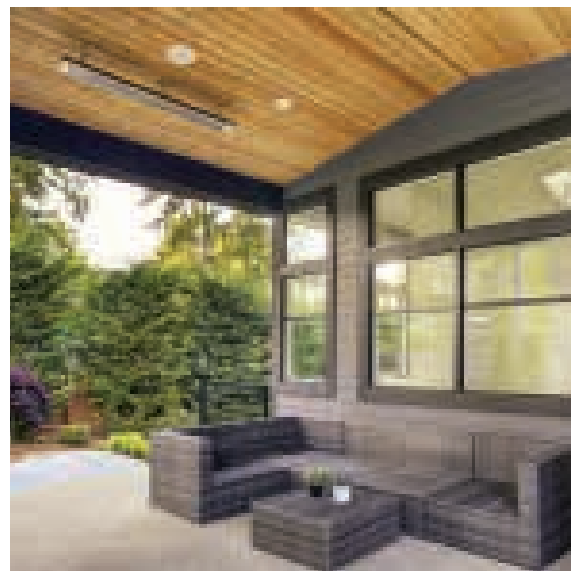
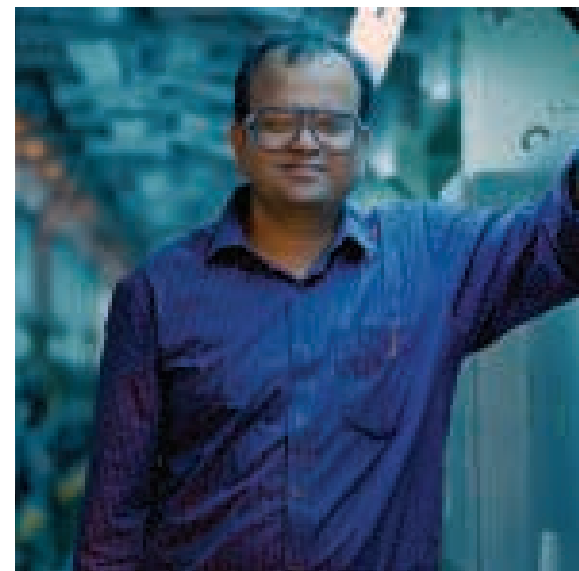
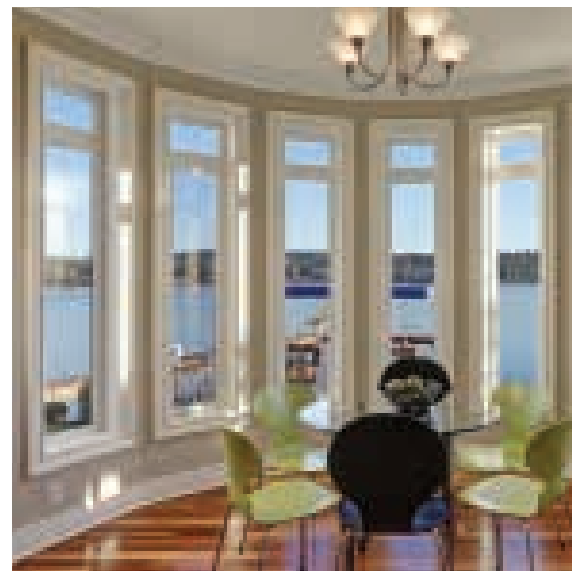
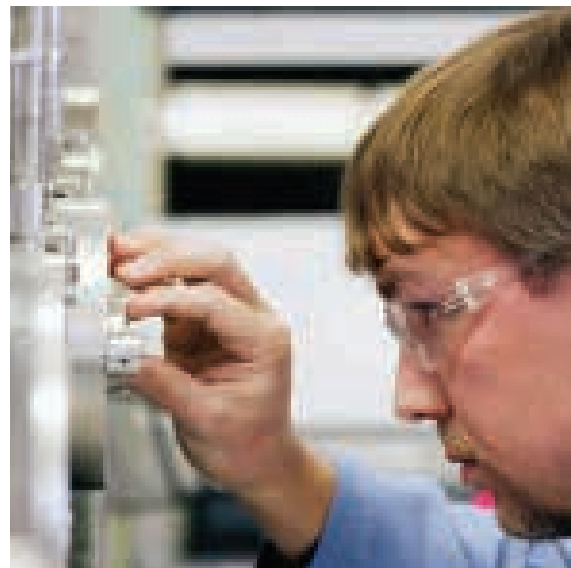
Windows with a high SHGC value will result in added natural, free heating, known as “passive solar heat gain” from the sun. Homes in cold climates and mixed climate regions can benefit from double-glazed windows with a high solar-heat gain coefficient.

DOUBLE-GLAZED 4TH SURFACE COATING

Lower the U-factor of any window by adding a 4th surface coating. See page 6 for complete performance data.

LOW SOLAR HEAT GAIN

Windows with low solar heat-gain coefficients are designed for use in warm and hot weather climates to reduce the glare and heating effects of the sun. A low SHGC combined with a low U-factor can help homeowners stay comfortable inside with less demand on their air conditioners — even as outdoor temperatures soar.



BUILD WITH US.

Selecting Guardian Glass will be one of the best business decisions you make. When you choose us, you're choosing a company with a global reach, long history of innovation and the bandwidth and product availability to meet your needs.

As one of the top glass companies in the world, we're able to offer a broad choice of glass solutions for the residential window segment. We also provide experienced, knowledgeable and hands-on service and support to window manufacturers. Our window manufacturing customers are focused on building quality windows and our fabrication partners are focused on custom glass preparation: cutting, tempering, laminating and insulating.

Guardian is known for the significant investments in the development of energy-efficient glass and technologies to meet residential segment demands. We're also constantly reinvesting in key assets and technologies to stay ahead of the curve. Our Science and Technology Center in Michigan employs over 100 glass scientists, Ph.D.s and technicians inventing new glass products, improving existing ones and transferring technologies developed for other segments (electronics, commercial, lighting and interiors) to residential windows here in North America.

We believe our understanding of the realities in window, door, and skylight manufacturing is unmatched. Our goal is to work closely with you to make sure the addition of Guardian ClimaGuard® residential glass to your production is seamless and mutually-beneficial.



CLIMAGUARD® RESIDENTIAL GLASS SOLUTIONS

Clear Glass of the highest quality and a wide range of thicknesses is available for many applications. Most commonly used is single-strength, 2.3 mm and double-strength, 3.0 mm. Thicker glass, 4.0 – 5.0 mm, can offer sound attenuation, add strength, or be used in oversized applications.

Tempered Glass resists breakage and, if broken, fractures in a way that reduces the likelihood of serious injury. Tempered glass is often referred to as “safety glass” because it can meet the Consumers Product Safety Commission (CPSC) 16 CFR 1201 Category I and Category II designations for glass that is subject to human impact.

Laminated Glass delivers strength, sound control and fade protection properties, and tends to remain in the window frame after impact to reduce the risk of injury from falling or flying glass pieces.

Patterned Glass comes in five popular textures that can add sophistication and versatility to any window or door where privacy is desired.

ClimaGuard Low-E Glass can add energy efficiency to safety & security, sound control, fade protection and privacy when coupled with tempered, laminated and/or patterned glass products.

Products	Energy Efficiency	Safety & Security	Sound Control	Fade Protection	Privacy
Clear Float Glass					
Tempered Glass		X			
Laminated Glass		X	X	X	
> 3mm Thickness			X*		
ClimaGuard Low-E	X				
Tempered ClimaGuard Low-E	X	X			
Laminated ClimaGuard Low-E	X	X	X	X	
> 3mm Thickness Low-E	X		X*		
Patterned Glass					X

* In an IG configuration with staggered glass thicknesses



www.guardianglass.com | 855.660.5905

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GAF Commercial Full-Line Brochure

(COMGN100)

Updated: 4/18



*Quality You Can Trust...From
North America's Largest Roofing Manufacturer!™*

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Quality You Can
Trust...From
North America's
Largest Roofing
Manufacturer!™

ROOFING SYSTEM SOLUTIONS

ASPHALTIC LIQUID-APPLIED SINGLE PLY INSULATION

gaf.com

A 3D architectural rendering of a cityscape where the buildings are represented as blue rectangular blocks of varying heights. The roofs of these blocks are highlighted in several colors: orange, red, green, and light blue. The perspective is from an elevated angle, looking down and across the city. The background is a gradient of blue, suggesting a clear sky.

The Right Solutions For
All Your Roofing Needs

A GAF Solution For All Your Needs

Choosing the right roofing system for an application can be complicated. There are many roof membrane options, and each property may have its own set of unique requirements. So, how do you choose the right roofing system for your property?

Choose The Right Company

GAF is North America's largest roofing manufacturer. We manufacture products that provide more solutions than any other roofing manufacturer. We're not vested in a single technology; our broad product offering is designed to help you select a roofing system that is right for your property.

Choose The Right Team To Work With

The GAF commercial roofing team can guide you in system choice, preparation of design materials, construction details, specification preparation, and more! Contact the GAF Architectural Services Team at 1-800-522-9224 or see the back cover of this brochure for your local sales office.

Choose The Right Roof To Fit Your Needs

Listed below is a selection chart to help with some of the physical performance criteria of individual products, but there are other important considerations as well. Having a good understanding of your investment objectives (e.g., long term or short term), property use (e.g., the importance of aesthetics or amount of roof traffic), location (e.g., inner city or desert), and the overall building construction will help ensure the best choice.

Answer specific questions and get a tailored suggestion of what roofing systems to consider for your building's needs. Use Roof Advisor today. gaf.com/RoofAdvisor

Desired Characteristic	ASPHALTIC							LIQUID-APPLIED						SINGLE PLY										
	RUBEROID®/ LIBERTY™ SBS Modified Bitumen				RUBEROID® APP Modified Bitumen		GAFGLAS® Built-Up Roofing		United Coatings™ Roof Mate™ Coating			HydroStop® PremiumCoat® System			EverGuard Extreme® TPO			EverGuard® TPO			EverGuard® TPO Fleece-Back		EverGuard® PVC	
	LIBERTY™ Self-Adhered	Torch	Mop	Cold-Applied	Torch	Mineral-Surfaced	Gravel	For Metal Roofs	For Asphaltic Roofs	For Single-Ply Roofs	For Metal Roofs	For Asphaltic Roofs	For Single-Ply Roofs	Adhered	Mechanically Attached	RhinoBond®	Adhered	Mechanically Attached	RhinoBond®	Adhered	Mechanically Attached	Adhered	Mechanically Attached	
Multi-Layered Membrane Protection	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	-	-	-	●	●	-	-	
Flexes To Conform To Roof Movement	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Low Maintenance	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Light Reflective For Energy Savings	●	● ²	● ²	●	● ²	● ²	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Puncture/Leak Resistant	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Easy To Repair After Installation	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Heat-Welded, Self-Adhered, Torched, Cold-Applied, Or Mopped Seam Strength	●	●	●	●	●	●	●	-	-	-	-	-	-	●	●	●	●	●	●	●	●	●	●	
Grease/Oil/Chemical Resistant ¹	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Can Be Installed In Cool Weather	●	●	●	●	●	●	●	●	●	●	●	●	●	● ³	●	●	● ³	●	●	●	●	●	●	
High Heat and UV Resistance	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Maximum Guarantee/Warranty Length In Years*	20	20	20	20	20	20	20	20	15	15	20	20	20	35	30	35	30	25	30	30	25	25	25	

*Note: For complete details, restrictions, requirements, terms, and conditions, please refer to official guarantee document and applicable GAF specification manual.

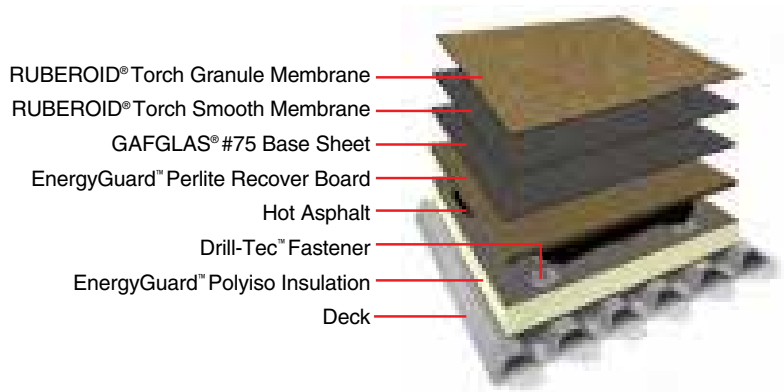
¹See applicable GAF guarantee/warranty for specific exclusions
²Requires the use of EnergyCap™ Products
³May require that installation adhesive be preheated

RUBEROID® Modified Bitumen Roofing

Modified Bitumen products are time-proven systems that have been around for decades due to their reliable performance

- GAF has a complete line of SBS and APP asphalt products
- Multi-ply construction gives peace of mind that the roof is durable and will stand the test of time
- A variety of installation options are available including hot mop, torch/heat weld, cold applied, and self-adhered to fit many different types of roofing challenges
- Available guarantee up to 20 years*
- Available in premium fire-rated systems (RUBEROID® Torch Plus Granule FR, RUBEROID® Mop Plus Granule FR, or RUBEROID® HW Granule Plus FR Membrane)
- RUBEROID® EnergyCap™ products have a factory-applied EnergyCote™ premium, reflective elastomeric coating to provide a highly reflective surface and are ENERGY STAR® certified (U.S. only).

*See applicable guarantee for complete coverage and restrictions.



TYPICAL 3-PLY TORCH-APPLIED SYSTEM USING BUR BASE SHEET AND PREMIUM APP MODIFIED BITUMEN MEMBRANES

RUBEROID® Modified Bitumen Membrane Selection Guide

	Map-Applied	Torch-Applied	Cold-Applied	Maximum Available Guarantee (Yrs.)**	Membrane Weight† (lb./sq. ft.)	Membrane Thickness (mils)†	Mat [P (Polyester), F (Fiberglass)]	UL Classified†	FM Approved†	State of Florida Approved	TDI Listed	Miami-Dade County Product Control Approved	ICC	ENERGY STAR® Certified (U.S. only)	ASTM
APP															
RUBEROID® Torch Smooth	◆	◆		15	0.8	153	P	◆	◆	◆	◆	◆	◆	◆	D6222 Type I, Grade S
RUBEROID® Torch Granule	◆	◆		15	1.0	177	P	◆	◆	◆	◆	◆	◆	◆	D6222 Type I, Grade G
RUBEROID® Torch Plus Granule FR	◆	◆		20	1.2	170	PP	◆	◆	◆	◆	◆	◆	◆	D6222 Type II, Grade G
RUBEROID® EnergyCap™ Torch Granule FR	◆	◆		15	1.0	160	P	◆	◆	◆	◆	◆	◆	◆	D6222 Type I, Grade G
RUBEROID® EnergyCap™ Torch Plus Granule FR	◆	◆		20	1.5	170	PP	◆	◆	◆	◆	◆	◆	◆	D6222 Type II, Grade G
SBS															
RUBEROID® Mop Smooth	◆	◆	◆	20	0.9	90	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade S
RUBEROID® Mop Granule	◆	◆	◆	15	1.0	140	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade G
RUBEROID® Mop Smooth 1.5	◆	◆	◆	20	0.9	90	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade S
RUBEROID® Mop Granule FR	◆	◆	◆	15	1.0	155	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade G
RUBEROID® Mop Plus Granule FR	◆	◆	◆	20	1.0	155	PP	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade G
RUBEROID® EnergyCap™ Mop Plus Granule FR	◆	◆	◆	20	1.0	155	PP	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade G
RUBEROID® 20 Smooth	◆	◆	◆	15	0.6	85	F	◆	◆	◆	◆	◆	◆	◆	D6163 Type I, Grade S
RUBEROID® 30 Granule	◆	◆	◆	15	0.9	140	F	◆	◆	◆	◆	◆	◆	◆	D6163 Type I, Grade G
RUBEROID® 30 Granule FR	◆	◆	◆	15	0.9	140	F	◆	◆	◆	◆	◆	◆	◆	D6163 Type I, Grade G
RUBEROID® EnergyCap™ 30 Granule FR	◆	◆	◆	15	1.0	140	F	◆	◆	◆	◆	◆	◆	◆	D6163 Type I, Grade G
RUBEROID® Ultraclad® SBS (Aluminum)	◆	◆	◆	20	1.0	160	F(scrim)	◆	◆	◆	◆	◆	◆	◆	D6298
RUBEROID® Mop Plus Smooth	◆	◆	◆	20	0.7	120	PP	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade S
RUBEROID® HW Granule	◆	◆	◆	15	1.0	165	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade G
RUBEROID® HW Smooth	◆	◆	◆	20	1.0	165	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade S
RUBEROID® HW 25 Smooth	◆	◆	◆	20	0.6	98	F	◆	◆	◆	◆	◆	◆	◆	D6163 Type I, Grade S
RUBEROID® HW Granule FR	◆	◆	◆	15	1.0	160	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type I, Grade G
RUBEROID® HW Plus Granule	◆	◆	◆	20	1.0	165	P	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade G
RUBEROID® HW Plus Granule FR	◆	◆	◆	20	1.0	165	PP	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade G
RUBEROID® EnergyCap™ HW Plus Granule FR	◆	◆	◆	20	1.0	165	PP	◆	◆	◆	◆	◆	◆	◆	D6164 Type II, Grade G

See related accessories on page 16.

LIBERTY™ Self-Adhering

LIBERTY™ SBS Self-Adhering Base/Ply Sheet Specifications (nom.)

- Roll length is 66 ft. (20.1 m)
- Roll width is 39.375 in. (1.0 m)
- Roll size is 2 squares, 216 sq. ft. (20.1 m²)
- FM Approved, UL Classified^{2,3}
- State of Florida Approved
- Miami-Dade County Product Control Approved
- Texas Dept. of Insurance (TDI) Listed

LIBERTY™ SBS Self-Adhering Cap Sheet Specifications (nom.)

- Roll length is 34 ft. (10.4 m)
- Roll width is 39.375 in. (1.0 m)
- Roll size is 1 square, 112 sq. ft. (10.4 m²)
- FM Approved, UL Classified^{2,3}
- State of Florida Approved
- Miami-Dade County Product Control Approved
- Texas Dept. of Insurance (TDI) Listed

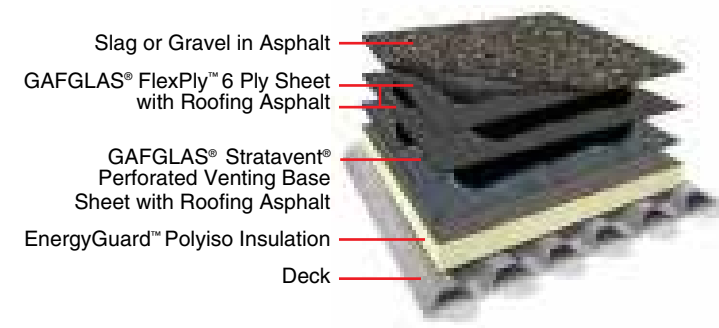
¹All figures are approximate.
²Classified by UL to ANSI/UL 790. Refer to UL Online Certification Directory for actual assemblies.
³Refer to <http://roofnav.fmglobal.com> for specific approvals.
 **Guarantee duration based on installation by factory-certified contractor in approved system.

GAFGLAS® BUR (Built-Up Roofing)

Time-proven GAFGLAS® BUR helps to reduce installation costs while tackling the most demanding roof applications

- GAF has a complete line of standard and premium base, ply, and cap sheets
- Multi-ply construction gives peace of mind that the roof is durable and will stand the test of time
- Faster to install due to metric rolls that are 39" (990 mm) wide compared to the 36" (914 mm) wide products
- High-performance product that can obtain an ANSI/UL 790 Class A fire rating and an FM uplift rating up to Class 1-720³ when fully mopped to a primed insulated structural concrete deck
- Available guarantee up to 20 years¹
- GAFGLAS® Stratavent® Base Sheets are suitable for new and reroof applications when a venting base sheet is required
- GAFGLAS® Stratavent® Perforated Venting Base Sheet has the additional benefit of faster installation since applying one layer of asphalt can adhere the base sheet and ply sheet at the same time
- GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet has a highly reflective pre-applied elastomeric coating and can be used to comply with Title 24 cool roof requirements

¹See applicable guarantee for complete coverage and restrictions.
²Refer to UL Online Certification Directory for actual assemblies.
³Refer to FM Approvals RoofNav for actual assemblies.



TYPICAL 3-PLY PREMIUM SYSTEM WITH GAFGLAS® STRATAVENT®, FLEXPly™ 6, FLOOD COAT, AND GRAVEL

GAFGLAS® Built-Up Roofing Materials Selection Guide

	Maximum Available Guarantee (Yrs.)*	Weight† (lb./sq. ft.)	Squares/Roll†	Surface	UL Classified†	FM Approved†	Miami-Dade County Product Control Approved	State of Florida Approved	TDI Listed	ICC	ENERGY STAR® Certified (U.S. only)	ASTM
BASE SHEETS												
GAFGLAS® #75 Base Sheet	20	0.185	3	Smooth	◆	◆	◆	◆	◆	◆	◆	D4601 Type II
GAFGLAS® #80 Ultima™ Base Sheet	20	0.303	2	Smooth	◆	◆	◆	◆	◆	◆	◆	D4601 Type II
GAFGLAS® Stratavent® Nailable Venting Base Sheet	20	0.55	1.25	Smooth	◆	◆	◆	◆	◆	◆	◆	D4897 Type II
GAFGLAS® Stratavent® Perforated Venting Base Sheet	20	0.53	1.25	Smooth	◆	◆	◆	◆	◆	◆	◆	D4897 Type II
PLY SHEETS												
GAFGLAS® Ply 4 Ply Sheet	12	0.06	5	Smooth	◆	◆	◆	◆	◆	◆	◆	D2178 Type IV
GAFGLAS® FlexPly™ 6 Ply Sheet	20	0.063	5	Smooth	◆	◆	◆	◆	◆	◆	◆	D2178 Type VI
SURFACE SHEETS												
GAFGLAS® Mineral-Surfaced Cap Sheet	20	0.63	1	Granule	◆	◆	◆	◆	◆	◆	◆	D3909
GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet	20	0.73	1	Granule	◆	◆	◆	◆	◆	◆	◆	D3909

¹All weights and sizes are approximate.
²Classified by UL to ANSI/UL 790. Refer to UL Online Certification Directory for actual assemblies.
³Refer to <http://roofnav.fmglobal.com> for specific approvals.
 *See applicable guarantee for complete coverage and restrictions.

See related accessories on page 16.

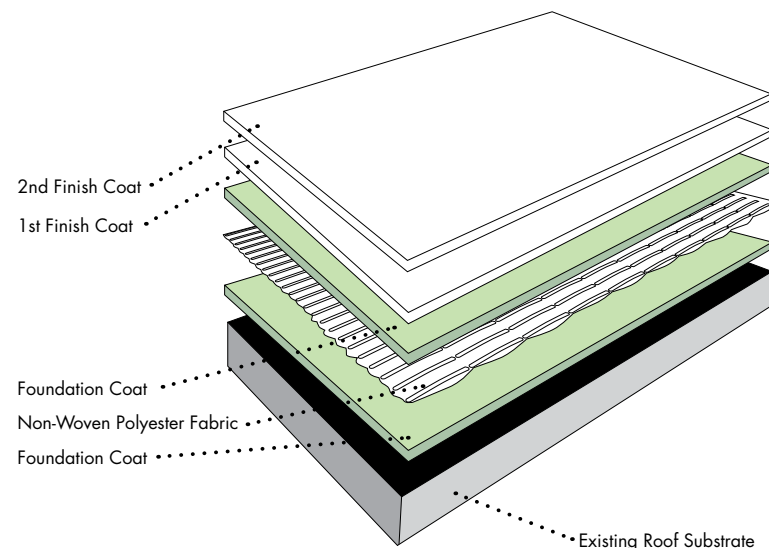
For technical information, visit our website at gaf.com or call 1-800-ROOF-411 (1-800-766-3411). Contact GAF Technical Services for specific listings.

HydroStop® Liquid-Applied Membranes

With liquid-applied systems, you get a "custom fit" every time

HydroStop® PremiumCoat® System

GAF offers the HydroStop® PremiumCoat® System, a fabric-reinforced acrylic elastomeric system. The HydroStop® PremiumCoat® System is intended for re-cover and reroof applications and can be used over a variety of substrates. See *HydroStop® PremiumCoat® Liquid-Applied Roofing Application and Specifications Manual* for information. It's made using high-quality raw materials and forms a flexible, UV-resistant compound. This liquid-applied membrane is fully reinforced with a tough nonwoven polyester fabric, designed for roofing and flashing applications of many types. HydroStop® PremiumCoat® Finish Coat is internally plasticized and meets or exceeds ASTM D6083 for items such as flexibility, mechanical properties, and adhesion. HydroStop® PremiumCoat® System is Factory Mutual (FM) Approved. Refer to www.FMapprovals.com/RoofNav for actual FM Approved assemblies.



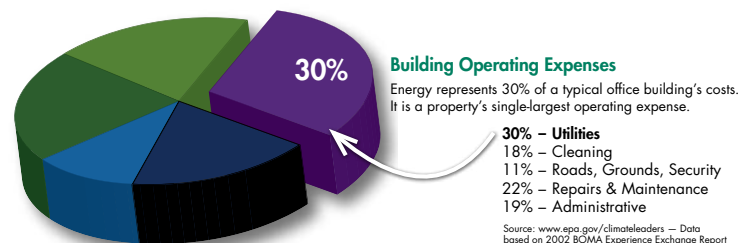
Liquid-applied roof systems are assembled onsite, forming a fully adhered, seamless membrane that meets the requirements of FM 4470 testing, which includes resistance to hail, foot traffic, wind uplift, and most importantly, water leakage.

HydroStop® PremiumCoat® Systems feature:

- Brush application
- Low maintenance
- Seamless and self-flashing
- Excellent UV and weather resistance
- High solar reflectivity and thermal emissivity (White and Cotton only)

HydroStop® PremiumCoat® Systems also:

- Can contribute toward satisfying Credits under LEED® v3 and LEED® v4. See the GAF LEED® Playbook at www.gaf.com/green for details.
- Can be used to comply with Title 24 roofing product requirements (White and Cotton only)



Note: LEED® — an acronym for Leadership in Energy and Environmental Design™ — is a registered trademark of the U.S. Green Building Council.

Resistance To Weathering

Resistance to weathering and retention of physical properties is a key performance attribute of any roof system. Data was obtained on a HydroStop® PremiumCoat® System consisting of fabric-reinforced acrylic membrane. Data shows that even after 8,000 hours of Xenon Arc accelerated weathering (per ATSM D2370), this system is able to retain virtually all of its initial elongation and breaking strength.

Tensile Properties	Initial	2000h	4500h	8000h
5 specimens; 3.0" lng x 0.5" wide Test Speed 1.0±0.2"/min Test Condition 73.4±3.6°F & 50±10%RH				
MD - Percent Elongation (max load) (%)	44	45	50	36
MD - Breaking Strength (lbf/in-width)	70	70	64	65
CMD - Percent Elongation (max load) (%)	42	48	53	41
CMD - Breaking Strength (lbf/in-width)	65	73	71	69

United Coatings™

The industry's premier line of roof coatings

Reliable Coating Solutions

United Coatings™ products from GAF make sense for both contractors and building owners. Contractors love the simple installation, wide range of technologies, and proven track record of United Coatings™ products. Most products do not require expensive equipment to install, and are safe to handle and apply. The monolithic design helps reduce points of failure, leaks, and resultant callbacks, providing peace of mind. Building owners appreciate the value that GAF products bring. Reliable solutions mean not having to replace entire roofs; non-toxic application prevents interruption of occupancy or other undesirable effects. The reflective, durable characteristics of many of our white coatings help provide energy savings* and long-term aesthetic stability. Other benefits include:

- No tear-offs required
- Installed while occupants are in the building
- No new insulation required
- No lifting of AC units
- No raising of drains

Highly reflective, top-quality pigments reflect a majority of the sun's heat, dramatically lowering the temperature of the underlying roof substrate and interior temperatures. This results in reduced HVAC loads, which saves energy usage and expense.* Further, equipment installed on roof areas operate at reduced temperatures, which may extend the equipment's life.

Not sure which coating is right for you? Let Coatings Coach help you find the solution based on your specific job requirements at CoatingsCoach.gaf.com.

*Energy cost savings are not guaranteed and the amount of savings may vary based on climate, utility rates, roof reflectance, insulation levels, HVAC equipment efficiency, and other factors.



EVERGUARD® TPO

Single-Ply Roofing Systems



Why TPO

In the 20+ years that TPO has been in the field, it's become one of the most popular products used for low-slope roofing. Over 1 billion sq. ft. are installed annually, making up over 50% of single-ply roofs being installed today.

The rapid rise in popularity can be associated with several of TPO's inherent benefits, including:

- **Great Value...**
Excellent performance at a cost-effective price.
- **Excellent Seam Strength...**
Heat-welded seams provide greater seam strength to taped and other seams.
- **Long-term Weathering...**
Excellent long-term heat and UV resistance.
- **Energy Saving...**
Highly reflective and emissive white surface can help reduce energy costs and urban heat island effect.
– Check out your potential energy savings by going with a white roof at cool.gaf.com.
- **Inherently Flexible...**
No need for plasticizers.
- **Naturally Fungal Resistant...**
Doesn't require biocides.
- **Versatile Application Methods...**
Including high-performance roofs requiring high wind uplift, increased puncture resistance, or quick economical systems.
- **Faster Installation...**
Available on 12' (3.66 m)-wide rolls and prefabricated accessories to eliminate field fabrication of details.

Why GAF

- Over 130 years in business and North America's largest roofing manufacturer.
- Offers a full line of roofing solutions, including TPO and PVC single-ply systems.
- Capital investments of over \$130 million from 2011–2016 in commercial roof manufacturing, giving GAF the most state-of-the-art equipment in the industry.
- Only GAF offers the patent-pending EverGuard Extreme® membrane with the longest guarantee in the industry (up to a 35-year guarantee*).
- Leader in sustainability, including having EPDs and HPDs and being on the Red List Free listings.
- Commissioned the largest independent study ever conducted on TPO performance among North American manufacturers.
– Results show GAF has the best-performing TPO membranes in accelerated aging tests (visit TPOResults.com to learn more).

*See applicable guarantee for complete coverage and restrictions.

EverGuard® Membrane Attachments & Adhesives

Solutions for excellent performance and value

EverGuard® Membrane Attachment Options:

Installing smooth TPO with fasteners in a mechanically attached system offers several benefits, including:

- Up to 50% faster installation compared to fully adhered smooth membrane installations
- Reliability and cost effectiveness
- Familiarity with the industry as the most common installation method in single-ply membranes
- Consistent installation in a wide variety of temperatures
- No sprayers or additional capital investments
- A great option for occupied buildings, as there is no odor from adhesives

Installing smooth TPO with the RhinoBond® Attachment System offers several benefits, including:

- A fast and easy installation
- Smaller crews and install time, with up to 50% faster installation by adding a second machine
- Quick dry-in, as membrane seams can be welded before RhinoBond® Plates are bonded
- Can be installed in a wide variety of temperatures
- No waiting for cure time, fumes, mess, empty pails, or VOCs from traditional adhesives
- No half sheets and fewer seams
- Longer warranties
- Less flutter with optimized attachment across the entire sheet

Installing an adhered EverGuard® smooth TPO System offers several benefits, including:

- Longer guarantees compared to mechanically attached systems
- Excellent wind uplift ratings
- A uniform, smooth appearance
- Familiarity with workers, as this installation is common in the industry
- Minimizes thermal drift while acting as a vapor barrier

GAF offers several adhesives that are compatible with EverGuard® smooth TPO, including:

- **SBA 1121 TPO Bonding Adhesive...** The most frequently used, traditional solvent-based GAF bonding adhesive
- **EverGuard® TPO 3 Square and 6 Square Low VOC Bonding Adhesives...** For use in areas where there are VOC regulations

Note: RhinoBond® is a registered trademark of OMG, Inc.



TPO is fastened to the deck at the seam



The RhinoBond® machine and magnets weld the membrane to each plate



Adhesive is rolled on both the substrate and membrane and allowed to flash off

- **EverGuard® WB181 Bonding Adhesive...** A water-based bonding adhesive that is both VOC compliant and low odor

See gaf.com for additional details, including application.

EverGuard® Fleece-Back TPO

Why GAF EverGuard® Fleece-Back TPO

Factory-applied polyester fleece provides additional protection to the membrane, offering a variety of benefits, including:

- Does not require a slip sheet when re-covering over a variety of roofs
- Provides enhanced puncture resistance, especially in areas more prone to hail
- Increases installation efficiency 2–3 times when installing EverGuard® Fleece-Back TPO with GAF 2-Part Roofing Adhesive (compared to standard TPO adhesives) or OlyBond 500® Equipment-Free Canister System.



Adhesive is applied in beads



Adhesive is applied in a spatter pattern



Membrane is rolled into adhesive while still wet

Installing fleece-back with low-rise foam roofing adhesive offers several benefits including:

- Up to 50% faster installation than traditional fully adhered, smooth systems
- Increased productivity and smaller crews versus other attachment methods
- Can qualify for longer guarantees compared to mechanically attached
- Low-VOC content with low odor
- Increased puncture resistance due to fleece backing of EverGuard® membrane
- Excellent wind uplift
- Cold weather LRF also available for temperatures as low as 25°F (-3.9°C)

Installing fleece-back with GAF 2-Part Roofing Adhesive or OlyBond 500® Equipment-Free Canister provides additional benefits including:

- High coverage rate canisters
- No expensive equipment or maintenance
- Fast set up and shut down

Installing fleece-back TPO with EverGuard® WB181 Bonding Adhesive offers several benefits, including:

- Up to 50% faster installation time than traditional smooth, fully adhered systems
- Reduced labor costs
- Low-VOC content with little-to-no odor, reducing disruption to building occupants
- Additional puncture resistance due to the fleece backing of EverGuard® membrane
- Longer guarantees compared to mechanically attached systems
- Excellent wind uplift ratings
- A uniform, smooth appearance
- Minimized thermal drift while acting as a vapor barrier

Note: OlyBond 500® is a registered trademark of OMG, Inc.

EverGuard® PVC and EverGuard® PVC Fleece-Back

Performance advantages in a membrane suitable for all single-ply systems

Why EverGuard® PVC and EverGuard® PVC Fleece-Back

EverGuard® PVC is a time-tested membrane that's a great option for re-covering roofs — as well as for new construction — that includes a guarantee for up to 25 years.* EverGuard® PVC is suitable for all types of single-ply systems including mechanically attached, RhinoBond®, and fully adhered. And if you're looking for additional protection, EverGuard® PVC Fleece-Back can offer it.

EverGuard® PVC

Features & Benefits

- **Increased Chemical Resistance...** Compared to other common roofing technologies
- **Excellent Seam Strength...** Heat-welded seams provide greater seam strength to taped and other seams
- **Versatile Application Methods...** Including high-performance roofs requiring high wind uplift, increased puncture resistance, or quick economical systems
- **Faster Installation...** Available in 10' (3.05 m)-wide rolls and prefabricated accessories to eliminate field fabrication of details
- **Longer-Term Weathering...** Excellent long-term UV and ozone resistance

EverGuard® PVC Fleece-Back

Features & Benefits

- No slip sheet required when re-covering over a variety of roofs
- Enhanced puncture resistance, especially in areas more prone to hail
- When you install EverGuard® PVC Fleece-Back with Low-Rise Foam Adhesives, you will get even more benefits such as:
 - Up to 50% faster installation than traditional adhered, smooth systems
 - Increased productivity and smaller crews versus other attachment methods
 - Excellent wind uplift

And don't forget about EverGuard® WB181 Bonding Adhesive. This adhesive is applied to the substrate only and EverGuard® Fleece-Back PVC is rolled in wet — reducing installation time up to 50% compared to traditional adhered, smooth systems.

*See applicable guarantee for complete coverage and restrictions.



Note: RhinoBond® is a registered trademark of OMG, Inc.

GAF EnergyGuard™ Roof Insulation Products

Economical and exceptional thermal performance for all types of roofing systems

EnergyGuard™ Polyiso and EnergyGuard™ NH Polyiso

Building methods and energy codes are constantly changing but GAF EnergyGuard™ Polyiso and EnergyGuard™ NH Polyiso provide the constant quality, performance, and lineup of products offering a solution to meet the ever-changing low-slope market needs.

EnergyGuard™ Polyiso and EnergyGuard™ NH Polyiso are designed for use in practically any low-slope roofing application including built-up, modified bitumen, and most single-ply roofing systems.

What is the difference between EnergyGuard™ Polyiso Insulation products and EnergyGuard™ NH Polyiso Insulation products? They both offer one of the highest insulating values on the market to help save on energy costs, but EnergyGuard™ NH uses a new, innovative chemical composition that does not contain any halogenated flame-retardant chemicals. It supports the GAF commitment to providing architects, contractors, and building owners with affordable products that help them meet their sustainable and environmental design goals.

Features and Benefits

- Designed for use in practically any low-slope roofing application, including BUR, mod bit, and single-ply systems
- Offers various facers and compressive strength options depending on your specification needs
- Also offers one of the highest R-values compared to any other type of non-polyiso insulation products.
- Meets FM 4450/4470 (consult RoofNav.com for specific assemblies) and UL 1256/790/263
- Meets ASTM C1289 Type II, Class 1, Grade 2 (20 psi)*, and available in Grade 3 (25 psi)
- Low water permeability means a lower overall perm rating than many conventional insulation boards
- High moisture resistance and no capillarity creates stability to maintain its physical and insulating characteristics
- Its light weight makes this material easier to handle on the jobsite and installs faster
- Easier cutting in the field provides the installer with simplified fabricating on the roof deck, minimizing on-the-job damage
- Manufactured with EPA-compliant blowing agents containing no CFCs or HCFCs; has zero ozone depletion potential (ODP) and virtually no global warming potential (GWP)
- Available in a variety of thicknesses from 1" (25.4 mm) to 4.6" (117 mm) to best suit your needs
- Available in 4' x 4' (1.21 m x 1.21 m) and 4' x 8' (1.21 m x 2.44 m) boards
- Tapered panels are also available in slopes of 1/16:12, 3/16:12, 1/8:12, 3/8:12, 1/4:12, and 1/2:12

ENERGYGUARD™ POLYISO INSULATION CUSTOM CUT



EnergyGuard™ Polyiso Insulation custom cut for flute-filler applications is designed to fill the flutes in standing seam or lap seam metal roof retrofit systems. It helps improve dimensional stability as well as provides additional R-value to an existing roof deck.

EnergyGuard™ Polyiso Insulation custom cut for flute-filler applications is available with either straight-cut or bevel-cut edges in order to suit a variety of metal roof retrofit applications.

*Stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max.

EnergyGuard™ Tapered Polyiso Insulation

Get the longevity you deserve out of your roof

EnergyGuard™ Tapered Polyiso Insulation

EnergyGuard™ Tapered Polyiso Insulation has a thermally efficient polyisocyanurate core bonded between glass fiber-reinforced cellulosic felt facers. Also available in our coated glass-faced products such as EnergyGuard™ Ultra, EnergyGuard™ NH Ultra, EnergyGuard™ Barrier, and EnergyGuard™ NH Barrier. It is readily available in various slope profiles such as the most popular and efficient tapers: 1/8:12 (1%), 1/4:12 (2%), and 1/2:12 (4%).

Tapered polyiso insulation provides a logical and economical answer for roofs that do not permit adequate positive drainage like low-slope roofs. When correctly installed, tapered insulation helps eliminate problems due to ponding water and can extend the longevity of your low-slope roofing system.

GAF offers a full lineup of tapered panels to provide you with different options to help you create the best design for your roofing project.

- EnergyGuard™ Polyiso and EnergyGuard™ NH Polyiso meet ASTM C1289 Type II, Class 1, Grade 2 (20 psi)*, and Grade 3 (25 psi)
- EnergyGuard™ Ultra/EnergyGuard™ NH Ultra/EnergyGuard™ Barrier/EnergyGuard™ NH Barrier meet ASTM C1289 Type II, Class 2, Grade 2 (20 psi)*, and Grade 3 (25 psi)



Complete tapered polyiso design for proper water management

Features

- EnergyGuard™ Tapered Polyiso Insulation is designed for use over structural roof decks to provide positive slope to drain and to provide thermally efficient insulation
- When properly installed, it is suitable for use under built-up, modified bitumen, and most single-ply roofing systems

Benefits

- Properly designed and installed EnergyGuard™ Tapered Polyiso Insulation Systems virtually eliminate ponding water
- High thermal efficiency
- Easily installed with mechanical fasteners, low-rise foam, or hot asphalt, or loose-laid in a ballasted system
- Low point and letter codes are designated on each board
- Engineering design board layouts are available from your plans and field-verified dimensions. Contact our Tapered Design Group at TDG@gaf.com.

*Stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max.

Choosing the Right Polyiso Insulation For Your Roofing System

Choosing the right polyiso for a roofing system can be confusing. There are many different types of facers and attributes to meet the required energy codes and specifications. So which type of polyiso meets the needs of the roofing system for your building?

		EnergyGuard™ Polyiso	EnergyGuard™ NH Polyiso	EnergyGuard™ Ultra*	EnergyGuard™ NH Ultra*	EnergyGuard™ Barrier	EnergyGuard™ NH Barrier	EnergyGuard™ HD/HD PLUS	EnergyGuard™ NH HD/HD PLUS
Roof Type	New	•	•	•	•	•	•	•	•
	Re-cover	•	•	•	•	•	•	•	•
	Retrofit (metal)	•	•	•	•	•	•	•	•
Attribute/Benefit	Highest R-value	•	•	•	•	•	•	•	•
	Lightweight; easy to handle and cut	•	•	•	•	•	•	•	•
	Contains no CFCs or HCFCs; has zero ODP and is EPA compliant	•	•	•	•	•	•	•	•
	Reinforced cellulosic felt facers	•	•						
	Coated glass fiber			•	•	• (bottom)	• (bottom)		
	Premium coated glass fiber					• (top)	• (top)	•	•
	Flat board product in 4' x 4' (1.21 m x 1.21 m) or 4' x 8' (1.21 m x 2.44m)	•	•	•	•	•	•	•	•
Tapered board product (4' x 4' [1.21 m x 1.21 m] only)	•	•	•	•	•	•			
Roof Challenges	High-traffic roof			•	•	•	•	•	•
	High-humidity structure			•	•	•	•	•	•
	Resistance to mold (ASTM D3273)			•	•	•	•	•	•
	Achieves an ANSI/UL 790 Class A roofing fire rating over combustible decks with a 1" (25.4 mm) board thickness					•	•		
	Approved component of Class 1-SH (Hail) Rated Assembly							•	•
Transparency	Red List Free product		•		•		•		•
	HPD (Health Product Declaration)	•	•		•		•		•
	EPD (Environmental Product Declaration)	•							
	PIMA Quality Mark	•	•	•	•				
	GreenCircle Certified – Recycled Content	•	•						
Codes Compliance	C1289/Type II/Class 1/Grade 2 (20 psi)** and Grade 3 (25 psi)	•	•						
	C1289/Type II/Class 2/Grade 2 (20 psi)** and Grade 3 (25 psi)			•	•	•	•		
	C1289/Type 2/Class 4/Grade 1					•	•	•	
	C1289/Type 2/Class 4/Grade 2								•
	FM (4450/4470)†	•	•	•	•			•	•
	UL (ANSI/UL 790, ANSI/UL 1256, ANSI/UL 263)††	•	•	•	•				
	UL (ANSI/UL 790)					•	•	•	•
	Miami-Dade County Product Control Approved	•	•	•	•			•	
State of Florida Approved	•	•	•	•			•	•	

*Class A roofing fire rating over combustible deck when used with single-ply TPO, a total of at least 3" (76 mm) of EnergyGuard™ Ultra is required; a Class B fire rating is also obtained when using at least a single layer of 1.5" (38.1 mm).

**Stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max.
 †Refer to FM Approvals RoofNav online for actual assemblies.
 ††Refer to UL Online Certification Directory for actual assemblies.

NOTE: With the exception of EnergyGuard™ HD/HD PLUS Polyiso and EnergyGuard™ NH HD/HD PLUS Polyiso, stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max. Some membrane systems may require a non-polyisocyanurate cover board, the use of GAFGLAS® Stratavent™ Perforated Venting Base Sheet, or a mechanically attached base sheet over polyisocyanurate insulations. Check the membrane specification for installation, code, and warranty requirements.

GAF Roofing Accessories

A single supplier for all your roofing components means a single source for accountability

Asphaltic Roofing Solutions

Today, there are many technologies available for commercial roofing, but none of them have been as time-tested for toughness and reliability as modified bitumen and built-up roofing. At GAF, we have a full line of high-quality roofing adhesives, cements, primers, and sealants designed to maximize performance of our RUBEROID®, LIBERTY™, and GAFGLAS® asphaltic product membranes. These products have been tested to ASTM standards and used with multiple systems to achieve UL, FM, and Miami-Dade County approvals.

Whether you are installing a cold, hot, or torch-applied asphaltic roof, be confident that the GAF products you choose will work together to provide a long-lasting, durable system that meets the test of time.

PRIMER



MATRIX™ 307 PREMIUM ASPHALT PRIMER

- Penetrates concrete and masonry to promote an excellent bond for asphaltic adhesives, cements, or coatings
- Strong and flexible to accommodate temperature expansion and contraction
- Spray, roller, or brush apply
- ASTM D41
- Color: Black
- Available in 4.75-gallon (18L) pails & 53-gallon (201L) drums



FLASHING CEMENTS



MATRIX™ 201 PREMIUM SBS FLASHING CEMENT

- **BEST** quality flashing cement for SBS modified bitumen systems
- For flashing details, attaching membranes to walls, and repairs
- High level of modifiers ensures excellent bonding strength and flexibility to accommodate roof movement
- Apply with notched trowel or wide-edged putty knife
- ASTM D4586 Type 1; ASTM D3409
- Color: Black
- Available in 4.75-gallon (18L) pails & 11-ounce (312g) tubes



MATRIX™ 202 SBS FLASHING CEMENT

- **GOOD** quality flashing cement for SBS modified bitumen systems
- For flashing details, attaching membranes to walls, and repairs
- Modified to ensure good bond strength and flexibility to accommodate movement
- Apply with notched trowel or wide-edged putty knife
- ASTM D4586 Type I; ASTM D3409
- Color: Black
- Available in 4.75-gallon (18L) pails



MATRIX™ 203 PLASTIC ROOF CEMENT

- General-purpose roof cement
- Heavy, "trowel-grade" consistency makes product ideal for sealing leaks and openings around flashings, chimneys, vents, skylights, joints in metal edges, and gutters
- Can also be used for adhering BUR base, ply, and cap sheets in vertical applications
- Apply with notched trowel or wide-edged putty knife
- ASTM D4586 Type I; ASTM D3409
- Color: Black
- Available in 4.75-gallon (18L) pails



MATRIX™ 204 WET/DRY ROOF CEMENT

- Great for emergency repairs — even wet surfaces
- Unique water-displacing additive displaces water from wet surfaces to create a tight seal
- Heavy, "trowel-grade" consistency makes this product ideal for sealing leaks and openings around flashings, chimneys, vents, skylights, joints in metal edges, and gutters
- Apply with notched trowel or wide-edged putty knife
- ASTM D4586 Type I
- Color: Black
- Available in 2.8 (10.6L) & 4.75-gallon (18L) pails



ADHESIVES



MATRIX™ 101 PREMIUM SBS MEMBRANE ADHESIVE

- **BEST** quality adhesive for cold-applied SBS modified bitumen systems (formerly TOPCOAT® Matrix™ MajorBond™ Modified Bitumen Adhesive)
- Ideal for high wind uplift areas needing maximum adhesive strength
- Spreads easily and low odor
- Spray apply or use a 1/8" (3.18mm) notched squeegee
- Color: Black
- Available in 4.75-gallon (18L) pails & 53-gallon (201L) drums



MATRIX™ 102 SBS MEMBRANE ADHESIVE

- **GOOD** quality adhesive for cold-applied SBS modified bitumen systems
- Fiber reinforced, rubberized, and low odor
- Spray apply or use a 1/8" (3.18mm) notched squeegee
- ASTM D3019 Type III
- Color: Black
- Available in 4.75-gallon (18L) pails & 53-gallon (201L) drums



MATRIX™ 103 COLD PROCESS ADHESIVE

- Designed specifically for BUR cold-applied systems
- Exclusive SURE GRIP™ Technology with excellent bonding strength and flexibility
- Spray apply or use a 1/8" (3.18mm) notched squeegee
- Low odor
- ASTM D3019 Type III; ASTM D4479 Type I
- Color: Black
- Available in 4.75-gallon (18L) pails



The M-Curb™ Pitch Pocket System

- Accommodates any size opening
- Produces long-lasting results when system components are used
- Provides an impact-resistant watertight seal

Refer to the GAF published data sheet and the RUBEROID®/GAFGLAS® Flashing Details Application and Specifications Manual for complete details.

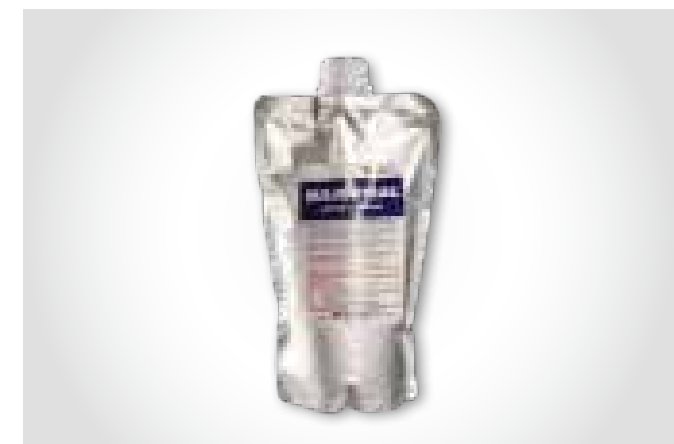


Black/White Flashing

Lexsuco® Flashing, Vapor Retarders & Water Barriers

Take the guesswork out of flashing repair

- Metal Edge (ME) Flashing
- Black/White (B/W) Flashing
- Reinforced (RF) Flashing
- Lexsuco® Vapor Retarder, a 4-mil black vinyl sheet with a perm rating of 0.5
- Permaste Vapor Retarder, an asphalt-impregnated kraft paper with fiberglass-reinforced edges and a perm rating of 0.23
- Lexsuco® Water Barrier, a high-quality flexible PVC plastic sheet for moisture-barrier applications in unexposed locations, such as below grade or behind and beneath other building components



MajorSeal™ Liquid Flashing System

The MajorSeal™ Liquid Flashing System is used to waterproof irregularly shaped penetrations, low parapet walls, at door thresholds, in lieu of pitch pans, and at virtually any application where more traditional flashings are not practical.



M-Weld™ Preflashed Drainage & Moisture-Control Accessories

Provide a uniform finished look for the roof while improving the reliability of penetration flashings

M-Weld™ Preflashed Accessories...

Are one-piece roofing detail assemblies that can be used with modified bitumen and built-up roofing systems. These accessories are flashed with either an APP modified bitumen (for use with torch-applied membranes) or an SBS-modified bitumen (for use on built-up roofs and mop- or cold-applied SBS applications).

GAF Roofing Accessories

Metalastic® Expansion Joint Covers

Reduce field splices — and the risk of leaks

GAF has designed the most flexible group of expansion joint covers in the industry. Available in 50' (15.24 m) rolls or customized up to 250' (76.2 m) rolls in black or white, Metalastic® Expansion Joint Covers eliminate splice joints every 10' (3.05 m) and promote trouble-free roofing system performance. Substantially reduces the contractor's installation labor, thereby reducing overall installed cost.



CMF Style
Curb-to-Curb style
expansion joint profiles



Metalastic® Cover in continuous length run

Perimeter Edge Metal

Perimeter edge metal provides many benefits in addition to aesthetics, such as:

- Functions as the termination and transition between the roof and other building components
- Ensures product consistency and performance
- Includes fasteners and pre-punched slotted holes which provide proper attachment for increased productivity
- Allows for expansion and contraction which helps prevent oil canning
- Helps save on labor because there's no crimping required at the roof edge
- Factory-fabricated corners and accessories come premanufactured, providing a clean look while eliminating field labor



GAF Perimeter Edge Metal offers a full lineup of prefabricated coping, fascia, drip edges, gutters, downspouts, and trim in both steel and aluminum in a variety of Kynar®-coated colors.

All products are tested and approved per ANSI/SPRI FM 4435/ES-1 since they are the first line of protection in a wind event.

Drill-Tec™ Fasteners

Drill-Tec™ Fasteners and Plates offer a comprehensive lineup of insulation and membrane products that can be used on almost any deck type. The fasteners are made with high-quality corrosion-resistant stainless steel alloy and the plates of Galvalume®-coated steel — to provide the performance you can rely on.

Drill-Tec™ Fasteners...

Come in a wide range of lengths and head types.

Insulation Plates...

For both regular, flat polyiso insulation as well as cover board applications.

Membrane Plates...

A wide variety of membrane plates, including double-barbed 2 3/8" (60.3 mm) plate options, exclusive to GAF, which can increase wind uplift ratings compared to standard single-barbed plates.

GAF Drill-Tec™ Fasteners and Plates meet all the standards required by Factory Mutual (FM) and Underwriters Laboratories (UL) to reduce your labor cost and increase your productivity. Most Drill-Tec™ Fasteners and Plates are compatible with Accutrac®, AccuSeam®, and RhinoBond® tools.



EverGuard® Prefabricated Accessories

Boost productivity up to 200%* while reducing installed cost by up to 12% (compared to field-fabricated accessories), and eliminate common problems often associated with field-fabricated details

EverGuard® TPO and PVC Prefabricated Accessories

	<p>Walkway Roll Heat welds directly to TPO membrane or installed with seam tape; available in Gray and Yellow</p>		<p>T-Joint Cover Patches Conforming seal for use over T-joints in 60 and 80 mil membrane applications</p>
	<p>Pourable Sealer Pocket Structural foundation for EverGuard® Pourable Sealant</p>		<p>Inside Corner Manufactured to accommodate inside corners of base and curb flashings</p>
	<p>Fluted Corner For use in flashing outside corners of base and curb flashings</p>		<p>Scupper TPO can be heat welded to the scupper for a strong, secure installation</p>
	<p>Universal Corner Accommodates both inside and outside corners of base and curb flashings</p>		<p>Square Tube Wrap Tube wraps are split with overlap to wrap around square or rectangular tubing; ensures a solid weld</p>
	<p>Vent Limits airflow to one direction, avoiding moisture buildup</p>		<p>Split Pipe Boot Three standard sizes accommodate most pipes and conduits</p>
	<p>Coated SpeedTite™ Drain TPO- or PVC-coated flange for direct hot-air welding of TPO or PVC roof membranes</p>		<p>Vent Boot Accommodates most common pipes and conduits from 1" (25.4 mm) to 6" (152 mm)</p>
	<p>Corner Curb Wrap Four standard sizes to flash curbs that are 24" (610 mm), 36" (914 mm), 48" (1.22 m), and 60" (1.52 m) in size</p>		<p>Conical Pipe Boot Accommodates most common pipes and conduits from 1" (25.4 mm) to 6" (152 mm) (Available in PVC and custom-color TPO)</p>
	<p>Expansion Joint Reinforced with 60 mil TPO membrane; accommodates both roof-to-roof and roof-to-wall applications</p>		<p>Cover Tape Self-adhered TPO for use in stripping in edge metal</p>

Not Pictured: 6" (152 mm) x 150' (45.7 m) Detail Strip, Coated Metal, Cut Edge Sealant

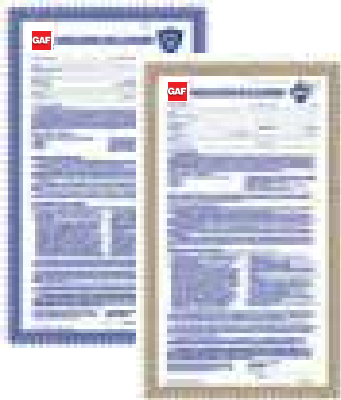
*Based on GAF estimate to field-fabricate flashing details.
Note: SpeedTite™ is a trademark of OMG, Inc.

Go to gaf.com/smartdetails for more information on flashing details.

Note: Kynar® is a registered trademark of Arkema, Inc.; Galvalume® is a registered trademark of BIEC International Inc. and some of its licensed producers; RhinoBond® is a registered trademark of OMG, Inc.

Excellent Guarantees For Quality Systems

Years of proven quality allow GAF to offer roofing system guarantees on Modified Bitumen, Built-Up Roofing, EverGuard® TPO and PVC, EverGuard Extreme® TPO, United Coatings™, and HydroStop® Roofing Systems. GAF Diamond Pledge™ No-Dollar-Limit (NDL) and System Pledge™ roof guarantees are available from 10 years up to 35 years* (material-only warranties are also available on GAF products). Guarantee extensions of up to 25% are available with the GAF WellRoof® Guarantee Extension.** Contact Guarantee Services for details.



Master Roofing Contractor Programs



Choosing the right roofing system, one supplied by the right materials manufacturer, supported with the right guarantee, and — most important — installed by the right contractor, is essential for the protection of the owner's facility. Through its Master Roofing Contractor Programs, GAF has aligned with key professional roofing contractors throughout the United States to ensure the quality installation and long-term performance of all Diamond Pledge™ and System Pledge™ guaranteed systems. Selection of a Master or Master Select™ Roofing Contractor to install a GAF system will result in the cost-effective, on-time roofing solution that you demand while maintaining superior quality and performance.

Certified Maintenance Professional (CMP) Program

Having a maintenance program in place for your roofing asset is critical for not only optimizing its overall longevity and performance but also helping ensure you have uninterrupted guarantee coverage if issues arise. GAF Certified Maintenance Professionals (CMPs) are contractors who have not only the expertise to maintain and service your roof but also the exclusive ability to extend your Diamond Pledge™ NDL Roof Guarantee by 25% — via the WellRoof® Guarantee Extension,** at no cost to you with annual preventive maintenance.



gaf.com – Your Resource For Complete Product Data

The GAF website contains technical data and information on both low- and steep-slope products. Information can be viewed or, in many cases, faxed or e-mailed to you, at your request directly from our website!

Full-Service Technical Support

The GAF Technical Services Group is available to provide additional data and information on geographic details, specific GAF projects, and code-related questions. For more information about our quality roofing products, systems, or support, visit our website at gaf.com or call our toll-free **Technical Hotline, 1-800-ROOF-411**.

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Regional Sales Offices

For the location of the closest GAF distributor or factory-certified contractor, call the nearest GAF regional office.

Central
2600 Warrenville Road,
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Downers Grove, IL 60515
630-241-5380

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Suites C & D
Swedesboro, NJ 08085
856-241-0241

Southeast
9950 Princess Palm Avenue,
Suite 312
Tampa, FL 33619
813-622-3962

Southwest
14911 Quorum Drive,
Suite 600
Dallas, TX 75254
972-851-0500

West
11800 Industry Avenue
Fontana, CA 92337
951-360-4200
800-445-9330

Canada Sales Office
855-492-8085

Service Contacts

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ARCHITECTS AND SPECIFIERS
1-800-522-9224



gaf.com

*See applicable GAF roof guarantee for complete coverage and restrictions.
**Capped at 35 years. WellRoof® Guarantee Extension is not available for liquid-applied warranties.

Recommended Details for
**Standard Steel Doors,
Frames, Accessories
and Related Components**

The information that follows represents the Standard Steel Door and Frame Industry's considered views on a number of details normally encountered in building plans and specifications.

The Steel Door Institute recommends that they be followed except when very unusual details necessitate special drawings. The enclosed may be used as a reference document or added directly to the job drawings.



Standards As Tough As Steel.™
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STEEL DOOR INSTITUTE
30200 DETROIT ROAD • CLEVELAND, OHIO 44145

SDI 111-2009

Recommended Selection and Usage Guide for Standard Steel Doors, Frames and Accessories

Table of Contents:

- 111-A** Recommended Standard Steel Door Frame Details
- 111-B** Recommended Standard Details for Dutch Doors
- 111-C** Recommended Louver Details for Standard Steel Doors
- 111-D** Recommended Door, Frame and Hardware Schedule for Standard Steel Doors and Frames
- 111-E** Recommended Guidelines for the Use of Gasketing and Thresholds for Standard Steel Doors and Frames
- 111-F** Recommended Existing Wall Anchors for Standard Steel Doors and Frames
- 111-G** Recommended Standard Preparation for Double Type (Interconnected) Locks on Standard Steel Doors and Frames
- 111-H** High Frequency Hinge Preparations for Frames

Definition of “STANDARD”

We call our products Standard for three reasons:

FIRST, because our products are made to conform to published standards and established dimensions.

SECOND, our products are manufactured to meet established performance requirements.

THIRD, the fabrication of our products is controlled by standard manufacturing procedures which ensure uniform high quality.

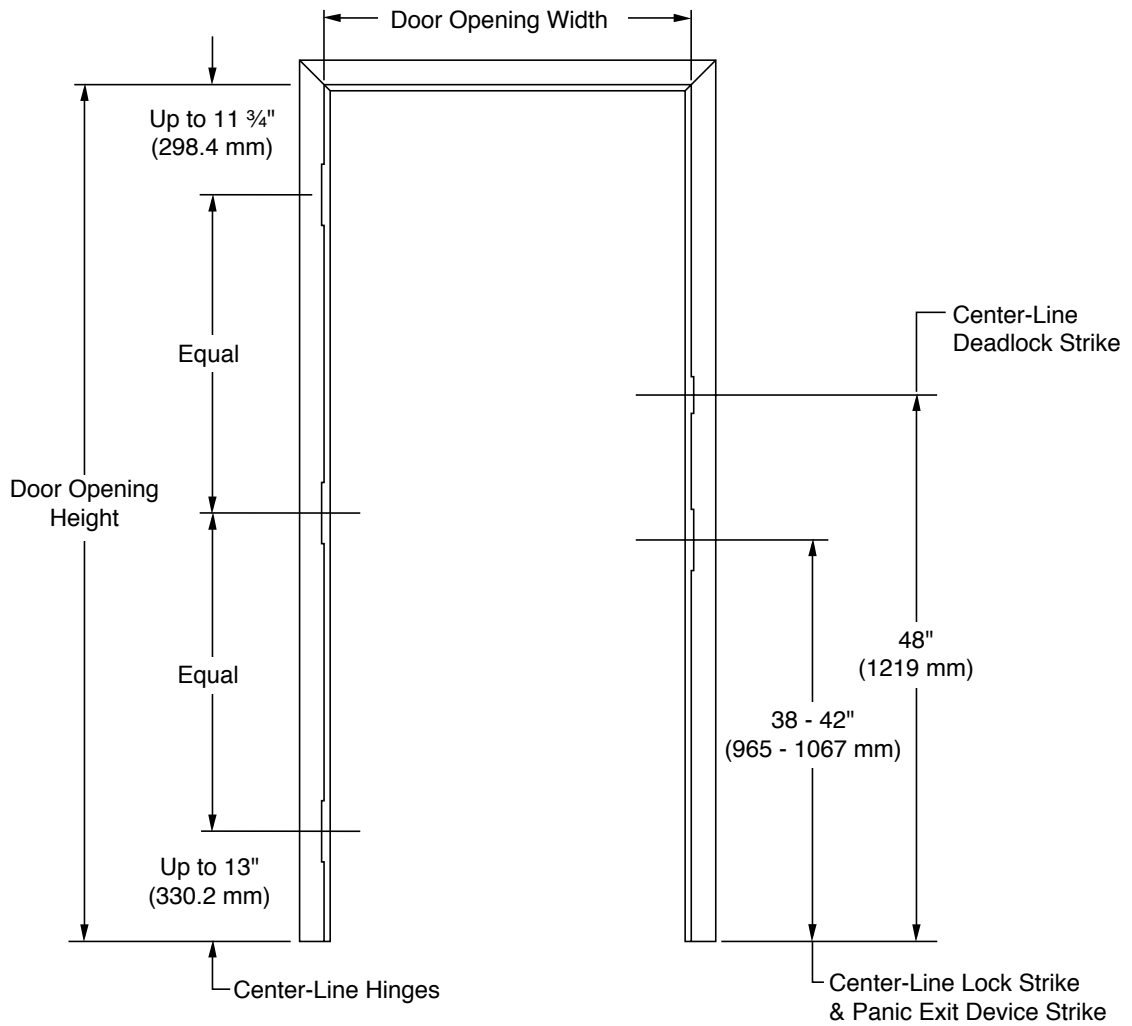
Recommended
**Standard Steel Door
Frame Details**



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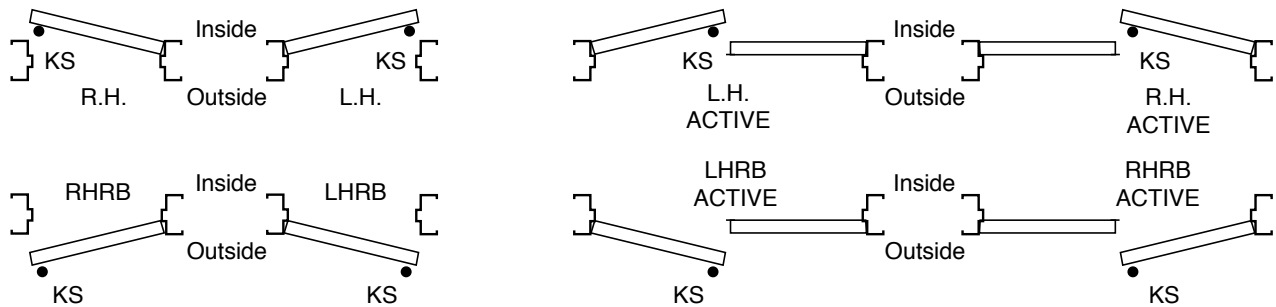
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Hardware Locations



Note: Center Hinge Omitted on 6' 8" (2032mm), 1 3/8" (34.5mm) Doors, Unless Specified.

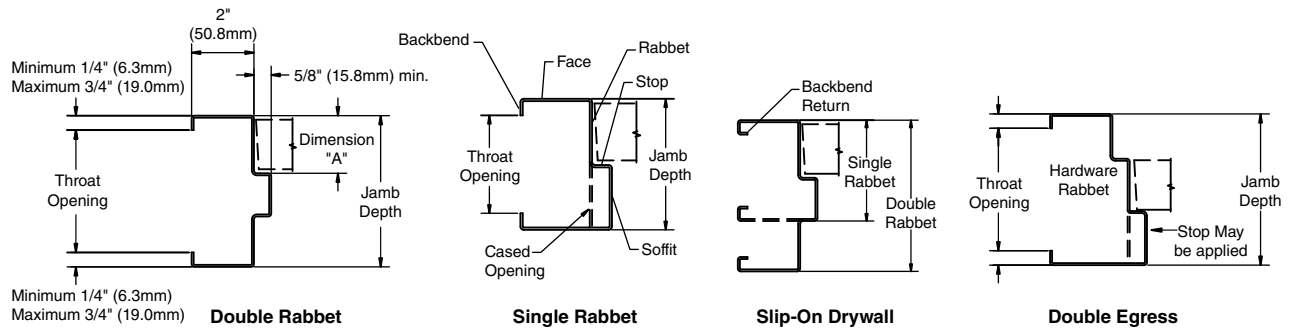
Handing Chart



KS indicates keyed side of lockset.

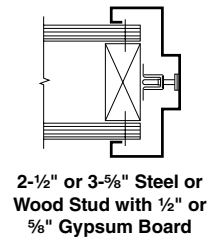
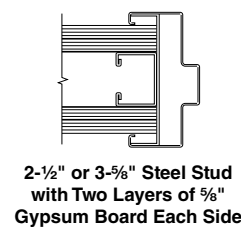
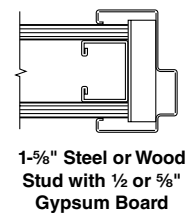
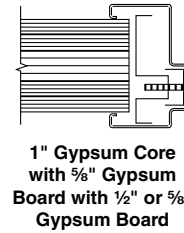
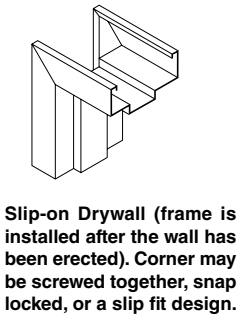
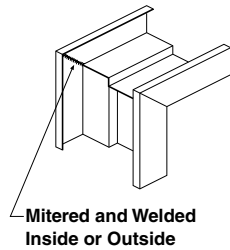
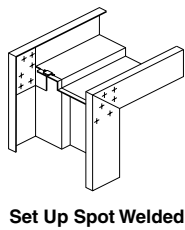
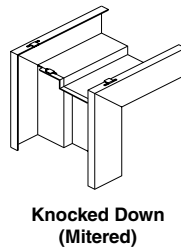
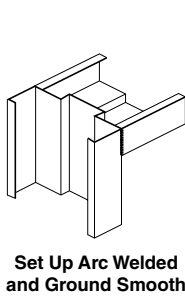
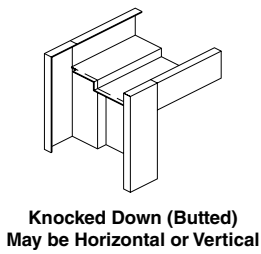
Standard Frame Details

Standard Profiles

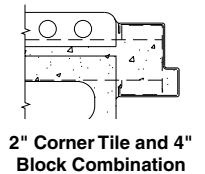
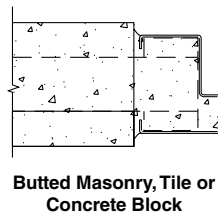
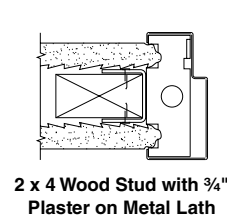
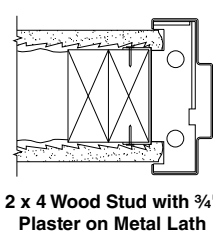
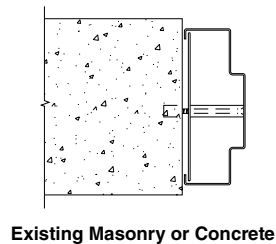
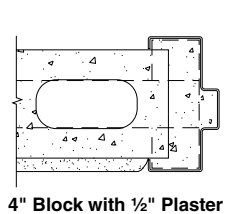
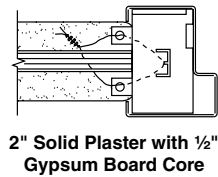
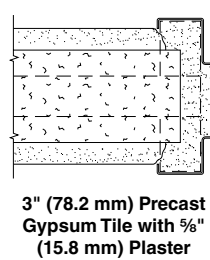
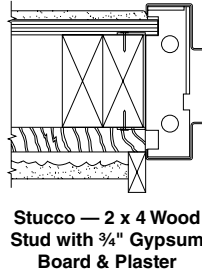
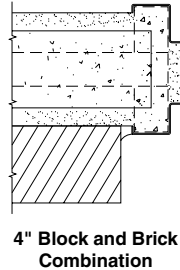
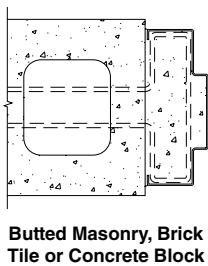


Door Thk.	Dim. "A"
1-3/8" (34.9mm)	1-3/16" (39.6mm)
1-3/4" (44.4mm)	1-15/16" (49.2mm)

Corners

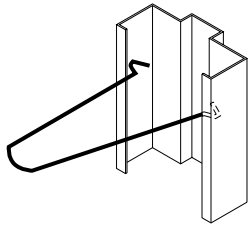


Common Wall Conditions

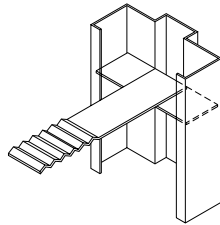


Special Frame Construction Details and Typical Hardware Preparations

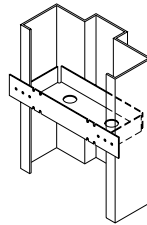
Anchor Details



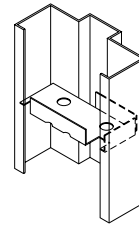
Masonry Wire Anchor



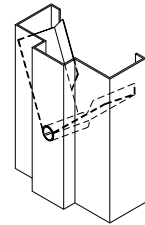
Masonry Tee Anchor



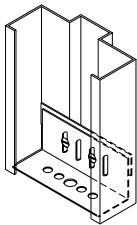
Wood Stud Anchor



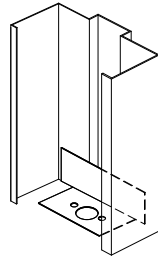
Steel Stud Anchor



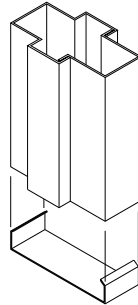
Existing Wall Anchor



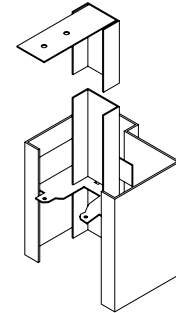
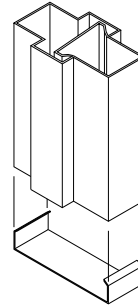
Adjustable Base Anchor



Standard Base Anchor

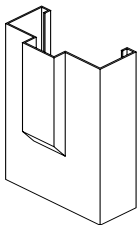


Typical Mullion Sections with Base Anchor

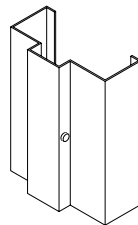


Plaster Partition Anchor (Ceiling Strut Optional)

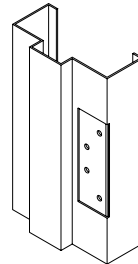
Special Frame Details



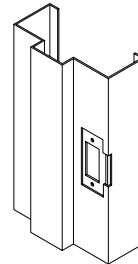
Hospital Stop



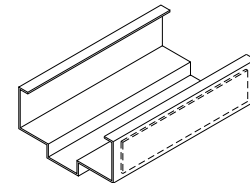
Rubber Silencers



Mortise Hinge



Strike



Surface Hardware Reinforcement. Weld-in Reinforcement Shown, Loose Reinforcing Sleeve Available for Field Installation.

Hardware Preparations

For more information on steel doors and frames, contact any of the following members of the Steel Door Institute:

BLACK MOUNTAIN DOOR
310 Flint Drive
Mt. Sterling, KY 40353
(859) 274-0411
www.blackmountaindoor.com

DEANSTEEL MANUFACTURING CO.
931 S. Flores Street
San Antonio, TX 78204-1406
(210) 226-8271
www.deansteel.com

MESKER DOOR, INC.
3440 Stanwood Boulevard
Huntsville, AL 35811-9021
(256) 851-6670
www.meskerdoor.com

REPUBLIC DOORS & FRAMES
155 Republic Drive
McKenzie, TN 38201-0580
(731) 352-3383
www.republicdoor.com

CECO DOOR
9159 Telecom Drive
Milan, TN 38358
(731) 686-8345
www.cecodoor.com

DOOR COMPONENTS INC.
7980 Redwood Avenue
Fontana, CA 92336-1638
(909) 770-5700
www.doorcomponents.com

MPI
319 North Hills Road
Corbin, KY 40701
(606) 523-0173
www.metalproductsinc.com

SECURITY METAL PRODUCTS
5700 Hannum Avenue, Suite 250
Culver City, CA 90230
(310) 641-6690
www.secmct.com

CURRIES
P.O. Box 1648
Mason City, IA 50402-1648
(641) 423-1334
www.curries.com

HOLLOW METAL XPRESS
602 S. 65th Avenue
Phoenix, AZ 85043
623-936-7000
www.HMXpress.com

PIONEER INDUSTRIES, INC.
171 South Newman Street
Hackensack, NJ 07601
(201) 933-1900
www.pioneerindustries.com

STEELCRAFT
9017 Blue Ash Road
Cincinnati, OH 45242
(513) 745-6400
www.steelcraft.com



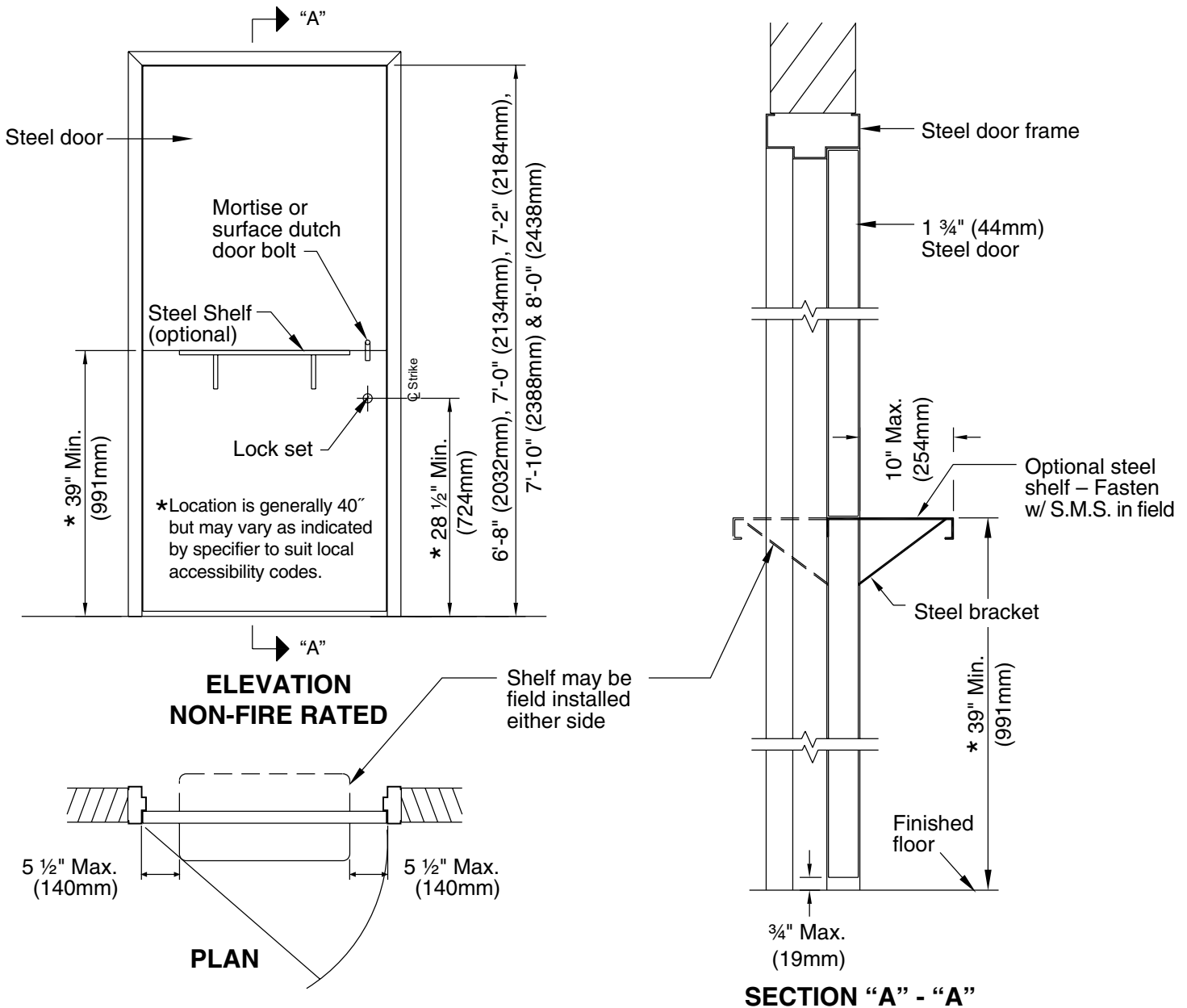
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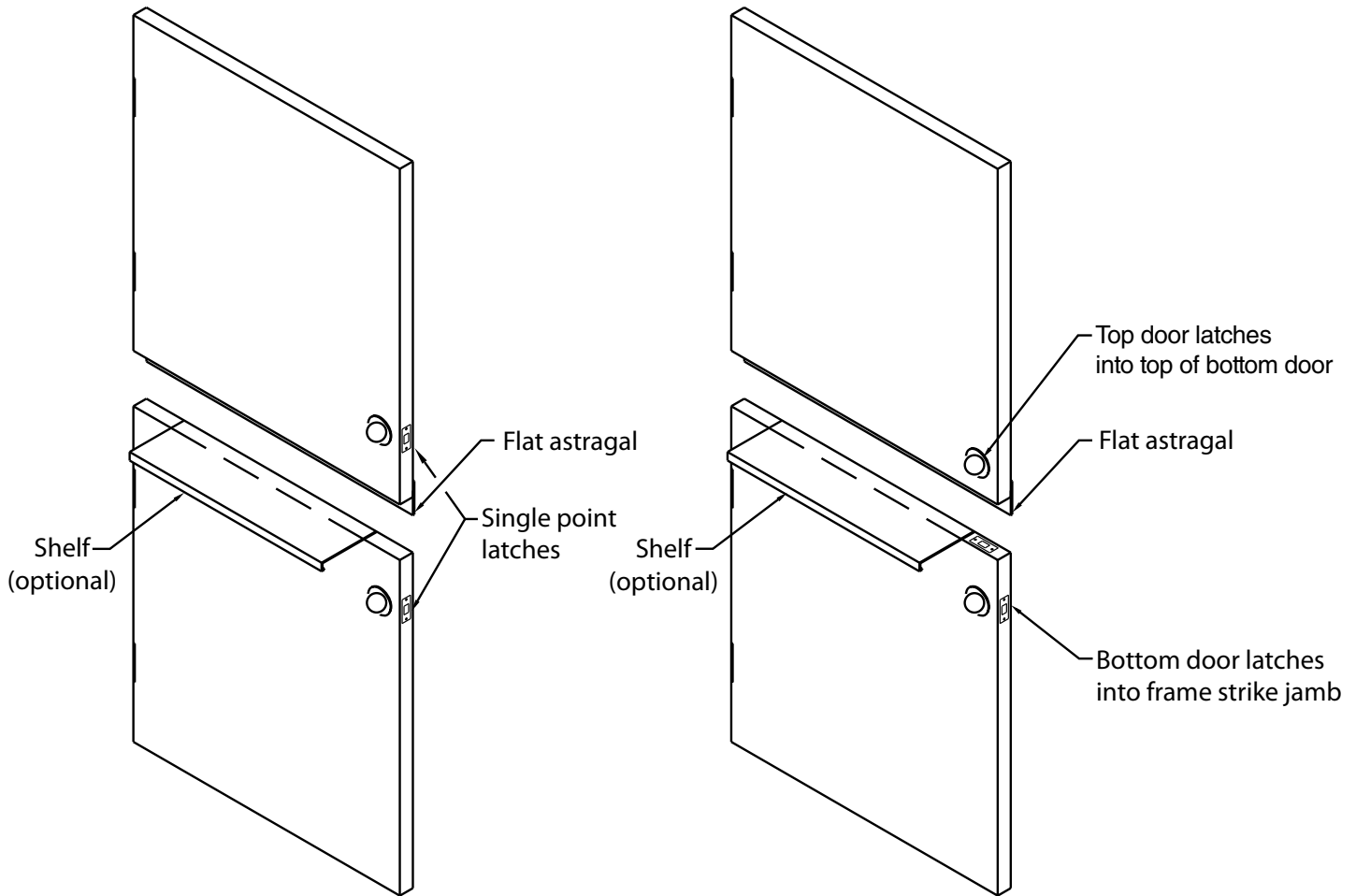
Standard Details for Dutch Doors



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 www.republicdoor.com

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 www.doorcomponents.com

MPI
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 Corbin, KY 40701
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Recommended
Louver Details
for
Standard Steel Doors

Standard steel doors can be provided with a variety of louver designs and sizes. This publication contains explanations and details of louver designs that are most commonly available within the standard door industry.

When specified, doors shall be provided with louvers at the bottom and/or top. The choice of which to use must be determined by the architect on aesthetic, functional, and economic grounds.



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Recommended Louver Details for Standard Steel Doors

Function – Louvers permit free air passage, controlling the volume by their size or design. They diffuse or control direction of air flow by blade design.

Insert louvers – Louvers commonly used in standard steel doors are of the “insert” type designed to be mounted into a cutout in the door and an overlapping frame. Inverted “V” blade, “Z” blade, inverted “Y” or chevron-type blade, lightproof, adjustable blade, grille type, and fusible link self-closing fire door types are available in a wide range of sizes. Also available from some steel door manufacturers is a pierced louver design. Insert louvers intended for exterior doors or other doors where security is a consideration should have fasteners or materials specified accordingly.

Note: If a louver door is required to provide security, the steel door manufacturer should be consulted.

Bird or insect screens are available with many of the standard design louvers. Where specified, consult steel door manufacturer for availability.

Weatherproof louvers – True weatherproof designs do not exist. Some louvers are manufactured to provide a certain degree of rain protection.

Louver construction – Standard louver frames are a minimum 20 gauge steel with louver blades of a minimum 24 gauge steel. The louver blades can be welded or tenoned to the frame and the entire assembly is generally fastened to the door with moldings. Generally, one molding will be an integral part of the louver, while the other molding will be detachable. When louvers are installed, the detachable moldings should be located on the room or non-security side of the door. Where doors are manufactured as non-handed, louvers may require reversing during door installation to suit actual handing.

Application:

Inverted “V” or “Z” blade types allow maximum free air flow with minimum static pressure differential.

Inverted “Y” or chevron blade types, while offering less free air flow, offer a higher strength factor for schools and other areas where vandalism or hard usage may occur.

Lightproof louvers are used where light transmission must be avoided, but provide minimal free air flow.

Adjustable blade louvers are used where air flow is varied in velocity and control of flow is needed.

Grille type louvers are normally associated with air conditioning, where air must be diffused in random flow, avoiding higher velocity air flow patterns.

Fusible link louvers are used in fire doors where flames and intense heat passage must be controlled. The link release temperature recommended is 135°F (57°C). These louvers must be labeled and may not exceed 24” x 24”. Fusible link louvers are allowed only at the bottom of fire doors. Since closing is heat activated, these louvers are not to be used on smoke control doors.

Pierced louvers, available from some steel door manufacturers, offer a flush condition and may be furnished with internal insect screens. Louvers are formed by embossing the door face sheets.

Louver size determinations – As a guide, the following approximate percentages of louver size may be used to determine the free area in a given size louver:

• Pierced louver	20%
• Inverted “V” inserted louver	50 – 60%
• Inverted “Y” (chevron) inserted louver	40 – 60%
• “Z” type inserted louver	40 – 45%
• Adjustable inserted louver	40 – 50%
• Lightproof inserted louver	20%
• Fusible link inserted louver	45%

The above percentages assume there is no air pressure drop from one side of the door to the other. On air condition grilles an air pressure drop is normal. An average 70% of the grille size can be used in computing free area on doors with air condition grilles.

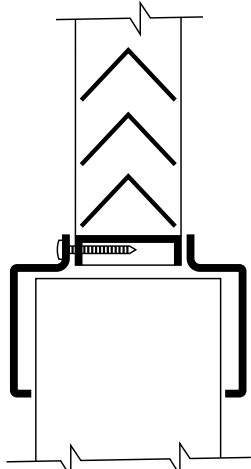
The percentages noted above are approximates. Consult the individual manufacturer’s literature for the specific sizes and ratings normal to their program.

Coordination – A combination of glass lights and louvers is common in steel door work. Care should be taken to avoid specifying too long a narrow light when a louver or grille occurs in the bottom of the same unit. In addition, handicap codes may dictate the location of the louver relative to the bottom of the door.

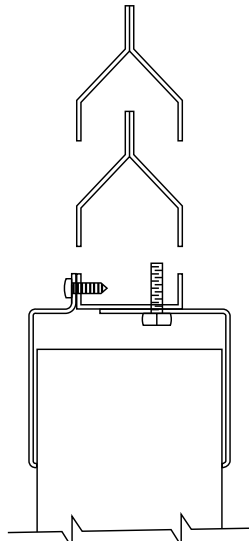
Full louver doors – A minimum 5” (127.0mm) rail occurs at the top and at the vertical stiles and an 8” (203.2mm) minimum rail occurs at the bottom of these doors (Consult door manufacturer for exact stile/rail dimensions). Stile and top rail sizes must be coordinated with closer dimensions, lock preparations, and lever handles. Pierced louvers are not available on full louvered doors.

Finish – The finish is to be prime painted, except when the louver is used in a factory prefinished door, in which case the louver will be finish painted with a color to match the door. For exterior doors, zinc coated louvers are available where specified.

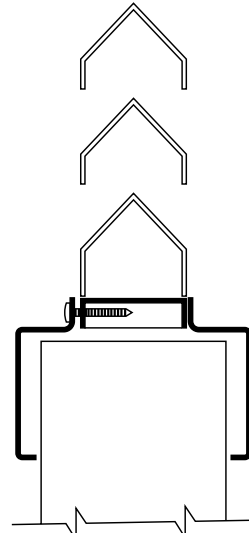
Cross Section Details



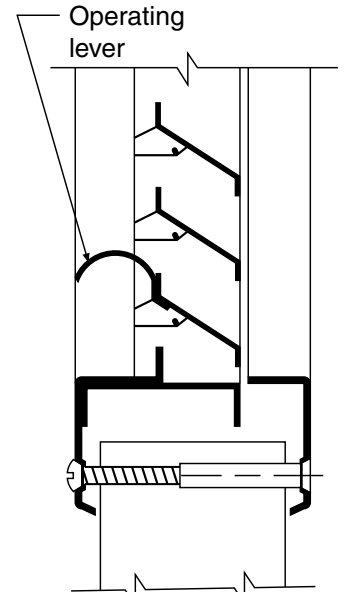
Inverted "V" Blade



Inverted "Y" Blade

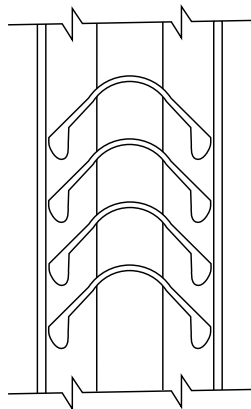


Chevron or Hood-Type Blade

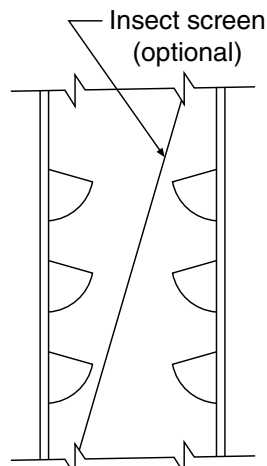


Operating lever

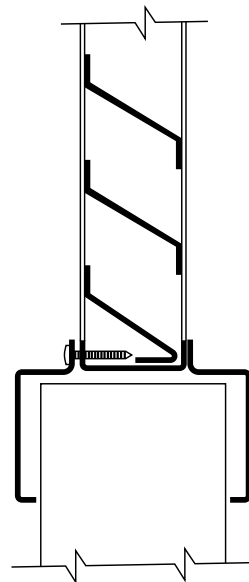
Fusible Link



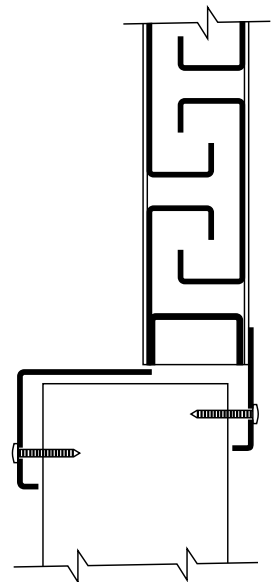
Grille



Pierced



"Z" Blade



Lightproof

Recommended Door, Frame and Hardware Schedule for Standard Steel Doors and Frames

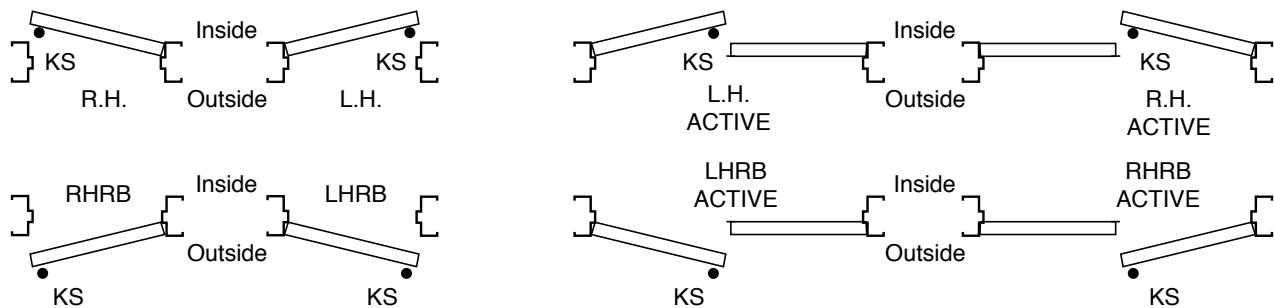
The purpose of this publication is to establish a guide for architects and those responsible for scheduling doors, frames, and hardware requirements.

Although primarily designed for steel doors and frames, this suggested schedule is flexible enough to list total door and frame requirements of a complete job.

Items not specifically covered in the schedule may be listed in the "Remarks" and extra columns near the end.

Typical handing of doors and hardware is to be based on the format below:

Handing Chart



KS indicates keyed side of lockset.



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Recommended

Guidelines for the Use of Gasketing and Thresholds for Standard Steel Doors and Frames

The following details represent the recommendation of The Steel Door Institute in this important corollary area. This document should in no way be considered an endorsement of any manufacturer nor does it imply that any materials not shown should be considered inferior weatherstripping.

The criteria employed in the selection of these details included:

1. The experience of the Institute with the details shown.
2. The adaptability of the material shown to standard steel doors and frames.
3. The ability to maintain gasketing at the door and frame during periods of normal thermal movement to the balance of the building structure.
4. The availability of the material from normal commercial sources.
5. Ease of maintenance.

Disclaimer/Source Reference

Since the members of the STEEL DOOR INSTITUTE do not manufacture gasketing, it is strongly suggest that the BHMA Members' catalogs and BHMA documents be consulted to establish "fit and function" criteria for specifying of any gasketing. BHMA Documents are available from:

Builders Hardware Manufacturers Association
355 Lexington Avenue, 15th Floor
New York, NY 10017
Phone: (212) 297-2122
Fax: (212) 370-9047
www.buildershardware.com



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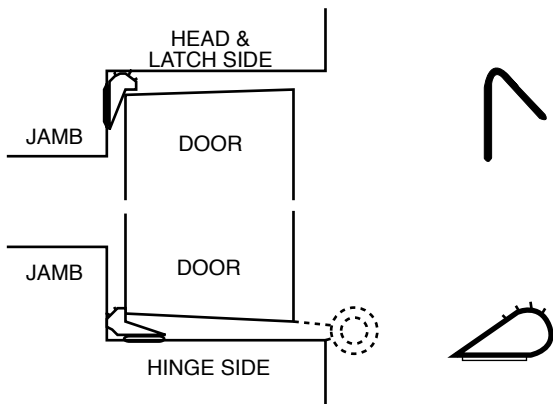
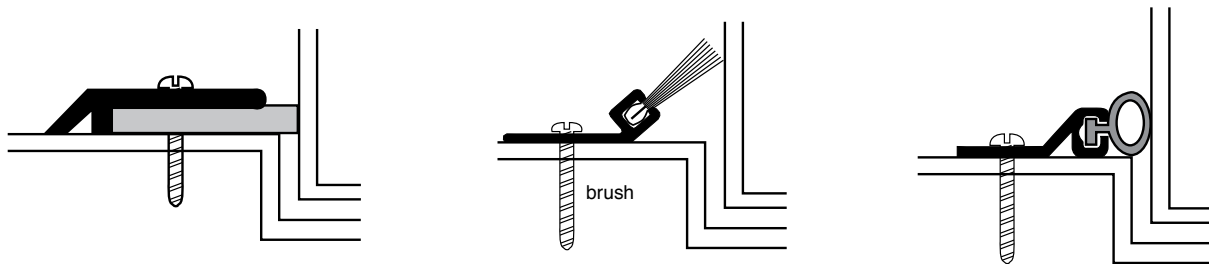
Recommended Guidelines for the Use of Gasketing and Thresholds for Standard Steel Doors and Frames

General

Gasketing and thresholds are used to control the flow of air, smoke, heat or cold, water, sound or other environmental factors through the door opening. The location or intended use of the door assembly, the environment to which it is exposed, and the performance expected will dictate the selection of gasketing and threshold products. The variety of materials, their composition, profiles, and performance are virtually limitless. These are described in ANSI/BHMA A156.21 or A156.22. Generally, gasket materials are sponge neoprene, rubber, vinyl, brushes, or magnets. Retainers are generally steel, aluminum, brass, bronze, vinyl, or other non-ferrous materials. Information in catalogs published by BHMA members aid in the selection of perimeter sealing “systems” to meet the applicable performance criteria of the door assembly.

Perimeter Seals

Sealing of gaps between door edges and the header or jambs generally has the greatest effect on performance of the door opening. The available options are as varied as their applications and their mounting surfaces e.g. steel, structural steel, or wood. Care should be taken to select materials that will assure performance under specific job requirements as well as meeting the mounting surface criteria.



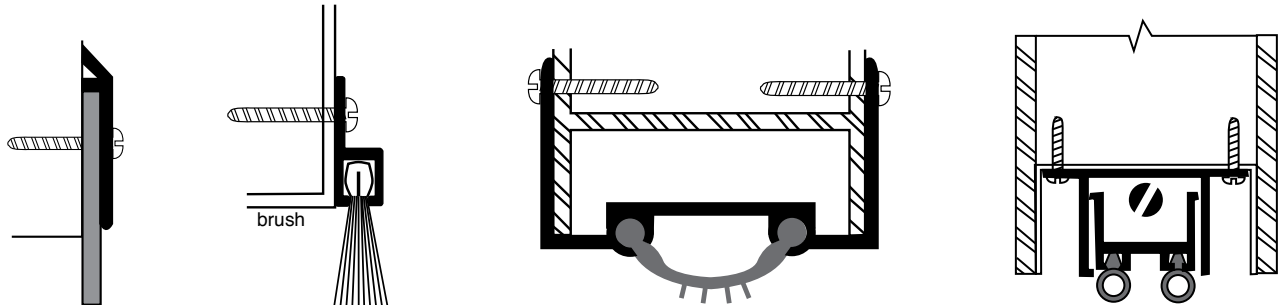
Gasketing products should never impede the operation, opening or closing of the door assembly. Simple contact is all that is required for some products. Other products for more severe installations require a slight compression. A simple test for gasket compression may be conducted by inserting a sheet of letterhead paper into the gap and closing the door. The paper should be held in place by the gasketing.

Gasketing or weather-stripping, of any kind, should be furnished and installed in accordance with manufacturers instructions.

Door Bottom Seals

In most instances, sealing of gaps between the bottom of doors and flooring or thresholds is accomplished with door bottoms or overlapping strips in metal retainers. These may be of a design that extends beyond the bottom of the door mechanically, or of a fixed protruding or overlapping design.

Door bottom gaskets must compress against a solid object to affect a proper seal. Carpeting by its pliant nature does not provide a proper seal.



Automatic Door Bottom

Astragal Seals

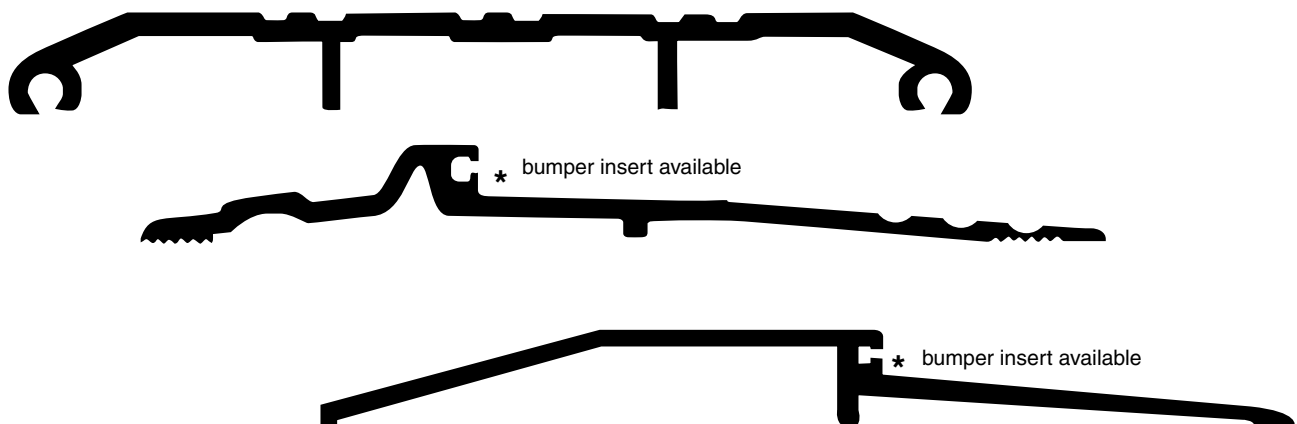
Sealing of door edges at meeting stiles, in lieu of or in addition to factory mounted astragals is accomplished by supplemental gasketing. This gasketing may be closely abutting fixed members or by overlapping strips in metal retainers.

Overlapping gasketing is normally used to avoid interference with edge mounted hardware such as locksets or flush bolts. Closely abutting gasketing is commonly used where both doors must operate simultaneously or independently as in egress doors.



Thresholds

Thresholds may be used in addition to or in lieu of door bottom seals. They may incorporate gaskets or other formed profiles to allow for exit device latching or may be prepared for flush bolt latching. Thresholds should be provided under the door and between the frame to allow for a smooth transition between floor coverings of different heights or materials. Special consideration should be given to threshold designs used in means of egress or in handicap accessible situations. The latter limitations are covered in ANSI/ICC A117.1.



Fire Door Considerations

When supplying products to be used on fire rated openings, care should be taken to maintain the proper clearances around the perimeter of the door assembly in accordance with NFPA 80. Gasketing materials must be investigated or "Listed" to determine that their installation does not adversely affect the fire resistance performance of the assembly. For example, the performance of gasketing is observed during the fire test to ensure that flaming does not occur on the exposed surface of door assemblies. It is important to note, however, that the ANSI/UL 10B, ANSI/UL 10C and ANSI/NFPA 252 standard fire tests do not include evaluation of the door assembly relative to preventing the passing of smoke or other products of combustion through or around the assembly. Openings that require a smoke seal must be tested in accordance with NFPA 105, UL 1784 or UBC 7-2 Part 11, 1997. In fire door applications it is VITAL that gasketing does not inhibit the ability of the door assembly to close and latch.

Performance Testing Criteria

Gasketing products are covered under ANSI/BHMA A156.22.

Included in that standard are:

- Closing Force test
- Heat Test
- Cold Test
- Air Infiltration Test

Thresholds are covered under ANSI/BHMA A156.21.

Included in that standard are:

- Weight bearing test

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BLACK MOUNTAIN DOOR
310 Flint Drive
Mt. Sterling, KY 40353
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Recommended
Existing Wall Anchors
for
**Standard Steel Doors
and Frames**



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Recommended Existing Wall Anchors for Standard Steel Doors and Frames

This standard is a guide for architects to help them recognize available options to the traditional sub buck detail widely used in the past. The anchoring systems shown are available in regular and labeled frames.

The details shown are typical of those employed by members of the Steel Door Institute, but all of the details are not made by all of the members of the Institute. A general reference to this document in your specifications should result in all of the members of the SDI and most of the non-members being able to bid on the job without a multitude of exceptions.

In order to make the installation successful, careful consideration shall be given to all tolerances involved and that sufficient clearance is figured to allow for them.

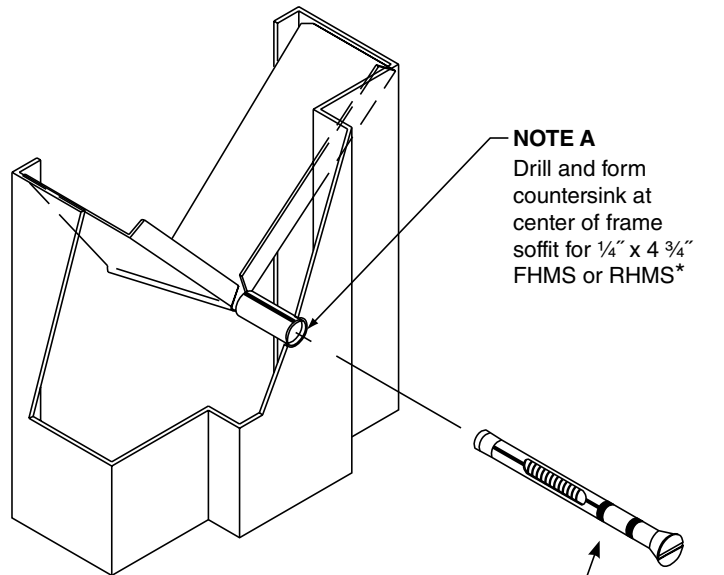
It has been "customary" to allow $\frac{1}{4}$ " clearance around the frame perimeter when establishing rough opening sizes or when figuring non-standard overall frame sizes. Although this dimensional requirement does not appear in Industry publications, it is based on the following:

- Both SDI 117-00 and ANSI/NAAMM HMMA 861-00 recognize a + tolerance in opening width and height.
- Both of these documents recognize a \pm tolerance in frame face dimensions.
- Both ANSI/NAAMM HMMA 861-00 and SDI 117-00 recognize a \pm installation tolerance for vertical plumb.

Frames will "fit and function" if made to these dimensional tolerances and installed within tolerances.

There is, however, relatively no assurance that the substrate (walls) will be of suitable size or alignment.

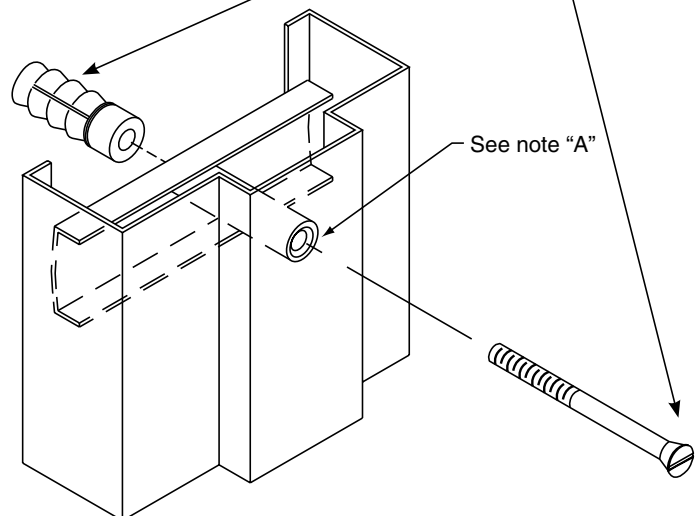
We therefore recommend that the rough openings for these cases be no less than $\frac{3}{16}$ " larger on all 3 sides than the "intended" overall frame size. (Example: 3070 standard frame = $3'-4\frac{3}{8}" \times 7'-2\frac{3}{16}"$). The installer carries the responsibility for shimming and aligning as necessary. Gaps are normally sealed as part of the installation or caulking/painting process. Architectural Specifications are to be consulted to determine the appropriate sealant material to be used at fire door or smoke control frames.



NOTE A

Drill and form countersink at center of frame soffit for $\frac{1}{4}" \times 4\frac{3}{4}"$ FHMS or RHMS*

Adjustable Anchor

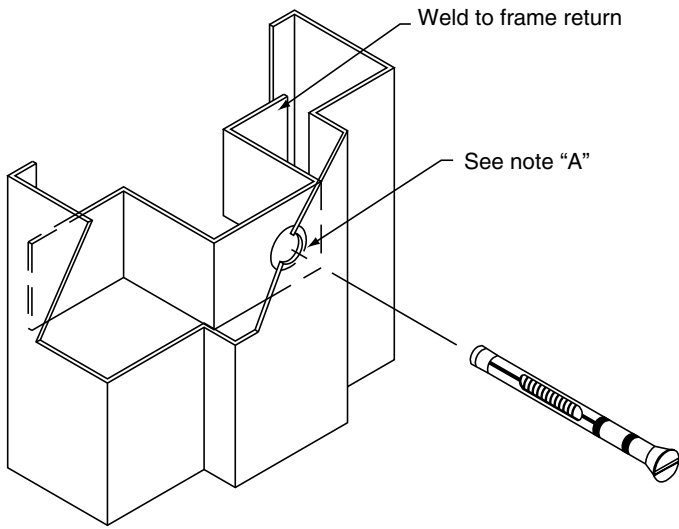


NOTE B

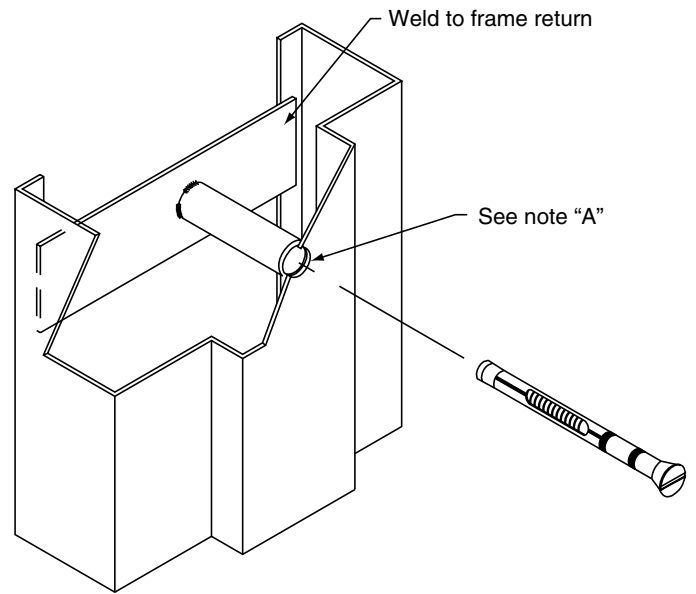
Either bolt type is available for all anchors.

See note "A"

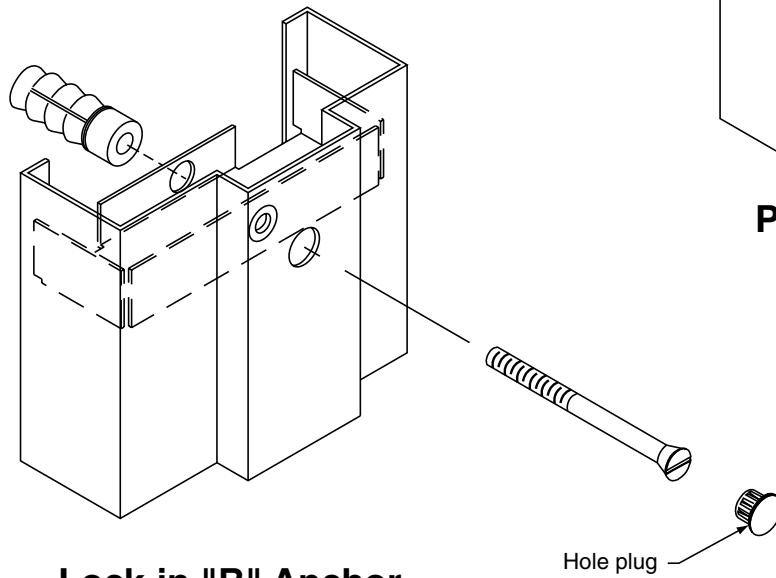
Lock-in "A" Anchor



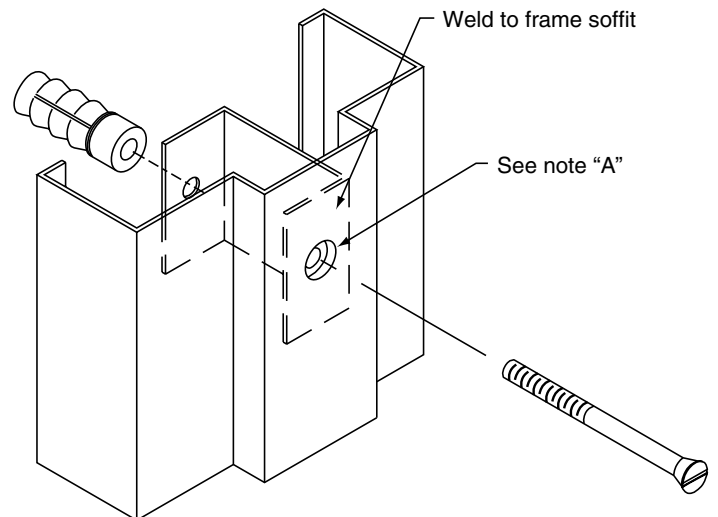
Hat Anchor



Pipe Anchor



Lock-in "B" Anchor



"C" Anchor

NOTE C

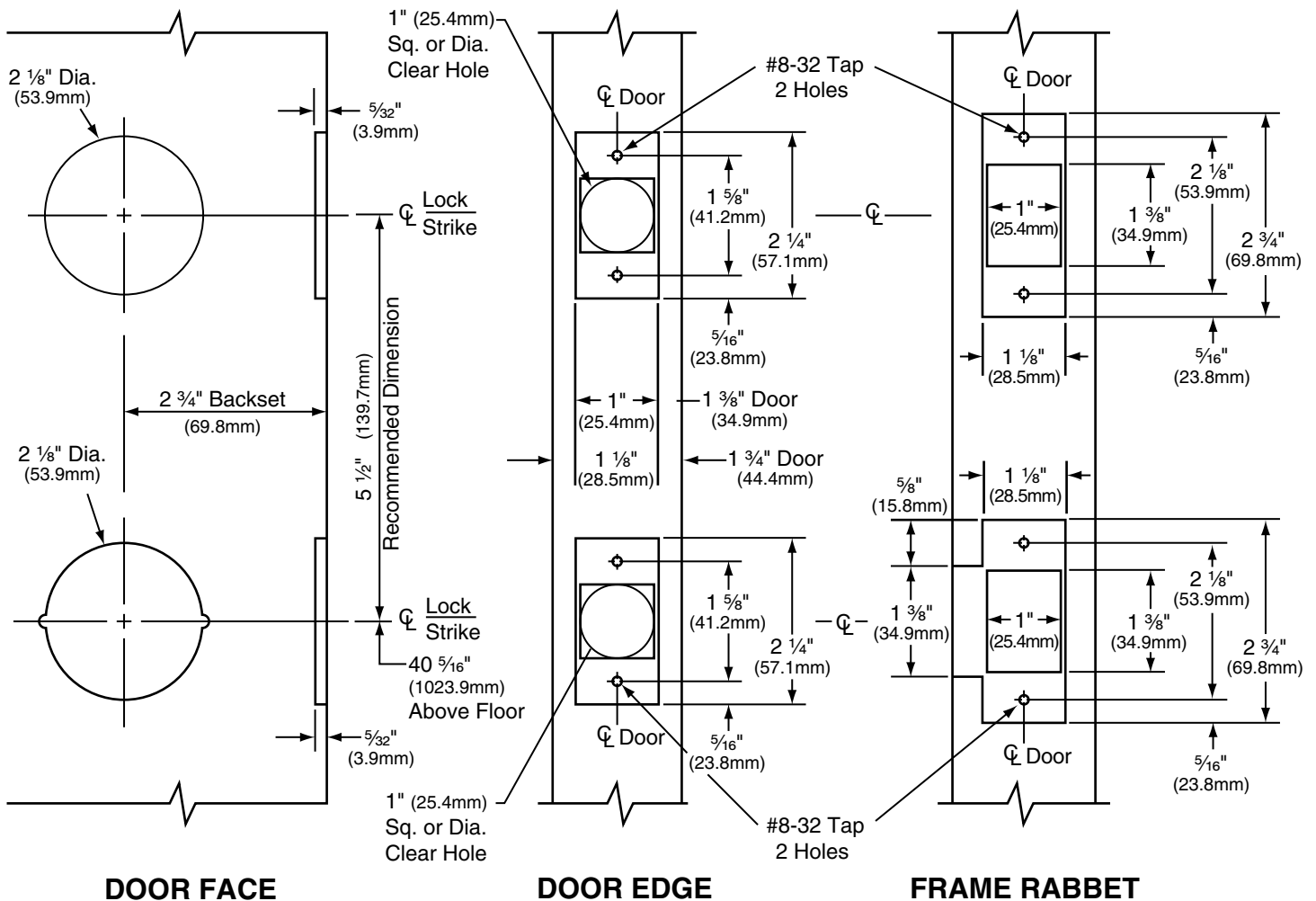
The head of the bolt may be filled in field with appropriate filler.

NOTE D

Up to 7'6" (2286 mm) height minimum four (4) anchor required per jamb

* Fire rated frames require 3/8" (9.5 mm) diameter bolts. Steel expansion shields must be used instead of lead shields.

Recommended Standard Preparation for Double Type (Interconnected) Locks on Standard Steel Doors and Frames



Note: Minimum size of cutout as noted is subject to manufacturer's standard clearance tolerances.



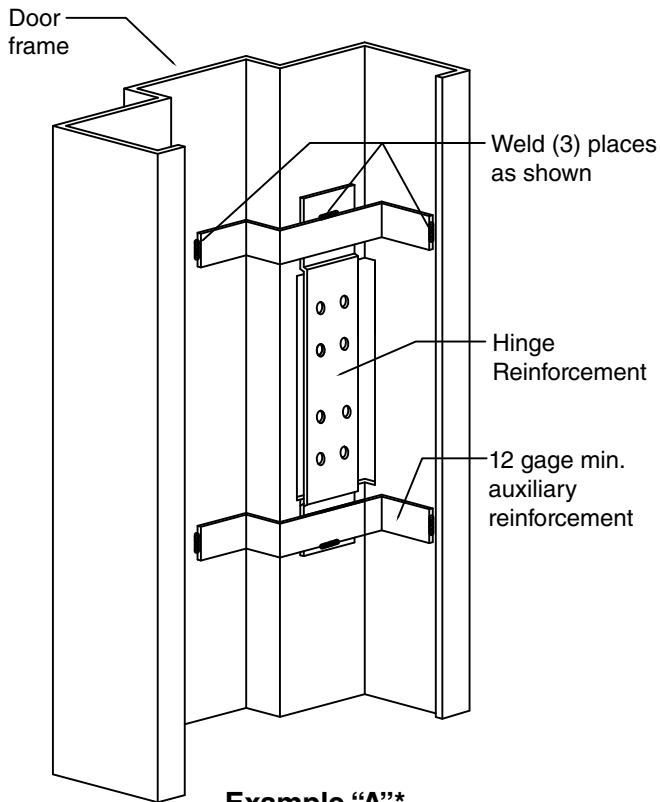
Standards As Tough As Steel.™

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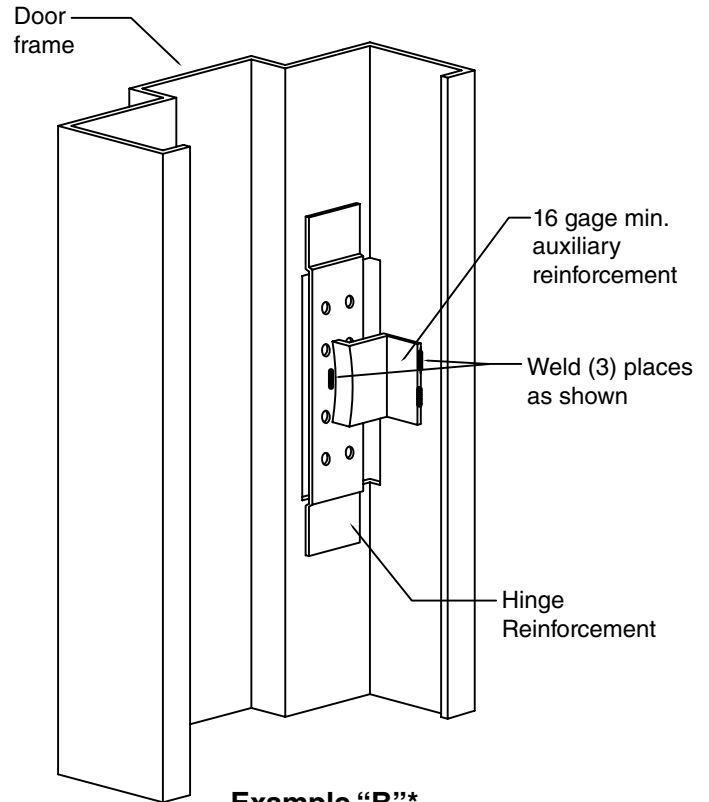
STEEL DOOR INSTITUTE

30200 DETROIT ROAD - CLEVELAND, OHIO 44145

High Frequency Hinge Preparations for Frames



Example "A"*



Example "B"*

Background:

There are occasions where steel frames used in extremely high frequency or high use areas need to be supplied with additional reinforcing to eliminate potential door sag. These types of openings would include: main entrances to schools, rear exits where severe wind abuse could be a factor, auditoriums, gymnasiums, and the like. When these types of installations are required, there is a method in which this can be handled, efficiently and economically, through providing auxiliary reinforcing to standard door frames. The specification for this is as follows:

Specification:

When a high frequency preparation is required, the top hinge of the door frame shall be provided with an auxiliary reinforcing as shown in example 'A' or 'B.' For additional strength, the center and bottom hinge reinforcement may also be provided with additional reinforcements.

* High frequency hinge preparations may vary between manufacturers.



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AVAILABLE PUBLICATIONS

Specifications

- ANSI/SDI A250.6** Recommended Practice for Hardware Reinforcings on Standard Steel Doors and Frames
- ANSI/SDI A250.8** SDI 100 Specifications for Standard Steel Doors & Frames
- SDI-108** Recommended Selection & Usage Guide for Standard Steel Doors
- SDI-118** Basic Fire Door, Fire Door Frame, Transom/Sidelight Frame, and Window Frame Requirements
- SDI-128** Guidelines for Acoustical Performance of Standard Steel Doors & Frames
- SDI-129** Hinge & Strike Spacing

Test Procedures

- ANSI/SDI A250.3** Test Procedure & Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors & Frames
- ANSI/SDI A250.4** Test Procedure & Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors
- ANSI/SDI A250.10** Test Procedure & Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors & Frames
- ANSI/SDI A250.13** Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies for Protection of Building Envelopes (Not applicable for FEMA 320/361 or ICC-500 Shelters)
- SDI-113** Standard Practice for Determining the Steady State Thermal Transmittance of Steel Door & Frame Assemblies
- SDI-131** Accelerated Physical Endurance Test Procedure for Steel Doors, Frames and Frame Anchors

Construction Details

- ANSI/SDI A250.11** Recommended Erection Instructions for Steel Frames
- SDI-110** Standard Steel Doors & Frames for Modular Masonry Construction
- SDI-111** Recommended Details for Standard Details Steel Doors, Frames, Accessories and Related Components
- SDI-122** Installation Troubleshooting Guide for Standard Steel Doors & Frames

Miscellaneous Documents

- SDI-112** Zinc-Coated (Galvanized/Galvannealed) Standard Steel Doors & Frames
- SDI-117** Manufacturing Tolerances for Standard Steel Doors & Frames
- SDI-124** Maintenance of Standard Steel Doors & Frames
- SDI-127** Industry Alert Series (A-L)
- SDI-130** Electrified Hinge Preparations
- SDI-134** Nomenclature for Standard Steel Doors & Steel Frames

AUDIO-VISUAL PROGRAMS ALSO AVAILABLE

MEMBERS OF THE STEEL DOOR INSTITUTE

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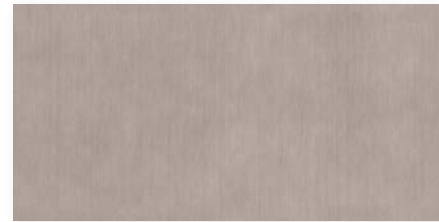
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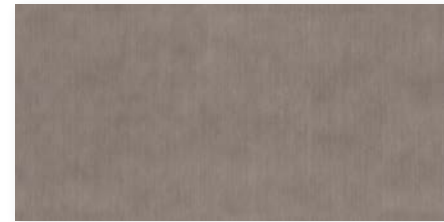
www.steeldoor.org

Specialty Finishes

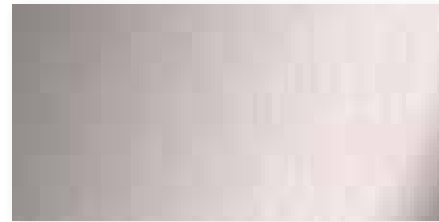
Alucoil[®] helps satisfy all design needs with a wide color palette, textured finishes and patterns. These are combined with our lightweight composite panel to offer a unique façade solution. Consult our Illusions Brochure for additional specialty options. Contact your Alucoil representative for warranty information.



Quartz Zinc Brushed



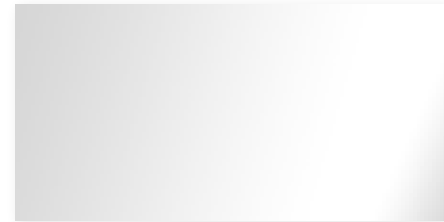
Titanium Brushed



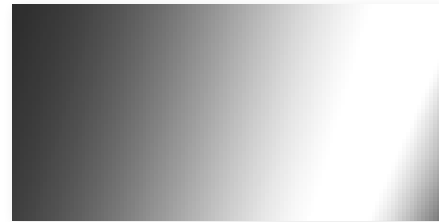
Anodic Brushed Glossy



Stainless Steel



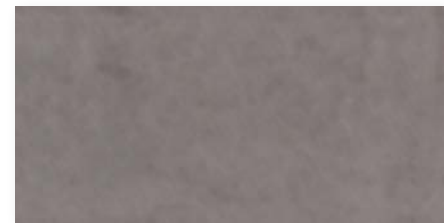
Clear Anodized



C-Brite Mirror



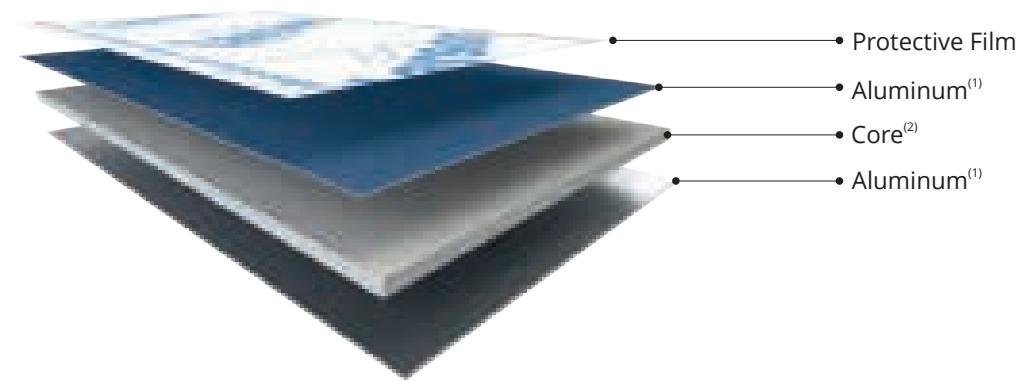
Corten Steel 2



Weathered Zinc I



Copper Patina



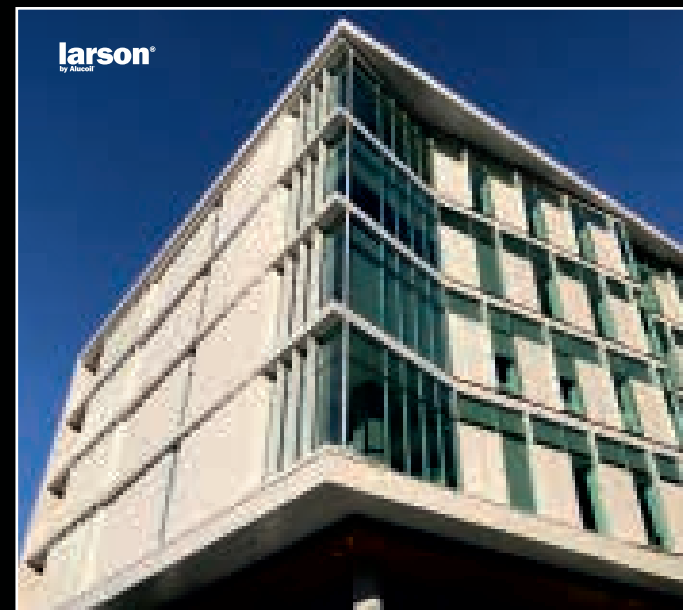
Intertek
CCRR-0287

⁽¹⁾ Others possibilities in stainless steel, copper, brass and Zinc

⁽²⁾ Two possibilities for core:

a) Mineral FR core. **larson[®] FR**, Class A Fire Rating and used to meet **NFPA 285** Fire requirements.

b) Polyethylene Core. **larson[®] PE**, Class A Fire Rating and used exclusively for low rise buildings, canopies, signage and corporate identity.



Color Selection Guide

larson[®]
by Alucoil

Aluminum Composite Panels for Architectural Wall Cladding



Alucoil[®]
North America

Alucoil North America, LLC
1976 Joe Rogers Jr. Blvd. Manning, SC 29102 U.S.A
Tel: 803-505-6543

Email: info@alucoilnorthamerica.com

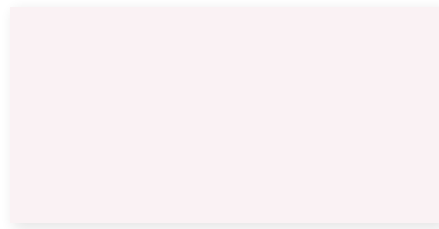
www.alucoil.com

Alucoil[®]
North America

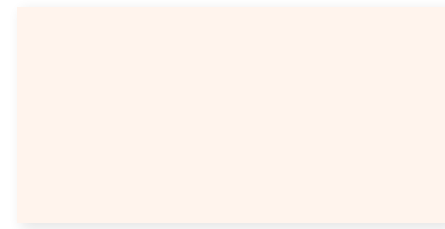


Solid Color Series

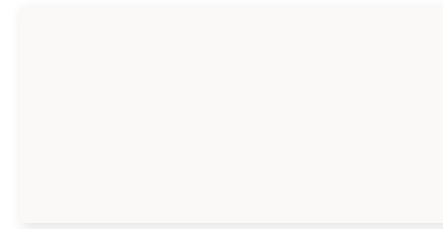
These PVDF 2-coat colors consist of a 0.2 mil primer and a 0.8 mil color coat, for a nominal dry film thickness of 1.0 mil.



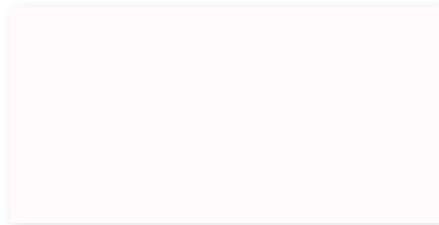
Regal White



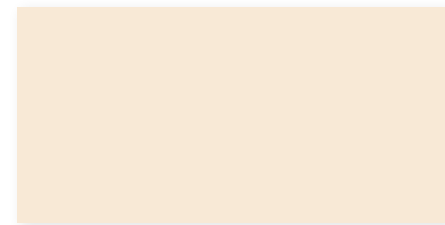
Off White



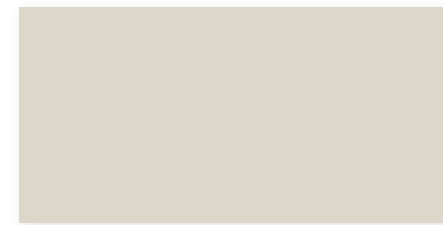
Bone White



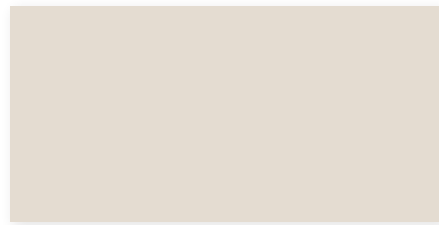
RVW White



Oyster White



Sandstone



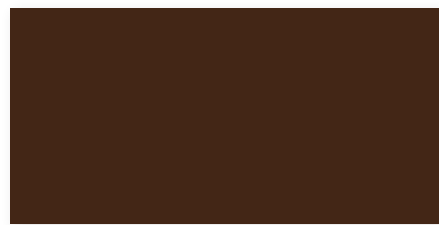
Limestone



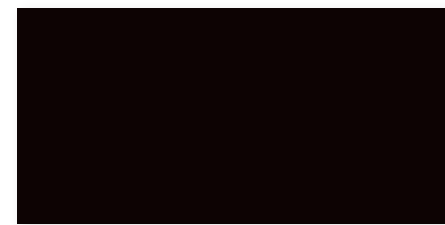
Cadet Grey



Charcoal



Classic Bronze



Classic Black



Deep Sea Blue



Copper Brown



Slate Grey



Graphite Grey



Anthracite Grey



Ruby Red

Larson by **Alucoil** ACM is coil coated utilizing PVDF coatings. Backed by a 30-year exterior performance warranty, these (PVDF) fluoropolymer paint finishes contain 70% KYNAR® 500/Hylar® 500 series resins and are formulated to meet or exceed industry performance requisites such as AAMA 620 and AAMA 2605. Our standard colors are matched to a combination of popular ACM and steel foam panel colors - enabling greater flexibility and design choice.

30 Year Architectural Coatings

For warranty details, limitations, and exclusions please contact your **Alucoil** Sales Agent or Customer Service Representative.

Mica Color Series

These PVDF 2-coat mica colors consist of a 0.2 mil primer and a 0.8 mil color coat, for a nominal dry film thickness of 1.0 mil. Mica flakes are suspended in the color coat - giving the appearance of a metallic finish.



Anodic Clear



Platinum



Silversmith



Champagne Mica



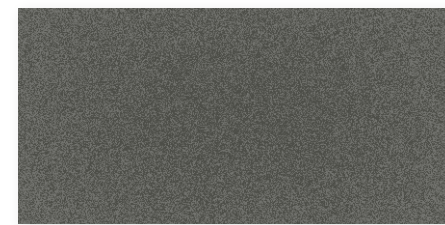
Champagne Pearl



Champagne Bronze



Aged Bronze



Pewter Mica



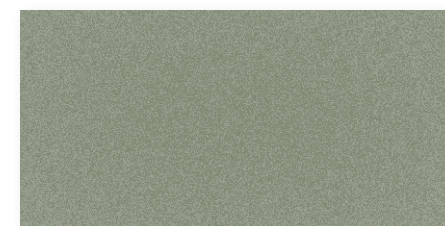
Medium Grey Mica



Gold Mica



Manganese



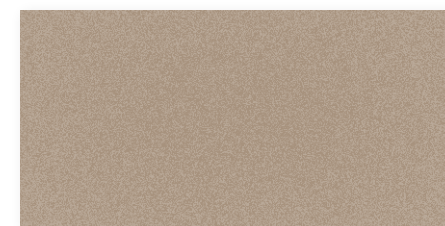
Patagonia Green



Blue Mica



JLR Sunshine Grey



JLR Champagne

Mica and Metallic XL Colors are directional in nature therefore proper estimating and installation precautions should be taken to ensure that panels are all installed in the same direction. Directional arrows are printed on panel protective film to aid in this practice.

Due to the reflectivity of these finishes, optical perception of color tone may vary according to the angle from which panels are viewed, reflected light off of other structures, and different angles or planes on which panels are installed on a building elevation.

To ensure color consistency with these finishes, it is highly recommended to order all material required at the same time, be they in single or multiple widths.

Metallic Color XL Series

These PVDF 3-coat metallic colors consist of a 0.2 mil primer, a 0.8 mil color coat, and a 0.5 mill clear coat, for a nominal dry film thickness of 1.5 mils. We have all metallic colors available in a 2 coat system as well.



Silver Metallic



Gunbarrel



Pewter Metallic



Champagne Metallic



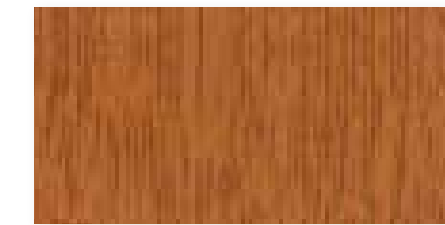
Rustic Copper Metallic



Bright Copper Metallic

Wood Color Series

The **Larson** Aluminum Composite Panel is available in various wood finish schemes utilizing either HQP High Quality Polyester or PVDF with COASTAL PRIMER paint systems; both suitable for outdoor use with outstanding UV performance. They transmit the warmth of real timber with the advantages of our composite panels; enabling outstanding fabrication capabilities for folding, bending, perforating, and curving without losing its technical characteristics. Contact your Alucoil representative for warranty information.



Walnut



Colonial Red



English Cherry

Finished Goods Inventory for ACM Panels and Matching Flat Sheet:

Alucoil PE and FR panels are available in a range of widths with 62" being the most common (consult finished goods list for full details). Matching flat sheets in .040" thickness are available for most standard colors. There is no minimum order size for finished goods panel inventory. Please consult with your **Alucoil** Sales Agent or Customer Service Representative for further details.

All colors are as close to actual as allowed by the printing process.

Alucoil North America, LLC reserves the right to change or remove information contained in this brochure without prior notice.



Marvin
Commercial
Solutions



Proven Performance

Marvin® commercial products have an impressive record of proven performance. In addition to earning the CW rating, many of our products are certified by WDMA to meet or exceed demanding design pressure standards for air, water and structural performance. We voluntarily test for a wide variety of variables and we hold our products to the highest performance criteria. Internal and third party audits confirm the excellence we build into every window and door.

Our products are also environmental performers that enable you to earn credits for your project's LEED certification in several categories. Every Marvin product excels in energy efficiency, and virtually all of our windows and doors meet or exceed federal ENERGY STAR® guidelines. We offer unlimited options for enhancing daylight, views and ventilation. And, we incorporate green practices throughout our manufacturing process, resulting in very low VOC emissions and purchase from suppliers who subscribe to the Sustainable Forestry Initiative® (SFI®) reflecting our use of sustainably sourced wood. We also offer Forest Stewardship Council™ (FSC®) certified wood as an option and our membership in the U.S. Green Building Council reflects our sustainable practices. Our commitment to performance drives us beyond standard industry practices to maximize resources, reduce waste and continually improve our products and processes.



Innovative Products

At Marvin®, we build windows and doors the only way they should be built: one at a time. In fact, we are the world's largest made-to-order wood window and door manufacturer and we have a global reputation for innovation. Whether you're creating something new or recreating history, we can adapt or customize our products to achieve your precise vision. Marvin provides you with project-based solutions, unsurpassed attention to detail and unparalleled service. Our solutions oriented approach has made Marvin a leader in historic renovation and solidified our reputation for innovations in new construction. Together we can address your biggest challenges and bring something completely unique to your projects.

Design Flexibility

If you can imagine it, Marvin can help you build it. We are dedicated to delivering commercial design options that are as limitless as your creativity. We offer thousands of standard aluminum clad and wood windows and doors, in a virtually endless variety of configurations. Our extensive range of standard and custom products can be used for projects of all sizes, from three-story schools, to more than 15-story high-rise office buildings. In fact, our expertise runs the gamut of commercial applications from educational and healthcare facilities, to multi-family dwellings, churches and hospitality venues. At Marvin, we have the capabilities to implement your vision and the flexibility to exceed your expectations.

ULTIMATE CASEMENT & AWNING COLLECTION
The most revolutionary casements on the market today.

Design

- The most durable hardware in the industry
- Easy to operate by crank or pushout at large sizes
- Sash rotates 140° for easy cleaning from the interior side
- Choice of recessed or flush sash
- Full or narrow jamb for any application
- Five simulated divided lite options
- Round top variations available
- Simulated checkrail and tall bottom rail for double-hung appearance
- Retractable screen
- Custodial sash limiters
- Available with Tripane glazing with Argon or Krypton fill

Performance

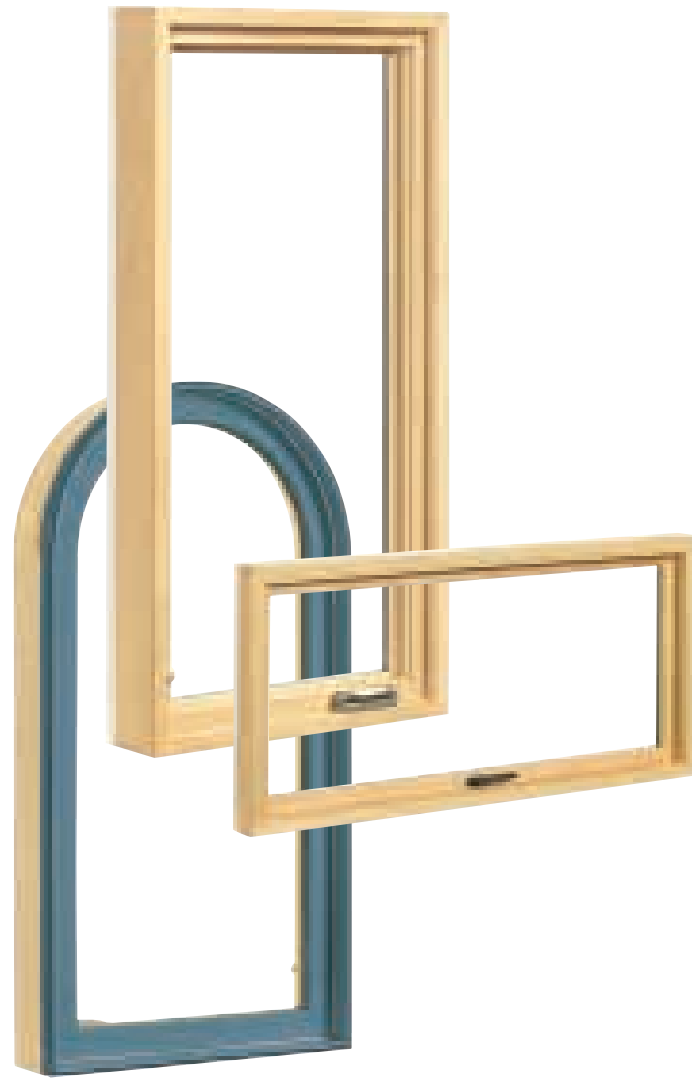
- Tested to the latest AAMA/WDMA/CSA 101/I.S.2/A440-08 specification and meets CW-50 requirements
- Meets all ENERGY STAR® requirements
- IG operating unit meets .30 U-factor with one-lite Low E2 with argon insulating glass
- 1" operating Tripane units can meet .21 U-factor with argon or .20 with argon/krypton
- 1" fixed Tripane units can meet .19 U-factor with argon or .16 with argon/krypton

Installation

- Through jamb installation
- Adjustable hinges and optional flexible metal nail fin
- Construction crank and lock handles
- Pre-drilled jambs
- Factory mulling and/or mull reinforcement available
- Removable covers

DP/Maximum Size

- Clad Ultimate Casement
36" x 96 1/8" CW-PG50-C
- Clad Ultimate Awning
48" x 47 1/8" CW-PG50-AP



ULTIMATE DOUBLE HUNG MAGNUM WINDOWS
Commercial grade performance with architectural appeal.

Design

- Fits oversized openings up to 5' x 10'
- Rectangular, polygon and round top shapes available
- Sight lines and profiles match Marvin's family of double hung products
- Options for historic packages include energy panels and ogee lugs
- Available prepped for field-applied stool and apron
- Triple hungs available
- Custodial locking hardware available
- Wood jambs minimize visibility of jamb carrier system

Performance

- Excellent structural integrity against water and air
- Adjustable constant force spiral balance system meets AAMA 902-99 Class 5 specifications
- Easy smooth operation
- WDMA certified up to H-CW50
- Meets U-factor of .31 with One-lite Low E2 with argon insulating glass
- Can meet .18 U-factor with argon Tripane glass, without combination

Installation

- Through jamb installation
- Optional flexible metal nail fin
- Installation hardware included

DP/Maximum Size

- H-C50 Clad 53 3/8" x 104 3/8"
- H-CW40 Clad 56" x 91" Gateway size
- H-C35 Clad 59 3/8" x 120 3/8"

TILT TURN & HOPPER

Versatile dual-function swings in for maintenance or egress or tilts for ventilation.

Design

- One handle controls both swing and vent operations
- Allows emergency exit access and easy cleaning from the interior
- Multi-point locking system
- Optional keyed handle and security locks
- Optional simulated check rail offers double hung appearance
- Optional handle placement determined by height; can be specified
- Tilt-in Hopper can be used as a ventilating transom
- Standard 2^{13/32}" (61 mm) and 4^{9/16}" jamba

Performance

- Meets commercial performance standards
- Meets U-factor of .31 with One-lite Low E2 with argon insulating glass (certified using 4^{9/16}" jamb) -
- Can meet .22 U-factor with argon Tripane glass

Installation

- Adjustable hinges
- Through jamb installation
- Factory applied jamb extensions available

DP/Maximum Size

- Clad Magnum Tilt Turn
49" x 73" CW-PG40-DAW
- Clad Magnum Hopper
65" x 49" CW-PG40-AP

DIRECT GLAZE

Flexible, cost efficient solution for a variety of designs.

Design

- Larger sizes up to 60 ft.
- Used to span multiple floors and provide design continuity
- Wood interiors fit with traditional designs
- Clean, contemporary sight lines

Performance

- Can meet .16 U-factor with argon Tripane glass

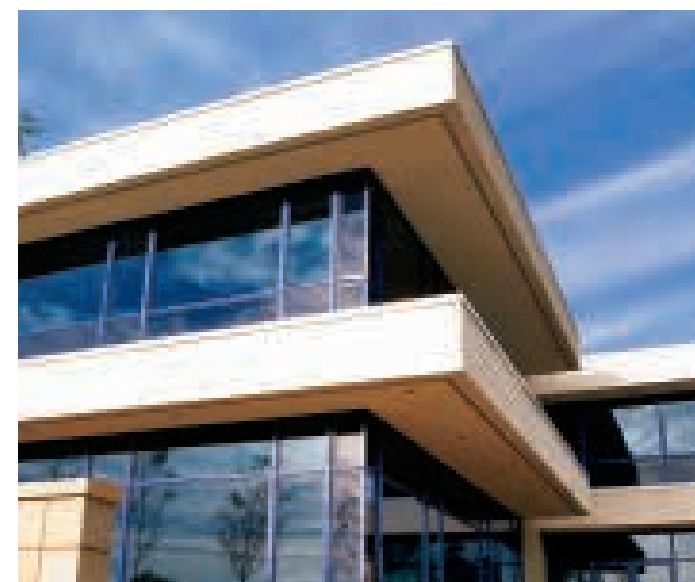
Installation

- Flexibility in jamb depth for different types of installations
- Fits wall system that is less than 4^{9/16}" jamb depth

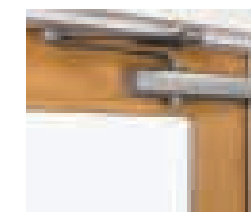


CLAD SIMULATED DOUBLE HUNG HOPPER

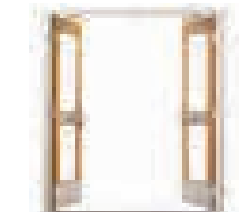
An innovative replacement solution for large openings.



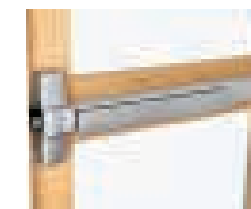
Commercial Door Hardware



CLOSER



REMOVABLE CENTER MULLION



PANIC RIM



KICK PLATE



COMMERCIAL DOORS

Durably constructed to handle the demands of commercial use.

Design

- Extruded aluminum clad exterior with finishes meeting AAMA 2605, or all wood exterior
- Available with optional 16 gauge primed steel frame
- Optional Commercial Hardware package offers choices of closers, rim devices, mortis locks, removable mullions, and kick plates, all with various finish options
- No lock no bore standard
- Routs and prep can be ordered for Von Dupren and Schlage hardware sets. Custom routs can be requested
- Three low profile sill options: 1/2" saddle, 1/4" saddle, or offset all with three finish options
- Choose 1^{3/4}" or 2^{1/4}" panels
- Ball-bearing hinges available in Satin Chrome, Bronze or Brass finishes
- Raised or Flat Panel options or choose an intermediate rail
- Stationary panels and side lites available

Size

- Two panel operator, maximum size 87^{3/16}" x 97^{9/16}" (1^{3/4}" panel)
- Two panel operator, maximum size 99^{3/16}" x 121^{9/16}" (2^{1/4}" panel)



ULTIMATE LIFT AND SLIDE DOOR

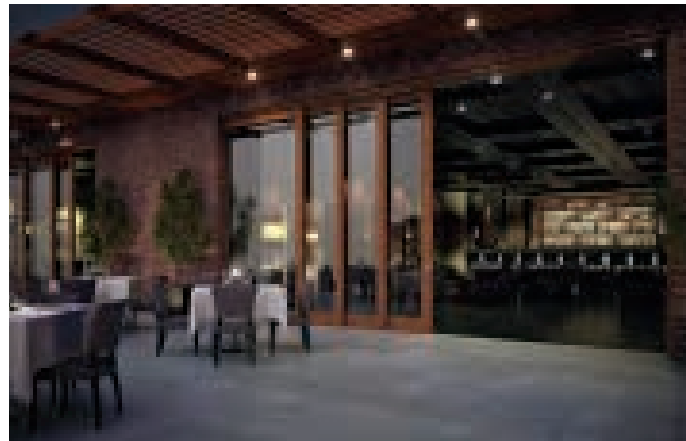
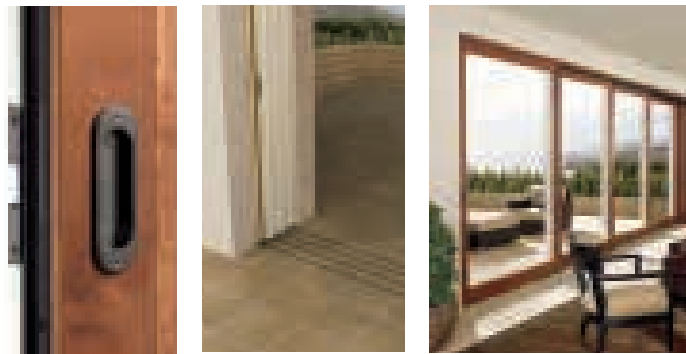
The ultimate solution for maximizing light and views as well as connecting or dividing spaces, whether it's interior, or a seamless transition to the exterior.

Design

- Marvin-exclusive low profile, high performance hardware
- Available in Traditional or Contemporary panel style
- Low barrier recessed or flush mount sill meets ADA requirements
- Lift and Slide operation allows even heavy door panels to travel easily and smoothly on the sill system
- Standard is treated bare pine interior; clad extruded aluminum or wood exterior
- Alternative woods include Mahogany and Douglas Fir
- 2 3/4" thick panels

Size

- 6" stiles and top rail; 8 1/8" bottom rail (Traditional)
- 4" stiles and top rail; 6" bottom rail (Contemporary)
- Traditional frame sizes include 46.11' x 12.1' and 59.26' x 12.1'
- Contemporary frame sizes include 47.11' x 12.1' and 60.26' x 12.1'
- With the optional Performance Sill this product is WDMA rated



BI-FOLD DOOR

Open up the possibilities – and the space – with our smoothly operating bi-fold doors.

Design

- Configurations available from 2 to 8 operating panels
- Variety of head jamb and sill options

Performance

- Clad units have CN 12080 (AAMA/WDMA/CSA) rating for air, water and structural (does not include ADA or floor channel sills)

Size

- Operating panel size: minimum 14 5/8"; maximum 35 1/16"
- Rough opening maximum size: 253 5/32" x 97 5/8"
- Rough opening minimum size: 32 15/16" x 36"



Panning and Casing Systems

- Range of casing, subsill and custom profiles available
- Extruded aluminum substrate
- AAMA 2605-11 70% PVDF
- 19 standard and select colors, custom colors available
- Rapid prototyping to replicate historic profiles
- Mullion cover
 - Clad cover for space mulls
 - Incremental sizes 3/8" - 6"
 - Custom sizes available
- Jamb extensions shipped applied or loose; sizing can fit varying wall thicknesses

Wood Species

- Standard lead times apply to Pine and Douglas Fir units
- Specialty wood species such as Walnut, Maple and Western Red Cedar are also available
- All wood is purchased from SFI® certified suppliers. FSC® certified wood is also an option
- Factory-applied clear and stain finishes available on all species. Paint and prime available on pine.

Windows	Size Range	STRUCTURAL					THERMAL				SOUND	
		AAMA/WDMA/CSA 101/LS.2/A440-08	AAMA/WDMA/CSA 101/LS.2/A440-05	Air infiltration	Water Penetration Resistance	Uniform Load Structural Test Pressure	U-Factor	SHGC	VT	CR	STC	QITC
Fixed Windows												
Clad Direct Glaze	84 x 96	CW-PG55	FW-HC55	<0.1 cfm/sq ft	8.25 psf	+82.5/-97.5	16-52	12-67	11-72	15-71	33	26
Clad Ultimate Casement Polygon	3697 & 4092	CW-PG50-C	LC-PG50-C	<0.01 cfm/sqft	7.50 psf	+75/-75	20-48	10-53	09-56	40-57	29-47	23-36
Clad Ultimate Double Hung Polygon	3036/4026/4036	LC-PG40-H		0.14/0.09/0.07	6.0 psf	N/A /+60/+45	18-50	10-56	09-58	39-72	28-42	23-31
Swinging Windows												
Clad Ultimate Casement	3697 & 4092	CW-PG50-C	LC-PG50-C	<0.01 cfm/sqft	7.50 psf	+75/-75	20-48	10-53	09-56	40-70	29-47	23-36
Clad Ultimate Casement Round Top	3697/4072/4092	CW-PG50	C-C50	<0.01 cfm/sqft	7.50 psf	+75	21-49	10-53	09-56	38-69	29-47	23-36
Clad Ultimate Venting Picture	4072/4097/4872/7248/7272	LC-PG40	AP-LC40	<0.01 cfm/sqft	7.50 psf	+60	17-48	11-62	10-65	40-70	31-34	25-28
Tilting/Projecting Windows												
Clad Ultimate Awning	4872/5648	CW-PG50-AP/LC-PG50-AP	AP-C50	<0.01 cfm/sqft	12.0/7.5 psf	+75	20-47	10-53	09-56	40-71		
Clad Simulated Double Hung Hopper		LC-PG50-AP	AP-C50	0.06 cfm/sqft	7.5 psf	+75	No NFRC Certification					
Vertical Sliding Windows												
Clad Ultimate Double Hung	3036/4026/4036	LC-PG40-H		0.14/0.09/0.07	6.0 psf	N/A /+60/+45	18-50	10-56	09-58	39-72	28-42	23-31
Clad Ultimate Double Hung Round Top	3036/4026/4036		H-LC40/H-LC40/H-LC30	0.09/0.10/0.01	6.0 psf	+60/+60/+45	31-51	15-56	20-58	40-55	28-42	23-31
Clad Ultimate Double Hung Magnum	4848/5052/5456	CW-PG40-H	H-C50/H-C40/H-C35	0.02/0.05/0.02	7.5/6.0/5.25	+75/+60/+52.5	18-51	10-55	09-58	39-73	27-31	22-26
Horizontal Sliding Windows												
Ultimate Glider	10060/6050/6060	LC-PG35-HS/LC-PG50-HS/LC-PG40-HS	HS-LC35/HS-LC50/HS-LC40	0.04/0.05/0.05	7.50 psf	+52.5/+75/+60	23-51	10-57	09-60	39-68	27-37	22-27
Dual Action												
Clad Tilt Turn	49 x 73		DA-C-40	0.02	6.0 psf	+60	22-83	10-60	09-62	07-62	31-36	25-29

For wood window performance data contact your Marvin® Commercial Solutions representative.

BIM models are available for most products at marvin.com/commercial.

Service Excellence

Marvin® is a national brand with an extensive network of dealers who provide support in all 50 states and in 17 foreign countries. However, you have a single point of contact who will help you get things done quickly and efficiently, from concept to completion of your project.

In addition to suggesting options from our respected Marvin product line, your representative can help you decide if our high performing Integrity® brand of Ultrex® pultruded fiberglass windows and doors or our Infinity® brand of Ultrex replacement windows can fulfill your project needs. With Marvin as your partner, you can be assured of dedicated expertise, superior project management skills and design resources to help you address virtually any commercial challenge.

Marvin.com/commercial

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Part #19980549. November 2014.

Information regarding status of patent applications, and product features and specifications is subject to change without prior notice.

MARVIN 
Windows and Doors
Built around you.®





INSPIRE. CREATE. *Customize*. TRANSFORM.

What if we could design through the mind's eye? Pulling from the senses to inspire new visions. Turning off the noise to design from within. This is your blank canvas – the freedom to create your custom expression. This idea book will help open the mind to all the possibilities. Delve in. Where will your curiosity take you?

SUBTRACTIVE LAYERS



04

A CUSTOM COLLECTION WITH COLORPOINT CONSTRUCTION

ARTEFACT



26

A CUSTOM COLLECTION WITH CYP CONSTRUCTION

CREATE IN COLOR



46

POM BOX / A CUSTOM COLOR TOOL

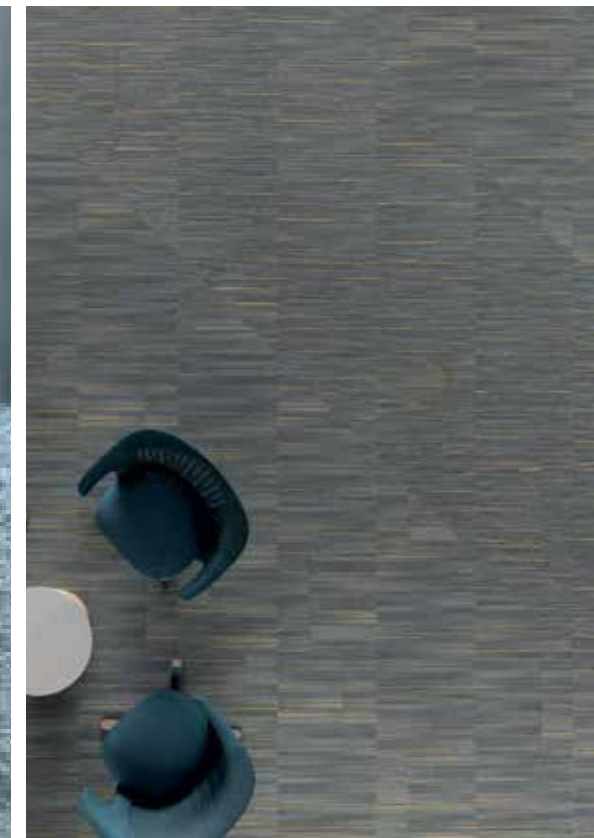
ESTRATO



50

A SIGNATURE SERIES IN 21 PATTERNS, 3 CONSTRUCTIONS AND 10 RUNNING LINE COLORWAYS

INFRASTRUCTURE



62

A RUNNING LINE COLLECTION WITH CUSTOMIZABLE COLOR ACCENTS

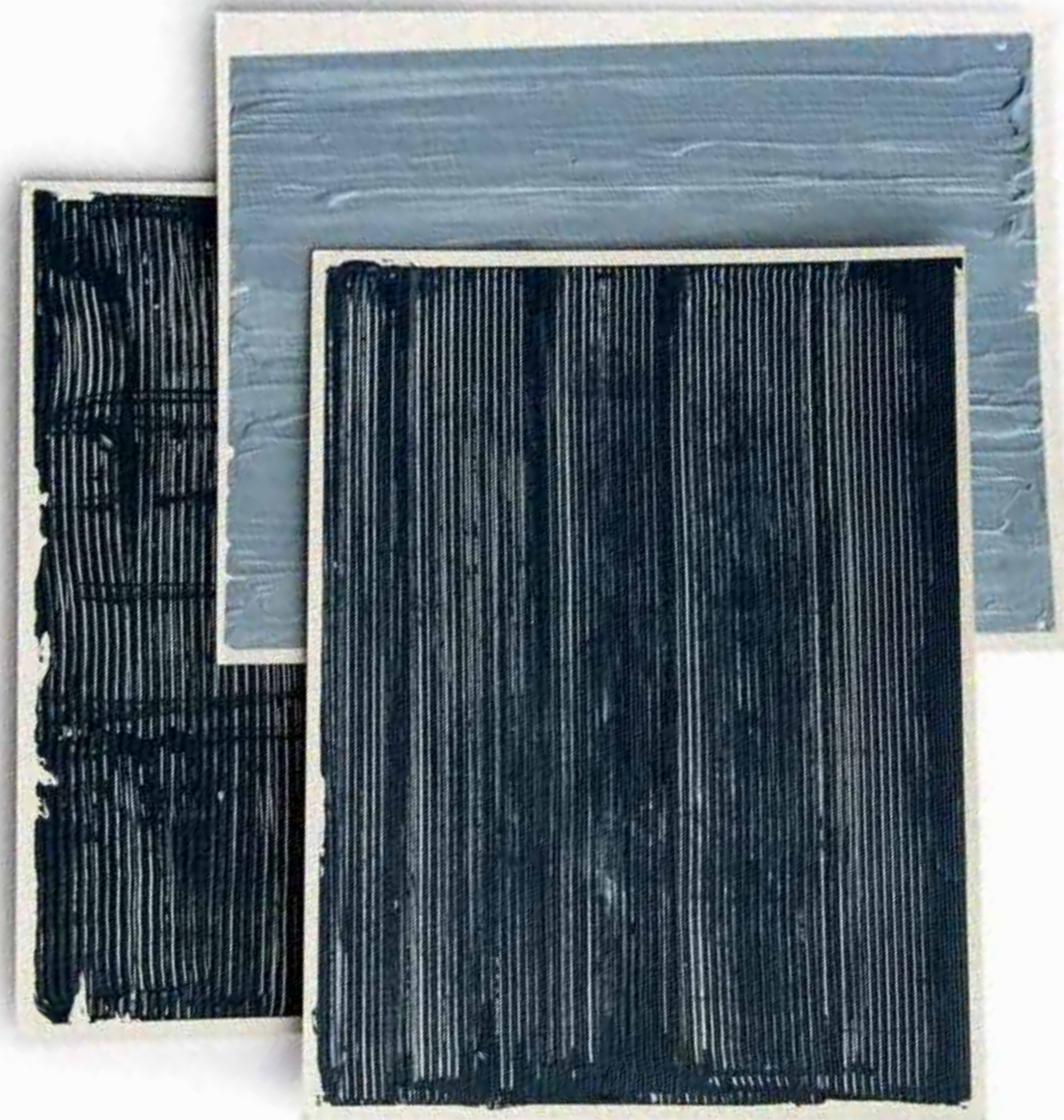
CUSTOM RUGS



76

CREATE CUSTOM AREA RUGS WITH CARPET TILE AND BROADLOOM

SUBTRACTIVE LAYERS



SUBTRACT. *Remove.* UNCOVER.

The Subtractive Layers custom collection explores absence as an instrument and discovers beauty in taking away. Continuing the inspiration of Subtractive Layers resilient, we explored a new medium in soft surface. Stripping away and uncovering more. Striations give way to texture and color. Imperfect linework, with every strand custom and unique, creates richness and abundance. A Colorpoint construction, Subtractive Layers provides multi-level texture with a customizable color palette. Add less. Reveal more.



1.

3.

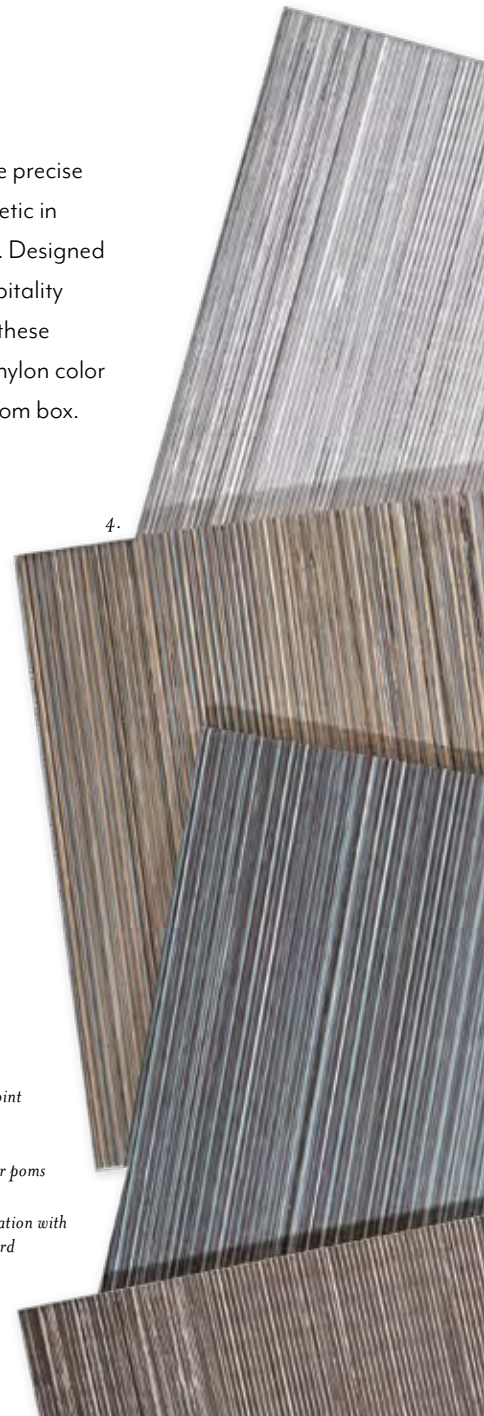


COLORPOINT
CONSTRUCTION /

Machine-tufted patterns create precise details for a dimensional aesthetic in multi-level cut or loop patterns. Designed specifically for large, open hospitality public space areas, customize these styles from 240 solution-dyed nylon color choices in our custom design pom box.

500 yard minimum

4.



2.

- 1. Subtractive Layers colorpoint custom swatches
- 2. Eco Solution Q nylon fiber poms
- 3. Subtractive process exploration with acrylic paint on paper board
- 4. Subtractive Layers LVT in remove and withdraw

BEAUTY REVEALED /

PAINTS MOVE ACROSS THE CANVAS, GIVING LIFE TO LAYERED, MODERN TEXTURE.



With paint as a medium and paper board as a base, the Patcraft design team explored the patterning of negative space and layered striations to create the Subtractive Layers resilient collection. Switching mediums, Subtractive Layers custom carpet collection yields to the beauty of omission in a soft surface.



WITHDRAW in barely black and REMOVE in brilliant blue



SUBTRACTIVE LAYERS FIELD CF61716



- S223D
loop
- CN727
loop
- CM500
loop
- S438D
loop

SUBTRACTIVE LAYERS FIELD CF61716 / 144 in x 144 in



SUBTRACTIVE LAYERS FIELD CF61717 / 72 in x 121.6 in



SUBTRACTIVE LAYERS FIELD CF61715 / 144 in x 108.8 in



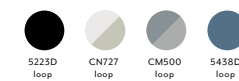
SUBTRACTIVE LAYERS CORRIDOR CN61711 / 72 in x 179.2 in



SUBTRACTIVE LAYERS CORRIDOR CN61711 with WITHDRAW LVT in desert tan



SUBTRACTIVE LAYERS CORRIDOR CN61709 / 72 in x 144 in



SUBTRACTIVE LAYERS CORRIDOR CN61710 / 72 in x 160 in

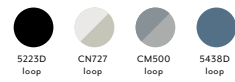


SUBTRACTIVE LAYERS RUG CR61708 with serging in 5223D / REMOVE LVT in taupe stone

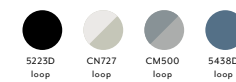


- 5223D
loop
- CN727
loop
- CM500
loop
- 5438D
loop

SUBTRACTIVE LAYERS RUG CR61708 / 144 in x 108.8 in



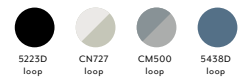
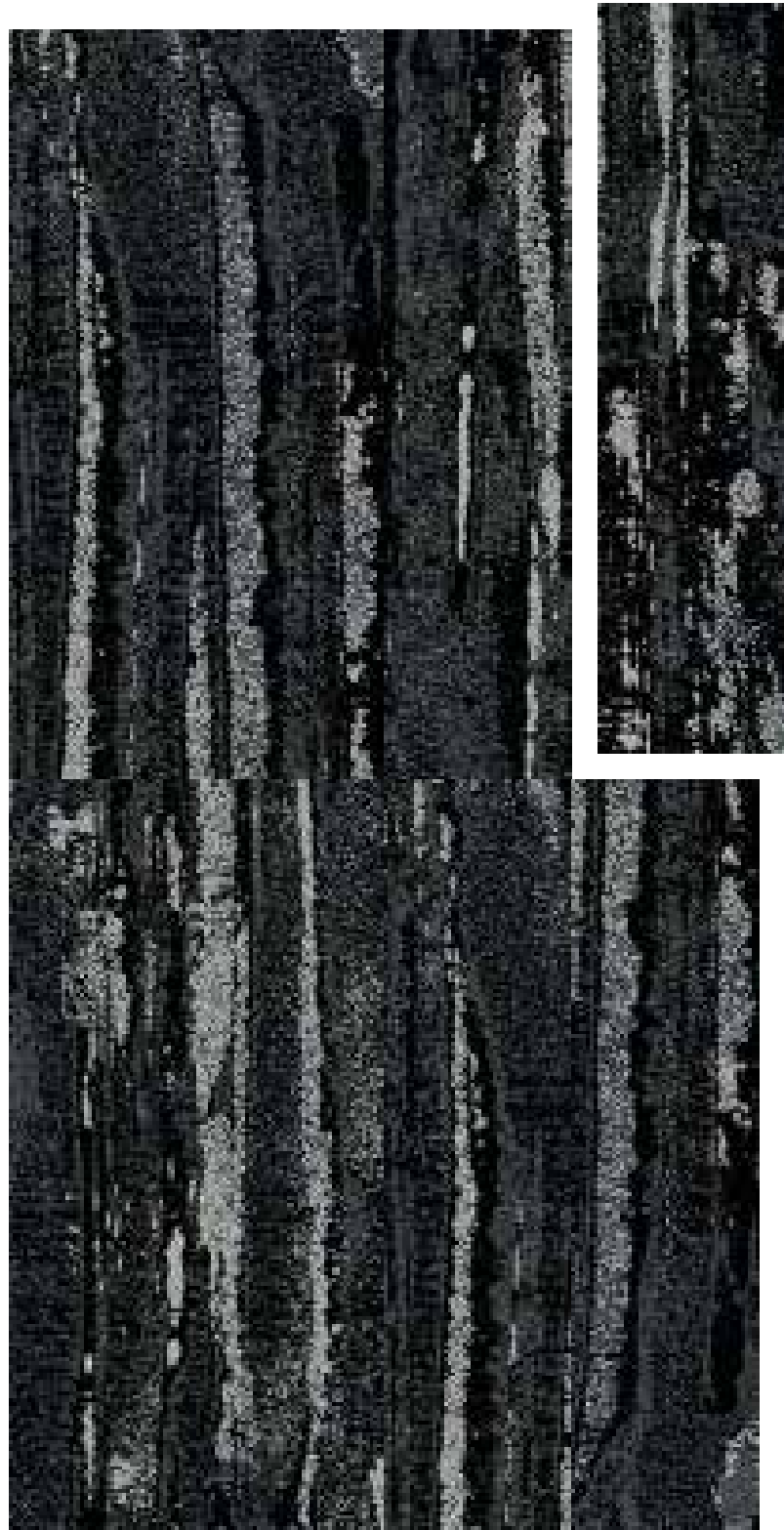
SUBTRACTIVE LAYERS RUG CR61705 / 72 in x 108.8 in



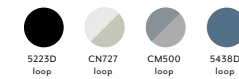
SUBTRACTIVE LAYERS RUG CR61706 / 72 in x 108.8 in



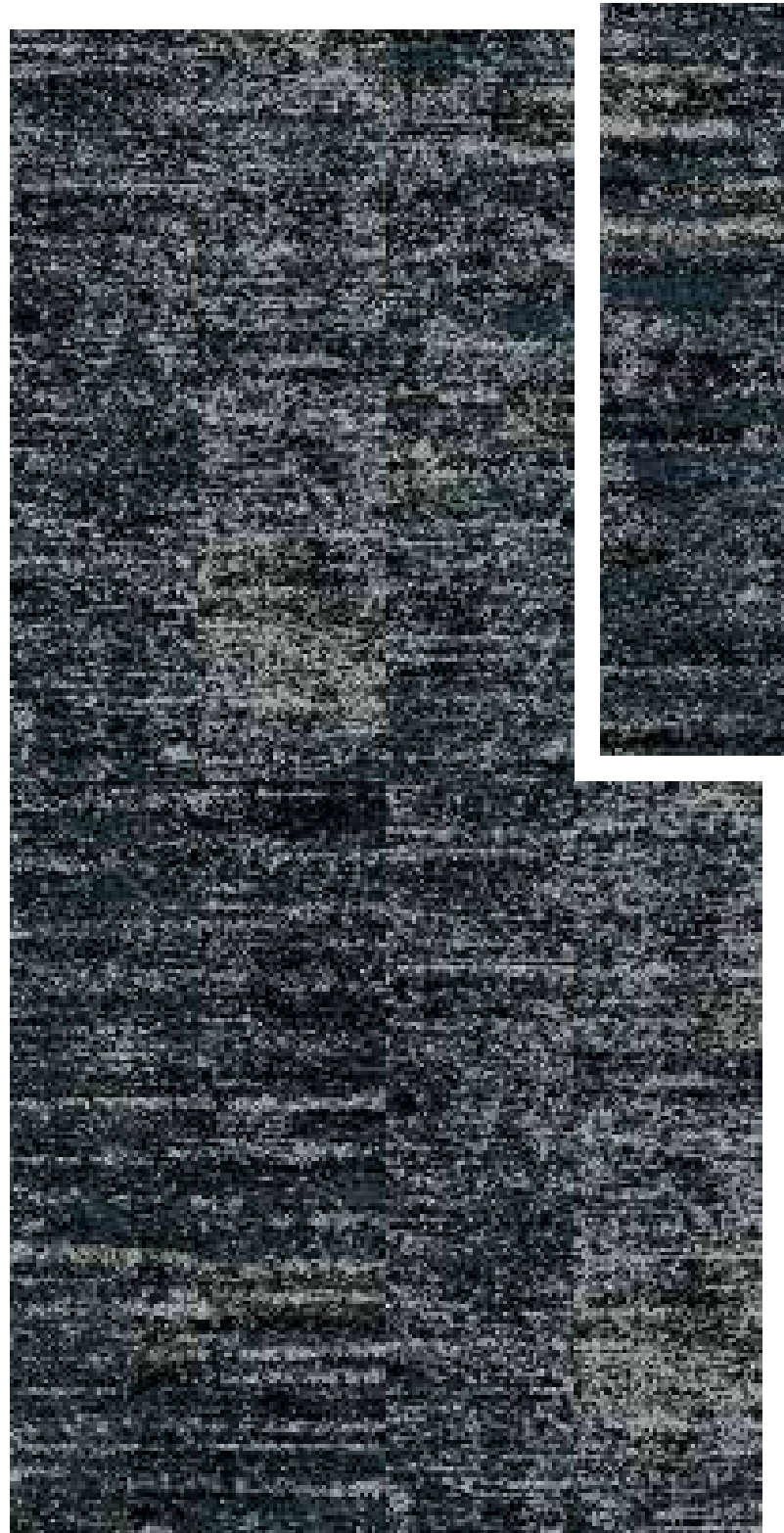
SUBTRACTIVE LAYERS TILE CT61714 / 12 in x 48 in / stagger installation



SUBTRACTIVE LAYERS TILE CT61714 / 12 in x 48 in



SUBTRACTIVE LAYERS TILE CT61713 / 12 in x 48 in



SUBTRACTIVE LAYERS TILE CT61712 / 12 in x 48 in



ARTEFACT

RENDER THE MARKS OF TIME *from your own memory.*

What happens when you embrace what's worn? Rusted and weathered objects re-emerge renewed. Expanding on its running line counterpart, the Artefact custom collection is inspired by the oxidation process of discarded items and the natural reactions using a resist-dyeing technique. The result is patterns of rich patinas with colors of varying depth, tint and saturation. A CYP cut and loop construction, the palette can be customized in up to six colors.

Explore the dimension and layers of hues that mark and reveal the beauty of time.





1.

2.

2.

3.

CYP CONSTRUCTION /

Plush and luxurious, CYP is designed with up to six colors per pattern. Ideal for hospitality and public spaces or rugs in guestrooms and high-end suites, the cut-and-loop construction adds visual dimension and a rich textural effect with all the fade resistance of solution dyed nylon. Customize the six-yarn palette using the yarn colors in our custom design pom box.

50 yard minimum

- 1. Artefact custom CYP swatches
- 2. Eco Solution Q nylon fiber poms
- 3. Resist-dyed fabric swatches

BEAUTY IN THE BREAKDOWN /

IT STARTED WITH A REACTION – EXPOSING THE HIDDEN STORIES OF OBJECTS WEATHERED BY TIME.



The Patcraft design team explored the effects of oxidation, accelerating the process with textiles and discarded items, to create the Artefact running line collection.

Push the boundaries of color with the custom collection. Play with patina. Explore oxidized hues. Create your own reaction.



PATINA, ETCHED and REACT in artfully rusted



ARTEFACT FIELD YF60866



ARTEFACT FIELD YF60866 / 72 in x 95.3 in



- 5433D cut/loop
- 5727D cut/loop
- 5522D cut/loop
- 6158 cut/loop
- CB215 cut/loop
- CL445 cut/loop

ARTEFACT FIELD YF60880 / 72 in x 61.2 in

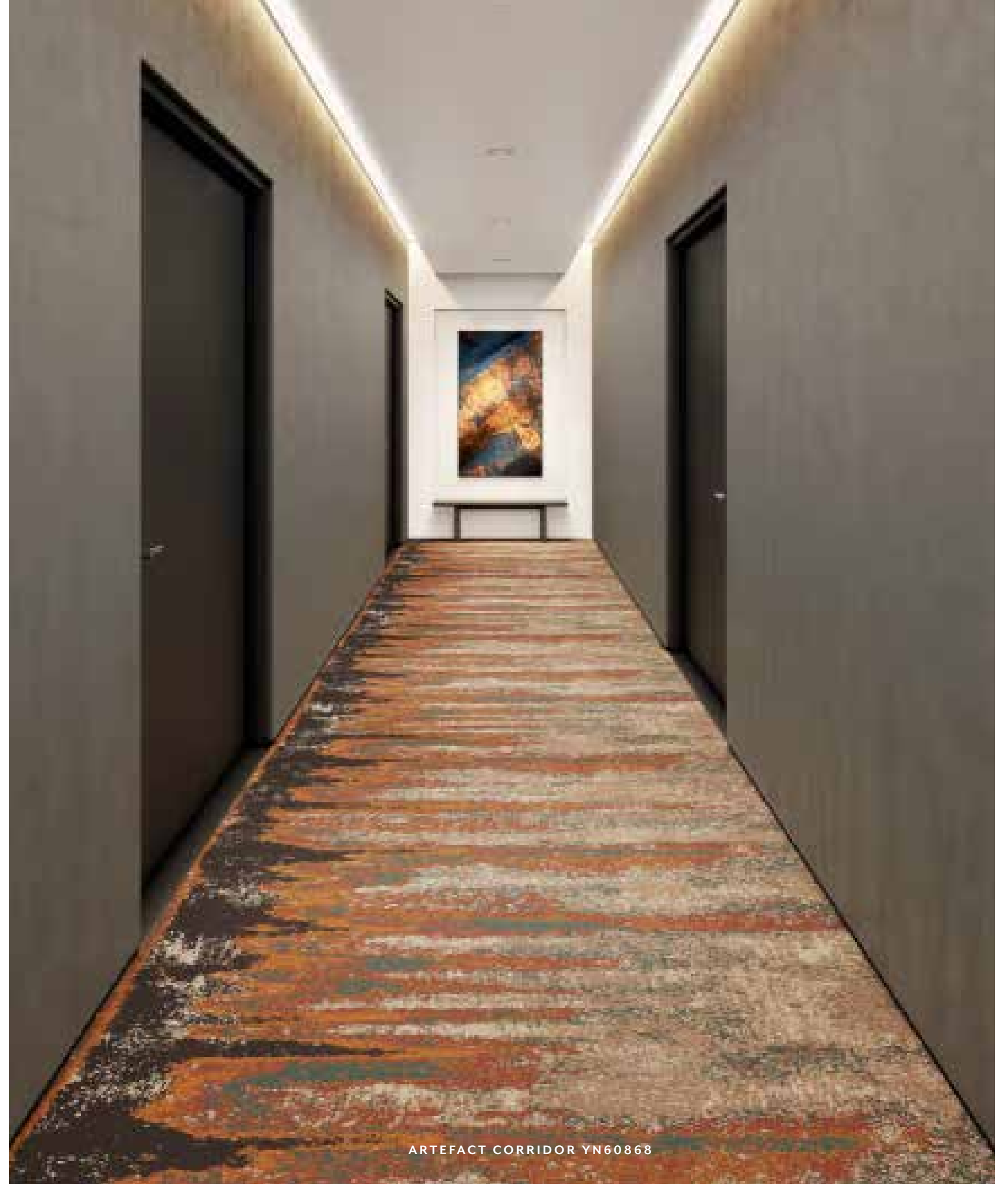


- 5433D cut
- 5727D cut
- 5522D cut
- 6158 loop
- CB215 cut
- CL445 loop

ARTEFACT FIELD YF59118 / 72 in x 111.6 in



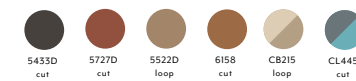
ARTEFACT CORRIDOR YN60868 / 72 in x 110.3 in



ARTEFACT CORRIDOR YN60868



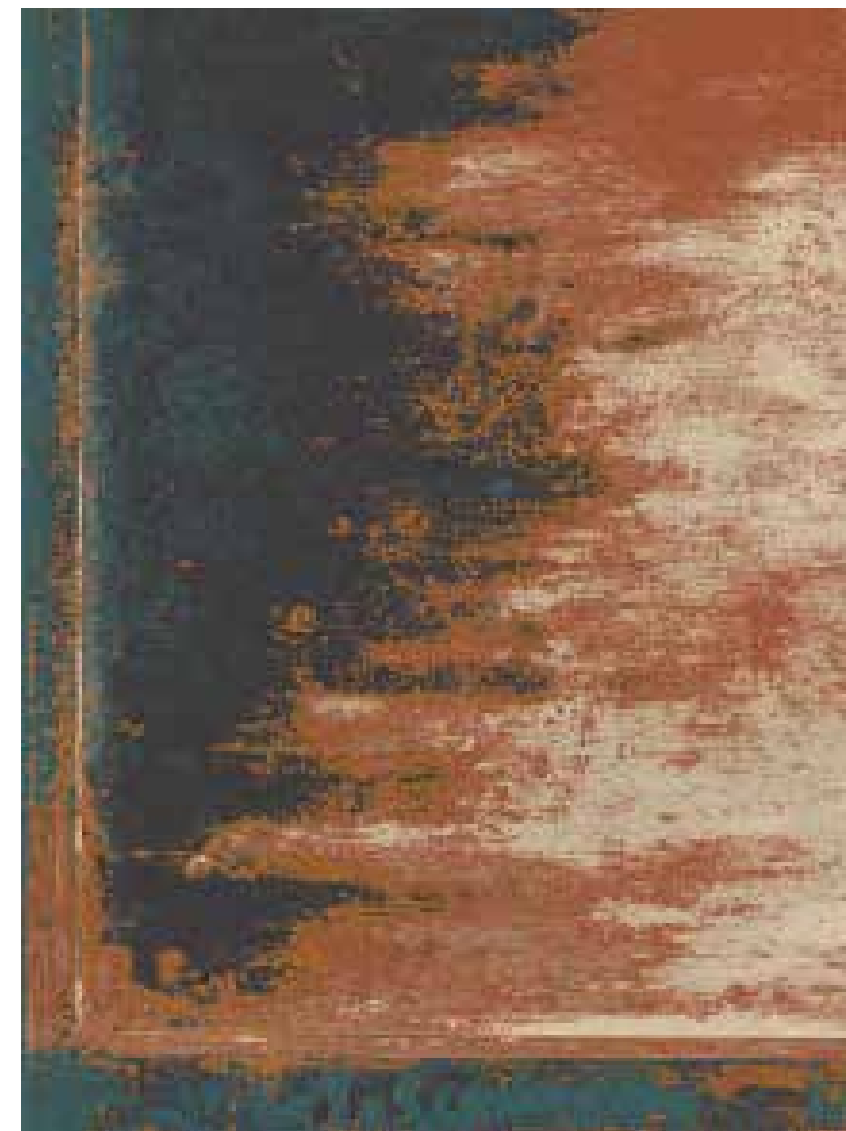
ARTEFACT CORRIDOR YN57821 / 72 in x 144 in



ARTEFACT CORRIDOR YN57701 / 72 in x 178.3 in



ARTEFACT RUG YR63295 with serging in CL445 / SPLITWOOD LVT in almond gold



- S433D
cut/loop
- S727D
cut/loop
- S522D
cut/loop
- 6158
cut/loop
- CB215
cut/loop
- CL445
cut/loop

ARTEFACT RUG YR63295 / 108 in x 144 in



- 5433D
cut/loop
- 5727D
cut/loop
- 5522D
cut/loop
- 6158
cut/loop
- CB215
cut/loop
- CL445
cut/loop

ARTEFACT RUG YR59420 / 108 in x 144 in



5433D cut/loop, 5727D cut/loop, 5522D cut/loop, 6158 cut/loop, CB215 cut/loop, CL445 cut/loop

ARTEFACT RUG YR58337 / 108 in x 144 in



5433D cut, 5727D loop, 5522D loop, 6158 loop, CB215 cut, CL445 cut

ARTEFACT RUG YR60874 / 108 in x 144 in



ARTEFACT RUG YR60873 / 108 in x 144 in



I M A G I N E
D I S C O V E R
I N S P I R E
C O N S T R U C T
D E S I G N
C R E A T E
I N V E N T
E X P L O R E
T R A N S F O R M



**CREATE
IN COLOR**

Use this curated collection to choose a custom accent color, recolor a running line product or create a unique palette.



THE POM BOX FEATURES **240 YARN COLORS** IN BOTH ECO SOLUTION Q® AND SOLUTION Q EXTREME® NYLON FIBER, GIVING YOU THE OPTION TO MAKE OUR PRODUCTS YOUR OWN.

ESTRATO

A TEXTURAL *Study.*

Finding the familiar becomes unexpected. Estrato is a textural study that layers the organic, traditional and transitional.

Abstracted botanicals overlay to create serene patterns that infuses calmness and comfort. Designed for corporate, hospitality and living environments, the Estrato Signature Series is a collection of tile and broadloom styles curated and coordinated in multiple constructions to offer flexibility in styling to complement throughout a space.

Uncover the boldness of texture and the composition of quietude.



BARCELONA TILE in azul

ESTRATO



VALENCIA TILE in plata



21 PATTERNS /
3 CONSTRUCTIONS /
10 RUNNING LINE COLORWAYS /

Available in carpet tile and broadloom styles, the Estrato Signature Series offers Colorpoint and multi-tuft constructions. Combine and coordinate throughout a space to create pictorial moments and textural scale. Choose from ten running line colorways or create a custom colorway.

*Minimum order of 50 yards per pattern,
 with a total minimum order of 500 yards.
 Tile and broadloom cannot be combined.*





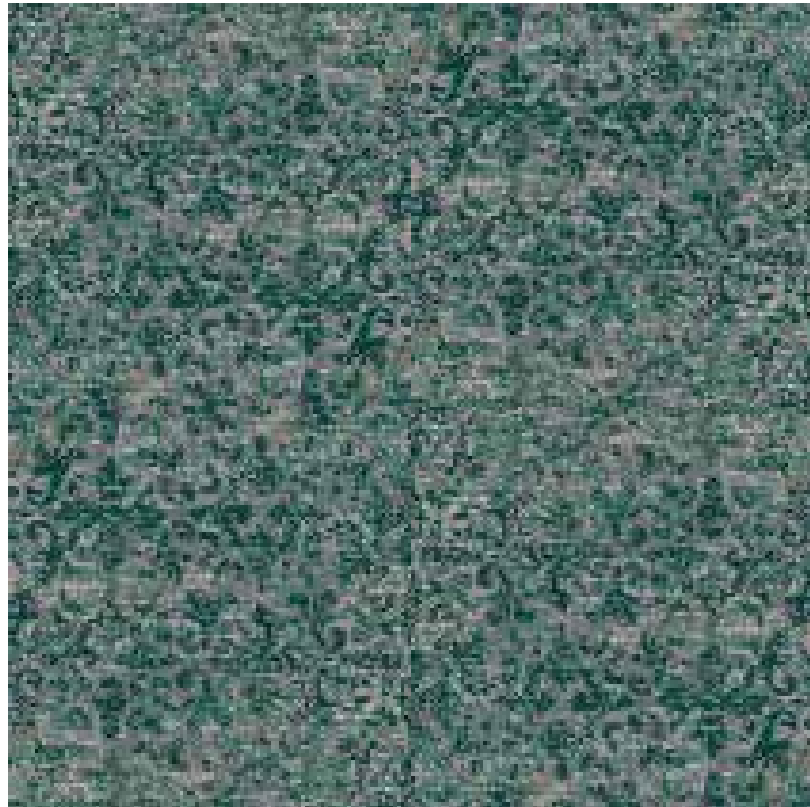
BARCELONA TILE and SEVILLE TILE in azul



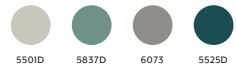
VALENCIA TILE and SEVILLE TILE in plata



Looking for the right colorway? Stretch your color creativity with **Chroma**, our digital color customization tool. Create custom color patterns in realtime. Choose from more than 1750 running line and custom patterns, including patterns from the Estrato collection. Create the perfect palette from hundreds of colors. Order a CAD or request a sample of your designs. Explore the possibilities at chroma.patcraft.com.



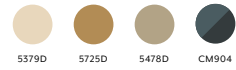
BARCELONA TILE / custom color



5501D 5837D 6073 5525D



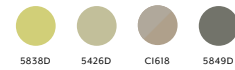
BARCELONA TILE / custom color



5379D 5725D 5478D CM904



BARCELONA TILE / custom color



5838D 5426D C1618 5849D



BARCELONA TILE / custom color



5520D 5832D 5609D 5972D

CUSTOM COLOR TOOLS

INFRASTRUCTURE

Reimagine SPACE.

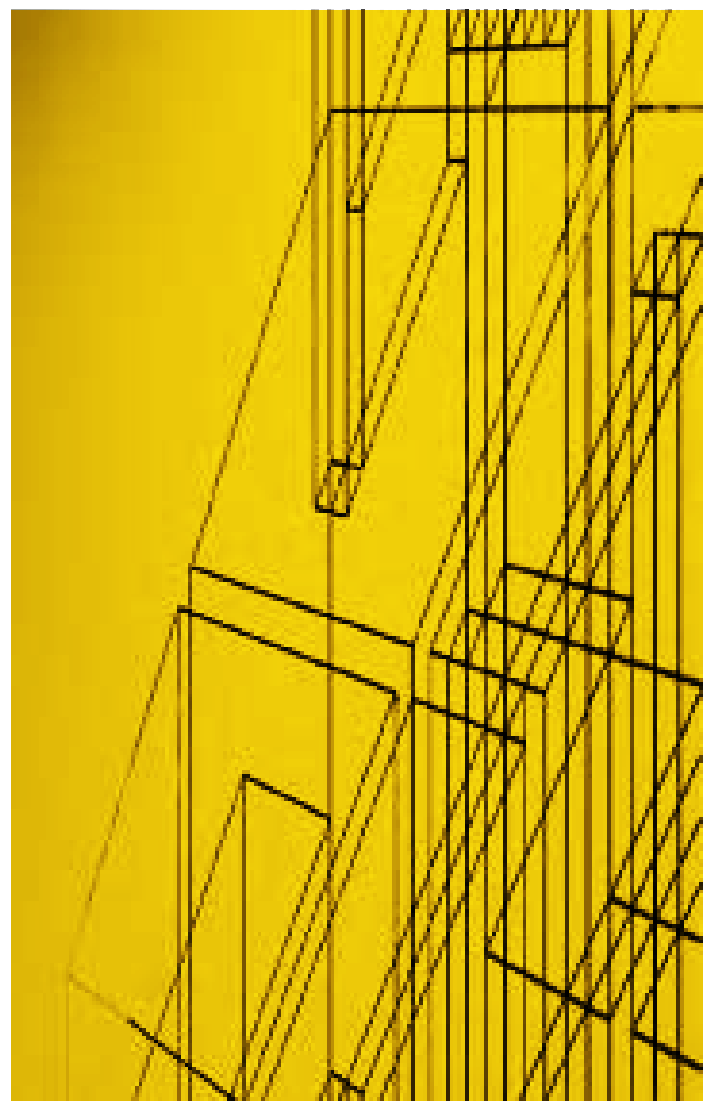
Create a framework. Accentuate the details. Infrastructure reimagines the foundation of space. A coordinated collection of three modular and two broadloom running line styles, Infrastructure is a system that takes design to a new level. Customize the accent stripes of the modular styles to create movement and flow. Choose from 15 running line colorways and 24 curated accent colors – or level up your customization with an additional selection of color options. Activate for energy. Remove for recharge. Embrace the elements of structure. Lay the groundwork to transform space.

CANTILEVER BROADLOOM in concrete / WORK. STUDY. PLAY. in jump rope / FORMWORK MODULAR in foundation





TRANSVERSE MODULAR in rebar



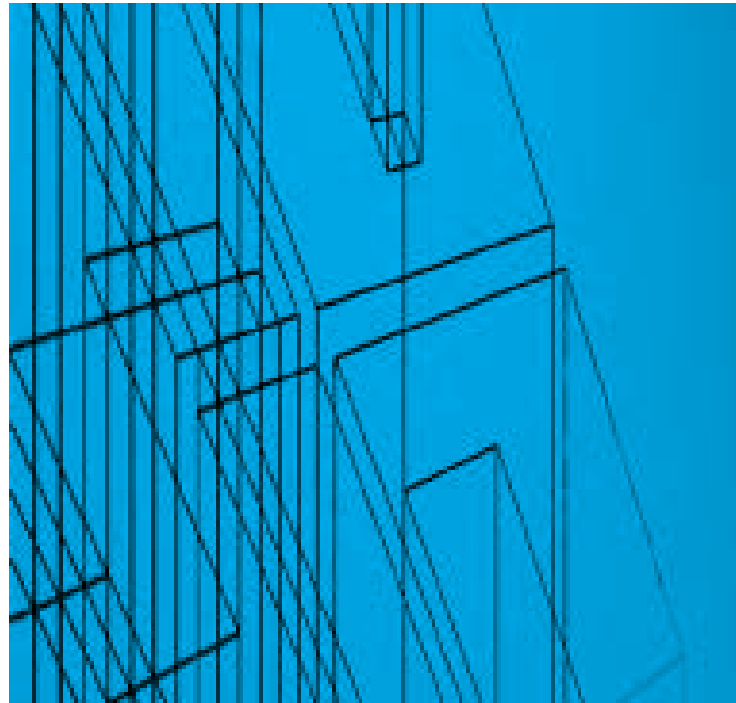




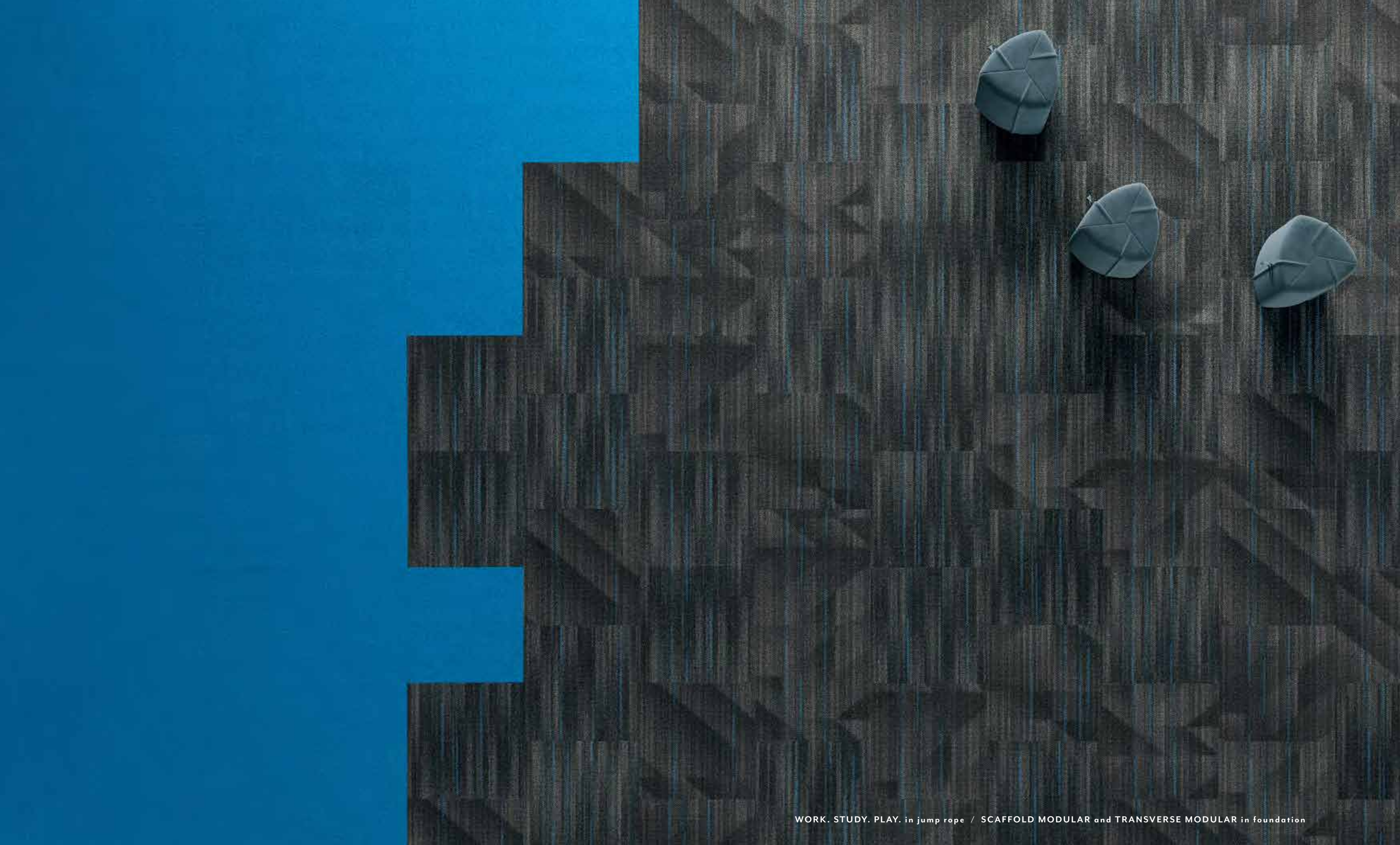
FORMWORK MODULAR in lintell



SCAFFOLD MODULAR in foundation



CENTERLINE BROADLOOM in concrete / WORK. STUDY. PLAY. in jump rope / FORMWORK MODULAR in rebar





TRANSVERSE MODULAR in rebar

**ACCENTUATE
THE DETAIL /**

Push the color boundaries. Infrastructure modular styles offer color flexibility to suit your palette. Customize the accent stripe in **24 curated accent yarns** or visit Chroma, our color customization tool for additional color options in the EcoSolution Q® yarn bank.



Explore the possibilities at chroma.patcraft.com.



CUSTOM RUGS

COLOR. SPACE. DESIGN. *Take shape.*

Be creative. Be distinctive. Bespoke. Our area rug program is the ultimate in customization. From size to shape, from pattern to color, creating a custom area rug is the perfect way to tailor any space within a space. Create a custom rug with EcoWorx® carpet tile or custom or running line broadloom in any size and shape. Choose from a wide array of running line styles and a variety of binding and backing options. The opportunities are limitless. And the process is easy. Transform any space. Tailor made.

custom rug / BARCELONA in moho with serging in 5986D / NATURAL STATE in spiced chestnut





loose lay rug / PATINA in industrial craft / SPLITWOOD in washed silver



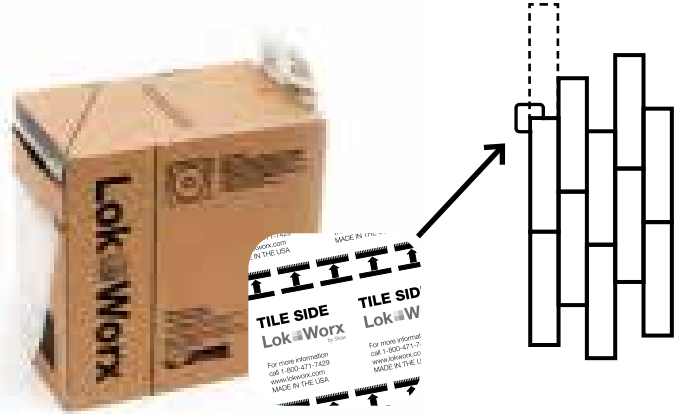


Designing your area rug is simple.

Area rugs provide textural comfort and design flexibility to any hard surface foundation. Our area rug program offers complete customization. Get creative with shape, size and color. Choose from our extensive selection of carpet tile and broadloom styles to create a rug tailor-made for any space.

LOOSE LAY AREA RUGS /

For total flexibility and ease, create your own area rug with any of our EcoWorx® carpet tile styles by installing with our **LokWorx™ adhesive system**. LokWorx™ can be applied to the corner of a tile for a floating installation or center applied to the floor for an attached non-slip installation over virtually any subfloor.



STEP 1 / SELECT YOUR CARPET

Start by browsing our running line product options, providing a variety of broadloom and carpet tile, at patcraft.com. Or, choose from a selection of our custom patterns at chroma.patcraft.com. Custom rugs are available with a minimum order.

STEP 2 / SHAPE AND SIZE

Once you have selected your carpet, determine the dimensions you need and the shape that will best fit your space. Don't be afraid to get creative. We can make all shapes and sizes, including round and abstract shapes.

STEP 3 / FINISHING TOUCHES

Once your carpet is selected and the size and shape are determined, choose a binding option that best fits the design. Choose from solution-dyed nylon serging, thin-profile poly binding or tapered rubber.

STEP 4 / CHOOSE YOUR BACKING

Select a backing from the following options: non-skid back, standard carpet backing or add the H Plus pad.

STEP 5 / COMPLETE YOUR ORDER

Contact your account manager to assist with your design needs. Lead times, minimums and pricing vary based on the carpet availability and the rug finish options that are selected.



custom area rug / DICHROIC FACET and DICHROIC SQUARE in mineral, slate and aquamarine with serging in 5838D / CROSSOVER LVT in dusk



custom area rug / SHADOWGRAPH in shutter with serging in 5796D / MONOCHROME MATTE in luna

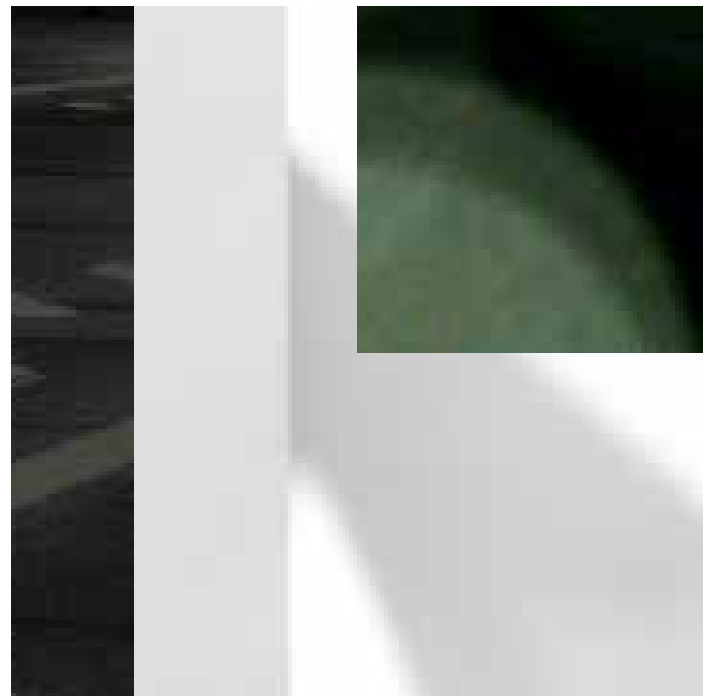




loose lay rug / CUBE & COLOUR in cardamon, pear and lemon and WORK. STUDY. PLAY. in agency, professor, hey taxi and go fish with WOOD PLANX in charred oak



loose lay rug / NOCTURNE, BACKLIT and COLOR FILTER in uplight with CMYK in cloud



BINDING OPTIONS

SERGING /

Yarn serging is one of the most popular rug finishes. Constructed with Eco Solution Q® 100% solution-dyed nylon fiber, the yarn is continuously stitched around the edge of the rug for a consistent, rounded edge finish. Match the serged yarn color to the most dominant color in the rug for a blended look or select a complementing color to create an accent detail for your rug.

traffic / light to moderate
construction / carpet tile, broadloom

EDGE BINDING /

Thin-profile poly binding tape is an economical finish folded over the edge of the rug and machine-stitched to provide a low-profile, square edge finish. Match the edge binding color to the most dominant field color in the rug or selecting an accent color from your rug. Edge binding is not recommended for extreme heavy traffic areas. For samples, contact your account manager.

traffic / light to moderate
construction / carpet tile, broadloom

TAPERED RUBBER /

Tapered rubber is a highly durable edging option and allows roller traffic to move over the side of the rug with ease. Tapered rubber is a good option for heavy traffic areas. It can be used in the most demanding public space environments. Tapered rubber provides a mitered edge finish. For samples, contact your account manager.

traffic / heavy
construction / carpet tile, broadloom

BACKING OPTIONS

NON-SKID BACKING /

Our standard skid-resistant backing is adhered to our rugs during fabrication. It is an efficient and durable secondary backing that gives rugs strong dimensional stability and non-slip characteristics. Non-skid backing is only available for carpet tile area rugs.

traffic / light to moderate
construction / carpet tile

STANDARD BACKING /

The standard backing that is applied to a broadloom carpet can be used for the backing of a broadloom area rug – a hardworking, long-lasting backing providing the performance of broadloom. Standard carpet backing is only available for broadloom rugs.

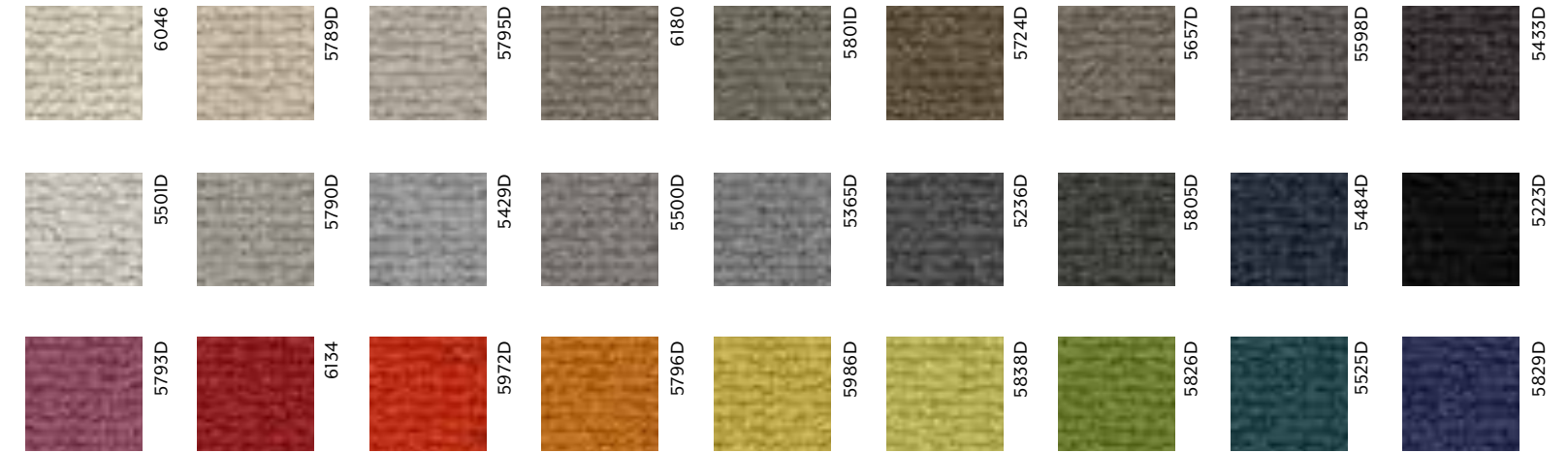
traffic / light to heavy
construction / broadloom

H PLUS PADDING /

H Plus padding provides extra cushion and support for your area rug. It can be cut to fit all broadloom rug sizes. Made from 100% post-industrial recycled fiber, it's constructed with a gray basketweave backing for cushion support. H Plus padding is a ¼ inch thick attached pad and is only available for broadloom rugs.

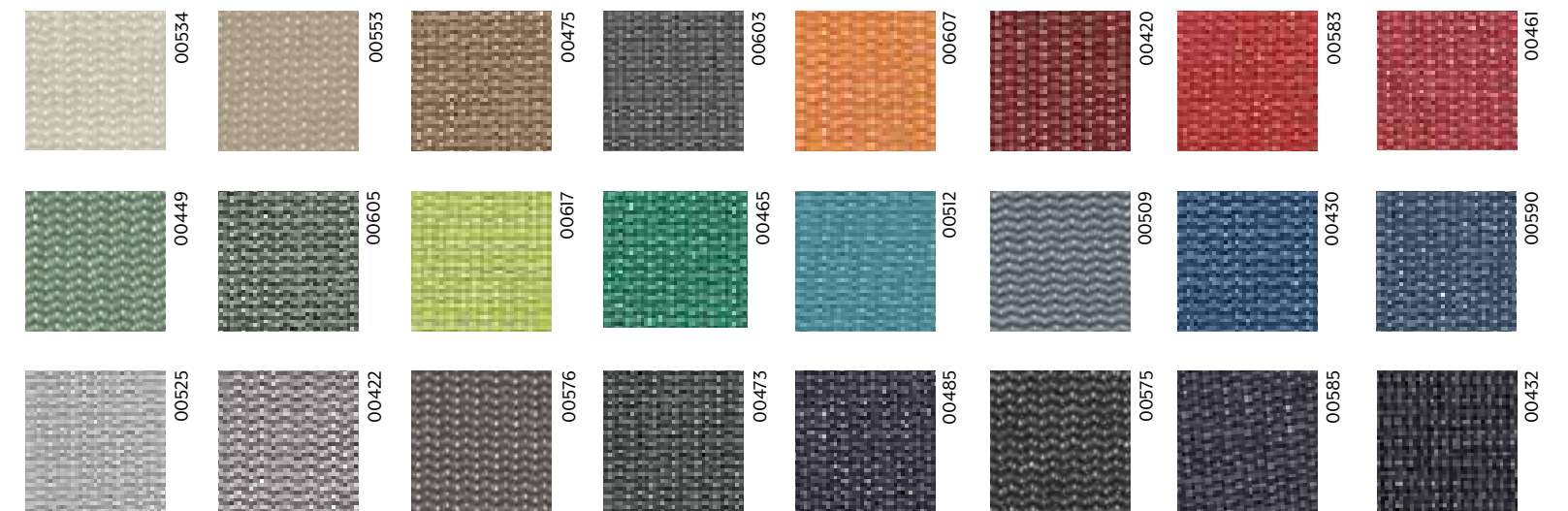
traffic / light to heavy
construction / broadloom

SERGING* /

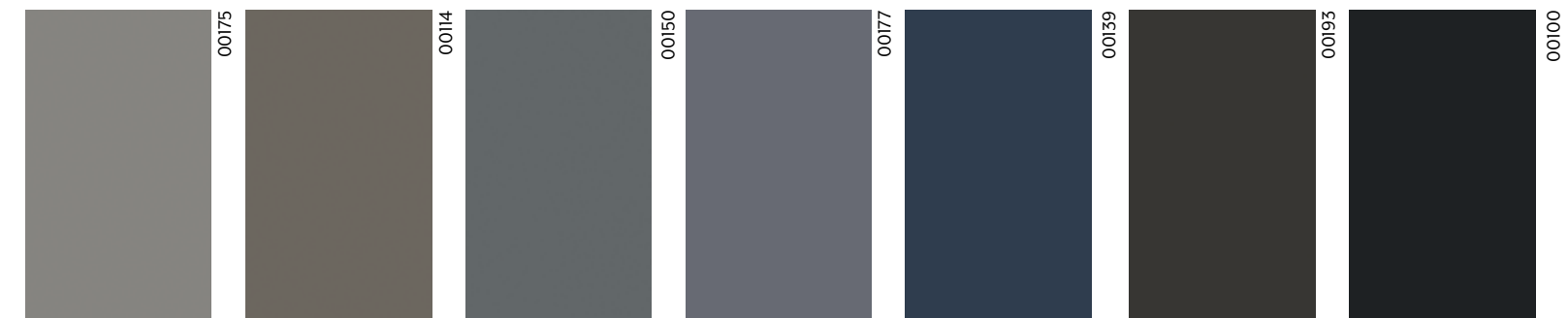


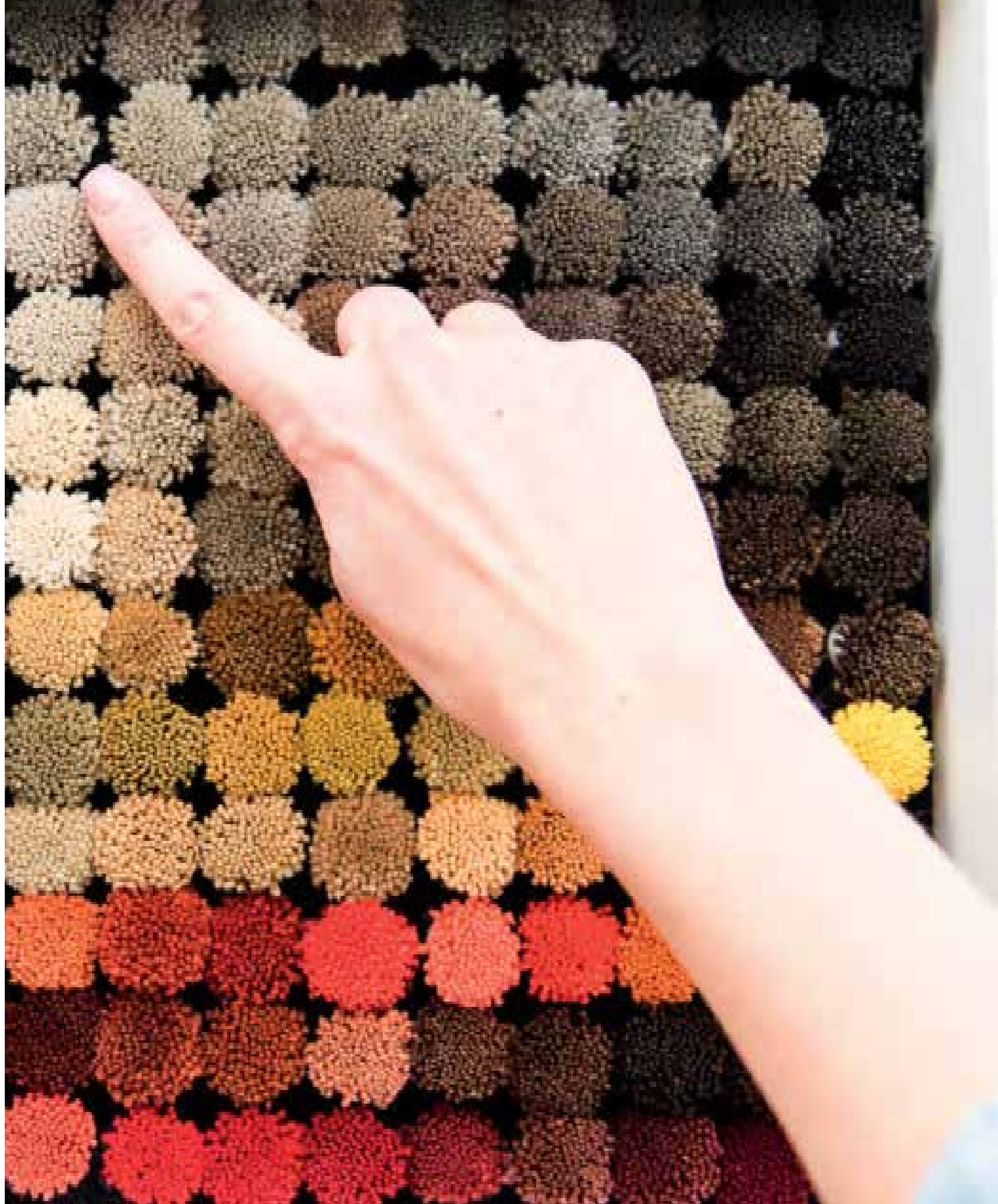
*Additional color options may be viewed in the Patcraft custom design pom box.

EDGE BINDING / S175V



TAPERED RUBBER / S174V





Create.



MIX
Paper from
responsible sources
FSC® C102271

Printed on elemental chlorine free, acid free, pH neutral paper. Read inside and out and when finished, please recycle.



patcraft®

NEW! ULTRA HI-PERFORMANCE
SLENDERWALL®

- 226 MPH WIND-LOAD TESTED
- MEETS IECC ENERGY CODE
- LOWER DELIVERED COST

28 lbs. per sq. ft. Architectural Precast Concrete/Steel Stud Building Panels www.SlenderWall.com

*Combining Time-Tested Components for Unlimited
Design Freedom, Unmatched Product Life
and Unequaled Savings*



Virginia's Tallest Building, 38 stories
Westin Virginia Beach Town Center
Luxury Hotel and Residences
Architect: BBG-BBGM
Precaster: Smith-Midland

Licensed By



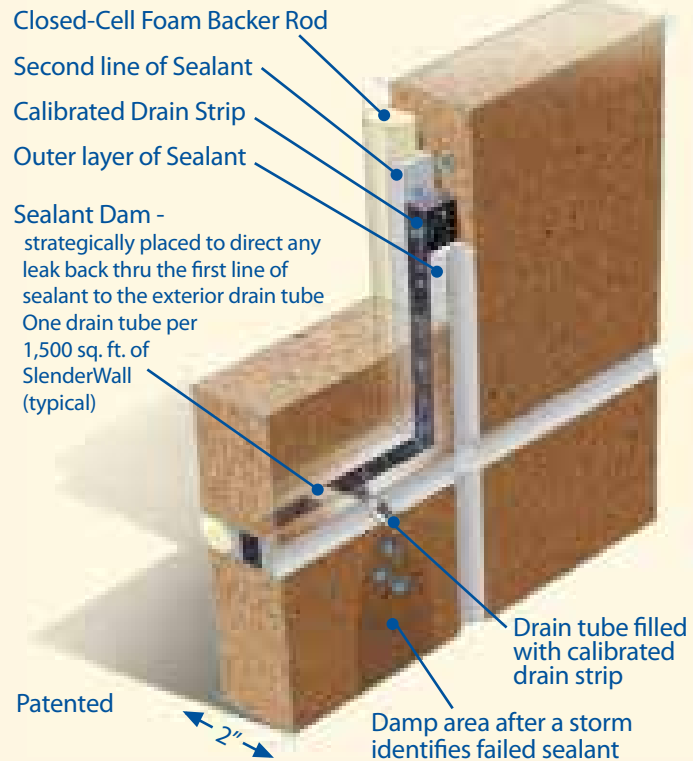
NEW! ULTRA HI-PERFORMANCE SLENDERWALL® 7 "Must Have" cladding technologies.

Architects & Engineers say *SlenderWall* is "the most significant exterior wall system developed in 40 years."

Available **ONLY** with the SlenderWall panel system:

1 H₂OUT™

Sealant Joint Rainscreen & Street-Level Leak Detection System



H₂Out™ is the **only** pressure-equalized, street-level, sealant joint leak detection system. If the outer sealant joint ever fails, leaks exit to the outside of the building and can be located within 20 feet of the failure.

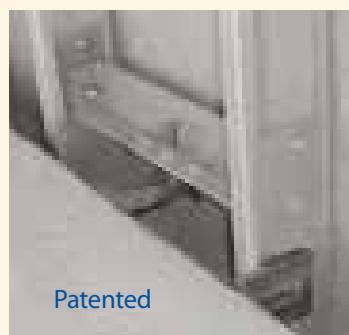
Benefit: No water intrusion - guaranteed!

2 LIFT-AND-RELEASE™

Fast Panel-Landing System

Lift-and-Release™ is the **only** panel-landing system that makes the installation process faster and easier.

Benefit: Increases panel installation rates by 50%



3 FACTORY-INSTALLED WINDOWS

Windows Installed and Sealed Under Factory Conditions

Factory-Installed Windows performed at ground level in a controlled environment to improve the fit and provide visual inspection.

Benefit: Lower window installation cost, reduced construction schedules and on-site trades.



4 FACTORY-APPLIED INSULATION

Continuous Closed-Cell Foam Insulation

Factory-Applied Insulation is performed in a controlled environment with unlimited access to panel.

Benefit: Reduced construction schedules, improved consistency of application, reduced time for on-site trades.



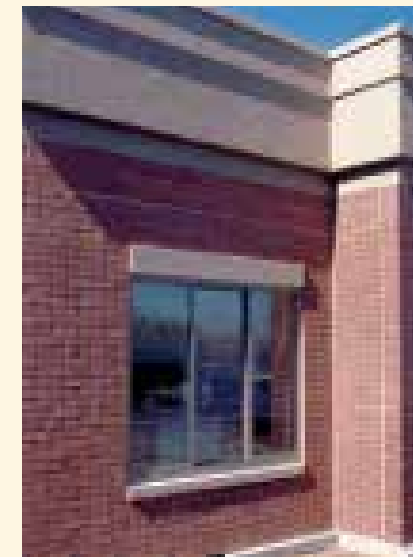
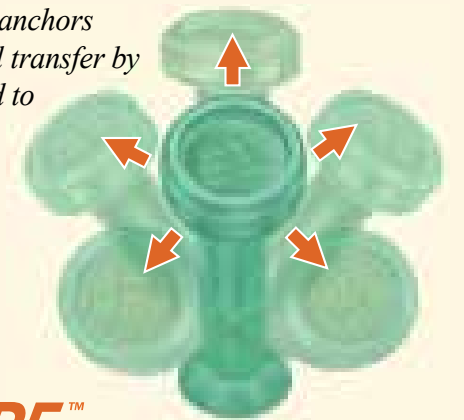
5 DURAFLEX 360°™

Differential Movement Stainless-Steel Anchors

DuraFlex 360°™ is the **only** precast to steel-stud frame **thermal-coated stainless-steel** connection providing 360° isolation of the precast concrete skin from structural stresses (wind, expansion, contraction, and seismic).

Benefit: Increased structural integrity and water tightness.

Stainless steel anchors reduce thermal transfer by 63% compared to carbon steel



6 SECONDNATURE™

Architectural Precast Concrete Brick

Second Nature™ is the **only** "Class A" Architectural Precast Concrete Brick finish with the quality level necessary for "Class A" commercial projects. It looks like hand-laid brick.

Benefit: No leaking brick joints.

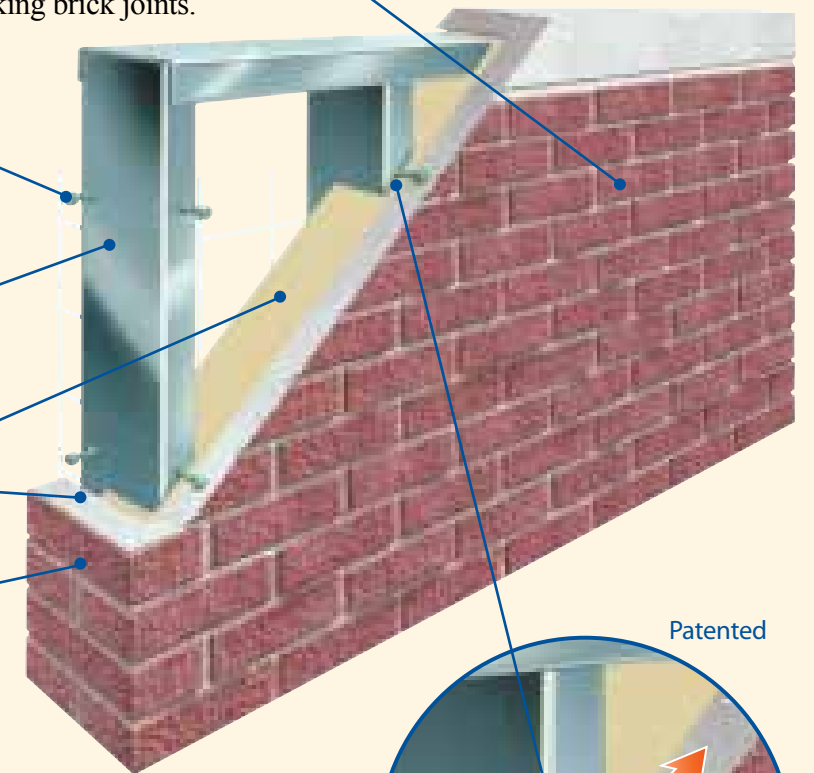
Thermal-coated stainless steel DuraFlex 360°™ anchors

G90 Heavy-gauge galvanized steel stud accommodates interior finish, ready for drywall

Optional factory-applied closed-cell foam insulation

High-strength architectural precast concrete, 2-inches thick with molecularly-bound high-tech fiber reinforcement

Available in a variety of colors, textures and "Class A" finish combinations



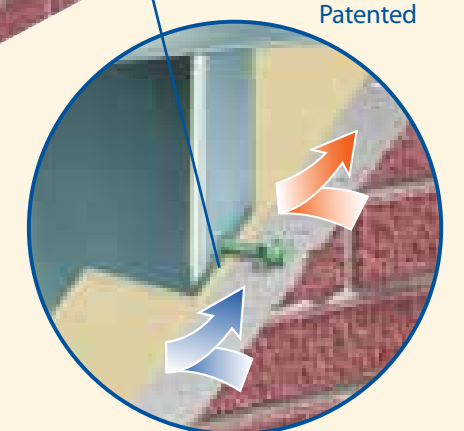
7 THERMAGUARD™

Thermal-Break / Air Barrier Precast Concrete System

ThermaGuard™ is the **only 100% thermal-break/air barrier** connection system incorporating a **thermal-break** created by the 1/2-inch space between the concrete and steel-stud frame and the exclusive **DuraFlex 360°™ thermal-coated stainless-steel anchor** which prevents corrosion and reduces thermal transfer by 63%.

Benefit: Reduced heating and cooling costs.

MEETS IECC ENERGY CODE



NEW! ULTRA HI-PERFORMANCE
SLENDERWALL® *A permanent envelope solution for New Construction and Recladding applications.*

28 lbs. per sq. ft. architectural precast exterior cladding panels designed for superior cost savings & flexibility.



Hilton Garden Inn
 Montreal, Canada

- A **cost-effective, efficient and versatile choice** for new construction, recladding or overcladding projects.
- **Panels are only 28 lbs. per square foot**, including the **integrated heavy-gauge galvanized steel stud perimeter framing**.

COMPARATIVE WEIGHT PER SQUARE FOOT

SlenderWall	Brick	Heavy Precast
28 lbs.	44 lbs.	75 lbs.

- **Allows reduced structural steel and foundation requirements** compared to conventional heavy architectural precast and brick.
- **Reduces on-site trades.**
- **Reduces installation time** up to 50%.
- **Increases leasable floor space income** by mounting panels outboard of floor slab.
- **Reduces construction costs** because smaller cranes can be used during installation.
- **Reduces on-site weather related costs** and delays as well as on-site construction debris.
- Allows more panels per truck load which **reduces shipping costs** by 60%.



“What attracted us to this product is the 2” thick precast concrete in an economical panelized format with steel-stud backup. This significantly reduced the cost of the structural frame and foundation required to support this much lighter system. Currently we are on our fifth project using SlenderWall.”

Edward N. Rothe, FAIA
 Rothe-Johnson-Fantacone

Provides “One Call” building envelope responsibility: cladding panels with continuous insulation, windows & sealant.



New Jersey Institute of Technology
 Newark, NJ
 Left: New construction
 Right: Recladding

Architect: Ronald Schmidt & Associates Precaster: Smith-Midland



BioInnovation Center
 New Orleans, LA

Architects: Eskew+Dumez+Ripple and NBBJ Precaster: Jackson Precast



US Army Legal Service
 Fort Belvoir, VA

33,338 square feet installed in just 14 days!

Architect: Perkins & Will Precaster: Smith-Midland

- **“No moisture intrusion” guaranteed.**
- **226 mph wind-load tested.**
- **H2Out™** advanced sealant system.
- Factory-installed **windows**.
- Factory-applied **continuous closed-cell foam insulation**. Energy code compliant.
- Precast concrete mix contains **integral water repellent**.

Design with the freedom to create a lasting impression.

- SlenderWall 28 lbs. per sq. ft. precast concrete cladding panels offer **true flexibility** for architectural design, and **project cost savings** that can be applied to enhance other building features.
- The combination of precast concrete and G90 heavy-gauge galvanized steel studs create a permanence that will **stand the test of time**.
- Design **custom shapes & sizes**, radii, bull noses, reveals and returns are manufactured to tight tolerances in climate-controlled plants.
- Available in a variety of colors, textures and **“Class A”** finish combinations.
- Designed for **curtain wall** or **load-bearing** applications.
- Major cost savings on **cantilevered** designs.



“I started the trend of using SlenderWall on high rise buildings in New York City. I think that the SlenderWall system will be used on many buildings here in the future.”

H. Thomas O’Hara
 Architect, PLLC

NEW! ULTRA HI-PERFORMANCE SLENDERWALL®

An exterior cladding system that eliminates wall failures.



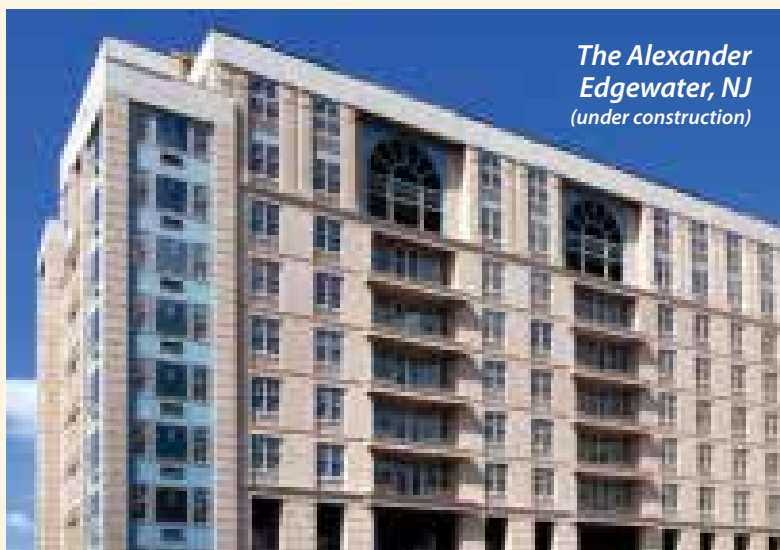
Superior School of Technology
Montreal, Canada

Architect: Régis Côté & Associates Precaster: BPDL



New Jerusalem Baptist Church
Queens, NY

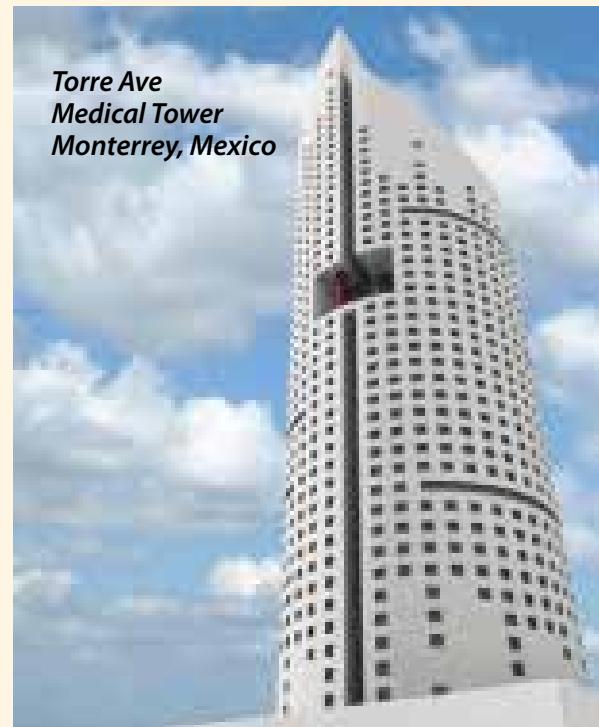
Architect: Santos Associates Precaster: Smith-Midland



The Alexander
Edgewater, NJ
(under construction)

Architect: Vijay Kale/Daibes Enterprises Precaster: Smith-Midland

- Uses **time-tested, proven** components.
- Provides the **permanence** of architectural precast concrete containing molecularly-bound high-tech fiber reinforcement. It will not dent, rust, burn, warp or delaminate.
- **Accommodates inter-story drift.**
- **Eliminates corrosion** by utilizing corrosion-proof and rust-proof materials.
- **Accommodates blast resistance designs.**
- **Supports sustainability design** requirements.



Torre Ave
Medical Tower
Monterrey, Mexico

Architect: Bulnes 103 Precaster: Opticretos

Go online for access to SlenderWall specifications and details
www.SlenderWall.com

Standard Window Detail
Typical Gravity Connection

Selected details from the Architectural Portfolio / Technical Design Guide



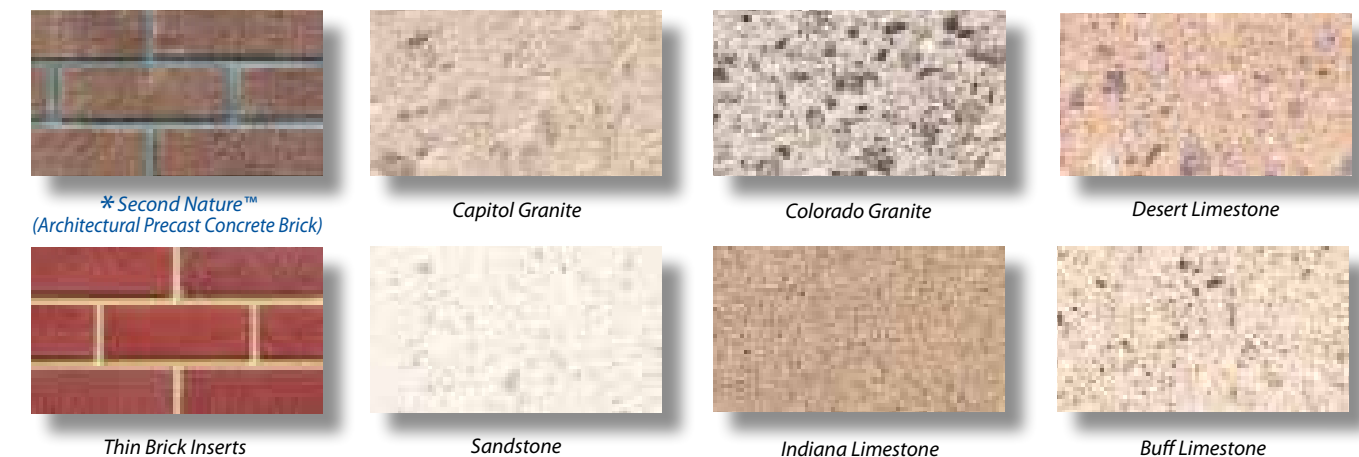
Jefferson at Thomas Circle
Luxury Apartments
Washington, DC

Architect: Torti Gallas and Partners Precaster: Smith-Midland

Finishes

Choose from a wide variety of **standard and custom colors** and **concrete finishes** for the 2-inch thick exterior precast concrete surface. Individual panels can contain architectural details and **multiple finishes**.

A sampling of the wide variety of available finishes. Contact your local producer to obtain product samples.



* Second Nature™ is the only architectural precast concrete brick reproduction approved by historical societies and architects for use on high profile architectural projects.

Testing

All tests were performed by certified independent testing laboratories using nationally recognized standards and methods. Detailed reports are available upon request.

Earthquake, hurricane and tornado level testing establishes SlenderWall® as the system of choice for severe conditions.

- ✓ Air Infiltration.....ASTM E283
- ✓ Static Pressure Water Resistance.....ASTM E331
- ✓ Dynamic Pressure Water Resistance...AAMA 501.1
- ✓ Structural Performance.....ASTM E330
- ✓ Seismic Movement (Interstory).....AAMA 501.4
- ✓ Thermal Cycle.....AAMA 501.5
- ✓ Thermal Transmittance.....AAMA 1503
- ✓ Thermal Performance.....ASTM C1363
- ✓ Sound Transmission.....ASTM E90
- ✓ In-situ Water Test.....AAMA 503.03
- ✓ Fire Resistance Rating.....ASTM E119

Additional Ratings:

- ✓ Wind Load Test: 226MPH, 130PSF
- ✓ Florida Hurricane Code: NOA #09101.05
- ✓ Blast Resistant Design



*Architectural Portfolio/
Technical Design Guide*

- **CALL US TODAY** to qualify for your **FREE** copy - (800) 547-4045
- Visit www.SlenderWall.com for more information
- **Register online** for AutoCAD files and technical information
- Call your local manufacturer or Easi-Set to schedule a **Lunch & Learn** appointment



Earn LEED Points

Energy Performance; Construction Waste; Regional Materials; Construction Indoor Air Quality; Innovation in Design. Call for details.

AFFILIATIONS



Precast ... The Concrete Solution



Manufactured Locally By:



5119 Catlett Rd • PO Box 400 • Midland, VA 22728 • (800) 547-4045 • info@easiset.com • www.easiset.com
EASI-SET® Worldwide is a licensor of precast products, and a wholly-owned subsidiary of Smith-Midland® Corporation, a publicly traded company. ©2013 by EASE-SET® Worldwide. All rights reserved.

Hunter Henderson	New McCarthy Gym Design 1															
Date																
Level	Division 1	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost			
1000.000 General Requirements																
1110.020	Fees															
	Elevator Engineering Fees	Per Contract		2.5%												
	Landscaping and Site Development Fees	Per Contract		2.5%												
	Mechanical Engineering Fees	Per Contract		4.1%												
1110.075	Renderings															
	Building Rendering		2 ea.	\$	3,175.00											
1210.000	Allowances															
	Allowance 1 - Tree Moving		2 ea.	\$	2,500.00	\$	5,000.00	\$	250.00 ea.	2 ea.	\$	500.00	\$	500.00	\$	6,000.00
1300.010	Personnel: Supervision															
	Superintendent					\$	2,200.00	wk		61 wk.	\$	134,200.00	\$	2,200.00	\$	134,200.00
	Asst. Superintendent					\$	1,500.00	wk		61 wk.	\$	91,500.00	\$	1,500.00	\$	91,500.00
1310.020	Travel: All Types															
	Superintendent Per Diem					\$	1,500.00	mo.		14 mo.	\$	21,000.00	\$	1,500.00	\$	21,000.00
	Asst. Superintendent Per Diem					\$	1,500.00	mo.		14 mo.	\$	21,000.00	\$	1,500.00	\$	21,000.00
1450.310	Testing															
	Misc. Testing		1 L.S.	\$	5,000.00	\$	5,000.00					\$	5,000.00	\$	5,000.00	
1450.410	Sample Panel															
	Mock Up		1 L.S.	\$	8,000.00	\$	8,000.00					\$	8,000.00	\$	8,000.00	
1510.010	Utilities: Temporary															
	Temp Electric Set Service		1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00	
	Temp Electric		16 mo.	\$	500.00	\$	8,000.00					\$	500.00	\$	8,000.00	
	Mobile Phone/ Ipad		16 mo.	\$	800.00	\$	12,800.00					\$	800.00	\$	12,800.00	
	Temp Water Set Service		1 L.S.	\$	300.00	\$	300.00					\$	300.00	\$	300.00	
	Temp Water		16 mo.	\$	400.00	\$	6,400.00					\$	400.00	\$	6,400.00	
	Temp Toilet		16 mo.	\$	380.00	\$	6,080.00					\$	380.00	\$	6,080.00	
	Temp Tank		16 mo.	\$	215.00	\$	3,440.00					\$	215.00	\$	3,440.00	
	Fire Protection (extinguishers)		8 ea.	\$	75.00	\$	600.00					\$	75.00	\$	600.00	
1510.020	Utilities: Final															
	Final Electricity		2 mo.	\$	9,600.00	\$	19,200.00					\$	9,600.00	\$	19,200.00	
	Final Gas		2 mo.	\$	1,000.00	\$	2,000.00					\$	1,000.00	\$	2,000.00	
	Final Water		2 mo.	\$	500.00	\$	1,000.00					\$	500.00	\$	1,000.00	
1520.010	Temp: Facilities - Site															
	Temp Fence (Rent)		1500 lf	\$	7.00	\$	10,500.00					\$	7.00	\$	10,500.00	
	Temp Gates (Rent)		2 each	\$	250.00	\$	500.00					\$	250.00	\$	500.00	
	Temp Roads / Work Service		75 tons	\$	38.00	\$	2,850.00					\$	38.00	\$	2,850.00	
	Connex		14 mo.	\$	110.00	\$	1,540.00					\$	110.00	\$	1,540.00	
1520.030	Temp: Office															
	Office trailer		16 mo.	\$	1,200.00	\$	19,200.00	\$	910.00 L.S.	1	\$	910.00	\$	1,256.88	\$	20,110.00
	Food/Drink		16 mo.	\$	250.00	\$	4,000.00					\$	250.00	\$	4,000.00	
	Office Supplies		16 mo.	\$	200.00	\$	3,200.00					\$	200.00	\$	3,200.00	
	Office Equipment		1 L.S.	\$	3,000.00	\$	3,000.00					\$	3,000.00	\$	3,000.00	
	Printing & Shipping		1 L.S.	\$	300.00	\$	300.00					\$	300.00	\$	300.00	
	Project Sign		1 L.S.	\$	650.00	\$	650.00	\$	55.00 ea.	1	\$	55.00	\$	705.00	\$	705.00
	Temporary Signage		1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00	
	Internet		16 mo.	\$	250.00	\$	4,000.00					\$	250.00	\$	4,000.00	
1562.010	Controls: Safety															
	Safety (PPE)		1 L.S.	\$	800.00	\$	800.00					\$	800.00	\$	800.00	
	Training		1 L.S.	\$	1,500.00	\$	1,500.00					\$	1,500.00	\$	1,500.00	
	Drug Tests		5 ea.	\$	65.00	\$	325.00					\$	65.00	\$	325.00	

First Aid Equipment	1 L.S.	\$	2,000.00	\$	2,000.00				\$	2,000.00	\$	2,000.00		
1620.030 Layout														
Layout (Own)					\$	40.00	P.P.H.	20 Hours	\$	800.00	\$	40.00	\$	800.00
Layout (Sub)					\$	150.00	P.P.H.	100 Hours	\$	15,000.00	\$	150.00	\$	15,000.00

GENERAL REQUIREMENTS

1710.000 Tools, Equipment, & Cleanup

1710.010 Job Set Up															
Small Tools	16 mo.	\$	250.00	\$	4,000.00					\$	250.00	\$	4,000.00		
1710.020 Layout Equipment															
Layout Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
1710.030 General Equipment															
Truck & Fuel - Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
Truck & Fuel - Asst. Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
1710.070 Carpentry & Misc. Steel Equip.															
Welding Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Oxygen & Acetylene	1 L.S.	\$	250.00	\$	250.00					\$	250.00	\$	250.00		
1710.080 Material Handling Equipment															
Lull	16 mo.	\$	2,200.00	\$	35,200.00					\$	2,200.00	\$	35,200.00		
Fuel & oil	16 mo.	\$	400.00	\$	6,400.00					\$	400.00	\$	6,400.00		
1740.010 Clean Up															
Current Cleanup	1 L.S.	\$	200.00	\$	200.00					\$	200.00	\$	200.00		
Haul Dumpster	16 mo.	\$	500.00	\$	8,000.00					\$	500.00	\$	8,000.00		
Final Cleanup	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Clean Glass	1 L.S.	\$	800.00	\$	800.00					\$	800.00	\$	800.00		
General Requirements				\$	221,535.00					\$	307,365.00	\$	500.00	\$	529,400.00

Hunter Henderson		New McCarthy Gym Design 1										
Date												
Level	Division 2	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
2100.000 SITEWORK												
2240.010	Dewater: General											
	Dewatering All Types	300000 S.F.				\$ 0.01 S.F.		300000	\$ 3,000.00		\$ 0.01	\$ 3,000.00
2310.020	Earthwork: Site Grading											
	Sitework Grading	125000 S.F.				\$ 0.71 S.F.		125000	\$ 88,750.00		\$ 0.71	\$ 88,750.00
	Sitework Bond	1 L.S.		2%	\$ 1,331.25						\$ 1,331.25	\$ 1,331.25
2315.021	Earthwork Excavate Footing/Misc											
	Excavate Continuous Footing	65 yds.				\$ 7.00 yd		300	\$ 2,100.00	\$ 2,600.00	\$ 72.31	\$ 4,700.00
	Excavate Misc.	30 yds.				\$ 12.00 yd		20	\$ 240.00		\$ 8.00	\$ 240.00
	Hual Spoils	118.75 yds.				\$ 5.00 yd		360	\$ 1,800.00	\$ 1,400.00	\$ 26.95	\$ 3,200.00
	Shape & Grade Cont. Footing	600 S.F.				\$ 0.30 S.F.		600	\$ 180.00		\$ 0.30	\$ 180.00
2315.070	Backfill: Foot Wall Misc.											
	Backfill Earth Continurs Footing	75 yds.	\$	3.50	\$ 262.50	\$ 7.00 yd.		75	\$ 525.00		\$ 10.50	\$ 787.50
2320.010	Soil Poisoning/Pest Control											
	Soil Pest control	84506 S.F.	\$	0.10	\$ 8,450.60	\$ 0.15 S.F.		60000	\$ 9,000.00		\$ 0.21	\$ 17,450.60
2340.010	Soil Stablization/ Erosion Control											
	Silt Fence	800 L.F.	\$	0.50	\$ 400.00	\$ 1.00 L.F.		800	\$ 800.00		\$ 1.50	\$ 1,200.00
	Inlet Protection								\$ -		#DIV/0!	\$ -
2410.010	Demolition											
	Bleacher Concrete	12422 Cu. Ft.				\$ 1,893.00 Day		31	\$ 58,683.00		\$ 4.72	\$ 58,683.00
	Brick Veneer	4619 S.F.				\$ 1,300.90 Day		25	\$ 32,522.50		\$ 7.04	\$ 32,522.50
	Sidewalks	3032 Sq. Yd.				\$ 1,300.90 Day		9	\$ 11,708.10		\$ 3.86	\$ 11,708.10
	North Exterior	3237 S.F.				\$ 6.00 S.F.		3237	\$ 19,422.00		\$ 6.00	\$ 19,422.00
	South Exterior	20332 S.F.				\$ 6.00 S.F.		20332	\$ 121,992.00		\$ 6.00	\$ 121,992.00
	Parking Pavement	13818 Sq. Yd.				\$ 2,975.20 Day		20	\$ 59,504.00		\$ 4.31	\$ 59,504.00
	Bond			3%	\$ 9,114.95						\$	\$ 9,114.95
2450.010	Piling: All types											
	Pilings	400 yds.	\$	175.00	\$ 70,000.00				\$ -		\$ 175.00	\$ 70,000.00
	Haul Spoils	500 yds.			\$ -	\$ 5.00 yd		500	\$ 2,500.00	\$ 1,400.00	\$ 7.80	\$ 3,900.00
2510.010	Utility Water											
	Backflow Preventer	1 ea.	\$	4,500.00	\$ 4,500.00	\$ 2,000.00 ea.		1	\$ 2,000.00		\$ 6,500.00	\$ 6,500.00
	Impact Fee	1 ea.			\$ -				\$ -		\$ -	\$ -
	Meter + Tap	1 ea.	\$	2,800.00	\$ 2,800.00				\$ -		\$ 2,800.00	\$ 2,800.00
2560.010	Utility Sanitary											
	Sewer Tap	1 ea.	\$	450.00	\$ 450.00	\$ 150.00 ea.		1	\$ 150.00		\$ 600.00	\$ 600.00
	Sewer Tap Fee	1 ea.	\$	1,100.00	\$ 1,100.00				\$ -		\$ 1,100.00	\$ 1,100.00
	Grinder Pump	1 ea.	\$	4,550.00	\$ 4,550.00	\$ 1,000.00 ea.		1	\$ 1,000.00		\$ 5,550.00	\$ 5,550.00
	Lift Station	1 ea.	\$	3,044.00	\$ 3,044.00	\$ 650.00 ea.		1	\$ 650.00		\$ 3,694.00	\$ 3,694.00
	Impact Fee	1 ea.	\$	4,000.00	\$ 4,000.00				\$ -		\$ 4,000.00	\$ 4,000.00
2630.010	Drainage: Site Structures											
	Downspout boots	18 ea.	\$	300.00	\$ 5,400.00						\$ 300.00	\$ 5,400.00
	Trench Drainage	25 L.F.	\$	185.00	\$ 4,625.00						\$ 185.00	\$ 4,625.00
	French Drain	25 L.F.	\$	125.00	\$ 3,125.00						\$ 125.00	\$ 3,125.00
	Storm Water Piping	325 L.F.	\$	150.00	\$ 48,750.00						\$ 150.00	\$ 48,750.00
	Catch Basins	12 ea.	\$	750.00	\$ 9,000.00						\$ 750.00	\$ 9,000.00

2750.030 Paving: Sidewalks														
Fine Grade: Walks	20000 S.F.	\$	0.10	\$	2,000.00	\$	0.10 S.F.	20000	\$	2,000.00	\$	0.20	\$	4,000.00
Form Edge 2x4	1000 Ln. Ft.	\$	1.50	\$	1,500.00	\$	1.50 Ln. Ft.	1000	\$	1,500.00	\$	3.00	\$	3,000.00
Strip/Oil Forms - Edge Forms	500 S.F.	\$	0.02	\$	10.00	\$	0.08 S.F.	500	\$	40.00	\$	0.10	\$	50.00
Finish Walks	20000 S.F.	\$	0.05	\$	1,000.00	\$	0.05 S.F.	20000	\$	1,000.00	\$	0.10	\$	2,000.00
Cure Walks	20000 S.F.	\$	0.03	\$	600.00	\$	0.02 S.F.	20000	\$	400.00	\$	0.05	\$	1,000.00
Detectable Warning Surface	65 S.F.	\$	20.00	\$	1,300.00	\$	5.00 S.F.	65	\$	325.00	\$	25.00	\$	1,625.00
Walk Concrete	40 Cu. Yd.	\$	115.00	\$	4,600.00	\$	5.00 Cu. Yd.	40	\$	200.00	\$	120.00	\$	4,800.00
2750.035 Paving: Concrete														
Fine Grade: Exterior Paving	920 S.F.	\$	0.10	\$	92.00	\$	0.10 S.F.	920	\$	92.00	\$	0.20	\$	184.00
Form Edge 2x8	150 Ln.Ft.	\$	2.00	\$	300.00	\$	1.50 Ln. Ft.	150	\$	225.00	\$	3.50	\$	525.00
Premolded Expansion Jt - 4"	1050 Ln.Ft.	\$	0.92	\$	966.00	\$	0.90 Ln. Ft.	1050	\$	945.00	\$	1.82	\$	1,911.00
Premolded Expansion Jt - 8"	35 Ln.Ft.	\$	0.92	\$	32.20	\$	0.90 Ln. Ft.	35	\$	31.50	\$	1.82	\$	63.70
Strip/Oil Forms - Edge Forms	150 S.F.	\$	0.02	\$	3.00	\$	0.08 S.F.	150	\$	12.00	\$	0.10	\$	15.00
SOG Exterior-Dowel:Drill&epoxy	25 Ea.	\$	4.00	\$	100.00	\$	4.00 Ea.	25	\$	100.00	\$	8.00	\$	200.00
On Grade Access: Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.25 S.F.	1500	\$	375.00	\$	0.30	\$	450.00
Finish Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.05 S.F.	1500	\$	75.00	\$	0.10	\$	150.00
Cure SOG Exterior	1500 S.F.	\$	0.03	\$	45.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.05	\$	75.00
Gravel: Paving	28 ton	\$	115.00	\$	3,220.00	\$	3.00 ton	28	\$	84.00	\$	118.00	\$	3,304.00
Exterior Paving Concrete	25 Cu.Yd.	\$	115.00	\$	2,875.00	\$	5.00 Cu. Yd.	25	\$	125.00	\$	120.00	\$	3,000.00
Concrete Sawing	20 Ln.Ft.			\$	-	\$	1.00 Ln.Ft.	20	\$	20.00	\$	1.00	\$	20.00
2750.500 Paving: Steps on Grade														
Fine Grade: Stairs	1500 S.F.			\$	-	\$	0.10 S.F.	1500	\$	150.00	\$	0.10	\$	150.00
Forms - Stair Forms (on grade)	80 S.F.	\$	2.50	\$	200.00	\$	4.00 S.F.	80	\$	320.00	\$	6.50	\$	520.00
Strip/Oil Forms - Edge Forms	80 S.F.	\$	0.08	\$	6.40	\$	0.02 S.F.	80	\$	1.60	\$	0.10	\$	8.00
Stair Rebar	1000 lb	\$	0.52	\$	520.00	\$	0.18 lb	1000	\$	180.00	\$	0.70	\$	700.00
Finish Stairs	1500 S.F.			\$		\$	0.40 S.F.	1500	\$	600.00	\$	0.40	\$	600.00
P & P stairs	1500 S.F.	\$	0.05	\$	75.00	\$	0.35 S.F.	1500	\$	525.00	\$	0.40	\$	600.00
Rub Stairs on Grade	1500 S.F.	\$	0.15	\$	225.00	\$	0.20 S.F.	1500	\$	300.00	\$	0.35	\$	525.00
Cure Stairs	1500 S.F.	\$	0.02	\$	30.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.04	\$	60.00
Stair Concrete	12 Cu.Yd.	\$	115.00	\$	1,380.00	\$	5.00 Cu. Yd.	12	\$	60.00	\$	120.00	\$	1,440.00
2760.010 Paving: Asphalt														
Asphalt	30 Cu.Yd.	\$	351.00	\$	10,530.00	\$			\$	-	\$	351.00	\$	10,530.00
Asphalt Sub bond				\$	-						\$		\$	-
2760.030 Paving: Parking Lines														
Striping:	1 L.S.	\$	1,500.00	\$	1,500.00	\$			\$	-	\$	1,500.00	\$	1,500.00
2760.040 Paving: Wheel Stops														
Wheel Stops	6 Ea.	\$	53.00	\$	318.00	\$			\$	-	\$	53.00	\$	318.00
2770.010 Paving: Curb & Gutter														
Curb & Gutter 18"	550 Ln.Ft.	\$	29.47	\$	16,208.50	\$			\$	-	\$	29.47	\$	16,208.50
2820.010 Improvements: Fencing														
Fence: ornamental metal	75 Ln. Ft.	\$	170.00	\$	12,750.00	\$			\$	-	\$	170.00	\$	12,750.00
2840.050 Improvements: Bollards / Rails														
Pipe Bollards Steel Pipe 6"	18 Ea.	\$	90.00	\$	1,620.00	\$	20.00 Ea.	8	\$	160.00	\$	98.89	\$	1,780.00
2890.010 Improvements: Traffic Signs														
Traffic	4 ea.	\$	150.00	\$	600.00	\$			\$	-	\$	150.00	\$	600.00
Handicap Parking Sign	2 ea.	\$	100.00	\$	200.00	\$			\$	-	\$	100.00	\$	200.00
2900.010 Landscape: General														
Sodding	189891 S.F.	\$	0.50	\$	94,945.50	\$			\$	-	\$	0.50	\$	94,945.50

Landscaping

1 L.S.	\$	48,000.00	\$	48,000.00	\$	-	\$	48,000.00	\$	48,000.00
			\$	388,804.90	\$	426,432.70	\$	5,400.00	\$	820,637.60

Sitework

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 3	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
	3000.000 Concrete											
	Mini Ex & fuel		3 mo.	\$ 1,980.00	\$ 5,940.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,140.00
	Bobcat & fuel		3 mo.	\$ 2,000.00	\$ 6,000.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,200.00
3000.010	Crushed Stone											
	Gravel Fill		200 ton	\$ 30.00	\$ 6,000.00	\$ 15.00	ton	200	\$ 3,000.00			\$ 9,000.00
	Vapor Barrier		68000 S.F.	\$ 0.16	\$ 10,880.00	\$ 0.05	S.F.	68000	\$ 3,400.00			\$ 14,280.00
3110.120	Forms: Footings											
	Footing Forms		7500 S.F.	\$ 2.00	\$ 15,000.00	\$ 2.50	S.F.	7500	\$ 18,750.00			\$ 33,750.00
	Footing Steps		2 Ea.	\$ 250.00	\$ 500.00	\$ 45.00	Ea.	2	\$ 90.00			\$ 590.00
	Keyway in Footing		1200 Ln.Ft.	\$ 0.50	\$ 600.00	\$ 1.25	Ln.Ft.	1200	\$ 1,500.00			\$ 2,100.00
	Form Sump Pit		1 ea.	\$ 100.00	\$ 100.00	\$ 200.00	ea.	1	\$ 200.00			\$ 300.00
	Anchor Bolts		450 Ea.			\$ 6.00	Ea.	450	\$ 2,700.00			\$ 2,700.00
	Anchor Bolts Templates		113 Ea.	\$ 6.00	\$ 678.00	\$ 7.50	Ea.	113	\$ 847.50			\$ 1,525.50
3110.140	Pier Forms - Plywood											
	Pier Forms - Plywood		2800 S.F.	\$ 2.50	\$ 7,000.00	\$ 3.00	S.F.	2800	\$ 8,400.00			\$ 15,400.00
3110.140	Retaining Wall Forms: Plywood											
	Retaining Wall Forms Plywood		1000 S.F.	\$ 2.50	\$ 2,500.00	\$ 2.00	S.F.	1000	\$ 2,000.00			\$ 4,500.00
3110.310	Forms: Walls - Foundation											
	Foundation Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Keyway		8 Ln.Ft.	\$ 1.25	\$ 10.00	\$ 1.25	Ln.Ft.	8	\$ 10.00			\$ 20.00
	Form Ends (LF)		200 Ln.Ft.	\$ 3.00	\$ 600.00	\$ 3.00	Ln.Ft.	200	\$ 600.00			\$ 1,200.00
3110.360	Forms: Walls - Miscellaneous											
	Miscellaneous Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Chamfer		45 Ln.Ft.	\$ 0.65	\$ 29.25	\$ 0.75	Ln.Ft.	45	\$ 33.75			\$ 63.00
	Form Keyway		6 Ln.Ft.	\$ 0.50	\$ 3.00	\$ 1.25	Ln.Ft.	6	\$ 7.50			\$ 10.50
	Form Ends (LF)		6 Ln.Ft.	\$ 3.00	\$ 18.00	\$ 3.00	Ln.Ft.	6	\$ 18.00			\$ 36.00
3110.370	Forms: Walls - Pit											
	Pit Wall Forms - Plywood		180 S.F.	\$ 2.00	\$ 360.00	\$ 2.00	S.F.	180	\$ 360.00			\$ 720.00
	Form Keyway		22 Ln.Ft.	\$ 0.50	\$ 11.00	\$ 1.25	Ln.Ft.	22	\$ 27.50			\$ 38.50
3110.390	Forms: Columns											
	Column Forms - 3/4" plywood		220 S.F.	\$ 5.00	\$ 1,100.00	\$ 7.00	S.F.	220	\$ 1,540.00			\$ 2,640.00
	Chamfer Strips		130 Ln.Ft.	\$ 0.65	\$ 84.50	\$ 0.75	Ln.Ft.	130	\$ 97.50			\$ 182.00
	Temporary Braces		8 Ea.	\$ 10.00	\$ 80.00	\$ 10.00	Ea.	8	\$ 80.00			\$ 160.00
3110.460	Forms: Slab on Grade (misc)											
	Form Edge 2x8		1180 Ln.Ft.	\$ 1.85	\$ 2,183.00	\$ 1.50	Ln.Ft.	1180	\$ 1,770.00			\$ 3,953.00
	Form Construction Joint		455 Ln.Ft.	\$ 1.85	\$ 841.75	\$ 1.50	Ln.Ft.	455	\$ 682.50			\$ 1,524.25
	Panel Notch		1200 Ln.Ft.	\$ 1.50	\$ 1,800.00	\$ 1.50	Ln.Ft.	1200	\$ 1,800.00			\$ 3,600.00
	Form Depress Slab		101 Ln.Ft.	\$ 2.00	\$ 202.00	\$ 2.00	Ln.Ft.	101	\$ 202.00			\$ 404.00
	Premoldeded Expansion Joint		563 S.F.	\$ 0.92	\$ 517.96	\$ 0.90	S.F.	563	\$ 506.70			\$ 1,024.66
	Form Keyway @const. Joints		455 Ln.Ft.	\$ 0.50	\$ 227.50	\$ 1.25	Ln.Ft.	455	\$ 568.75			\$ 796.25
	Isolation Jt: 8" filler		1100 Ln.Ft.	\$ 0.92	\$ 1,012.00	\$ 0.90	Ln.Ft.	1100	\$ 990.00			\$ 2,002.00
3110.900	Forms Strip and Oil											
	Strip and Oil - Footings		12500 S.F.	\$ 0.02	\$ 250.00	\$ 0.08	S.F.	12500	\$ 1,000.00			\$ 1,250.00
	Strip and Oil - Walls		10500 S.F.	\$ 0.02	\$ 210.00	\$ 0.08	S.F.	10500	\$ 840.00			\$ 1,050.00
	Strip and Oil - Columns		215 S.F.	\$ 0.02	\$ 4.30	\$ 0.08	S.F.	215	\$ 17.20			\$ 21.50
	Strip and Oil - Piers		1653 S.F.	\$ 0.02	\$ 33.06	\$ 0.08	S.F.	1653	\$ 132.24			\$ 165.30

Strip and Oil - Edge Forms	12500 S.F.	\$	0.02	\$	250.00	\$	0.08 S.F.	12500	\$	1,000.00	\$	1,250.00
3111.700 Forms: Blockouts												
Column Blockouts	1092 Ln.Ft.	\$	1.75	\$	1,911.00	\$	1.75 Ln.Ft.	1092	\$	1,911.00	\$	3,822.00
3150.070 Forms: Chamfer Strip												
Chamfer Strips - Pier	480 Ln.Ft.	\$	0.65	\$	312.00	\$	0.75 Ln.Ft.	480	\$	360.00	\$	672.00
3150.100 Accessory: Waterstop												
Waterstop - Rubber	585 Ln.Ft.	\$	4.50	\$	2,632.50	\$	1.50 Ln.Ft.	585	\$	877.50	\$	3,510.00
3210.050 Rebar: General												
Rebar - Labor & materials (tons)	40 Ton	\$	947.00	\$	37,880.00	\$	415.00 Ton	40	\$	16,600.00	\$	54,480.00
Wiremesh	50000 S.F.	\$	0.08	\$	4,000.00	\$	0.18 S.F.	50000	\$	9,000.00	\$	13,000.00
3230.200 Rebar: Accessories												
On Grade Access: SOG Misc	35000 S.F.	\$	0.18	\$	6,300.00	\$	0.08 S.F.	35000	\$	2,800.00	\$	9,100.00
3310.120 Concrete: Footings												
Footing Concrete	48 Cu.Yd.	\$	115.00	\$	5,520.00	\$	8.00 Cu.Yd.	48	\$	384.00	\$	5,904.00
3310.140 Concrete: Piers												
Pier Concrete	75 Cu.Yd.	\$	115.00	\$	8,625.00	\$	8.00 Cu.Yd.	75	\$	600.00	\$	9,225.00
3310.310 Concrete: Walls - Retaining												
Retaining Wall Concrete	Cu.Yd.	\$	115.00	\$	-	\$	15.00 Cu.Yd.	0	\$	-	\$	-
3310.330 Concrete: Walls - Foundation												
Foundation Wall Concrete	35 Cu.Yd.	\$	115.00	\$	4,025.00	\$	15.00 Cu.Yd.	35	\$	525.00	\$	4,550.00
3310.360 Concrete Walls - Misc.												
Misc. Wall concrete	5 Cu.Yd.	\$	115.00	\$	575.00	\$	15.00 Cu.Yd.	5	\$	75.00	\$	650.00
3310.370 Concrete Walls - Pit												
Pit Wall concrete	3.25 Cu.Yd.	\$	115.00	\$	373.75	\$	15.00 Cu.Yd.	3.25	\$	48.75	\$	422.50
3310.390 Concrete: Columns												
Column Concrete	15 Cu.Yd.	\$	115.00	\$	1,725.00	\$	25.00 Cu.Yd.	15	\$	375.00	\$	2,100.00
3310.420 Concrete: Pads and Aprons												
Miscellaneous Pads	20 Cu.Yd.	\$	115.00	\$	2,300.00	\$	8.00 Cu.Yd.	20	\$	160.00	\$	2,460.00
3310.460 Concrete: Slabs on Grade												
Concrete Ramp	30 Cu.Yd.	\$	115.00	\$	3,450.00	\$	8.00 Cu.Yd.	30	\$	240.00	\$	3,690.00
Slab on Grade Misc. Concrete	1000 Cu.Yd.	\$	115.00	\$	115,000.00	\$	8.00 Cu.Yd.	1000	\$	8,000.00	\$	123,000.00
3310.500 Concrete: Slab on Metal Deck												
Concrete SOM	110 Cu.Yd.	\$	115.00	\$	12,650.00	\$	5.00 Cu.Yd.	110	\$	550.00	\$	13,200.00
3310.620 Concrete: Fill Pan Stairs												
Concrete Fill Pan Stairs	3 Cu.Yd.	\$	115.00	\$	345.00	\$	50.00 Cu.Yd.	3	\$	150.00	\$	495.00
3310.640 Concrete: Bollards												
Bollard Concrete	1 Cu.Yd.	\$	115.00	\$	115.00	\$	12.00 Cu.Yd.	1	\$	12.00	\$	127.00
3310.950 Concrete: Pumping												
Pumping (cu yds)	1345.25 Cu.Yd.					\$	4.00 Cu.Yd.	1345.25	\$	5,381.00	\$	5,381.00
Pumping (hrs)	115 hr.					\$	165.00 Hr.	115	\$	18,975.00	\$	18,975.00
Pumping (prime packs)	60 Ea.	\$	25.00	\$	1,500.00						\$	1,500.00
3350.100 Finish: General												
Finish Misc. Slab on Grade	35000 S.F.	\$	0.90	\$	31,500.00	\$	0.90 S.F.	35000	\$	31,500.00	\$	63,000.00
Finish Slab on Metal Deck	75000 S.F.	\$	0.15	\$	11,250.00	\$	1.00 S.F.	75000	\$	75,000.00	\$	86,250.00
Finish Footing	5200 S.F.	\$	0.15	\$	780.00	\$	0.15 S.F.	5200	\$	780.00	\$	1,560.00
Finish Wall Top Pit	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Retaining	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Foundation	200 S.F.	\$	1.00	\$	200.00	\$	1.00 S.F.	200	\$	200.00	\$	400.00
Finish Wall Top Misc.	4 Ln.Ft.	\$	1.00	\$	4.00	\$	1.00 Ln.Ft.	4	\$	4.00	\$	8.00

Finish Column Top	50 Ea.	\$	5.00	\$	250.00	\$	5.00	Ea.	50	\$	250.00	\$	500.00
Stair Finish	150 S.F.	\$	3.50	\$	525.00	\$	3.50	S.F.	150	\$	525.00	\$	1,050.00
3350.200 Finish: Protect and Cure				\$	-								
Curing Compound	116000 S.F.	\$	0.04	\$	4,640.00	\$	0.02	S.F.	116000	\$	2,320.00	\$	6,960.00
Cure Slab on Grade	72000 S.F.	\$	0.04	\$	2,880.00	\$	0.02	S.F.	72000	\$	1,440.00	\$	4,320.00
3350.400 Finish: Point Patch & Rub				\$	-								
P & P Walls	10000 S.F.	\$	0.15	\$	1,500.00	\$	0.25	S.F.	10000	\$	2,500.00	\$	4,000.00
P & P Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.25	S.F.	20000	\$	5,000.00	\$	8,000.00
Rub Retaining Walls	5000 S.F.	\$	0.15	\$	750.00	\$	0.85	S.F.	5000	\$	4,250.00	\$	5,000.00
Rub Exposed Foundation	25000 S.F.	\$	0.15	\$	3,750.00	\$	0.85	S.F.	25000	\$	21,250.00	\$	25,000.00
Rub Misc. Walls/ Foundation Walls	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
Rub Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.85	S.F.	20000	\$	17,000.00	\$	20,000.00
Rub, Cut, and Patch - Pier	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
3360.500 Misc: Saw Concrete													
Saw new concrete	75 Ln.Ft.	\$	1.00	\$	75.00	\$	1.00	Ln.Ft.	75	\$	75.00	\$	150.00
3450.010 Pre Cast Concrete Panels													
Pre Cast Concrete Panels	63410 S.F.	\$	30.00	\$	1,902,300.00							\$	1,902,300.00
3600.100 Grout													
Grout	20 Cu.Ft.	\$	35.00	\$	700.00	\$	14.50	Cu.Ft.	20	\$	290.00	\$	990.00
				\$	2,247,012.57					\$	293,423.39	\$	2,540,435.96

Concrete

Hunter Henderson	New McCarthy Gym Design 1											
Date												

Level	Division 4	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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4000.000 Masonry

04 00 00.00	Masonry												
04 21 13.13	CMU		4800 S.F.	\$2.59	\$12,432.00	\$4.99 S.F.		4800 S.F.		\$23,952.00		\$7.58	\$36,384.00
04 72 20.10	Cast Stone Masonry												
	Cultured Stone Veneer		2078.6 S.F.	\$9.70	\$20,162.42	\$29.00		2078.6 S.F.		\$60,279.40		\$38.70	\$80,441.82
	Masonry				\$32,594.42					\$84,231.40			\$116,825.82

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 5	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

5000.000 Metals

5000.010 **GENERAL**

W8x17x22'	3036 L.F.	\$	29.00	\$	88,044.00	\$	5.20 L.F.	2772	\$	14,414.40	\$	33.75	\$	102,458.40	
12x12 Column	110.25 L.F.	\$	108.25	\$	11,934.56	\$	6.07 L.F.	110.25	\$	669.22	\$	114.32	\$	12,603.78	
15x24 Column 31'	248 L.F.	\$	118.75	\$	29,450.00	\$	6.25 L.F.	248	\$	1,550.00	\$	125.00	\$	31,000.00	
15x18 Column 17.5'	140 L.F.	\$	112.75	\$	15,785.00	\$	6.25 L.F.	140	\$	875.00	\$	119.00	\$	16,660.00	
W6x9x16'	3392 L.F.	\$	9.90	\$	33,580.80	\$	5.15 L.F.	3392	\$	17,468.80	\$	15.05	\$	51,049.60	
ST 4x4	1784 L.F.	\$	34.06	\$	60,763.04	\$	3.34 L.F.	1784	\$	5,958.56	\$	37.40	\$	66,721.60	
ST 5x5	144 L.F.	\$	36.25	\$	5,220.00	\$	3.38 L.F.	144	\$	486.72	\$	39.63	\$	5,706.72	
1'x1.5'x16 Rectangle Tubing	320 L.F.	\$	143.62	\$	45,958.40	\$	7.60 L.F.	320	\$	2,432.00	\$	151.22	\$	48,390.40	
Roof Side Support Beam	160 L.F.	\$	37.28	\$	5,964.80	\$	4.13 L.F.	160	\$	660.80	\$	41.41	\$	6,625.60	
W8x24x22'	528 L.F.	\$	26.37	\$	13,923.36	\$	5.20 L.F.	528	\$	2,745.60	\$	31.57	\$	16,668.96	
16BG	12042 L.F.	\$	14.15	\$	170,394.30	\$	2.23 L.F.	12042	\$	26,853.66	\$	16.38	\$	197,247.96	
2'x1'	1021 L.F.	\$	176.24	\$	179,941.04	\$	6.76 L.F.	1021	\$	6,901.96	\$	183.00	\$	186,843.00	
Cross Beams	910 L.F.	\$	76.27	\$	69,405.70	\$	6.84 L.F.	910	\$	6,224.40	\$	83.11	\$	75,630.10	
Metal Decking	67248 S.F.	\$	4.68	\$	314,720.64	\$	0.67 S.F.	67248	\$	45,056.16	\$	5.35	\$	359,776.80	
Steel Bond			2%	\$	23,547.66								\$	23,547.66	
Crane Rental - Setup	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00
Crane Rental - Fee	2.5 Mo.	\$	50,000.00							\$	125,000.00	\$	50,000.00	\$	125,000.00
Crane Rental - Operator	2.5 Mo.	\$	10,000.00							\$	25,000.00	\$	10,000.00	\$	25,000.00
Crane Rental - Takedown	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00

5510.000 **Metal Floor Plate Stairs**

Metal Floor Plate Stairs	120 Steps		890	\$	106,800.00	\$	90.50 Steps	120	\$	10,860.00	\$	1,078.55	\$	129,426.00
Metal Stair Nosings	120 Steps		42.5	\$	5,100.00	\$	2.70 Steps	120	\$	324.00	\$	49.72	\$	5,966.40

5500.010 **MISC. METALS**

MISC. METALS	1 L.S.		189647	\$	189,647.00						\$	189,647.00	\$	189,647.00
Metals				\$	1,370,180.30				\$	143,481.28	\$	250,000.00		\$ 1,775,969.98

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 6	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

6000.000 Wood and Plastics

6117.020 **Blocking Misc.**

Misc. Blocking

80000 Ln.Ft. \$ 0.68 \$ 54,400.00 \$ 0.75 Ln.Ft. 80000 \$ 60,000.00 \$ 114,400.00

6260.001 **Arch. Wood Work: General**

Millwork - Sub

1 L.S. \$ 50,000.00 \$ 50,000.00 \$ 50,000.00

Wood and Plastics

\$ 104,400.00 \$ 60,000.00 \$ 164,400.00

Hunter Henderson		New McCarthy Gym Design 1										
Date												
Level	Division 7	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
7000.000 Thermal/Moisture Protection												
7110.010	Damproofing/Caulk/Waterproofing											
	Damproofing/Caulk/Waterproofing		1 L.S.	\$ 157,256.00	\$ 157,256.00						\$ 157,256.00	\$ 157,256.00
	Expansion Joint Control - Floor EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.36	L.F.	150	\$ 1,704.00		\$ 74.25	\$ 11,137.50
	Expansion Joint Control - Ceiling EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.36	L.F.	150	\$ 1,704.00		\$ 74.25	\$ 11,137.50
	Expansion Joint Control - Wall EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.91	L.F.	150	\$ 1,786.50		\$ 74.80	\$ 11,220.00
7300.010	Roofing: General											
	TPO Roofing		750 Sq.	\$ 78.00	\$ 58,500.00	\$ 75.00	Sq.	65.5	\$ 49,125.00	\$ 1,000.00	\$ 144.83	\$ 108,625.00
	Roofing Insulation		78426 S.F.	\$ 1.02	\$ 79,994.52	\$ 0.26	S.F.	76000	\$ 19,760.00		\$ 1.27	\$ 99,754.52
	Vapor Barrier		784.26 Sq	\$ 21.00	\$ 16,469.46	\$ 0.75	Sq.	784.26	\$ 588.20		\$ 21.75	\$ 17,057.66
	Gym Roof Steel		24562 S.F.	\$ 3.03	\$ 74,422.86	\$ 1.72	S.F.	24562	\$ 42,246.64		\$ 5.94	\$ 145,836.88
	Shake Roofing		850 Sq.	\$ 286.00	\$ 243,100.00	\$ 176.00	Sq.	850	\$ 149,600.00		\$ 577.50	\$ 490,875.00
7210.030	Sprayed Insulation											
	Sprayed Insulation		68334.24 C.F.	\$ 2.83	\$ 193,385.90	\$ 0.88	C.F.	68334.24	\$ 60,134.13	\$ 38,950.52	\$ 5.35	\$ 365,588.18
7213.010	Thermal Insulation											
	Extruded Polystyrene Walls		63410.00 S.F.	\$ 1.61	\$ 102,090.10	\$ 0.57	S.F.	63410	\$ 36,143.70		\$ 2.73	\$ 172,792.25
7410.050	Siding Panels: General											
	Formed Metal Wall Panels		63410 S.F.	\$ 5.41	\$ 343,048.10	\$ 2.11	S.F.	63410	\$ 133,795.10		\$ 7.52	\$ 476,843.20
7810.010	Fireproofing: General											
	Firestopping		1 L.S.	\$ 80,000.00	\$ 80,000.00						\$ 80,000.00	\$ 80,000.00
	Thermal/Moisture Protection				\$ 1,376,567.44				\$ 496,587.27	\$ 39,950.52		\$ 2,148,123.68

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 8	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

Division 8000.00 Doors & Windows

8100.010 **Doors, Frames, and Hardware**

HM Glass Door and Frame	16 ea.	\$ 1,800.00	\$ 28,800.00	\$ 200.00 ea.	16 \$ 3,200.00	\$ 32,000.00
HM Glass Door with Lite	17 ea.	\$ 1,950.00	\$ 33,150.00	\$ 250.00 ea.	17 \$ 4,250.00	\$ 37,400.00
HM Glass Double Door	10 ea.	\$ 3,600.00	\$ 36,000.00	\$ 500.00 ea.	10 \$ 5,000.00	\$ 41,000.00
Solid Doors	52 ea.		\$ -	\$ 100.00 ea.	52	\$ -
Door Sub Bond		2.5%	\$ 2,760.00			\$ 2,760.00

8400.000 **Metal Framed Storefronts**

Curtain Wall	15526.93 s.f.	\$ 204.00	\$ 3,167,493.72	\$ 10.55	15526.93 \$ 163,809.11	\$ 6,600.00	\$ 3,331,302.83
Curtain Wall Bond		2%	\$ 63,349.87				\$ 63,349.87
Storefronts	11661.75 S.F.	\$ 81.00	\$ 944,601.75	\$ 6.90	11661.75 \$ 80,466.08		\$ 1,025,067.83
Glass handrails	999 L.F.	\$ 145.00	\$ 144,855.00	\$ 50.00	999 \$ 49,950.00		\$ 194,805.00

Skylight

Pyramid Skylights	765 S.F.	\$ 125.00	\$ 95,625.00	\$ 18.50 S.F.	765 \$ 14,152.50		\$ 109,777.50
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Doors & Windows

			\$ 4,276,155.34		\$ 320,827.69	\$ 6,600.00	\$ 4,532,880.53
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Hunter Henderson	New McCarthy Gym Design 1										
Date											

Level	Division 9	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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9000.000 General Requirements

9105.010	Plaster and Stucco											
	Lath Plaster and Stucco Sub	1	L.S.	\$ 50,000.00	\$ 50,000.00			1				\$ 50,000.00
	Lath Plaster and Stucco Bond			1.5%	\$ 750.00			0				\$ 750.00
9220.010	Non-Structural Metal Framing											
	Metal Stud Framing	68334.24	S.F.	\$ 0.40	\$ 27,333.70	\$ 13.76	S.F.	68334.24	\$ 940,279.14			\$ 967,612.84
	Stud Framing Sub Bond			2%	\$ 19,352.26							\$ 19,352.26
9290.010	Gypsum Board Panels											
	Gypsum Board Panels	136668.48	S.F.	\$ 0.45	\$ 61,500.82	\$ 1.07	S.F.	136668.48	\$ 146,235.27			\$ 207,736.09
9313.010	Thin-Set Stone Tiling											
	20"x20" Tile	2734	S.F.	\$ 7.15	\$ 19,549.65	\$ 2.63	S.F.	2734.217	\$ 7,190.99			\$ 26,740.64
9510.010	Ceiling Acoustical Metal Pan											
	Ceiling Acoustical Metal Pan	73690		\$ 13.90	\$ 1,024,291.00	\$ 0.83		73690	\$ 61,162.70			\$ 1,085,453.70
	Ceiling Sub Bond			2%	\$ 21,709.07							\$ 21,709.07
9660.010	Flooring: General											
	Flooring Terrazo	34478.75	S.F.	\$ 28.00	\$ 965,405.00	\$ 14.65	S.F.	34478.75	\$ 505,113.69			\$ 1,470,518.69
	Terrazo Sub Bond			2%	\$ 29,410.37							\$ 29,410.37
9650.010	Resilient Athletic Flooring											
	Resilient Athletic Flooring	26769.59	S.F.	\$ 3.67	\$ 98,244.40	\$ 1.24	S.F.	26769.59	\$ 33,194.29			\$ 131,438.69
	Athletic Flooring Sub Bond			2%	\$ 2,628.77							\$ 2,628.77
	VCT	10947.58	S.F.	\$ 9.40	\$ 102,907.25	\$ 4.13		10947.6				\$ 102,907.25
9640.010	Wood Flooring											
	Maple Gym Flooring	16461	S.F.	\$ 7.00	\$ 115,227.00	\$ 4.22		16461	\$ 69,465.42			\$ 184,692.42
	Gym Flooring Bond			2%	\$ 3,693.85							\$ 3,693.85
9680.010	Carpeting											
	Carpet Tile	1500.9	Yds	\$ 47.50	\$ 71,292.22	\$ 4.79	Yds	1500.9	\$ 7,189.26			\$ 71,292.22
	Floor Protection											
	Floor Protection	103690	S.F.	\$ 0.28	\$ 29,033.20	\$ 0.20	S.F.	103690	\$ 20,738.00			\$ 49,771.20
9620.000	Fluid Applied Flooring											
	Fluid applied athletic flooring	8583	S.F.	\$ 6.50	\$ 55,789.50	\$ 7.65	S.F.	8583	\$ 65,659.95			\$ 121,449.45
9900.010	Paints & Coatings: General											
	Painting Subcontractor	178668.48	L.S.	\$ 0.20	\$ 35,733.70	\$ 0.41	S.F.	178668.48	\$ 73,254.08			\$ 125,335.94
	Painting Sub Bond			1%	\$ 357.34							\$ 357.34
	Finishes				\$ 2,734,209.09				\$ 1,929,482.79			\$ 4,672,850.79

Hunter Henderson	New McCarthy Gym Design 1											
Date												

Level	Division 10	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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10000.000 Specialties

10000.010	Emergency Key Cabinet											
	Emergency Key Cabinet		1 ea.	\$ 585.00	\$ 585.00	\$ 50.00	ea.	1	\$ 50.00		\$ 635.00	\$ 635.00
10100.010	Visual Display Boards											
	Visual Display Surfaces		8 ea.	\$ 170.00	\$ 1,360.00	\$ 60.00	ea.	8	\$ 480.00		\$ 230.00	\$ 1,840.00
	Projectors		8 ea.	\$ 850.00	\$ 6,800.00	\$ 150.00	ea.	8	\$ 1,200.00		\$ 1,000.00	\$ 8,000.00
10610.010	Plastic Toilet Compartments											
	Plastic Toilet Compartments		41 ea.	\$ 700.00	\$ 28,700.00	\$ 125.00	ea.	41	\$ 5,125.00		\$ 825.00	\$ 33,825.00
10420.010	Plaque Metal Cased											
	Plaque Metal Cased		1 ea.	\$ 2,955.00	\$ 2,955.00	\$ 150.00	ea.	1	\$ 150.00		\$ 3,105.00	\$ 3,105.00
10430.010	Signs and Letters											
	Exterior Dimensional Letters		40 ea.	\$ 150.00	\$ 6,000.00	\$ 10.00	ea.	1	\$ 10.00		\$ 150.25	\$ 6,010.00
	Interior Door Signage		75 ea.	\$ 75.00	\$ 5,625.00	\$ 6.50	ea.	75	\$ 487.50		\$ 81.50	\$ 6,112.50
	Corner Guards		125 ea.	\$ 10.00	\$ 1,250.00	\$ 1.00	ea.	125	\$ 125.00		\$ 11.00	\$ 1,375.00
	Vinyl Graphics		1 L.S.	\$ 1,500.00	\$ 1,500.00		L.S.	1	\$ -		\$ 1,500.00	\$ 1,500.00
10500.010	Lockers											
	Lockers		60 ea.	\$ 345.00	\$ 20,700.00	\$ 135.00	ea.	60	\$ 8,100.00		\$ 480.00	\$ 28,800.00
10521.010	Fire Extinguishers Etc.											
	Fire extinguishers		24 ea.	\$ 50.00	\$ 1,200.00	\$ 5.00	ea.	24	\$ 120.00		\$ 55.00	\$ 1,320.00
	Fire extinguisher cabinets		24 ea.	\$ 100.00	\$ 2,400.00	\$ 35.00	ea.	24	\$ 840.00		\$ 135.00	\$ 3,240.00
10530.010	Protective Covers											
	Canopies - Sub		4891.8 S.F.	\$ 26.00	\$ 127,186.80			4891.8	\$ -		\$ 26.00	\$ 127,186.80
10800.010	Misc. Toilet/Bath Equipment											
	TP Dispensers		41 ea.	\$ 40.00	\$ 1,640.00	\$ 5.00	ea.	41	\$ 205.00		\$ 45.00	\$ 1,845.00
	Grab Handles		41 ea.	\$ 45.00	\$ 1,845.00	\$ 5.00	ea.	41	\$ 205.00		\$ 50.00	\$ 2,050.00
	Soap Dispensers - automatic		41 ea.	\$ 27.00	\$ 1,107.00	\$ 5.00	ea.	41	\$ 205.00		\$ 32.00	\$ 1,312.00
	Paper Towel Dispensers - auto		41 ea.	\$ 70.00	\$ 2,870.00	\$ 5.00	ea.	41	\$ 205.00		\$ 75.00	\$ 3,075.00
	Sanitary Napkin Disposal		41 ea.	\$ 125.00	\$ 5,125.00	\$ 5.00	ea.	41	\$ 205.00		\$ 130.00	\$ 5,330.00
	Mop Shelf		3 ea.	\$ 500.00	\$ 1,500.00	\$ 5.00	ea.	3	\$ 15.00		\$ 505.00	\$ 1,515.00
	Air Hand Dryers		41 ea.	\$ 280.00	\$ 11,480.00	\$ 20.00	ea.	41	\$ 820.00		\$ 300.00	\$ 12,300.00
	Mirrors		41 ea.	\$ 70.00	\$ 2,870.00	\$ 15.00	ea.	41	\$ 615.00		\$ 85.00	\$ 3,485.00
	Robe Hooks		41 ea.	\$ 2.00	\$ 82.00	\$ 1.00	ea.	41	\$ 41.00		\$ 3.00	\$ 123.00
	Specialties				\$ 234,780.80				\$ 19,203.50			\$ 253,984.30

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 11	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

11000.000 Equipment

11480.010 Equip: Sports/Therapeutic												
Gymnasium Equipment	1 L.S.	\$ 160,000.00	\$	160,000.00	\$	750.00 ea.		1	\$ 3,500.00			\$ 163,500.00
Equipment			\$	160,000.00					\$ 3,500.00			\$ 163,500.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 12	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

12000.000 Furnishings

12490.010 Window Treatments												
Blinds		250 ea.		150 \$	37,500.00 \$	15.00 ea.		250 \$	3,750.00		\$ 165.00	\$ 41,250.00
Furnishings				\$	37,500.00			\$	3,750.00			\$ 41,250.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 16	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

16000.000 Electrical

16000.010 **Electrical: Complete**

Electrical (Sq Ft.)	103690 S.F.	\$	33.50	\$	3,473,615.00							\$ 3,473,615.00
Electrical Bond			2%	\$	69,472.30							\$ 69,472.30
Pole Bases	1 L.S.		115	\$	115.00	\$	500.00	1	\$	500.00		\$ 615.00
Transformer Pad	1 L.S.		115	\$	115.00	\$	150.00	1	\$	150.00		\$ 265.00
	Electrical			\$	3,543,317.30				\$	650.00		\$ 3,543,967.30

Estimate Totals

Description	Amount	Totals	Rate	Cost Per Unit	Percent of Total	Building Sq. Ft.
Labor	\$ 4,088,935.01			\$ 39.43	10.5%	103,690
Material & Sub	\$ 25,783,154.35			\$ 248.66	66.4%	
Equipment	\$ 302,450.52			\$ 2.92	0.8%	
		\$ 30,174,539.87		\$ 291.01	77.7%	
Sales Tax: MS	\$ 912,996.17		3.5%	\$ 8.81	2.4%	
Taxes & Ins. On Labor	\$ 1,144,901.80		28%	\$ 11.04	2.9%	
Builders Risk	\$ 24,514.40		0.063%	\$ 0.24	0.1%	
Building Permit	\$ 61,368.08		0.203%	\$ 0.59	0.2%	
Bond	\$ 760,443.41		2.520%	\$ 7.33	2.0%	
		\$ 2,904,223.86		\$ 28.01	7.5%	
Overhead & Profit	\$ 1,984,725.82		6.0%	\$ 19.14	5.1%	
Construction Management Fee	\$ 1,323,150.55		4.0%	\$ 12.76	3.4%	
Electrical Engineering Fee	\$ 330,787.64		1.0%	\$ 3.19	0.9%	
Structural Engineering Fee	\$ 330,787.64		1.0%	\$ 3.19	0.9%	
Consulting Fees	\$ 165,393.82		0.5%	\$ 1.60	0.4%	
Architectural Fee	\$ 1,620,859.42		4.9%	\$ 15.63	4.2%	
		\$ 5,755,704.89		\$ 55.51	14.8%	
Total	\$ 38,834,468.62			\$ 374.52		
cut add	\$ 531.38					
Final Price	\$ 38,835,000.00			\$ 374.53		

Hunter Henderson	New McCarthy Gym Design 1												
Date													
Level	Division 1	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

1000.000 General Requirements

1110.020 Fees

Elevator Engineering Fees	Per Contract	2.5%
Landscaping and Site Development Fees	Per Contract	2.5%
Mechanical Engineering Fees	Per Contract	4.1%

1110.075 Renderings

Building Rendering	2 ea.	\$ 3,175.00
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1210.000 Allowances

Allowance 1 - Tree Moving	2 ea.	\$ 2,500.00	\$ 5,000.00	\$ 250.00 ea.	2 ea.	\$ 500.00	\$ 500.00	\$ 6,000.00
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1300.010 Personnel: Supervision

Superintendent		\$ 2,200.00 wk	61 wk.	\$ 134,200.00	\$ 2,200.00	\$ 134,200.00
Asst. Superintendent		\$ 1,500.00 wk	61 wk.	\$ 91,500.00	\$ 1,500.00	\$ 91,500.00

1310.020 Travel: All Types

Superintendent Per Diem		\$ 1,500.00 mo.	14 mo.	\$ 21,000.00	\$ 1,500.00	\$ 21,000.00
Asst. Superintendent Per Diem		\$ 1,500.00 mo.	14 mo.	\$ 21,000.00	\$ 1,500.00	\$ 21,000.00

1450.310 Testing

Misc. Testing	1 L.S.	\$ 5,000.00	\$ 5,000.00		\$ 5,000.00	\$ 5,000.00
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1450.410 Sample Panel

Mock Up	1 L.S.	\$ 8,000.00	\$ 8,000.00		\$ 8,000.00	\$ 8,000.00
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1510.010 Utilities: Temporary

Temp Electric Set Service	1 L.S.	\$ 500.00	\$ 500.00		\$ 500.00	\$ 500.00
Temp Electric	16 mo.	\$ 500.00	\$ 8,000.00		\$ 500.00	\$ 8,000.00
Mobile Phone/ Ipad	16 mo.	\$ 800.00	\$ 12,800.00		\$ 800.00	\$ 12,800.00
Temp Water Set Service	1 L.S.	\$ 300.00	\$ 300.00		\$ 300.00	\$ 300.00
Temp Water	16 mo.	\$ 400.00	\$ 6,400.00		\$ 400.00	\$ 6,400.00
Temp Toilet	16 mo.	\$ 380.00	\$ 6,080.00		\$ 380.00	\$ 6,080.00
Temp Tank	16 mo.	\$ 215.00	\$ 3,440.00		\$ 215.00	\$ 3,440.00
Fire Protection (extinguishers)	8 ea.	\$ 75.00	\$ 600.00		\$ 75.00	\$ 600.00

1510.020 Utilities: Final

Final Electricity	2 mo.	\$ 9,600.00	\$ 19,200.00		\$ 9,600.00	\$ 19,200.00
Final Gas	2 mo.	\$ 1,000.00	\$ 2,000.00		\$ 1,000.00	\$ 2,000.00
Final Water	2 mo.	\$ 500.00	\$ 1,000.00		\$ 500.00	\$ 1,000.00

1520.010 Temp: Facilities - Site

Temp Fence (Rent)	1500 lf	\$ 7.00	\$ 10,500.00		\$ 7.00	\$ 10,500.00
Temp Gates (Rent)	2 each	\$ 250.00	\$ 500.00		\$ 250.00	\$ 500.00
Temp Roads / Work Service	75 tons	\$ 38.00	\$ 2,850.00		\$ 38.00	\$ 2,850.00
Connex	14 mo.	\$ 110.00	\$ 1,540.00		\$ 110.00	\$ 1,540.00

1520.030 Temp: Office

Office trailer	16 mo.	\$ 1,200.00	\$ 19,200.00	\$ 910.00 L.S.	1	\$ 910.00	\$ 1,256.88	\$ 20,110.00
Food/Drink	16 mo.	\$ 250.00	\$ 4,000.00				\$ 250.00	\$ 4,000.00
Office Supplies	16 mo.	\$ 200.00	\$ 3,200.00				\$ 200.00	\$ 3,200.00
Office Equipment	1 L.S.	\$ 3,000.00	\$ 3,000.00				\$ 3,000.00	\$ 3,000.00
Printing & Shipping	1 L.S.	\$ 300.00	\$ 300.00				\$ 300.00	\$ 300.00
Project Sign	1 L.S.	\$ 650.00	\$ 650.00	\$ 55.00 ea.	1	\$ 55.00	\$ 705.00	\$ 705.00
Temporary Signage	1 L.S.	\$ 500.00	\$ 500.00				\$ 500.00	\$ 500.00
Internet	16 mo.	\$ 250.00	\$ 4,000.00				\$ 250.00	\$ 4,000.00

1562.010 Controls: Safety

Safety (PPE)	1 L.S.	\$ 800.00	\$ 800.00				\$ 800.00	\$ 800.00
Training	1 L.S.	\$ 1,500.00	\$ 1,500.00				\$ 1,500.00	\$ 1,500.00
Drug Tests	5 ea.	\$ 65.00	\$ 325.00				\$ 65.00	\$ 325.00

First Aid Equipment	1 L.S.	\$	2,000.00	\$	2,000.00				\$	2,000.00	\$	2,000.00		
1620.030 Layout														
Layout (Own)					\$	40.00	P.P.H.	20 Hours	\$	800.00	\$	40.00	\$	800.00
Layout (Sub)					\$	150.00	P.P.H.	100 Hours	\$	15,000.00	\$	150.00	\$	15,000.00

GENERAL REQUIREMENTS

1710.000 Tools, Equipment, & Cleanup

1710.010 Job Set Up															
Small Tools	16 mo.	\$	250.00	\$	4,000.00					\$	250.00	\$	4,000.00		
1710.020 Layout Equipment															
Layout Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
1710.030 General Equipment															
Truck & Fuel - Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
Truck & Fuel - Asst. Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
1710.070 Carpentry & Misc. Steel Equip.															
Welding Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Oxygen & Acetylene	1 L.S.	\$	250.00	\$	250.00					\$	250.00	\$	250.00		
1710.080 Material Handling Equipment															
Lull	16 mo.	\$	2,200.00	\$	35,200.00					\$	2,200.00	\$	35,200.00		
Fuel & oil	16 mo.	\$	400.00	\$	6,400.00					\$	400.00	\$	6,400.00		
1740.010 Clean Up															
Current Cleanup	1 L.S.	\$	200.00	\$	200.00					\$	200.00	\$	200.00		
Haul Dumpster	16 mo.	\$	500.00	\$	8,000.00					\$	500.00	\$	8,000.00		
Final Cleanup	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Clean Glass	1 L.S.	\$	800.00	\$	800.00					\$	800.00	\$	800.00		
General Requirements				\$	221,535.00					\$	307,365.00	\$	500.00	\$	529,400.00

Hunter Henderson		New McCarthy Gym Design 1										
Date												
Level	Division 2	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
2100.000 SITEWORK												
2240.010	Dewater: General											
	Dewatering All Types	300000 S.F.				\$ 0.01 S.F.		300000	\$ 3,000.00		\$ 0.01	\$ 3,000.00
2310.020	Earthwork: Site Grading											
	Sitework Grading	125000 S.F.				\$ 0.71 S.F.		125000	\$ 88,750.00		\$ 0.71	\$ 88,750.00
	Sitework Bond	1 L.S.		2%	\$ 1,331.25						\$ 1,331.25	\$ 1,331.25
2315.021	Earthwork Excavate Footing/Misc											
	Excavate Continuous Footing	65 yds.				\$ 7.00 yd		300	\$ 2,100.00	\$ 2,600.00	\$ 72.31	\$ 4,700.00
	Excavate Misc.	30 yds.				\$ 12.00 yd		20	\$ 240.00		\$ 8.00	\$ 240.00
	Hual Spoils	118.75 yds.				\$ 5.00 yd		360	\$ 1,800.00	\$ 1,400.00	\$ 26.95	\$ 3,200.00
	Shape & Grade Cont. Footing	600 S.F.				\$ 0.30 S.F.		600	\$ 180.00		\$ 0.30	\$ 180.00
2315.070	Backfill: Foot Wall Misc.											
	Backfill Earth Continurs Footing	75 yds.	\$	3.50	\$ 262.50	\$ 7.00 yd.		75	\$ 525.00		\$ 10.50	\$ 787.50
2320.010	Soil Poisoning/Pest Control											
	Soil Pest control	84506 S.F.	\$	0.10	\$ 8,450.60	\$ 0.15 S.F.		60000	\$ 9,000.00		\$ 0.21	\$ 17,450.60
2340.010	Soil Stablization/ Erosion Control											
	Silt Fence	800 L.F.	\$	0.50	\$ 400.00	\$ 1.00 L.F.		800	\$ 800.00		\$ 1.50	\$ 1,200.00
	Inlet Protection								\$ -		#DIV/0!	\$ -
2410.010	Demolition											
	Bleacher Concrete	12422 Cu. Ft.	\$			1,893.00 Day		31	\$ 58,683.00		\$ 4.72	\$ 58,683.00
	Brick Veneer	4619 S.F.	\$			1,300.90 Day		25	\$ 32,522.50		\$ 7.04	\$ 32,522.50
	Sidewalks	3032 Sq. Yd.	\$			1,300.90 Day		9	\$ 11,708.10		\$ 3.86	\$ 11,708.10
	North Exterior	3237 S.F.	\$			6.00 S.F.		3237	\$ 19,422.00		\$ 6.00	\$ 19,422.00
	South Exterior	20332 S.F.	\$			6.00 S.F.		20332	\$ 121,992.00		\$ 6.00	\$ 121,992.00
	Parking Pavement	13818 Sq. Yd.	\$			2,975.20 Day		20	\$ 59,504.00		\$ 4.31	\$ 59,504.00
	Bond			3%	\$ 9,114.95						\$	\$ 9,114.95
2450.010	Piling: All types											
	Pilings	400 yds.	\$	175.00	\$ 70,000.00				\$ -		\$ 175.00	\$ 70,000.00
	Haul Spoils	500 yds.	\$		\$ -	\$ 5.00 yd		500	\$ 2,500.00	\$ 1,400.00	\$ 7.80	\$ 3,900.00
2510.010	Utility Water											
	Backflow Preventer	1 ea.	\$	4,500.00	\$ 4,500.00	\$ 2,000.00 ea.		1	\$ 2,000.00		\$ 6,500.00	\$ 6,500.00
	Impact Fee	1 ea.	\$		\$ -				\$ -		\$ -	\$ -
	Meter + Tap	1 ea.	\$	2,800.00	\$ 2,800.00				\$ -		\$ 2,800.00	\$ 2,800.00
2560.010	Utility Sanitary											
	Sewer Tap	1 ea.	\$	450.00	\$ 450.00	\$ 150.00 ea.		1	\$ 150.00		\$ 600.00	\$ 600.00
	Sewer Tap Fee	1 ea.	\$	1,100.00	\$ 1,100.00				\$ -		\$ 1,100.00	\$ 1,100.00
	Grinder Pump	1 ea.	\$	4,550.00	\$ 4,550.00	\$ 1,000.00 ea.		1	\$ 1,000.00		\$ 5,550.00	\$ 5,550.00
	Lift Station	1 ea.	\$	3,044.00	\$ 3,044.00	\$ 650.00 ea.		1	\$ 650.00		\$ 3,694.00	\$ 3,694.00
	Impact Fee	1 ea.	\$	4,000.00	\$ 4,000.00				\$ -		\$ 4,000.00	\$ 4,000.00
2630.010	Drainage: Site Structures											
	Downspout boots	18 ea.	\$	300.00	\$ 5,400.00						\$ 300.00	\$ 5,400.00
	Trench Drainage	25 L.F.	\$	185.00	\$ 4,625.00						\$ 185.00	\$ 4,625.00
	French Drain	25 L.F.	\$	125.00	\$ 3,125.00						\$ 125.00	\$ 3,125.00
	Storm Water Piping	325 L.F.	\$	150.00	\$ 48,750.00						\$ 150.00	\$ 48,750.00
	Catch Basins	12 ea.	\$	750.00	\$ 9,000.00						\$ 750.00	\$ 9,000.00

2750.030 Paving: Sidewalks

Fine Grade: Walks	20000 S.F.	\$	0.10	\$	2,000.00	\$	0.10 S.F.	20000	\$	2,000.00	\$	0.20	\$	4,000.00
Form Edge 2x4	1000 Ln. Ft.	\$	1.50	\$	1,500.00	\$	1.50 Ln. Ft.	1000	\$	1,500.00	\$	3.00	\$	3,000.00
Strip/Oil Forms - Edge Forms	500 S.F.	\$	0.02	\$	10.00	\$	0.08 S.F.	500	\$	40.00	\$	0.10	\$	50.00
Finish Walks	20000 S.F.	\$	0.05	\$	1,000.00	\$	0.05 S.F.	20000	\$	1,000.00	\$	0.10	\$	2,000.00
Cure Walks	20000 S.F.	\$	0.03	\$	600.00	\$	0.02 S.F.	20000	\$	400.00	\$	0.05	\$	1,000.00
Detectable Warning Surface	65 S.F.	\$	20.00	\$	1,300.00	\$	5.00 S.F.	65	\$	325.00	\$	25.00	\$	1,625.00
Walk Concrete	40 Cu. Yd.	\$	115.00	\$	4,600.00	\$	5.00 Cu. Yd.	40	\$	200.00	\$	120.00	\$	4,800.00

2750.035 Paving: Concrete

Fine Grade: Exterior Paving	920 S.F.	\$	0.10	\$	92.00	\$	0.10 S.F.	920	\$	92.00	\$	0.20	\$	184.00
Form Edge 2x8	150 Ln.Ft.	\$	2.00	\$	300.00	\$	1.50 Ln. Ft.	150	\$	225.00	\$	3.50	\$	525.00
Premolded Expansion Jt - 4"	1050 Ln.Ft.	\$	0.92	\$	966.00	\$	0.90 Ln. Ft.	1050	\$	945.00	\$	1.82	\$	1,911.00
Premolded Expansion Jt - 8"	35 Ln.Ft.	\$	0.92	\$	32.20	\$	0.90 Ln. Ft.	35	\$	31.50	\$	1.82	\$	63.70
Strip/Oil Forms - Edge Forms	150 S.F.	\$	0.02	\$	3.00	\$	0.08 S.F.	150	\$	12.00	\$	0.10	\$	15.00
SOG Exterior-Dowel:Drill&epoxy	25 Ea.	\$	4.00	\$	100.00	\$	4.00 Ea.	25	\$	100.00	\$	8.00	\$	200.00
On Grade Access: Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.25 S.F.	1500	\$	375.00	\$	0.30	\$	450.00
Finish Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.05 S.F.	1500	\$	75.00	\$	0.10	\$	150.00
Cure SOG Exterior	1500 S.F.	\$	0.03	\$	45.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.05	\$	75.00
Gravel: Paving	28 ton	\$	115.00	\$	3,220.00	\$	3.00 ton	28	\$	84.00	\$	118.00	\$	3,304.00
Exterior Paving Concrete	25 Cu.Yd.	\$	115.00	\$	2,875.00	\$	5.00 Cu. Yd.	25	\$	125.00	\$	120.00	\$	3,000.00
Concrete Sawing	20 Ln.Ft.			\$	-	\$	1.00 Ln.Ft.	20	\$	20.00	\$	1.00	\$	20.00

2750.500 Paving: Steps on Grade

Fine Grade: Stairs	1500 S.F.			\$	-	\$	0.10 S.F.	1500	\$	150.00	\$	0.10	\$	150.00
Forms - Stair Forms (on grade)	80 S.F.	\$	2.50	\$	200.00	\$	4.00 S.F.	80	\$	320.00	\$	6.50	\$	520.00
Strip/Oil Forms - Edge Forms	80 S.F.	\$	0.08	\$	6.40	\$	0.02 S.F.	80	\$	1.60	\$	0.10	\$	8.00
Stair Rebar	1000 lb	\$	0.52	\$	520.00	\$	0.18 lb	1000	\$	180.00	\$	0.70	\$	700.00
Finish Stairs	1500 S.F.			\$		\$	0.40 S.F.	1500	\$	600.00	\$	0.40	\$	600.00
P & P stairs	1500 S.F.	\$	0.05	\$	75.00	\$	0.35 S.F.	1500	\$	525.00	\$	0.40	\$	600.00
Rub Stairs on Grade	1500 S.F.	\$	0.15	\$	225.00	\$	0.20 S.F.	1500	\$	300.00	\$	0.35	\$	525.00
Cure Stairs	1500 S.F.	\$	0.02	\$	30.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.04	\$	60.00
Stair Concrete	12 Cu.Yd.	\$	115.00	\$	1,380.00	\$	5.00 Cu. Yd.	12	\$	60.00	\$	120.00	\$	1,440.00

2760.010 Paving: Asphalt

Asphalt	30 Cu.Yd.	\$	351.00	\$	10,530.00	\$			\$	-	\$	351.00	\$	10,530.00
Asphalt Sub bond				\$	-						\$			-

2760.030 Paving: Parking Lines

Striping:	1 L.S.	\$	1,500.00	\$	1,500.00	\$			\$	-	\$	1,500.00	\$	1,500.00
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2760.040 Paving: Wheel Stops

Wheel Stops	6 Ea.	\$	53.00	\$	318.00	\$			\$	-	\$	53.00	\$	318.00
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2770.010 Paving: Curb & Gutter

Curb & Gutter 18"	550 Ln.Ft.	\$	29.47	\$	16,208.50	\$			\$	-	\$	29.47	\$	16,208.50
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2820.010 Improvements: Fencing

Fence: ornamental metal	75 Ln. Ft.	\$	170.00	\$	12,750.00	\$			\$	-	\$	170.00	\$	12,750.00
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2840.050 Improvements: Bollards / Rails

Pipe Bollards Steel Pipe 6"	18 Ea.	\$	90.00	\$	1,620.00	\$	20.00 Ea.	8	\$	160.00	\$	98.89	\$	1,780.00
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2890.010 Improvements: Traffic Signs

Traffic	4 ea.	\$	150.00	\$	600.00	\$			\$	-	\$	150.00	\$	600.00
Handicap Parking Sign	2 ea.	\$	100.00	\$	200.00	\$			\$	-	\$	100.00	\$	200.00

2900.010 Landscape: General

Sodding	189891 S.F.	\$	0.50	\$	94,945.50	\$			\$	-	\$	0.50	\$	94,945.50
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Landscaping

1 L.S.	\$	48,000.00	\$	48,000.00	\$	-	\$	48,000.00	\$	48,000.00
			\$	388,804.90	\$	426,432.70	\$	5,400.00	\$	820,637.60

Sitework

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 3	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
	3000.000 Concrete											
	Mini Ex & fuel		3 mo.	\$ 1,980.00	\$ 5,940.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,140.00
	Bobcat & fuel		3 mo.	\$ 2,000.00	\$ 6,000.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,200.00
3000.010	Crushed Stone											
	Gravel Fill		200 ton	\$ 30.00	\$ 6,000.00	\$ 15.00	ton	200	\$ 3,000.00			\$ 9,000.00
	Vapor Barrier		68000 S.F.	\$ 0.16	\$ 10,880.00	\$ 0.05	S.F.	68000	\$ 3,400.00			\$ 14,280.00
3110.120	Forms: Footings											
	Footing Forms		7500 S.F.	\$ 2.00	\$ 15,000.00	\$ 2.50	S.F.	7500	\$ 18,750.00			\$ 33,750.00
	Footing Steps		2 Ea.	\$ 250.00	\$ 500.00	\$ 45.00	Ea.	2	\$ 90.00			\$ 590.00
	Keyway in Footing		1200 Ln.Ft.	\$ 0.50	\$ 600.00	\$ 1.25	Ln.Ft.	1200	\$ 1,500.00			\$ 2,100.00
	Form Sump Pit		1 ea.	\$ 100.00	\$ 100.00	\$ 200.00	ea.	1	\$ 200.00			\$ 300.00
	Anchor Bolts		450 Ea.			\$ 6.00	Ea.	450	\$ 2,700.00			\$ 2,700.00
	Anchor Bolts Templates		113 Ea.	\$ 6.00	\$ 678.00	\$ 7.50	Ea.	113	\$ 847.50			\$ 1,525.50
3110.140	Pier Forms - Plywood											
	Pier Forms - Plywood		2800 S.F.	\$ 2.50	\$ 7,000.00	\$ 3.00	S.F.	2800	\$ 8,400.00			\$ 15,400.00
3110.140	Retaining Wall Forms: Plywood											
	Retaining Wall Forms Plywood		1000 S.F.	\$ 2.50	\$ 2,500.00	\$ 2.00	S.F.	1000	\$ 2,000.00			\$ 4,500.00
3110.310	Forms: Walls - Foundation											
	Foundation Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Keyway		8 Ln.Ft.	\$ 1.25	\$ 10.00	\$ 1.25	Ln.Ft.	8	\$ 10.00			\$ 20.00
	Form Ends (LF)		200 Ln.Ft.	\$ 3.00	\$ 600.00	\$ 3.00	Ln.Ft.	200	\$ 600.00			\$ 1,200.00
3110.360	Forms: Walls - Miscellaneous											
	Miscellaneous Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Chamfer		45 Ln.Ft.	\$ 0.65	\$ 29.25	\$ 0.75	Ln.Ft.	45	\$ 33.75			\$ 63.00
	Form Keyway		6 Ln.Ft.	\$ 0.50	\$ 3.00	\$ 1.25	Ln.Ft.	6	\$ 7.50			\$ 10.50
	Form Ends (LF)		6 Ln.Ft.	\$ 3.00	\$ 18.00	\$ 3.00	Ln.Ft.	6	\$ 18.00			\$ 36.00
3110.370	Forms: Walls - Pit											
	Pit Wall Forms - Plywood		180 S.F.	\$ 2.00	\$ 360.00	\$ 2.00	S.F.	180	\$ 360.00			\$ 720.00
	Form Keyway		22 Ln.Ft.	\$ 0.50	\$ 11.00	\$ 1.25	Ln.Ft.	22	\$ 27.50			\$ 38.50
3110.390	Forms: Columns											
	Column Forms - 3/4" plywood		220 S.F.	\$ 5.00	\$ 1,100.00	\$ 7.00	S.F.	220	\$ 1,540.00			\$ 2,640.00
	Chamfer Strips		130 Ln.Ft.	\$ 0.65	\$ 84.50	\$ 0.75	Ln.Ft.	130	\$ 97.50			\$ 182.00
	Temporary Braces		8 Ea.	\$ 10.00	\$ 80.00	\$ 10.00	Ea.	8	\$ 80.00			\$ 160.00
3110.460	Forms: Slab on Grade (misc)											
	Form Edge 2x8		1180 Ln.Ft.	\$ 1.85	\$ 2,183.00	\$ 1.50	Ln.Ft.	1180	\$ 1,770.00			\$ 3,953.00
	Form Construction Joint		455 Ln.Ft.	\$ 1.85	\$ 841.75	\$ 1.50	Ln.Ft.	455	\$ 682.50			\$ 1,524.25
	Panel Notch		1200 Ln.Ft.	\$ 1.50	\$ 1,800.00	\$ 1.50	Ln.Ft.	1200	\$ 1,800.00			\$ 3,600.00
	Form Depress Slab		101 Ln.Ft.	\$ 2.00	\$ 202.00	\$ 2.00	Ln.Ft.	101	\$ 202.00			\$ 404.00
	Premoldeded Expansion Joint		563 S.F.	\$ 0.92	\$ 517.96	\$ 0.90	S.F.	563	\$ 506.70			\$ 1,024.66
	Form Keyway @const. Joints		455 Ln.Ft.	\$ 0.50	\$ 227.50	\$ 1.25	Ln.Ft.	455	\$ 568.75			\$ 796.25
	Isolation Jt: 8" filler		1100 Ln.Ft.	\$ 0.92	\$ 1,012.00	\$ 0.90	Ln.Ft.	1100	\$ 990.00			\$ 2,002.00
3110.900	Forms Strip and Oil											
	Strip and Oil - Footings		12500 S.F.	\$ 0.02	\$ 250.00	\$ 0.08	S.F.	12500	\$ 1,000.00			\$ 1,250.00
	Strip and Oil - Walls		10500 S.F.	\$ 0.02	\$ 210.00	\$ 0.08	S.F.	10500	\$ 840.00			\$ 1,050.00
	Strip and Oil - Columns		215 S.F.	\$ 0.02	\$ 4.30	\$ 0.08	S.F.	215	\$ 17.20			\$ 21.50
	Strip and Oil - Piers		1653 S.F.	\$ 0.02	\$ 33.06	\$ 0.08	S.F.	1653	\$ 132.24			\$ 165.30

Strip and Oil - Edge Forms	12500 S.F.	\$	0.02	\$	250.00	\$	0.08 S.F.	12500	\$	1,000.00	\$	1,250.00
3111.700 Forms: Blockouts												
Column Blockouts	1092 Ln.Ft.	\$	1.75	\$	1,911.00	\$	1.75 Ln.Ft.	1092	\$	1,911.00	\$	3,822.00
3150.070 Forms: Chamfer Strip												
Chamfer Strips - Pier	480 Ln.Ft.	\$	0.65	\$	312.00	\$	0.75 Ln.Ft.	480	\$	360.00	\$	672.00
3150.100 Accessory: Waterstop												
Waterstop - Rubber	585 Ln.Ft.	\$	4.50	\$	2,632.50	\$	1.50 Ln.Ft.	585	\$	877.50	\$	3,510.00
3210.050 Rebar: General												
Rebar - Labor & materials (tons)	40 Ton	\$	947.00	\$	37,880.00	\$	415.00 Ton	40	\$	16,600.00	\$	54,480.00
Wiremesh	50000 S.F.	\$	0.08	\$	4,000.00	\$	0.18 S.F.	50000	\$	9,000.00	\$	13,000.00
3230.200 Rebar: Accessories												
On Grade Access: SOG Misc	35000 S.F.	\$	0.18	\$	6,300.00	\$	0.08 S.F.	35000	\$	2,800.00	\$	9,100.00
3310.120 Concrete: Footings												
Footing Concrete	48 Cu.Yd.	\$	115.00	\$	5,520.00	\$	8.00 Cu.Yd.	48	\$	384.00	\$	5,904.00
3310.140 Concrete: Piers												
Pier Concrete	75 Cu.Yd.	\$	115.00	\$	8,625.00	\$	8.00 Cu.Yd.	75	\$	600.00	\$	9,225.00
3310.310 Concrete: Walls - Retaining												
Retaining Wall Concrete	Cu.Yd.	\$	115.00	\$	-	\$	15.00 Cu.Yd.	0	\$	-	\$	-
3310.330 Concrete: Walls - Foundation												
Foundation Wall Concrete	35 Cu.Yd.	\$	115.00	\$	4,025.00	\$	15.00 Cu.Yd.	35	\$	525.00	\$	4,550.00
3310.360 Concrete Walls - Misc.												
Misc. Wall concrete	5 Cu.Yd.	\$	115.00	\$	575.00	\$	15.00 Cu.Yd.	5	\$	75.00	\$	650.00
3310.370 Concrete Walls - Pit												
Pit Wall concrete	3.25 Cu.Yd.	\$	115.00	\$	373.75	\$	15.00 Cu.Yd.	3.25	\$	48.75	\$	422.50
3310.390 Concrete: Columns												
Column Concrete	15 Cu.Yd.	\$	115.00	\$	1,725.00	\$	25.00 Cu.Yd.	15	\$	375.00	\$	2,100.00
3310.420 Concrete: Pads and Aprons												
Miscellaneous Pads	20 Cu.Yd.	\$	115.00	\$	2,300.00	\$	8.00 Cu.Yd.	20	\$	160.00	\$	2,460.00
3310.460 Concrete: Slabs on Grade												
Concrete Ramp	30 Cu.Yd.	\$	115.00	\$	3,450.00	\$	8.00 Cu.Yd.	30	\$	240.00	\$	3,690.00
Slab on Grade Misc. Concrete	1000 Cu.Yd.	\$	115.00	\$	115,000.00	\$	8.00 Cu.Yd.	1000	\$	8,000.00	\$	123,000.00
3310.500 Concrete: Slab on Metal Deck												
Concrete SOM	110 Cu.Yd.	\$	115.00	\$	12,650.00	\$	5.00 Cu.Yd.	110	\$	550.00	\$	13,200.00
3310.620 Concrete: Fill Pan Stairs												
Concrete Fill Pan Stairs	3 Cu.Yd.	\$	115.00	\$	345.00	\$	50.00 Cu.Yd.	3	\$	150.00	\$	495.00
3310.640 Concrete: Bollards												
Bollard Concrete	1 Cu.Yd.	\$	115.00	\$	115.00	\$	12.00 Cu.Yd.	1	\$	12.00	\$	127.00
3310.950 Concrete: Pumping												
Pumping (cu yds)	1345.25 Cu.Yd.					\$	4.00 Cu.Yd.	1345.25	\$	5,381.00	\$	5,381.00
Pumping (hrs)	115 hr.					\$	165.00 Hr.	115	\$	18,975.00	\$	18,975.00
Pumping (prime packs)	60 Ea.	\$	25.00	\$	1,500.00						\$	1,500.00
3350.100 Finish: General												
Finish Misc. Slab on Grade	35000 S.F.	\$	0.90	\$	31,500.00	\$	0.90 S.F.	35000	\$	31,500.00	\$	63,000.00
Finish Slab on Metal Deck	75000 S.F.	\$	0.15	\$	11,250.00	\$	1.00 S.F.	75000	\$	75,000.00	\$	86,250.00
Finish Footing	5200 S.F.	\$	0.15	\$	780.00	\$	0.15 S.F.	5200	\$	780.00	\$	1,560.00
Finish Wall Top Pit	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Retaining	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Foundation	200 S.F.	\$	1.00	\$	200.00	\$	1.00 S.F.	200	\$	200.00	\$	400.00
Finish Wall Top Misc.	4 Ln.Ft.	\$	1.00	\$	4.00	\$	1.00 Ln.Ft.	4	\$	4.00	\$	8.00

Finish Column Top	50 Ea.	\$	5.00	\$	250.00	\$	5.00	Ea.	50	\$	250.00	\$	500.00
Stair Finish	150 S.F.	\$	3.50	\$	525.00	\$	3.50	S.F.	150	\$	525.00	\$	1,050.00
3350.200 Finish: Protect and Cure				\$	-								
Curing Compound	116000 S.F.	\$	0.04	\$	4,640.00	\$	0.02	S.F.	116000	\$	2,320.00	\$	6,960.00
Cure Slab on Grade	72000 S.F.	\$	0.04	\$	2,880.00	\$	0.02	S.F.	72000	\$	1,440.00	\$	4,320.00
3350.400 Finish: Point Patch & Rub				\$	-								
P & P Walls	10000 S.F.	\$	0.15	\$	1,500.00	\$	0.25	S.F.	10000	\$	2,500.00	\$	4,000.00
P & P Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.25	S.F.	20000	\$	5,000.00	\$	8,000.00
Rub Retaining Walls	5000 S.F.	\$	0.15	\$	750.00	\$	0.85	S.F.	5000	\$	4,250.00	\$	5,000.00
Rub Exposed Foundation	25000 S.F.	\$	0.15	\$	3,750.00	\$	0.85	S.F.	25000	\$	21,250.00	\$	25,000.00
Rub Misc. Walls/ Foundation Walls	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
Rub Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.85	S.F.	20000	\$	17,000.00	\$	20,000.00
Rub, Cut, and Patch - Pier	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
3360.500 Misc: Saw Concrete													
Saw new concrete	75 Ln.Ft.	\$	1.00	\$	75.00	\$	1.00	Ln.Ft.	75	\$	75.00	\$	150.00
3450.010 Pre Cast Concrete Panels													
Pre Cast Concrete Panels	63410 S.F.	\$	30.00	\$	1,902,300.00							\$	1,902,300.00
3600.100 Grout													
Grout	20 Cu.Ft.	\$	35.00	\$	700.00	\$	14.50	Cu.Ft.	20	\$	290.00	\$	990.00
				\$	2,247,012.57					\$	293,423.39	\$	2,540,435.96

Concrete

Hunter Henderson	New McCarthy Gym Design 1												
Date													
Level	Division 4	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

4000.000 Masonry

04 00 00.00	Masonry												
04 21 13.13	CMU		4800 S.F.	\$2.59	\$12,432.00	\$4.99 S.F.		4800 S.F.		\$23,952.00		\$7.58	\$36,384.00
04 72 20.10	Cast Stone Masonry												
	Cultured Stone Veneer		2078.6 S.F.	\$9.70	\$20,162.42	\$29.00		2078.6 S.F.		\$60,279.40		\$38.70	\$80,441.82
	Masonry				\$32,594.42					\$84,231.40			\$116,825.82

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 5	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

5000.000 Metals

5000.010 **GENERAL**

W8x17x22'	3036 L.F.	\$	29.00	\$	88,044.00	\$	5.20 L.F.	2772	\$	14,414.40	\$	33.75	\$	102,458.40	
12x12 Column	110.25 L.F.	\$	108.25	\$	11,934.56	\$	6.07 L.F.	110.25	\$	669.22	\$	114.32	\$	12,603.78	
15x24 Column 31'	248 L.F.	\$	118.75	\$	29,450.00	\$	6.25 L.F.	248	\$	1,550.00	\$	125.00	\$	31,000.00	
15x18 Column 17.5'	140 L.F.	\$	112.75	\$	15,785.00	\$	6.25 L.F.	140	\$	875.00	\$	119.00	\$	16,660.00	
W6x9x16'	3392 L.F.	\$	9.90	\$	33,580.80	\$	5.15 L.F.	3392	\$	17,468.80	\$	15.05	\$	51,049.60	
ST 4x4	1784 L.F.	\$	34.06	\$	60,763.04	\$	3.34 L.F.	1784	\$	5,958.56	\$	37.40	\$	66,721.60	
ST 5x5	144 L.F.	\$	36.25	\$	5,220.00	\$	3.38 L.F.	144	\$	486.72	\$	39.63	\$	5,706.72	
1'x1.5'x16 Rectangle Tubing	320 L.F.	\$	143.62	\$	45,958.40	\$	7.60 L.F.	320	\$	2,432.00	\$	151.22	\$	48,390.40	
Roof Side Support Beam	160 L.F.	\$	37.28	\$	5,964.80	\$	4.13 L.F.	160	\$	660.80	\$	41.41	\$	6,625.60	
W8x24x22'	528 L.F.	\$	26.37	\$	13,923.36	\$	5.20 L.F.	528	\$	2,745.60	\$	31.57	\$	16,668.96	
16BG	12042 L.F.	\$	14.15	\$	170,394.30	\$	2.23 L.F.	12042	\$	26,853.66	\$	16.38	\$	197,247.96	
2'x1'	1021 L.F.	\$	176.24	\$	179,941.04	\$	6.76 L.F.	1021	\$	6,901.96	\$	183.00	\$	186,843.00	
Cross Beams	910 L.F.	\$	76.27	\$	69,405.70	\$	6.84 L.F.	910	\$	6,224.40	\$	83.11	\$	75,630.10	
Metal Decking	67248 S.F.	\$	4.68	\$	314,720.64	\$	0.67 S.F.	67248	\$	45,056.16	\$	5.35	\$	359,776.80	
Steel Bond			2%	\$	23,547.66									\$	23,547.66
Crane Rental - Setup	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00
Crane Rental - Fee	2.5 Mo.	\$	50,000.00							\$	125,000.00	\$	50,000.00	\$	125,000.00
Crane Rental - Operator	2.5 Mo.	\$	10,000.00							\$	25,000.00	\$	10,000.00	\$	25,000.00
Crane Rental - Takedown	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00

5510.000 **Metal Floor Plate Stairs**

Metal Floor Plate Stairs	120 Steps		890	\$	106,800.00	\$	90.50 Steps	120	\$	10,860.00	\$	1,078.55	\$	129,426.00
Metal Stair Nosings	120 Steps		42.5	\$	5,100.00	\$	2.70 Steps	120	\$	324.00	\$	49.72	\$	5,966.40

5500.010 **MISC. METALS**

MISC. METALS	1 L.S.		189647	\$	189,647.00						\$	189,647.00	\$	189,647.00
Metals				\$	1,370,180.30				\$	143,481.28	\$	250,000.00		\$ 1,775,969.98

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 6	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

6000.000 Wood and Plastics

6117.020 **Blocking Misc.**

Misc. Blocking

80000 Ln.Ft. \$ 0.68 \$ 54,400.00 \$ 0.75 Ln.Ft. 80000 \$ 60,000.00 \$ 114,400.00

6260.001 **Arch. Wood Work: General**

Millwork - Sub

1 L.S. \$ 50,000.00 \$ 50,000.00 \$ 50,000.00

Wood and Plastics

\$ 104,400.00 \$ 60,000.00 \$ 164,400.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 7	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
7000.000 Thermal/Moisture Protection												
7110.010	Damproofing/Caulk/Waterproofing											
	Damproofing/Caulk/Waterproofing		1 L.S.	\$ 157,256.00	\$ 157,256.00						\$ 157,256.00	\$ 157,256.00
	Expansion Joint Control - Floor EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.36	L.F.	150	\$ 1,704.00		\$ 74.25	\$ 11,137.50
	Expansion Joint Control - Ceiling EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.36	L.F.	150	\$ 1,704.00		\$ 74.25	\$ 11,137.50
	Expansion Joint Control - Wall EJC		150 L.F.	\$ 62.89	\$ 9,433.50	\$ 11.91	L.F.	150	\$ 1,786.50		\$ 74.80	\$ 11,220.00
7300.010	Roofing: General											
	TPO Roofing		750 Sq.	\$ 78.00	\$ 58,500.00	\$ 75.00	Sq.	65.5	\$ 49,125.00	\$ 1,000.00	\$ 144.83	\$ 108,625.00
	Roofing Insulation		235278 S.F.	\$ 1.02	\$ 239,983.56	\$ 0.26	S.F.	76000	\$ 19,760.00		\$ 1.10	\$ 259,743.56
	Vapor Barrier		784.26 Sq	\$ 21.00	\$ 16,469.46	\$ 0.75	Sq.	784.26	\$ 588.20		\$ 21.75	\$ 17,057.66
	Gym Roof Steel		24562 S.F.	\$ 3.03	\$ 74,422.86	\$ 1.72	S.F.	24562	\$ 42,246.64		\$ 5.94	\$ 145,836.88
	Shake Roofing		850 Sq.	\$ 286.00	\$ 243,100.00	\$ 176.00	Sq.	850	\$ 149,600.00		\$ 577.50	\$ 490,875.00
7216.030	Blanket Insulation											
	Blanket Insulation		68334.24 S.F.	\$ 1.24	\$ 84,734.46	\$ 0.26	C.F.	68334.24	\$ 17,766.90	\$ 38,950.52	\$ 2.59	\$ 176,814.85
7213.010	Thermal Insulation											
	Extruded Polystyrene Walls		63410.00 S.F.	\$ 1.61	\$ 102,090.10	\$ 0.57	S.F.	63410	\$ 36,143.70		\$ 2.73	\$ 172,792.25
7410.050	Siding Panels: General											
	Formed Metal Wall Panels		63410 S.F.	\$ 5.41	\$ 343,048.10	\$ 2.11	S.F.	63410	\$ 133,795.10		\$ 7.52	\$ 476,843.20
7810.010	Fireproofing: General											
	Firestopping		1 L.S.	\$ 80,000.00	\$ 80,000.00						\$ 80,000.00	\$ 80,000.00
	Thermal/Moisture Protection				\$ 1,427,905.04				\$ 454,220.04	\$ 39,950.52		\$ 2,119,339.39

Hunter Henderson		New McCarthy Gym Design 1										
Date												
Level	Division 8	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
Division 8000.00 Doors & Windows												
8100.010	Doors, Frames, and Hardware											
	HM Glass Door and Frame		16 ea.	\$ 1,800.00	\$ 28,800.00	\$ 200.00	ea.	16	\$ 3,200.00			\$ 32,000.00
	HM Glass Door with Lite		17 ea.	\$ 1,950.00	\$ 33,150.00	\$ 250.00	ea.	17	\$ 4,250.00			\$ 37,400.00
	HM Glass Double Door		10 ea.	\$ 3,600.00	\$ 36,000.00	\$ 500.00	ea.	10	\$ 5,000.00			\$ 41,000.00
	Solid Doors		52 ea.		\$ -	\$ 100.00	ea.	52				\$ -
	Door Sub Bond			2.5%	\$ 2,760.00							\$ 2,760.00
8400.000	Metal Framed Storefronts											
	Curtain Wall		15526.93 s.f.	\$ 77.50	\$ 1,203,337.08	\$ 10.55		15526.93	\$ 163,809.11	\$ 6,600.00		\$ 1,367,146.19
	Curtain Wall Bond			2%	\$ 24,066.74							\$ 24,066.74
	Storefronts		11661.75 S.F.	\$ 31.50	\$ 367,345.13	\$ 6.10		11661.75	\$ 71,136.68			\$ 438,481.80
	Glass handrails		999 L.F.	\$ 145.00	\$ 144,855.00	\$ 50.00		999	\$ 49,950.00			\$ 194,805.00
	Skylight											
	Pyramid Skylights		765 S.F.	\$ 125.00	\$ 95,625.00	\$ 18.50	S.F.	765	\$ 14,152.50			\$ 109,777.50
	Doors & Windows				\$ 1,695,458.94				\$ 311,498.29	\$ 6,600.00		\$ 1,942,854.73

Level	Division 9	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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9000.000 General Requirements

9105.010	Plaster and Stucco											
	Lath Plaster and Stucco Sub	1 L.S.		\$ 50,000.00	\$ 50,000.00			1				\$ 50,000.00
	Lath Plaster and Stucco Bond			1.5%	\$ 750.00			0				\$ 750.00
9220.010	Non-Structural Metal Framing											
	Metal Stud Framing	68334.24 S.F.		\$ 0.40	\$ 27,333.70	\$ 13.76	S.F.	68334.24	\$ 940,279.14			\$ 967,612.84
	Stud Framing Sub Bond			2%	\$ 19,352.26							\$ 19,352.26
9290.010	Gypsum Board Panels											
	Gypsum Board Panels	136668.48 S.F.		\$ 0.45	\$ 61,500.82	\$ 1.07	S.F.	136668.48	\$ 146,235.27			\$ 207,736.09
9313.010	Thin-Set Stone Tiling											
	20"x20" Tile	2734 S.F.		\$ 7.15	\$ 19,549.65	\$ 2.63	S.F.	2734.217	\$ 7,190.99			\$ 26,740.64
9510.010	Ceiling Acoustical Metal Pan											
	Ceiling Acoustical Metal Pan	73690		\$ 13.90	\$ 1,024,291.00	\$ 0.83		73690	\$ 61,162.70			\$ 1,085,453.70
	Ceiling Sub Bond			2%	\$ 21,709.07							\$ 21,709.07
9660.010	Flooring: General											
	Flooring Terrazo	S.F.		\$ 28.00	\$ -	\$ 14.65	S.F.	0	\$ -			\$ -
	Terrazo Sub Bond			2%	\$ -							\$ -
9650.010	Resilient Athletic Flooring											
	Resilient Athletic Flooring	26769.59 S.F.		\$ 3.67	\$ 98,244.40	\$ 1.24	S.F.	26769.59	\$ 33,194.29			\$ 131,438.69
	Athletic Flooring Sub Bond			2%	\$ 2,628.77							\$ 2,628.77
	VCT	45425.58 S.F.		\$ 9.40	\$ 427,000.45	\$ 4.13		45425.6				\$ 427,000.45
9640.010	Wood Flooring											
	Maple Gym Flooring	16461 S.F.		\$ 7.00	\$ 115,227.00	\$ 4.22		16461	\$ 69,465.42			\$ 184,692.42
	Gym Flooring Bond			2%	\$ 3,693.85							\$ 3,693.85
9680.010	Carpeting											
	Carpet Tile	1500.9 Yds		\$ 47.50	\$ 71,292.22	\$ 4.79	Yds	1500.9	\$ 7,189.26			\$ 71,292.22
	Floor Protection											
	Floor Protection	103690 S.F.		\$ 0.28	\$ 29,033.20	\$ 0.20	S.F.	103690	\$ 20,738.00			\$ 49,771.20
9620.000	Fluid Applied Flooring											
	Fluid applied athletic flooring	8583 S.F.		\$ 6.50	\$ 55,789.50	\$ 7.65	S.F.	8583	\$ 65,659.95			\$ 121,449.45
9900.010	Paints & Coatings: General											
	Painting Subcontractor	178668.48 L.S.		\$ 0.20	\$ 35,733.70	\$ 0.41	S.F.	178668.48	\$ 73,254.08			\$ 125,335.94
	Painting Sub Bond			1%	\$ 357.34							\$ 357.34
	Finishes				\$ 2,063,486.92				\$ 1,424,369.10			\$ 3,497,014.93

Hunter Henderson	New McCarthy Gym Design 1											
Date												

Level	Division 10	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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10000.000 Specialties

10000.010	Emergency Key Cabinet											
	Emergency Key Cabinet	1 ea.	\$	585.00	\$ 585.00	\$	50.00 ea.	1	\$ 50.00		\$ 635.00	\$ 635.00
10100.010	Visual Display Boards											
	Visual Display Surfaces	8 ea.	\$	170.00	\$ 1,360.00	\$	60.00 ea.	8	\$ 480.00		\$ 230.00	\$ 1,840.00
	Projectors	8 ea.	\$	850.00	\$ 6,800.00	\$	150.00 ea.	8	\$ 1,200.00		\$ 1,000.00	\$ 8,000.00
10610.010	Plastic Toilet Compartments											
	Plastic Toilet Compartments	41 ea.	\$	700.00	\$ 28,700.00	\$	125.00 ea.	41	\$ 5,125.00		\$ 825.00	\$ 33,825.00
10420.010	Plaque Metal Cased											
	Plaque Metal Cased	1 ea.	\$	2,955.00	\$ 2,955.00	\$	150.00 ea.	1	\$ 150.00		\$ 3,105.00	\$ 3,105.00
10430.010	Signs and Letters											
	Exterior Dimensional Letters	40 ea.	\$	150.00	\$ 6,000.00	\$	10.00 ea.	1	\$ 10.00		\$ 150.25	\$ 6,010.00
	Interior Door Signage	75 ea.	\$	75.00	\$ 5,625.00	\$	6.50 ea.	75	\$ 487.50		\$ 81.50	\$ 6,112.50
	Corner Guards	125 ea.	\$	10.00	\$ 1,250.00	\$	1.00 ea.	125	\$ 125.00		\$ 11.00	\$ 1,375.00
	Vinyl Graphics	1 L.S.	\$	1,500.00	\$ 1,500.00		L.S.	1	\$ -		\$ 1,500.00	\$ 1,500.00
10500.010	Lockers											
	Lockers	60 ea.	\$	345.00	\$ 20,700.00	\$	135.00 ea.	60	\$ 8,100.00		\$ 480.00	\$ 28,800.00
10521.010	Fire Extinguishers Etc.											
	Fire extinguishers	24 ea.	\$	50.00	\$ 1,200.00	\$	5.00 ea.	24	\$ 120.00		\$ 55.00	\$ 1,320.00
	Fire extinguisher cabinets	24 ea.	\$	100.00	\$ 2,400.00	\$	35.00 ea.	24	\$ 840.00		\$ 135.00	\$ 3,240.00
10530.010	Protective Covers											
	Canopies - Sub	4891.8 S.F.	\$	26.00	\$ 127,186.80			4891.8	\$ -		\$ 26.00	\$ 127,186.80
10800.010	Misc. Toilet/Bath Equipment											
	TP Dispensers	41 ea.	\$	40.00	\$ 1,640.00	\$	5.00 ea.	41	\$ 205.00		\$ 45.00	\$ 1,845.00
	Grab Handles	41 ea.	\$	45.00	\$ 1,845.00	\$	5.00 ea.	41	\$ 205.00		\$ 50.00	\$ 2,050.00
	Soap Dispensers - automatic	41 ea.	\$	27.00	\$ 1,107.00	\$	5.00 ea.	41	\$ 205.00		\$ 32.00	\$ 1,312.00
	Paper Towel Dispensers - auto	41 ea.	\$	70.00	\$ 2,870.00	\$	5.00 ea.	41	\$ 205.00		\$ 75.00	\$ 3,075.00
	Sanitary Napkin Disposal	41 ea.	\$	125.00	\$ 5,125.00	\$	5.00 ea.	41	\$ 205.00		\$ 130.00	\$ 5,330.00
	Mop Shelf	3 ea.	\$	500.00	\$ 1,500.00	\$	5.00 ea.	3	\$ 15.00		\$ 505.00	\$ 1,515.00
	Air Hand Dryers	41 ea.	\$	280.00	\$ 11,480.00	\$	20.00 ea.	41	\$ 820.00		\$ 300.00	\$ 12,300.00
	Mirrors	41 ea.	\$	70.00	\$ 2,870.00	\$	15.00 ea.	41	\$ 615.00		\$ 85.00	\$ 3,485.00
	Robe Hooks	41 ea.	\$	2.00	\$ 82.00	\$	1.00 ea.	41	\$ 41.00		\$ 3.00	\$ 123.00
	Specialties				\$ 234,780.80				\$ 19,203.50			\$ 253,984.30

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 11	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

11000.000 Equipment

11480.010 Equip: Sports/Therapeutic												
Gymnasium Equipment	1 L.S.	\$ 160,000.00	\$	160,000.00	\$	750.00 ea.		1	\$ 3,500.00			\$ 163,500.00
Equipment			\$	160,000.00					\$ 3,500.00			\$ 163,500.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 12	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

12000.000 Furnishings

12490.010 Window Treatments												
Blinds		250 ea.		150 \$	37,500.00 \$	15.00 ea.		250 \$	3,750.00		\$ 165.00	\$ 41,250.00
Furnishings				\$	37,500.00			\$	3,750.00			\$ 41,250.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 16	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

16000.000 Electrical

16000.010 **Electrical: Complete**

Electrical (Sq Ft.)	103690 S.F.	\$	33.50	\$	3,473,615.00							\$ 3,473,615.00
Electrical Bond			2%	\$	69,472.30							\$ 69,472.30
Pole Bases	1 L.S.		115	\$	115.00	\$	500.00	1	\$	500.00		\$ 615.00
Transformer Pad	1 L.S.		115	\$	115.00	\$	150.00	1	\$	150.00		\$ 265.00
	Electrical			\$	3,543,317.30				\$	650.00		\$ 3,543,967.30

Estimate Totals

Description	Amount	Totals	Rate	Cost Per Unit	Percent of Total	Building Sq. Ft.
Labor	\$ 3,532,124.69			\$ 34.06	10.4%	103,690
Material & Sub	\$ 22,570,573.37			\$ 217.67	66.2%	
Equipment	\$ 302,450.52			\$ 2.92	0.9%	
		\$ 26,405,148.58		\$ 254.65	77.5%	
Sales Tax: MS	\$ 800,555.84		3.5%	\$ 7.72	2.3%	
Taxes & Ins. On Labor	\$ 988,994.91		28%	\$ 9.54	2.9%	
Builders Risk	\$ 24,514.40		0.072%	\$ 0.24	0.1%	
Building Permit	\$ 53,829.30		0.204%	\$ 0.52	0.2%	
Bond	\$ 760,443.41		2.880%	\$ 7.33	2.2%	
		\$ 2,628,337.85		\$ 25.35	7.7%	
Overhead & Profit	\$ 1,742,009.19		6.0%	\$ 16.80	5.1%	
Construction Management Fee	\$ 1,161,339.46		4.0%	\$ 11.20	3.4%	
Electrical Engineering Fee	\$ 290,334.86		1.0%	\$ 2.80	0.9%	
Structural Engineering Fee	\$ 290,334.86		1.0%	\$ 2.80	0.9%	
Consulting Fees	\$ 145,167.43		0.5%	\$ 1.40	0.4%	
Architectural Fee	\$ 1,422,640.84		4.9%	\$ 13.72	4.2%	
		\$ 5,051,826.64		\$ 48.72	14.8%	
Total	\$ 34,085,313.07			\$ 328.72		
cut add	\$ (313.07)					
Final Price	\$ 34,085,000.00			\$ 328.72		

Hunter Henderson	New McCarthy Gym Design 1												
Date													
Level	Division 1	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

1000.000 General Requirements

1110.020 Fees

Elevator Engineering Fees	Per Contract	2.5%
Landscaping and Site Development Fees	Per Contract	2.5%
Mechanical Engineering Fees	Per Contract	4.1%

1110.075 Renderings

Building Rendering	2 ea.	\$ 3,175.00
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1210.000 Allowances

Allowance 1 - Tree Moving	2 ea.	\$ 2,500.00	\$ 5,000.00	\$ 250.00 ea.	2 ea.	\$ 500.00	\$ 500.00	\$ 6,000.00
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1300.010 Personnel: Supervision

Superintendent		\$ 2,200.00 wk	61 wk.	\$ 134,200.00	\$ 2,200.00	\$ 134,200.00
Asst. Superintendent		\$ 1,500.00 wk	61 wk.	\$ 91,500.00	\$ 1,500.00	\$ 91,500.00

1310.020 Travel: All Types

Superintendent Per Diem		\$ 1,500.00 mo.	14 mo.	\$ 21,000.00	\$ 1,500.00	\$ 21,000.00
Asst. Superintendent Per Diem		\$ 1,500.00 mo.	14 mo.	\$ 21,000.00	\$ 1,500.00	\$ 21,000.00

1450.310 Testing

Misc. Testing	1 L.S.	\$ 5,000.00	\$ 5,000.00		\$ 5,000.00	\$ 5,000.00
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1450.410 Sample Panel

Mock Up	1 L.S.	\$ 8,000.00	\$ 8,000.00		\$ 8,000.00	\$ 8,000.00
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1510.010 Utilities: Temporary

Temp Electric Set Service	1 L.S.	\$ 500.00	\$ 500.00		\$ 500.00	\$ 500.00
Temp Electric	16 mo.	\$ 500.00	\$ 8,000.00		\$ 500.00	\$ 8,000.00
Mobile Phone/ Ipad	16 mo.	\$ 800.00	\$ 12,800.00		\$ 800.00	\$ 12,800.00
Temp Water Set Service	1 L.S.	\$ 300.00	\$ 300.00		\$ 300.00	\$ 300.00
Temp Water	16 mo.	\$ 400.00	\$ 6,400.00		\$ 400.00	\$ 6,400.00
Temp Toilet	16 mo.	\$ 380.00	\$ 6,080.00		\$ 380.00	\$ 6,080.00
Temp Tank	16 mo.	\$ 215.00	\$ 3,440.00		\$ 215.00	\$ 3,440.00
Fire Protection (extinguishers)	8 ea.	\$ 75.00	\$ 600.00		\$ 75.00	\$ 600.00

1510.020 Utilities: Final

Final Electricity	2 mo.	\$ 9,600.00	\$ 19,200.00		\$ 9,600.00	\$ 19,200.00
Final Gas	2 mo.	\$ 1,000.00	\$ 2,000.00		\$ 1,000.00	\$ 2,000.00
Final Water	2 mo.	\$ 500.00	\$ 1,000.00		\$ 500.00	\$ 1,000.00

1520.010 Temp: Facilities - Site

Temp Fence (Rent)	1500 lf	\$ 7.00	\$ 10,500.00		\$ 7.00	\$ 10,500.00
Temp Gates (Rent)	2 each	\$ 250.00	\$ 500.00		\$ 250.00	\$ 500.00
Temp Roads / Work Service	75 tons	\$ 38.00	\$ 2,850.00		\$ 38.00	\$ 2,850.00
Connex	14 mo.	\$ 110.00	\$ 1,540.00		\$ 110.00	\$ 1,540.00

1520.030 Temp: Office

Office trailer	16 mo.	\$ 1,200.00	\$ 19,200.00	\$ 910.00 L.S.	1	\$ 910.00	\$ 1,256.88	\$ 20,110.00
Food/Drink	16 mo.	\$ 250.00	\$ 4,000.00				\$ 250.00	\$ 4,000.00
Office Supplies	16 mo.	\$ 200.00	\$ 3,200.00				\$ 200.00	\$ 3,200.00
Office Equipment	1 L.S.	\$ 3,000.00	\$ 3,000.00				\$ 3,000.00	\$ 3,000.00
Printing & Shipping	1 L.S.	\$ 300.00	\$ 300.00				\$ 300.00	\$ 300.00
Project Sign	1 L.S.	\$ 650.00	\$ 650.00	\$ 55.00 ea.	1	\$ 55.00	\$ 705.00	\$ 705.00
Temporary Signage	1 L.S.	\$ 500.00	\$ 500.00				\$ 500.00	\$ 500.00
Internet	16 mo.	\$ 250.00	\$ 4,000.00				\$ 250.00	\$ 4,000.00

1562.010 Controls: Safety

Safety (PPE)	1 L.S.	\$ 800.00	\$ 800.00				\$ 800.00	\$ 800.00
Training	1 L.S.	\$ 1,500.00	\$ 1,500.00				\$ 1,500.00	\$ 1,500.00
Drug Tests	5 ea.	\$ 65.00	\$ 325.00				\$ 65.00	\$ 325.00

First Aid Equipment	1 L.S.	\$	2,000.00	\$	2,000.00				\$	2,000.00	\$	2,000.00		
1620.030 Layout														
Layout (Own)					\$	40.00	P.P.H.	20 Hours	\$	800.00	\$	40.00	\$	800.00
Layout (Sub)					\$	150.00	P.P.H.	100 Hours	\$	15,000.00	\$	150.00	\$	15,000.00

GENERAL REQUIREMENTS

1710.000 Tools, Equipment, & Cleanup

1710.010 Job Set Up															
Small Tools	16 mo.	\$	250.00	\$	4,000.00					\$	250.00	\$	4,000.00		
1710.020 Layout Equipment															
Layout Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
1710.030 General Equipment															
Truck & Fuel - Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
Truck & Fuel - Asst. Super.	16 mo.	\$	1,000.00	\$	16,000.00	\$	700.00	mo.	16 mo.	\$	11,200.00	\$	1,700.00	\$	27,200.00
1710.070 Carpentry & Misc. Steel Equip.															
Welding Supplies	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Oxygen & Acetylene	1 L.S.	\$	250.00	\$	250.00					\$	250.00	\$	250.00		
1710.080 Material Handling Equipment															
Lull	16 mo.	\$	2,200.00	\$	35,200.00					\$	2,200.00	\$	35,200.00		
Fuel & oil	16 mo.	\$	400.00	\$	6,400.00					\$	400.00	\$	6,400.00		
1740.010 Clean Up															
Current Cleanup	1 L.S.	\$	200.00	\$	200.00					\$	200.00	\$	200.00		
Haul Dumpster	16 mo.	\$	500.00	\$	8,000.00					\$	500.00	\$	8,000.00		
Final Cleanup	1 L.S.	\$	500.00	\$	500.00					\$	500.00	\$	500.00		
Clean Glass	1 L.S.	\$	800.00	\$	800.00					\$	800.00	\$	800.00		
General Requirements				\$	221,535.00					\$	307,365.00	\$	500.00	\$	529,400.00

Hunter Henderson		New McCarthy Gym Design 1										
Date												
Level	Division 2	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
2100.000 SITEWORK												
2240.010	Dewater: General											
	Dewatering All Types	300000 S.F.				\$ 0.01 S.F.		300000	\$ 3,000.00		\$ 0.01	\$ 3,000.00
2310.020	Earthwork: Site Grading											
	Sitework Grading	125000 S.F.				\$ 0.71 S.F.		125000	\$ 88,750.00		\$ 0.71	\$ 88,750.00
	Sitework Bond	1 L.S.		2%	\$ 1,331.25						\$ 1,331.25	\$ 1,331.25
2315.021	Earthwork Excavate Footing/Misc											
	Excavate Continuous Footing	65 yds.				\$ 7.00 yd		300	\$ 2,100.00	\$ 2,600.00	\$ 72.31	\$ 4,700.00
	Excavate Misc.	30 yds.				\$ 12.00 yd		20	\$ 240.00		\$ 8.00	\$ 240.00
	Hual Spoils	118.75 yds.				\$ 5.00 yd		360	\$ 1,800.00	\$ 1,400.00	\$ 26.95	\$ 3,200.00
	Shape & Grade Cont. Footing	600 S.F.				\$ 0.30 S.F.		600	\$ 180.00		\$ 0.30	\$ 180.00
2315.070	Backfill: Foot Wall Misc.											
	Backfill Earth Continurs Footing	75 yds.	\$	3.50	\$ 262.50	\$ 7.00 yd.		75	\$ 525.00		\$ 10.50	\$ 787.50
2320.010	Soil Poisoning/Pest Control											
	Soil Pest control	84506 S.F.	\$	0.10	\$ 8,450.60	\$ 0.15 S.F.		60000	\$ 9,000.00		\$ 0.21	\$ 17,450.60
2340.010	Soil Stablization/ Erosion Control											
	Silt Fence	800 L.F.	\$	0.50	\$ 400.00	\$ 1.00 L.F.		800	\$ 800.00		\$ 1.50	\$ 1,200.00
	Inlet Protection								\$ -		#DIV/0!	\$ -
2410.010	Demolition											
	Bleacher Concrete	12422 Cu. Ft.	\$			\$ 1,893.00 Day		31	\$ 58,683.00		\$ 4.72	\$ 58,683.00
	Brick Veneer	4619 S.F.	\$			\$ 1,300.90 Day		25	\$ 32,522.50		\$ 7.04	\$ 32,522.50
	Sidewalks	3032 Sq. Yd.	\$			\$ 1,300.90 Day		9	\$ 11,708.10		\$ 3.86	\$ 11,708.10
	North Exterior	3237 S.F.	\$			\$ 6.00 S.F.		3237	\$ 19,422.00		\$ 6.00	\$ 19,422.00
	South Exterior	20332 S.F.	\$			\$ 6.00 S.F.		20332	\$ 121,992.00		\$ 6.00	\$ 121,992.00
	Parking Pavement	13818 Sq. Yd.	\$			\$ 2,975.20 Day		20	\$ 59,504.00		\$ 4.31	\$ 59,504.00
	Bond			3%	\$ 9,114.95						\$	\$ 9,114.95
2450.010	Piling: All types											
	Pilings	400 yds.	\$	175.00	\$ 70,000.00				\$ -		\$ 175.00	\$ 70,000.00
	Haul Spoils	500 yds.	\$		\$ -	\$ 5.00 yd		500	\$ 2,500.00	\$ 1,400.00	\$ 7.80	\$ 3,900.00
2510.010	Utility Water											
	Backflow Preventer	1 ea.	\$	4,500.00	\$ 4,500.00	\$ 2,000.00 ea.		1	\$ 2,000.00		\$ 6,500.00	\$ 6,500.00
	Impact Fee	1 ea.	\$		\$ -				\$ -		\$ -	\$ -
	Meter + Tap	1 ea.	\$	2,800.00	\$ 2,800.00				\$ -		\$ 2,800.00	\$ 2,800.00
2560.010	Utility Sanitary											
	Sewer Tap	1 ea.	\$	450.00	\$ 450.00	\$ 150.00 ea.		1	\$ 150.00		\$ 600.00	\$ 600.00
	Sewer Tap Fee	1 ea.	\$	1,100.00	\$ 1,100.00				\$ -		\$ 1,100.00	\$ 1,100.00
	Grinder Pump	1 ea.	\$	4,550.00	\$ 4,550.00	\$ 1,000.00 ea.		1	\$ 1,000.00		\$ 5,550.00	\$ 5,550.00
	Lift Station	1 ea.	\$	3,044.00	\$ 3,044.00	\$ 650.00 ea.		1	\$ 650.00		\$ 3,694.00	\$ 3,694.00
	Impact Fee	1 ea.	\$	4,000.00	\$ 4,000.00				\$ -		\$ 4,000.00	\$ 4,000.00
2630.010	Drainage: Site Structures											
	Downspout boots	18 ea.	\$	300.00	\$ 5,400.00						\$ 300.00	\$ 5,400.00
	Trench Drainage	25 L.F.	\$	185.00	\$ 4,625.00						\$ 185.00	\$ 4,625.00
	French Drain	25 L.F.	\$	125.00	\$ 3,125.00						\$ 125.00	\$ 3,125.00
	Storm Water Piping	325 L.F.	\$	150.00	\$ 48,750.00						\$ 150.00	\$ 48,750.00
	Catch Basins	12 ea.	\$	750.00	\$ 9,000.00						\$ 750.00	\$ 9,000.00

2750.030 Paving: Sidewalks														
Fine Grade: Walks	20000 S.F.	\$	0.10	\$	2,000.00	\$	0.10 S.F.	20000	\$	2,000.00	\$	0.20	\$	4,000.00
Form Edge 2x4	1000 Ln. Ft.	\$	1.50	\$	1,500.00	\$	1.50 Ln. Ft.	1000	\$	1,500.00	\$	3.00	\$	3,000.00
Strip/Oil Forms - Edge Forms	500 S.F.	\$	0.02	\$	10.00	\$	0.08 S.F.	500	\$	40.00	\$	0.10	\$	50.00
Finish Walks	20000 S.F.	\$	0.05	\$	1,000.00	\$	0.05 S.F.	20000	\$	1,000.00	\$	0.10	\$	2,000.00
Cure Walks	20000 S.F.	\$	0.03	\$	600.00	\$	0.02 S.F.	20000	\$	400.00	\$	0.05	\$	1,000.00
Detectable Warning Surface	65 S.F.	\$	20.00	\$	1,300.00	\$	5.00 S.F.	65	\$	325.00	\$	25.00	\$	1,625.00
Walk Concrete	40 Cu. Yd.	\$	115.00	\$	4,600.00	\$	5.00 Cu. Yd.	40	\$	200.00	\$	120.00	\$	4,800.00
2750.035 Paving: Concrete														
Fine Grade: Exterior Paving	920 S.F.	\$	0.10	\$	92.00	\$	0.10 S.F.	920	\$	92.00	\$	0.20	\$	184.00
Form Edge 2x8	150 Ln.Ft.	\$	2.00	\$	300.00	\$	1.50 Ln. Ft.	150	\$	225.00	\$	3.50	\$	525.00
Premolded Expansion Jt - 4"	1050 Ln.Ft.	\$	0.92	\$	966.00	\$	0.90 Ln. Ft.	1050	\$	945.00	\$	1.82	\$	1,911.00
Premolded Expansion Jt - 8"	35 Ln.Ft.	\$	0.92	\$	32.20	\$	0.90 Ln. Ft.	35	\$	31.50	\$	1.82	\$	63.70
Strip/Oil Forms - Edge Forms	150 S.F.	\$	0.02	\$	3.00	\$	0.08 S.F.	150	\$	12.00	\$	0.10	\$	15.00
SOG Exterior-Dowel:Drill&epoxy	25 Ea.	\$	4.00	\$	100.00	\$	4.00 Ea.	25	\$	100.00	\$	8.00	\$	200.00
On Grade Access: Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.25 S.F.	1500	\$	375.00	\$	0.30	\$	450.00
Finish Paving	1500 S.F.	\$	0.05	\$	75.00	\$	0.05 S.F.	1500	\$	75.00	\$	0.10	\$	150.00
Cure SOG Exterior	1500 S.F.	\$	0.03	\$	45.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.05	\$	75.00
Gravel: Paving	28 ton	\$	115.00	\$	3,220.00	\$	3.00 ton	28	\$	84.00	\$	118.00	\$	3,304.00
Exterior Paving Concrete	25 Cu.Yd.	\$	115.00	\$	2,875.00	\$	5.00 Cu. Yd.	25	\$	125.00	\$	120.00	\$	3,000.00
Concrete Sawing	20 Ln.Ft.			\$	-	\$	1.00 Ln.Ft.	20	\$	20.00	\$	1.00	\$	20.00
2750.500 Paving: Steps on Grade														
Fine Grade: Stairs	1500 S.F.			\$	-	\$	0.10 S.F.	1500	\$	150.00	\$	0.10	\$	150.00
Forms - Stair Forms (on grade)	80 S.F.	\$	2.50	\$	200.00	\$	4.00 S.F.	80	\$	320.00	\$	6.50	\$	520.00
Strip/Oil Forms - Edge Forms	80 S.F.	\$	0.08	\$	6.40	\$	0.02 S.F.	80	\$	1.60	\$	0.10	\$	8.00
Stair Rebar	1000 lb	\$	0.52	\$	520.00	\$	0.18 lb	1000	\$	180.00	\$	0.70	\$	700.00
Finish Stairs	1500 S.F.			\$		\$	0.40 S.F.	1500	\$	600.00	\$	0.40	\$	600.00
P & P stairs	1500 S.F.	\$	0.05	\$	75.00	\$	0.35 S.F.	1500	\$	525.00	\$	0.40	\$	600.00
Rub Stairs on Grade	1500 S.F.	\$	0.15	\$	225.00	\$	0.20 S.F.	1500	\$	300.00	\$	0.35	\$	525.00
Cure Stairs	1500 S.F.	\$	0.02	\$	30.00	\$	0.02 S.F.	1500	\$	30.00	\$	0.04	\$	60.00
Stair Concrete	12 Cu.Yd.	\$	115.00	\$	1,380.00	\$	5.00 Cu. Yd.	12	\$	60.00	\$	120.00	\$	1,440.00
2760.010 Paving: Asphalt														
Asphalt	30 Cu.Yd.	\$	351.00	\$	10,530.00	\$			\$	-	\$	351.00	\$	10,530.00
Asphalt Sub bond				\$	-				\$		\$		\$	-
2760.030 Paving: Parking Lines														
Striping:	1 L.S.	\$	1,500.00	\$	1,500.00	\$			\$	-	\$	1,500.00	\$	1,500.00
2760.040 Paving: Wheel Stops														
Wheel Stops	6 Ea.	\$	53.00	\$	318.00	\$			\$	-	\$	53.00	\$	318.00
2770.010 Paving: Curb & Gutter														
Curb & Gutter 18"	550 Ln.Ft.	\$	29.47	\$	16,208.50	\$			\$	-	\$	29.47	\$	16,208.50
2820.010 Improvements: Fencing														
Fence: ornamental metal	75 Ln. Ft.	\$	170.00	\$	12,750.00	\$			\$	-	\$	170.00	\$	12,750.00
2840.050 Improvements: Bollards / Rails														
Pipe Bollards Steel Pipe 6"	18 Ea.	\$	90.00	\$	1,620.00	\$	20.00 Ea.	8	\$	160.00	\$	98.89	\$	1,780.00
2890.010 Improvements: Traffic Signs														
Traffic	4 ea.	\$	150.00	\$	600.00	\$			\$	-	\$	150.00	\$	600.00
Handicap Parking Sign	2 ea.	\$	100.00	\$	200.00	\$			\$	-	\$	100.00	\$	200.00
2900.010 Landscape: General														
Seeding	189891 S.F.	\$	0.02	\$	3,797.82	\$			\$	-	\$	0.02	\$	3,797.82

Landscaping	1 L.S.	\$ 24,000.00	\$ 24,000.00	\$ -	\$ 24,000.00	\$ 24,000.00
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Sitework

	\$ 273,657.22	\$ 426,432.70	\$ 5,400.00	\$ 705,489.92
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Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 3	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
	3000.000 Concrete											
	Mini Ex & fuel		3 mo.	\$ 1,980.00	\$ 5,940.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,140.00
	Bobcat & fuel		3 mo.	\$ 2,000.00	\$ 6,000.00	\$ 400.00	mo.	3	\$ 1,200.00			\$ 7,200.00
3000.010	Crushed Stone											
	Gravel Fill		200 ton	\$ 30.00	\$ 6,000.00	\$ 15.00	ton	200	\$ 3,000.00			\$ 9,000.00
	Vapor Barrier		68000 S.F.	\$ 0.16	\$ 10,880.00	\$ 0.05	S.F.	68000	\$ 3,400.00			\$ 14,280.00
3110.120	Forms: Footings											
	Footing Forms		7500 S.F.	\$ 2.00	\$ 15,000.00	\$ 2.50	S.F.	7500	\$ 18,750.00			\$ 33,750.00
	Footing Steps		2 Ea.	\$ 250.00	\$ 500.00	\$ 45.00	Ea.	2	\$ 90.00			\$ 590.00
	Keyway in Footing		1200 Ln.Ft.	\$ 0.50	\$ 600.00	\$ 1.25	Ln.Ft.	1200	\$ 1,500.00			\$ 2,100.00
	Form Sump Pit		1 ea.	\$ 100.00	\$ 100.00	\$ 200.00	ea.	1	\$ 200.00			\$ 300.00
	Anchor Bolts		450 Ea.			\$ 6.00	Ea.	450	\$ 2,700.00			\$ 2,700.00
	Anchor Bolts Templates		113 Ea.	\$ 6.00	\$ 678.00	\$ 7.50	Ea.	113	\$ 847.50			\$ 1,525.50
3110.140	Pier Forms - Plywood											
	Pier Forms - Plywood		2800 S.F.	\$ 2.50	\$ 7,000.00	\$ 3.00	S.F.	2800	\$ 8,400.00			\$ 15,400.00
3110.140	Retaining Wall Forms: Plywood											
	Retaining Wall Forms Plywood		1000 S.F.	\$ 2.50	\$ 2,500.00	\$ 2.00	S.F.	1000	\$ 2,000.00			\$ 4,500.00
3110.310	Forms: Walls - Foundation											
	Foundation Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Keyway		8 Ln.Ft.	\$ 1.25	\$ 10.00	\$ 1.25	Ln.Ft.	8	\$ 10.00			\$ 20.00
	Form Ends (LF)		200 Ln.Ft.	\$ 3.00	\$ 600.00	\$ 3.00	Ln.Ft.	200	\$ 600.00			\$ 1,200.00
3110.360	Forms: Walls - Miscellaneous											
	Miscellaneous Wall Forms - Plywood		1250 S.F.	\$ 2.00	\$ 2,500.00	\$ 2.00	S.F.	1250	\$ 2,500.00			\$ 5,000.00
	Form Chamfer		45 Ln.Ft.	\$ 0.65	\$ 29.25	\$ 0.75	Ln.Ft.	45	\$ 33.75			\$ 63.00
	Form Keyway		6 Ln.Ft.	\$ 0.50	\$ 3.00	\$ 1.25	Ln.Ft.	6	\$ 7.50			\$ 10.50
	Form Ends (LF)		6 Ln.Ft.	\$ 3.00	\$ 18.00	\$ 3.00	Ln.Ft.	6	\$ 18.00			\$ 36.00
3110.370	Forms: Walls - Pit											
	Pit Wall Forms - Plywood		180 S.F.	\$ 2.00	\$ 360.00	\$ 2.00	S.F.	180	\$ 360.00			\$ 720.00
	Form Keyway		22 Ln.Ft.	\$ 0.50	\$ 11.00	\$ 1.25	Ln.Ft.	22	\$ 27.50			\$ 38.50
3110.390	Forms: Columns											
	Column Forms - 3/4" plywood		220 S.F.	\$ 5.00	\$ 1,100.00	\$ 7.00	S.F.	220	\$ 1,540.00			\$ 2,640.00
	Chamfer Strips		130 Ln.Ft.	\$ 0.65	\$ 84.50	\$ 0.75	Ln.Ft.	130	\$ 97.50			\$ 182.00
	Temporary Braces		8 Ea.	\$ 10.00	\$ 80.00	\$ 10.00	Ea.	8	\$ 80.00			\$ 160.00
3110.460	Forms: Slab on Grade (misc)											
	Form Edge 2x8		1180 Ln.Ft.	\$ 1.85	\$ 2,183.00	\$ 1.50	Ln.Ft.	1180	\$ 1,770.00			\$ 3,953.00
	Form Construction Joint		455 Ln.Ft.	\$ 1.85	\$ 841.75	\$ 1.50	Ln.Ft.	455	\$ 682.50			\$ 1,524.25
	Panel Notch		1200 Ln.Ft.	\$ 1.50	\$ 1,800.00	\$ 1.50	Ln.Ft.	1200	\$ 1,800.00			\$ 3,600.00
	Form Depress Slab		101 Ln.Ft.	\$ 2.00	\$ 202.00	\$ 2.00	Ln.Ft.	101	\$ 202.00			\$ 404.00
	Premoldeded Expansion Joint		563 S.F.	\$ 0.92	\$ 517.96	\$ 0.90	S.F.	563	\$ 506.70			\$ 1,024.66
	Form Keyway @const. Joints		455 Ln.Ft.	\$ 0.50	\$ 227.50	\$ 1.25	Ln.Ft.	455	\$ 568.75			\$ 796.25
	Isolation Jt: 8" filler		1100 Ln.Ft.	\$ 0.92	\$ 1,012.00	\$ 0.90	Ln.Ft.	1100	\$ 990.00			\$ 2,002.00
3110.900	Forms Strip and Oil											
	Strip and Oil - Footings		12500 S.F.	\$ 0.02	\$ 250.00	\$ 0.08	S.F.	12500	\$ 1,000.00			\$ 1,250.00
	Strip and Oil - Walls		10500 S.F.	\$ 0.02	\$ 210.00	\$ 0.08	S.F.	10500	\$ 840.00			\$ 1,050.00
	Strip and Oil - Columns		215 S.F.	\$ 0.02	\$ 4.30	\$ 0.08	S.F.	215	\$ 17.20			\$ 21.50
	Strip and Oil - Piers		1653 S.F.	\$ 0.02	\$ 33.06	\$ 0.08	S.F.	1653	\$ 132.24			\$ 165.30

Strip and Oil - Edge Forms	12500 S.F.	\$	0.02	\$	250.00	\$	0.08 S.F.	12500	\$	1,000.00	\$	1,250.00
3111.700 Forms: Blockouts												
Column Blockouts	1092 Ln.Ft.	\$	1.75	\$	1,911.00	\$	1.75 Ln.Ft.	1092	\$	1,911.00	\$	3,822.00
3150.070 Forms: Chamfer Strip												
Chamfer Strips - Pier	480 Ln.Ft.	\$	0.65	\$	312.00	\$	0.75 Ln.Ft.	480	\$	360.00	\$	672.00
3150.100 Accessory: Waterstop												
Waterstop - Rubber	585 Ln.Ft.	\$	4.50	\$	2,632.50	\$	1.50 Ln.Ft.	585	\$	877.50	\$	3,510.00
3210.050 Rebar: General												
Rebar - Labor & materials (tons)	40 Ton	\$	947.00	\$	37,880.00	\$	415.00 Ton	40	\$	16,600.00	\$	54,480.00
Wiremesh	50000 S.F.	\$	0.08	\$	4,000.00	\$	0.18 S.F.	50000	\$	9,000.00	\$	13,000.00
3230.200 Rebar: Accessories												
On Grade Access: SOG Misc	35000 S.F.	\$	0.18	\$	6,300.00	\$	0.08 S.F.	35000	\$	2,800.00	\$	9,100.00
3310.120 Concrete: Footings												
Footing Concrete	48 Cu.Yd.	\$	115.00	\$	5,520.00	\$	8.00 Cu.Yd.	48	\$	384.00	\$	5,904.00
3310.140 Concrete: Piers												
Pier Concrete	75 Cu.Yd.	\$	115.00	\$	8,625.00	\$	8.00 Cu.Yd.	75	\$	600.00	\$	9,225.00
3310.310 Concrete: Walls - Retaining												
Retaining Wall Concrete	Cu.Yd.	\$	115.00	\$	-	\$	15.00 Cu.Yd.	0	\$	-	\$	-
3310.330 Concrete: Walls - Foundation												
Foundation Wall Concrete	35 Cu.Yd.	\$	115.00	\$	4,025.00	\$	15.00 Cu.Yd.	35	\$	525.00	\$	4,550.00
3310.360 Concrete Walls - Misc.												
Misc. Wall concrete	5 Cu.Yd.	\$	115.00	\$	575.00	\$	15.00 Cu.Yd.	5	\$	75.00	\$	650.00
3310.370 Concrete Walls - Pit												
Pit Wall concrete	3.25 Cu.Yd.	\$	115.00	\$	373.75	\$	15.00 Cu.Yd.	3.25	\$	48.75	\$	422.50
3310.390 Concrete: Columns												
Column Concrete	15 Cu.Yd.	\$	115.00	\$	1,725.00	\$	25.00 Cu.Yd.	15	\$	375.00	\$	2,100.00
3310.420 Concrete: Pads and Aprons												
Miscellaneous Pads	20 Cu.Yd.	\$	115.00	\$	2,300.00	\$	8.00 Cu.Yd.	20	\$	160.00	\$	2,460.00
3310.460 Concrete: Slabs on Grade												
Concrete Ramp	30 Cu.Yd.	\$	115.00	\$	3,450.00	\$	8.00 Cu.Yd.	30	\$	240.00	\$	3,690.00
Slab on Grade Misc. Concrete	1000 Cu.Yd.	\$	115.00	\$	115,000.00	\$	8.00 Cu.Yd.	1000	\$	8,000.00	\$	123,000.00
3310.500 Concrete: Slab on Metal Deck												
Concrete SOM	110 Cu.Yd.	\$	115.00	\$	12,650.00	\$	5.00 Cu.Yd.	110	\$	550.00	\$	13,200.00
3310.620 Concrete: Fill Pan Stairs												
Concrete Fill Pan Stairs	3 Cu.Yd.	\$	115.00	\$	345.00	\$	50.00 Cu.Yd.	3	\$	150.00	\$	495.00
3310.640 Concrete: Bollards												
Bollard Concrete	1 Cu.Yd.	\$	115.00	\$	115.00	\$	12.00 Cu.Yd.	1	\$	12.00	\$	127.00
3310.950 Concrete: Pumping												
Pumping (cu yds)	1345.25 Cu.Yd.					\$	4.00 Cu.Yd.	1345.25	\$	5,381.00	\$	5,381.00
Pumping (hrs)	115 hr.					\$	165.00 Hr.	115	\$	18,975.00	\$	18,975.00
Pumping (prime packs)	60 Ea.	\$	25.00	\$	1,500.00						\$	1,500.00
3350.100 Finish: General												
Finish Misc. Slab on Grade	35000 S.F.	\$	0.90	\$	31,500.00	\$	0.90 S.F.	35000	\$	31,500.00	\$	63,000.00
Finish Slab on Metal Deck	75000 S.F.	\$	0.15	\$	11,250.00	\$	1.00 S.F.	75000	\$	75,000.00	\$	86,250.00
Finish Footing	5200 S.F.	\$	0.15	\$	780.00	\$	0.15 S.F.	5200	\$	780.00	\$	1,560.00
Finish Wall Top Pit	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Retaining	22 Ln.Ft.	\$	1.00	\$	22.00	\$	1.00 Ln.Ft.	22	\$	22.00	\$	44.00
Finish Wall Top Foundation	200 S.F.	\$	1.00	\$	200.00	\$	1.00 S.F.	200	\$	200.00	\$	400.00
Finish Wall Top Misc.	4 Ln.Ft.	\$	1.00	\$	4.00	\$	1.00 Ln.Ft.	4	\$	4.00	\$	8.00

Finish Column Top	50 Ea.	\$	5.00	\$	250.00	\$	5.00	Ea.	50	\$	250.00	\$	500.00
Stair Finish	150 S.F.	\$	3.50	\$	525.00	\$	3.50	S.F.	150	\$	525.00	\$	1,050.00
3350.200 Finish: Protect and Cure				\$	-								
Curing Compound	116000 S.F.	\$	0.04	\$	4,640.00	\$	0.02	S.F.	116000	\$	2,320.00	\$	6,960.00
Cure Slab on Grade	72000 S.F.	\$	0.04	\$	2,880.00	\$	0.02	S.F.	72000	\$	1,440.00	\$	4,320.00
3350.400 Finish: Point Patch & Rub				\$	-								
P & P Walls	10000 S.F.	\$	0.15	\$	1,500.00	\$	0.25	S.F.	10000	\$	2,500.00	\$	4,000.00
P & P Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.25	S.F.	20000	\$	5,000.00	\$	8,000.00
Rub Retaining Walls	5000 S.F.	\$	0.15	\$	750.00	\$	0.85	S.F.	5000	\$	4,250.00	\$	5,000.00
Rub Exposed Foundation	25000 S.F.	\$	0.15	\$	3,750.00	\$	0.85	S.F.	25000	\$	21,250.00	\$	25,000.00
Rub Misc. Walls/ Foundation Walls	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
Rub Columns	20000 S.F.	\$	0.15	\$	3,000.00	\$	0.85	S.F.	20000	\$	17,000.00	\$	20,000.00
Rub, Cut, and Patch - Pier	2000 S.F.	\$	0.15	\$	300.00	\$	0.85	S.F.	2000	\$	1,700.00	\$	2,000.00
3360.500 Misc: Saw Concrete													
Saw new concrete	75 Ln.Ft.	\$	1.00	\$	75.00	\$	1.00	Ln.Ft.	75	\$	75.00	\$	150.00
3450.010 Pre Cast Concrete Panels													
Pre Cast Concrete Panels	63410 S.F.	\$	30.00	\$	1,902,300.00							\$	1,902,300.00
3600.100 Grout													
Grout	20 Cu.Ft.	\$	35.00	\$	700.00	\$	14.50	Cu.Ft.	20	\$	290.00	\$	990.00
				\$	2,247,012.57					\$	293,423.39	\$	2,540,435.96

Concrete

Hunter Henderson	New McCarthy Gym Design 1											
Date												

Level	Division 4	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Units	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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4000.000 Masonry

04 00 00.00	Masonry												
04 21 13.13	CMU		4800 S.F.	\$2.59	\$12,432.00	\$4.99 S.F.		4800 S.F.		\$23,952.00		\$7.58	\$36,384.00
04 72 20.10	Cast Stone Masonry												
	Cultured Stone Veneer		2078.6 S.F.	\$9.70	\$20,162.42	\$29.00		2078.6 S.F.		\$60,279.40		\$38.70	\$80,441.82
	Masonry				\$32,594.42					\$84,231.40			\$116,825.82

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 5	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

5000.000 Metals

5000.010 **GENERAL**

W8x17x22'	3036 L.F.	\$	29.00	\$	88,044.00	\$	5.20 L.F.	2772	\$	14,414.40	\$	33.75	\$	102,458.40	
12x12 Column	110.25 L.F.	\$	108.25	\$	11,934.56	\$	6.07 L.F.	110.25	\$	669.22	\$	114.32	\$	12,603.78	
15x24 Column 31'	248 L.F.	\$	118.75	\$	29,450.00	\$	6.25 L.F.	248	\$	1,550.00	\$	125.00	\$	31,000.00	
15x18 Column 17.5'	140 L.F.	\$	112.75	\$	15,785.00	\$	6.25 L.F.	140	\$	875.00	\$	119.00	\$	16,660.00	
W6x9x16'	3392 L.F.	\$	9.90	\$	33,580.80	\$	5.15 L.F.	3392	\$	17,468.80	\$	15.05	\$	51,049.60	
ST 4x4	1784 L.F.	\$	34.06	\$	60,763.04	\$	3.34 L.F.	1784	\$	5,958.56	\$	37.40	\$	66,721.60	
ST 5x5	144 L.F.	\$	36.25	\$	5,220.00	\$	3.38 L.F.	144	\$	486.72	\$	39.63	\$	5,706.72	
1'x1.5'x16 Rectangle Tubing	320 L.F.	\$	143.62	\$	45,958.40	\$	7.60 L.F.	320	\$	2,432.00	\$	151.22	\$	48,390.40	
Roof Side Support Beam	160 L.F.	\$	37.28	\$	5,964.80	\$	4.13 L.F.	160	\$	660.80	\$	41.41	\$	6,625.60	
W8x24x22'	528 L.F.	\$	26.37	\$	13,923.36	\$	5.20 L.F.	528	\$	2,745.60	\$	31.57	\$	16,668.96	
16BG	12042 L.F.	\$	14.15	\$	170,394.30	\$	2.23 L.F.	12042	\$	26,853.66	\$	16.38	\$	197,247.96	
2'x1'	1021 L.F.	\$	176.24	\$	179,941.04	\$	6.76 L.F.	1021	\$	6,901.96	\$	183.00	\$	186,843.00	
Cross Beams	910 L.F.	\$	76.27	\$	69,405.70	\$	6.84 L.F.	910	\$	6,224.40	\$	83.11	\$	75,630.10	
Metal Decking	67248 S.F.	\$	4.68	\$	314,720.64	\$	0.67 S.F.	67248	\$	45,056.16	\$	5.35	\$	359,776.80	
Steel Bond			2%	\$	23,547.66								\$	23,547.66	
Crane Rental - Setup	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00
Crane Rental - Fee	2.5 Mo.	\$	50,000.00							\$	125,000.00	\$	50,000.00	\$	125,000.00
Crane Rental - Operator	2.5 Mo.	\$	10,000.00							\$	25,000.00	\$	10,000.00	\$	25,000.00
Crane Rental - Takedown	1 L.S.									\$	50,000.00	\$	50,000.00	\$	50,000.00

5510.000 **Metal Floor Plate Stairs**

Metal Floor Plate Stairs	120 Steps		890	\$	106,800.00	\$	90.50 Steps	120	\$	10,860.00	\$	1,078.55	\$	129,426.00
Metal Stair Nosings	120 Steps		42.5	\$	5,100.00	\$	2.70 Steps	120	\$	324.00	\$	49.72	\$	5,966.40

5500.010 **MISC. METALS**

MISC. METALS	1 L.S.		189647	\$	189,647.00						\$	189,647.00	\$	189,647.00
Metals				\$	1,370,180.30				\$	143,481.28	\$	250,000.00		\$ 1,775,969.98

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 6	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

6000.000 Wood and Plastics

6117.020 **Blocking Misc.**

Misc. Blocking

80000 Ln.Ft. \$ 0.68 \$ 54,400.00 \$ 0.75 Ln.Ft. 80000 \$ 60,000.00 \$ 114,400.00

6260.001 **Arch. Wood Work: General**

Millwork - Sub

1 L.S. \$ 50,000.00 \$ 50,000.00 \$ 50,000.00

Wood and Plastics

\$ 104,400.00 \$ 60,000.00 \$ 164,400.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 7	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

7000.000 Thermal/Moisture Protection

7110.010 **Damproofing/Caulk/Waterproofing**

Damproofing/Caulk/Waterproofing	1 L.S.	\$	157,256.00	\$	157,256.00						\$	157,256.00	\$	157,256.00	
Expansion Joint Control - Floor EJC	150 L.F.	\$	62.89	\$	9,433.50	\$	11.36	L.F.	150	\$	1,704.00	\$	74.25	\$	11,137.50
Expansion Joint Control - Ceiling EJC	150 L.F.	\$	62.89	\$	9,433.50	\$	11.36	L.F.	150	\$	1,704.00	\$	74.25	\$	11,137.50
Expansion Joint Control - Wall EJC	150 L.F.	\$	62.89	\$	9,433.50	\$	11.91	L.F.	150	\$	1,786.50	\$	74.80	\$	11,220.00

7300.010 **Roofing: General**

TPO Roofing	750 Sq.	\$	78.00	\$	58,500.00	\$	750.00	Sq.	65.5	\$	49,125.00	\$	1,000.00	\$	144.83	\$	108,625.00
Roofing Insulation	235278 S.F.	\$	1.02	\$	239,983.56	\$	0.26	S.F.	76000	\$	19,760.00	\$		\$	1.10	\$	259,743.56
Vapor Barrier	784.26 Sq	\$	21.00	\$	16,469.46	\$	0.75	Sq.	784.26	\$	588.20	\$		\$	21.75	\$	17,057.66
Gym Roof Steel	24562 S.F.	\$	3.03	\$	74,422.86	\$	1.72	S.F.	24562	\$	42,246.64	\$		\$	5.94	\$	145,836.88
Shake Roofing	850 Sq.	\$	286.00	\$	243,100.00	\$	176.00	Sq.	850	\$	149,600.00	\$		\$	577.50	\$	490,875.00

7216.030 **Blanket Insulation**

Blanket Insulation	68334.24 S.F.	\$	1.24	\$	84,734.46	\$	0.26	C.F.	68334.24	\$	17,766.90	\$	38,950.52	\$	2.59	\$	176,814.85
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7213.010 **Thermal Insulation**

Extruded Polystyrene Walls	63410.00 S.F.	\$	1.61	\$	102,090.10	\$	0.57	S.F.	63410	\$	36,143.70	\$		\$	2.73	\$	172,792.25
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7410.050 **Siding Panels: General**

Formed Metal Wall Panels	63410 S.F.	\$	5.41	\$	343,048.10	\$	2.11	S.F.	63410	\$	133,795.10	\$		\$	7.52	\$	476,843.20
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7810.010 **Fireproofing: General**

Firestopping	1 L.S.	\$	80,000.00	\$	80,000.00							\$	80,000.00	\$	80,000.00	\$	80,000.00
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Thermal/Moisture Protection

				\$	1,427,905.04					\$	454,220.04	\$	39,950.52			\$	2,119,339.39
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Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 8	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
Division 8000.00 Doors & Windows												
8100.010	Doors, Frames, and Hardware											
	HM Glass Door and Frame		16 ea.	\$ 1,800.00	\$ 28,800.00	\$ 200.00	ea.	16	\$ 3,200.00			\$ 32,000.00
	HM Glass Door with Lite		17 ea.	\$ 1,950.00	\$ 33,150.00	\$ 250.00	ea.	17	\$ 4,250.00			\$ 37,400.00
	HM Glass Double Door		10 ea.	\$ 3,600.00	\$ 36,000.00	\$ 500.00	ea.	10	\$ 5,000.00			\$ 41,000.00
	Solid Doors		52 ea.		\$ -	\$ 100.00	ea.	52				\$ -
	Door Sub Bond			2.5%	\$ 2,760.00							\$ 2,760.00
8400.000	Metal Framed Storefronts											
	Curtain Wall		15526.93 s.f.	\$ 60.50	\$ 939,379.27	\$ 10.55		15526.93	\$ 163,809.11	\$ 6,600.00		\$ 1,103,188.38
	Curtain Wall Bond			2%	\$ 18,787.59							\$ 18,787.59
	Storefronts		11661.75 S.F.	\$ 25.50	\$ 297,374.63	\$ 6.10		11661.75	\$ 71,136.68			\$ 368,511.30
	Glass handrails		999 L.F.	\$ 145.00	\$ 144,855.00	\$ 50.00		999	\$ 49,950.00			\$ 194,805.00
	Skylight											
	Pyramid Skylights		765 S.F.	\$ 125.00	\$ 95,625.00	\$ 18.50	S.F.	765	\$ 14,152.50			\$ 109,777.50
	Doors & Windows				\$ 1,356,251.48				\$ 311,498.29	\$ 6,600.00		\$ 1,603,647.26

Hunter Henderson	New McCarthy Gym Design 1										
Date											

Level	Division 9	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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9000.000 General Requirements

9105.010	Plaster and Stucco											
	Lath Plaster and Stucco Sub	1 L.S.		\$ 50,000.00	\$ 50,000.00			1				\$ 50,000.00
	Lath Plaster and Stucco Bond			1.5%	\$ 750.00			0				\$ 750.00
9220.010	Non-Structural Metal Framing											
	Metal Stud Framing	68334.24 S.F.		\$ 0.40	\$ 27,333.70	\$ 13.76	S.F.	68334.24	\$ 940,279.14			\$ 967,612.84
	Stud Framing Sub Bond			2%	\$ 19,352.26							\$ 19,352.26
9290.010	Gypsum Board Panels											
	Gypsum Board Panels	136668.48 S.F.		\$ 0.45	\$ 61,500.82	\$ 1.07	S.F.	136668.48	\$ 146,235.27			\$ 207,736.09
9313.010	Thin-Set Stone Tiling											
	20"x20" Tile	2734 S.F.		\$ 7.15	\$ 19,549.65	\$ 2.63	S.F.	2734.217	\$ 7,190.99			\$ 26,740.64
9510.010	Ceiling Acoustical Metal Pan											
	Ceiling Acoustical Metal Pan	73690		\$ 13.90	\$ 1,024,291.00	\$ 0.83		73690	\$ 61,162.70			\$ 1,085,453.70
	Ceiling Sub Bond			2%	\$ 21,709.07							\$ 21,709.07
9660.010	Flooring: General											
	Acid Stained Floors	34478 S.F.		\$ 0.74	\$ 25,513.72	\$ 0.86	S.F.	34478	\$ 29,651.08			\$ 55,164.80
	Terrazo Sub Bond			2%	\$ 1,103.30							\$ 1,103.30
9650.010	Resilient Athletic Flooring											
	Resilient Athletic Flooring	26769.59 S.F.		\$ 3.67	\$ 98,244.40	\$ 1.24	S.F.	26769.59	\$ 33,194.29			\$ 131,438.69
	Athletic Flooring Sub Bond			2%	\$ 2,628.77							\$ 2,628.77
	VCT	10947.58 S.F.		\$ 9.40	\$ 102,907.25	\$ 4.13		10947.6				\$ 102,907.25
9640.010	Wood Flooring											
	Maple Gym Flooring	16461 S.F.		\$ 7.00	\$ 115,227.00	\$ 4.22		16461	\$ 69,465.42			\$ 184,692.42
	Gym Flooring Bond			2%	\$ 3,693.85							\$ 3,693.85
9680.010	Carpeting											
	Carpet Tile	1500.9 Yds		\$ 47.50	\$ 71,292.22	\$ 4.79	Yds	1500.9	\$ 7,189.26			\$ 71,292.22
	Floor Protection											
	Floor Protection	103690 S.F.		\$ 0.28	\$ 29,033.20	\$ 0.20	S.F.	103690	\$ 20,738.00			\$ 49,771.20
9620.000	Fluid Applied Flooring											
	Fluid applied athletic flooring	8583 S.F.		\$ 6.50	\$ 55,789.50	\$ 7.65	S.F.	8583	\$ 65,659.95			\$ 121,449.45
9900.010	Paints & Coatings: General											
	Painting Subcontractor	178668.48 L.S.		\$ 0.20	\$ 35,733.70	\$ 0.41	S.F.	178668.48	\$ 73,254.08			\$ 125,335.94
	Painting Sub Bond			1%	\$ 357.34							\$ 357.34
	Finishes				\$ 1,766,010.73				\$ 1,454,020.18			\$ 3,229,189.83

Hunter Henderson	New McCarthy Gym Design 1											
Date												

Level	Division 10	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost
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10000.000 Specialties

10000.010	Emergency Key Cabinet											
	Emergency Key Cabinet		1 ea.	\$ 585.00	\$ 585.00	\$ 50.00	ea.	1	\$ 50.00		\$ 635.00	\$ 635.00
10100.010	Visual Display Boards											
	Visual Display Surfaces		8 ea.	\$ 170.00	\$ 1,360.00	\$ 60.00	ea.	8	\$ 480.00		\$ 230.00	\$ 1,840.00
	Projectors		8 ea.	\$ 850.00	\$ 6,800.00	\$ 150.00	ea.	8	\$ 1,200.00		\$ 1,000.00	\$ 8,000.00
10610.010	Plastic Toilet Compartments											
	Plastic Toilet Compartments		41 ea.	\$ 700.00	\$ 28,700.00	\$ 125.00	ea.	41	\$ 5,125.00		\$ 825.00	\$ 33,825.00
10420.010	Plaque Metal Cased											
	Plaque Metal Cased		1 ea.	\$ 2,955.00	\$ 2,955.00	\$ 150.00	ea.	1	\$ 150.00		\$ 3,105.00	\$ 3,105.00
10430.010	Signs and Letters											
	Exterior Dimensional Letters		40 ea.	\$ 150.00	\$ 6,000.00	\$ 10.00	ea.	1	\$ 10.00		\$ 150.25	\$ 6,010.00
	Interior Door Signage		75 ea.	\$ 75.00	\$ 5,625.00	\$ 6.50	ea.	75	\$ 487.50		\$ 81.50	\$ 6,112.50
	Corner Guards		125 ea.	\$ 10.00	\$ 1,250.00	\$ 1.00	ea.	125	\$ 125.00		\$ 11.00	\$ 1,375.00
	Vinyl Graphics		1 L.S.	\$ 1,500.00	\$ 1,500.00		L.S.	1	\$ -		\$ 1,500.00	\$ 1,500.00
10500.010	Lockers											
	Lockers		60 ea.	\$ 345.00	\$ 20,700.00	\$ 135.00	ea.	60	\$ 8,100.00		\$ 480.00	\$ 28,800.00
10521.010	Fire Extinguishers Etc.											
	Fire extinguishers		24 ea.	\$ 50.00	\$ 1,200.00	\$ 5.00	ea.	24	\$ 120.00		\$ 55.00	\$ 1,320.00
	Fire extinguisher cabinets		24 ea.	\$ 100.00	\$ 2,400.00	\$ 35.00	ea.	24	\$ 840.00		\$ 135.00	\$ 3,240.00
10530.010	Protective Covers											
	Canopies - Sub		4891.8 S.F.	\$ 26.00	\$ 127,186.80			4891.8	\$ -		\$ 26.00	\$ 127,186.80
10800.010	Misc. Toilet/Bath Equipment											
	TP Dispensers		41 ea.	\$ 40.00	\$ 1,640.00	\$ 5.00	ea.	41	\$ 205.00		\$ 45.00	\$ 1,845.00
	Grab Handles		41 ea.	\$ 45.00	\$ 1,845.00	\$ 5.00	ea.	41	\$ 205.00		\$ 50.00	\$ 2,050.00
	Soap Dispensers - automatic		41 ea.	\$ 27.00	\$ 1,107.00	\$ 5.00	ea.	41	\$ 205.00		\$ 32.00	\$ 1,312.00
	Paper Towel Dispensers - auto		41 ea.	\$ 70.00	\$ 2,870.00	\$ 5.00	ea.	41	\$ 205.00		\$ 75.00	\$ 3,075.00
	Sanitary Napkin Disposal		41 ea.	\$ 125.00	\$ 5,125.00	\$ 5.00	ea.	41	\$ 205.00		\$ 130.00	\$ 5,330.00
	Mop Shelf		3 ea.	\$ 500.00	\$ 1,500.00	\$ 5.00	ea.	3	\$ 15.00		\$ 505.00	\$ 1,515.00
	Air Hand Dryers		41 ea.	\$ 280.00	\$ 11,480.00	\$ 20.00	ea.	41	\$ 820.00		\$ 300.00	\$ 12,300.00
	Mirrors		41 ea.	\$ 70.00	\$ 2,870.00	\$ 15.00	ea.	41	\$ 615.00		\$ 85.00	\$ 3,485.00
	Robe Hooks		41 ea.	\$ 2.00	\$ 82.00	\$ 1.00	ea.	41	\$ 41.00		\$ 3.00	\$ 123.00
	Specialties				\$ 234,780.80				\$ 19,203.50			\$ 253,984.30

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 11	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

11000.000 Equipment

11480.010	Equip: Sports/Therapeutic Gymnasium Equipment	1 L.S.	\$ 160,000.00	\$ 160,000.00	\$ 750.00 ea.	1	\$ 3,500.00					\$ 163,500.00
	Equipment			\$ 160,000.00			\$ 3,500.00					\$ 163,500.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 12	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

12000.000 Furnishings

12490.010 Window Treatments												
Blinds		250 ea.		150 \$	37,500.00 \$	15.00 ea.		250 \$	3,750.00		\$ 165.00	\$ 41,250.00
Furnishings				\$	37,500.00			\$	3,750.00			\$ 41,250.00

Hunter Henderson	New McCarthy Gym Design 1											
Date												
Level	Division 16	Material T.O.	Units	Material PPU	Total Material Cost	Labor PPU	Units	Labor quantity	Total Labor Price	Equipment Cost	Total Cost/Unit	Total Cost

16000.000 Electrical

16000.010 **Electrical: Complete**

Electrical (Sq Ft.)	103690 S.F.	\$	33.50	\$	3,473,615.00							\$ 3,473,615.00
Electrical Bond			2%	\$	69,472.30							\$ 69,472.30
Pole Bases	1 L.S.		115	\$	115.00	\$	500.00	1	\$	500.00		\$ 615.00
Transformer Pad	1 L.S.		115	\$	115.00	\$	150.00	1	\$	150.00		\$ 265.00
	Electrical			\$	3,543,317.30				\$	650.00		\$ 3,543,967.30

Estimate Totals

Description	Amount	Totals	Rate	Cost Per Unit	Percent of Total	Building Sq. Ft.
Labor	\$ 3,561,775.77			\$ 34.35	10.7%	103,690
Material & Sub	\$ 21,764,101.04			\$ 209.90	65.7%	
Equipment	\$ 302,450.52			\$ 2.92	0.9%	
		\$ 25,628,327.33		\$ 247.16	77.3%	
Sales Tax: MS	\$ 772,329.30		3.5%	\$ 7.45	2.3%	
Taxes & Ins. On Labor	\$ 997,297.22		28%	\$ 9.62	3.0%	
Builders Risk	\$ 24,514.40		0.074%	\$ 0.24	0.1%	
Building Permit	\$ 52,275.65		0.204%	\$ 0.50	0.2%	
Bond	\$ 760,443.41		2.967%	\$ 7.33	2.3%	
		\$ 2,606,859.98		\$ 25.14	7.9%	
Overhead & Profit	\$ 1,694,111.24		6.0%	\$ 16.34	5.1%	
Construction Management Fee	\$ 1,129,407.49		4.0%	\$ 10.89	3.4%	
Electrical Engineering Fee	\$ 282,351.87		1.0%	\$ 2.72	0.9%	
Structural Engineering Fee	\$ 282,351.87		1.0%	\$ 2.72	0.9%	
Consulting Fees	\$ 141,175.94		0.5%	\$ 1.36	0.4%	
Architectural Fee	\$ 1,383,524.18		4.9%	\$ 13.34	4.2%	
		\$ 4,912,922.59		\$ 47.38	14.8%	
Total	\$ 33,148,109.90			\$ 319.68		
cut add	\$ (109.90)					
Final Price	\$ 33,148,000.00			\$ 319.68		

Group 8 Philip Herring

Division 1 General Requirements

01210.000 Allowances
01300.010 Personnel
01310.020 Travel
01450.310 Testing
01450.410 Sample Panel
01510.010 Utilities
01510.020 Utilities
01520.010 Temp. Facilities
015200.030 Temp. Office
01562.010 Controls
01620.030 Layout
01710.10 Job Set Up
01710.020 Layout Equipment
01710.030 General Equipment
01710.070 Carpentry & Misc. Steel Equipment
01710.080 Material Handling Equipment
01740.010 Clean Up

Division 2 Existing Conditions

02240.010 Dewater
02310.020 Earthwork
02315.021 Earthwork Excavate Footings/Misc.
02315.070 Backfill
02320.010 Soil Poisoning/Pest Control
02340.010 Soil Stabilization/Erosion Control
02410.010 Demolition
02450.010 Piling
02630.010 Drainage
02750.030 Paving Sidewalks
02750.035 Paving Concrete
02750.500 Paving Steps on Grade
02760.010 Paving Asphalt
02760.030 Paving Parking Lines
02760.040 Paving Wheel Stops
02770.010 Paving Curb & Gutter
02820.010 Improvement Fencing
02840.050 Improvement Bollards/Rails
02890.010 Improvement Traffic Signs
02900.010 Landscaping

Division 3 Concrete

03000.010 Crushed Stone
03110.120 Forms Footings
03110.140 Pier Forms
03110.140 Forms Foundation Walls
03110.360 Forms Walls Misc.
03110.370 Forms Pit Walls
03110.390 Forms Columns
03110.460 Forms SOG
03110.900 Forms Strip & Oil
03111.700 Forms Blockouts
03150.070 Forms Chamfer Strip
03150.100 Accessory Waterstop
03210.050 Rebar General
03230.200 Rebar Accessories
03310.120 Concrete Footings
03310.310 Concrete Piers
03310.310 Concrete Retaining Walls
03310.330 Concrete Foundation Walls
03310.360 Concrete Walls Misc.
03310.370 Concrete Pit Walls
03310.390 Concrete Columns
03310.420 Concrete Pad & Aprons
03310.500 Concrete SOMD
03310.620 Concrete Fill Pan Stairs
03310.640 Concrete Bollards
03310.950 Concrete Pumping
03350.100 Finishing General
03350.200 Finish Protect & Cure
03350.400 Finish Point Patch & Rub
03360.500 Misc Concrete Saw
03450.010 PreCast Concrete Panels
03600.100 Grout

Division 4 Masonry

042113.13 Exterior Brick

Division 5 Metals

05000.010 General
05500.010 Misc. Metal

Division 6 Wood, Plastics & Composites

06117.020 Blocking Misc.

06260.001 General Arch. Wood Work

Division 7 Thermal/Moisture Protection

07110.010 Damp Proofing/Caulk/Waterproofing

07300.010 Roofing General

07810.010 Fireproofing General

Division 8 Doors & Windows

08100.010 Doors, Frames & Hardware

08400.000 Metal Framed Storefronts

Division 9 Finishes

09105.010 Plaster & Stucco

09110.020 Metal Studs & GWB

09600.010 Flooring General

09620.000 Fluid Applied Flooring

09900.010 Paints & Coatings

Division 10 Specialties

10000.010 Emergency Key Cabinet

10100.010 Visual Display Compartments

10610.010 Plaque Metal Cased

10430.010 Signs & Letters

10500.010 Lockers

10521.010 Fire Extinguishers Etc.

10530.010 Protective Covers

10800.010 Misc. Toilet/Bath Equipment

Division 11 Equipment

11480.010 Equipment Sports/Therapeutic

Division 12 Furnishings

12490.010 Window Treatments

Division 13 Special Construction

13080.010 Sound, Vibration & Seismic Control

13100.010 Lighting Protection

13700.010 Security Access & Surveillance

15300.010 Sprinklers

Division 14 Conveying Systems

14200.010 Elevators

Division 15 Mechanical Systems

15700.010 HVAC Systems

Division 16 Electrical

16000.010 Electrical Components

OUTLINE SPECIFICATION

SUMMARY & ARCHITECTURAL

McCarthy Gym Renovation & Addition
Schematic Design
Starkville, Mississippi
Bid Date: June 11, 2020 at 2:00 PM Eastern Time

Bid File #: 201-215

Project #: 420-255

2018 International Building Code
Use Group: E-3 Higher Educational Building
Building Construction Type: IIIB, three story, fully sprinkled building

DIVISION 1: GENERAL CONDITIONS

A. General Contractor Responsibilities (project to be bid summer 2020):

1. Project management, supervision, safety program (100% site safety responsibility).
2. Field layout, shop drawings, record and as-built drawings, testing services, quality control.
3. General liability, workman's compensation insurances.
4. Payment and performance bonds, builder's risk insurance, building permits.
5. Temporary service (electrical, water, sanitary, power, heat, fire protection, enclosures/barriers).
6. Site fencing, dust and water control.
7. Construction cleaning, final clean-up, legal disposal of waste.
8. Signs and project identification, field office and storage trailers.
9. Apply for City demolition permit(s) and building permits and pay all related fees.

B. Owner Responsibilities:

1. Site plan approvals and regulatory review with architect and engineer
2. Reasonable, unimpeded access to the site.
3. Timely decision making and desired night time security.
4. Site surveys and establishment of project site baseline.
5. Construction materials testing.
6. Determine and pay for FFE costs, including library. Contract with furnishings vendor.
7. Determine IT/communications/security costs (wires, racks, devices, panels, cameras, etc.).
8. Jet cleaning/routing of existing catch basins, storm drains and sewer lines
9. Removal of existing furnishings.
10. Remove H/C stage lift for compliance.
11. Pressure and flow test nearest street hydrant for sprinkler design confirmation.

DIVISION 2: SITEWORK

(New CSI format Div. 31 Earthwork, Div. 32 Exterior Improvements, Div. 33 Site Utilities)

A. Site Supervision and Safety:

1. Site supervision.
2. Construction traffic control from adjacent roads as required; pedestrian traffic control as required.
2. Construction signage and barriers.
3. Protection fencing of lay down area perimeter.
4. Protective fencing at foundations and open excavations.

B. General Site Prep:

1. Protection, erosion and dust control, site dewatering (if needed).
2. Loam stockpile and screening; include removal and/or re-use.
3. General cuts and fills at addition site area, including removal of existing buildings and foundations identified on the drawings for demolition within footprint to slab subgrade of proposed new addition.
3. General grading and contouring of site.
4. 12" gravel base at all new parking and road paved areas for asphalt pavements
5. Egress doors heed paved pathways to common site locations. Walkways to be 5' wide.
6. 12" gravel base to be provided at new walkways and courtyards.
7. Remove excess materials from site if required.
8. Building abatement demolition at property
9. Abatement of existing gym whether demolished or reused
10. Selective demolition at existing building.
 - a. Abatement of all ACBM's
 - b. Ceilings and toilet fixtures to be removed and replaced with new
 - c. Ductwork, plumbing equipment related to existing heating and hot water system
 - d. Existing kitchen equipment.
 - e. Existing roofing and All large closets in classrooms
 - f. Bathroom tiles, partitions.
 - g. Gym Flooring
 - h. Foundation Walls
 - i. Slab on Grade
11. Hazardous building materials abatement (see attached final HBM Report):
 - a. Full abatement prior to demolition, many locations.
 - b. Full abatement- no future maintenance required by City:
 - i. Exterior fascia panels.
 - ii. Mastic adhesive at cove base.
 - iii. Pipe insulation above ceiling and behind exist. classroom casework
 - iv. Interior door caulking at door frames.
 - v. Ceramic tile grout and mastic.

- vi. Sinks for basin undercoat.
- vii. Flooring and mastic.
- viii. Window Caulking.

c. Gamble property:

- a. Abate all prior to demolition. Joint compound mixed w/ GWB does not require full abatement of GWB. Workers need to wear minimal PPE, and GWB needs to go to licensed disposal facility only.
- b. If abatement/demolition does not occur, City to install "Asbestos Hazard" signs at all building entry locations and garage

d. Old Gym

- a. Abate all (floor tile/mastic and caulking) whether bldg. is demolished or re purposed.

C. Building Pad Preparation:

1. Excavate and backfill as required for structure; provide imported gravel/granular backfill throughout. Removal of material from site shall require approval.
2. 8" crush or well graded gravel and reinforced vapor barrier beneath all interior slabs-on-grade
3. Foundation drains not required.
4. Excavate and backfill interior utilities.
5. Fine grade for slabs

D. Utilities:

1. Connect to existing electrical service.
2. Allowance for reconstruction of natural gas service that will be re-routed for new building.
3. New roof drain connection into existing catch basin near old gym.
4. Site electrical to include demolition of existing electrical service and a new primary underground conduit for electrical (primary wiring and transformer by power company), transformer pad, secondary underground conduit and wiring into building, telecom data conduit (with pull string) and site lighting with building LED wall packs.
5. Extend existing sewer into new addition.

DIVISION 3: CONCRETE

A. Foundations (3,000 psi in 28 days, air entrained where exposed to weathering):

1. Frost foundations with 60# of steel reinforcement/cy.
2. Column footings with 125# of steel reinforcement/cy.
3. Column piers with 200# of steel reinforcement/cy.
4. Structural entries with 85# of steel reinforcement/cy.
5. Interior CMU strip footings with 45# of steel reinforcement/cy.

6. Geotechnical Report (See attached): Use 2,000 psf soil bearing pressure for spread footings. No site dewatering required. No piles required.

B. Slabs:

1. Interior at grade (4,000 psi 28 days):
 - a. 6" structural entry slabs with 85# of steel reinforcement/cy.
 - b. Equipment pads as required.

C. Miscellaneous:

1. 1/2" thick joint fillers all slab edges ending against vertical surfaces, full slab depth.
2. Membrane cure, compatible with future finished flooring, at all areas (wet cure option).
3. Liquid hardener sealer at floors to remain as exposed interior concrete.
4. Embedment plates at steel bearing on concrete or CMU.
5. Anchor bolts and grout plates at steel columns.
6. Labor for concrete embedments.

D. Precast Concrete Panels

1. Fastened to structure per manufactures specifications
2. Free of any chips, cracks, or any other defects
3. Gaps between panels to be caulked

DIVISION 4: MASONRY

A. Unit Masonry

- a. Re-point and clean existing brick at 1960's building.

B. Stone Veneer

- a. Installed per manufactures specifications
- b. Free of any defects or cracking
- c. Veneer to be mortared into place

DIVISION 5: STEEL

A. Structural Steel/Joist/Deck:

1. Steel beams, tube steel columns for building addition except gym.
2. Open web steel bar joists for building addition except gym.
3. Metal deck over building addition.

B. Cold Formed Metal Framing:

1. 6" Exterior Stud Walls for structural support/back-up of precast concrete panels.
2. 3-5/8" Non-load bearing separation partitions.
3. Miscellaneous interior partitions, soffits, etc.
4. Miscellaneous Metals (galvanized where exposed to weather):
5. Bollards at site transformer pad and trash dumpster enclosures.
6. Miscellaneous HVAC, basketball, fabric partition and basketball scoreboard system supports as required.
7. Expansion joint floor, wall, and roof assemblies between pre-engineered metal building and new steel structure.
8. Exterior SS floor grilles at main entries.
9. Loose lintels for masonry openings in existing 1960's building.

C. Miscellaneous Metals (galvanized where exposed to weather):

1. Bollards at site transformer pad and trash dumpster enclosures.
2. Miscellaneous HVAC, basketball, fabric partition and basketball scoreboard system supports as required.
3. Expansion joint floor, wall, and roof assemblies between pre-engineered metal building and new steel structure.
4. Exterior SS floor grilles at main entries.
5. Loose lintels for masonry openings in existing 1960's building.

DIVISION 6: CARPENTRY**A. Rough Carpentry:**

1. Interior wall and surface blocking as required.
2. Electrical plywood panel backers.

B. Finish Carpentry and Architectural Woodwork:

1. Architectural woodwork/casework provided for Reception Counter and miscellaneous casework indicated on plan.
2. Solid surface countertops in locker rooms.
3. Miscellaneous display cases and trimwork.

DIVISION 7: THERMAL AND MOISTURE**A. Waterproofing Systems:**

1. None required at the Foundations.

B. Insulation:

1. Exterior walls: 5-½" spray foam insulation applied to interior surface of exterior sheathing
2. 2" XPS foundation perimeter insulation extending 24" under perimeter slab.
3. Air barrier applied to exterior paneling at new addition.
4. Provide acoustical insulation in walls between locker rooms and corridors.
5. Underslab 10 mil Stego Wrap Class A Vapor Retarder.
6. Install 6" metal studs, 1" from face of existing CMU, spray 5-½" of foam insulation
7. Pre-engineered metal building to have R-38 roof insulation with metal roofing.

C. Membrane Roofing: TPO .060 adhered membrane roofing with R38 rigid insulation, tapered insulation and crickets, 1/2" protection board, as required for building and flat roof portion of new addition.

1. Gym pitched metal roof with vapor retarder insulation system.

DIVISION 8: DOORS AND GLASS**A. Doors and Hardware Systems:**

1. Knock down frames not acceptable, welded only.
2. All exterior door assemblies to be heavy duty aluminum doors and storefront system. Gymnasium doors shall be insulated galvanized HM. All exterior doors shall have continuous hinges.
3. All interior doors shall be solid core maple veneer. Kitchen and maintenance area doors shall be HM 1960's wing. Re-use existing doors and frames.
4. All doors with required hardware systems and fire rated as required.
5. Door card reader access control hardware at Staff proprietary entrances. By City, coordinate with A&E.
6. ADA blue paddle push door hardware systems at main vestibule and north entrance.
7. Access doors and panels for MEP system access.

B. Storefronts:

1. Aluminum frame Kynar finish storefront exterior and interior door systems.
2. Interior storefront doors with sidelites at main office.

C. Windows:

1. EFCO series aluminum windows to match elevations at new addition.
2. Existing windows to remain: clean, caulk and provide locking mechanisms.

D. Glazing:

1. 1" insulated and ¼" door glass systems; provide tempered glass within 18" of ground and doors.
2. Mirrors see Division 10.

DIVISION 9: FINISHES**A. Drywall:**

1. Abuse resistant 5/8" t GWB in all corridors, classrooms, locker rooms, over 6" exterior studs at 1960's addition. All office areas shall be 5/8" GWB. Provide moisture resistant GWB within 4' of a plumbing fixture.
2. Dense Armor plus ceilings on furring at shower areas.
3. Drywall ceilings on furring at electrical related areas.

B. Acoustical:

1. 2 x 4 square edge humidity resistant, anti-bacterial acoustical ceilings typical in Program Rooms.
2. 2 x 4 square edge vinyl face acoustical ceiling at warming kitchen and locker rooms.
3. 2 x 4 abuse and moisture resistant ceiling tiles in corridors.
4. Gymnasium shall be exposed decking and utilities with Tectum panels on end walls of new gym 9' to 20'.

C. Flooring and Wall Finishes:

1. VCT with rubber cove base in all Program, Main Office waiting, corridors, storage rooms, health suite and cafeteria.
2. Ceramic tile wet wall with tile base at custodial, and restrooms
3. Ceramic tile full height at shower area walls.
4. Carpet squares with rubber base cove at Offices, Reception. Carpet in all Program Rooms except one will have resilient. rubber flooring for indoor workout area
5. Ceramic tile flooring and cove base at shower area. Locker rooms to have rubber flooring
6. Multi-purpose sports flooring at Gymnasium.
7. Cupola Building to have resilient, composite flooring for multi-use.
8. Sealed concrete floors at Storage, Mechanical, and Electrical areas.
9. Provide terrazo flooring in main lobby area.
10. Walk-off mats at entrance.

D. Painting:

1. HM Doors and frames.

2. Drywall.
3. Exposed to view structure and deck. Exposed to view structure and deck at exterior canopies.
4. Trims and panels at interior.
5. Exposed miscellaneous metals, piping, and duct.

DIVISION 10: SPECIALTIES

A. Allowances to be established for:

1. Floor mount, ceiling braced HDPE toilet and urinal partitions.
2. Toilet accessories, grab bars, mirrors, and hand dryers; include baby change stations at public Toilet rooms.
3. Lockers 12" x 12" x 72" double tier.
4. Signage ADA; building directories and bulletin boards.
5. Fire extinguishers with semi-flush cabinets at public spaces; wall mounted at mechanical or janitorial areas. Provide electronic monitoring.
6. Gym fabric/separation curtain.
7. Stage lighting see electrical outline specification.
8. Metal corner guards at all impact resistant outside corners.
9. Aluminum louvers with factory Kynar finish.

DIVISION 11: EQUIPMENT

A. GYM equipment

1. Gymnasium wall pads, 4 electronic retractable basketball goals, electronic curtain divider, scoreboard.
2. Center court logo, basketball, volleyball, and pickle ball striping

B. Workout Equipment

1. Allowance for Indoor/Outdoor workout equipment
2. Workout areas to be designed and installed by rogue fitness

DIVISION 12: FURNISHINGS

A. Window Treatments

1. Automatic roller shades
2. Installed per manufacturers specifications wire to controller inside of rooms

DIVISION 13: SPECIAL CONSTRUCTION

- A. Sound, Vibration, and Seismic Control
- B. Lightning Protection
- C. Security Access and Surveillance
 - 1. Door Answering system in locker rooms
 - 2. Intrusion Detection installed per manufactures specifications
 - 3. Security card access to enter the building and another system for the locker rooms
 - 4. Video surveillance in all public building areas not including gym and workout areas

DIVISION 14: CONVEYING SYSTEMS

- A. Elevator
 - a. Full elevator system to be installed by certified installers with bond and insurance

DIVISION 15: MECHANICAL & PLUMBING**A. Fire Suppression:**

- 1. Wet sprinkler system installed by licensed company
- 2. Dry system in attic space of Building.

B. Plumbing:

- 1. Replace all existing plumbing toilets, urinals, lavatories in 1960's building with new.
- 2. All new fixtures to be water saving.
- 3. New sinks in locker rooms, restrooms, serving kitchen to be new.
- 4. Drinking fountains to have bottle filler station.
- 5. New floor mounted water closets in new locker rooms and restrooms.
- 6. Floor drains in restrooms, locker rooms, mechanical rooms.
- 7. Hose bibs at exterior of building and toilet rooms with locking handles.
- 8. Water piping – copper or PEX tubing per contractor's option.

C. HVAC:

- 1. Two (2) new condensing natural gas-fired boilers in new mechanical room.
- 2. Hot water distributed throughout entire building from new mechanical room.
- 3. Lobby and Reception/Admin Core: Roof top heating and cooling VAV boxes for control of individual rooms with exposed ductwork in low ceiling areas.
- 4. Perimeter fin-tube radiation.
- 5. Cupola Building: Roof top mounted heating and cooling unit located on new addition (with screen), ductwork distribution and exterior wall fin-tube.

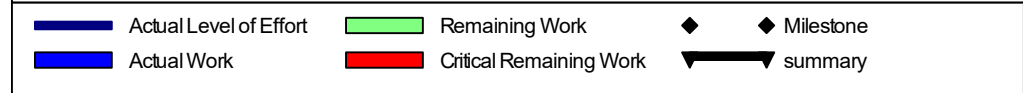
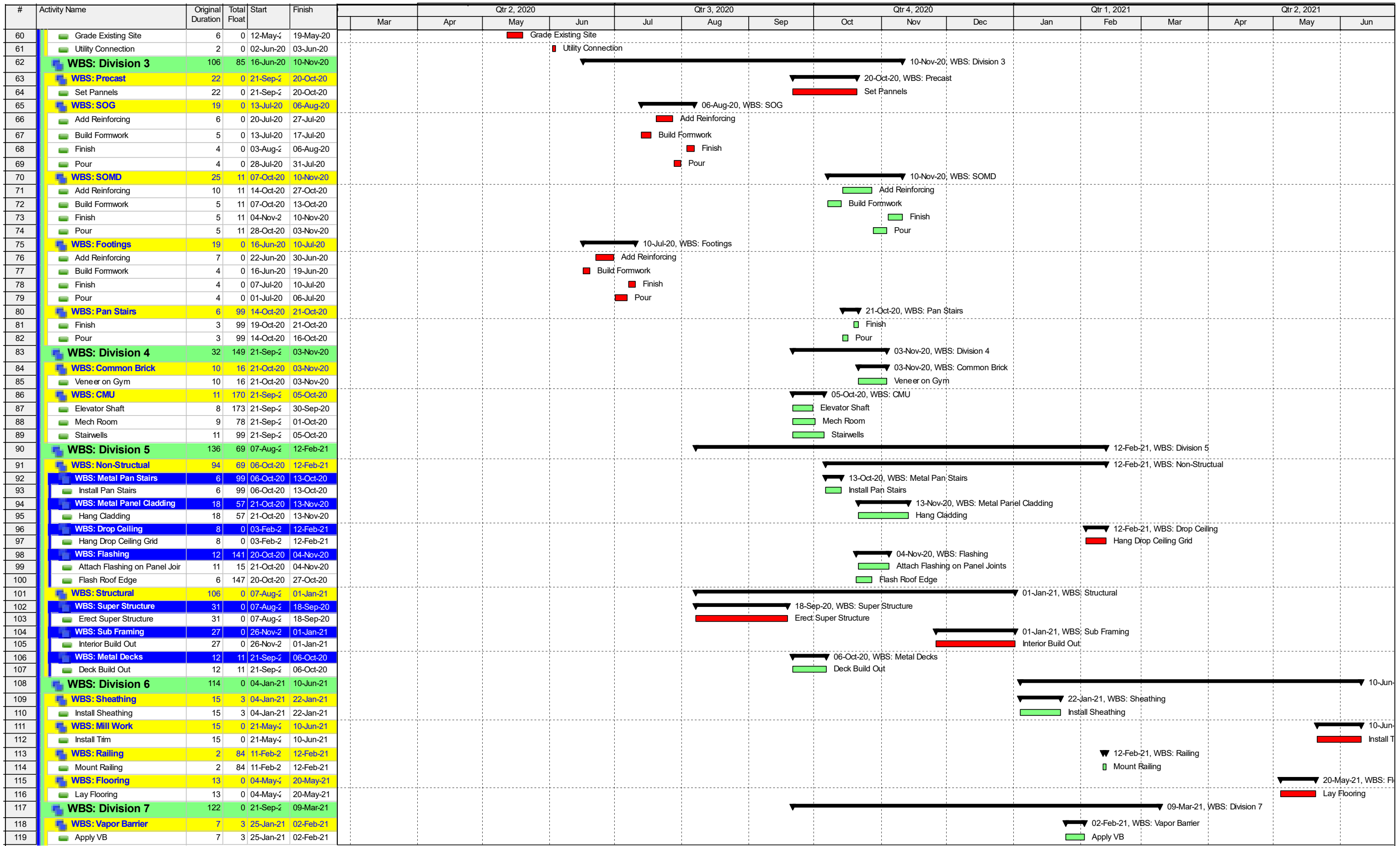
6. IT Room ductless split heating/cooling system.
7. Controls to be DDC system for building allowing remote monitoring via internet, phone and email.

DIVISION 16: ELECTRICAL

- A. Demolish electrical service and all existing electrical components and install new.
- B. Unitil to provide a new pad mounted transformer rated for 1200 amp, 3-phase 120/208 volt electrical. Transformer to be located outdoors and near electrical room.
- C. Contractor to provide 1200 amp distribution panel along with multiple electrical panels located throughout the existing and new building.
- D. Site lighting to be accomplished by LED, cut-off wall packs. No site/yard lighting is included other than wall packs.
- E. All interior power, LED lighting, outlets, etc. to be new. building to have surface mounted "wire mold" where hidden conduits are not feasible.
- F. Fire alarm panel to be new and meet the requirements of the Concord Fire Department.

#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021				
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
1	Project: McCarthy	347	0	17-Feb-20	15-Jun-21																		
2	WBS: Milestones	347	0	17-Feb-2	15-Jun-21																		
3	Building Foundation Started	1	0	15-Jun-20	15-Jun-20	Building Foundation Started																	
4	Building Pad Ready	1	0	12-Jun-20	12-Jun-20	Building Pad Ready																	
5	Building Permit Received	1	71	05-Mar-2	05-Mar-20	Building Permit Received																	
6	Building Turn Over	1	0	15-Jun-21	15-Jun-21	Building Turn Over																	
7	Civil Package 100% Complete	1	0	18-Feb-2	18-Feb-20	Civil Package 100% Complete																	
8	Civil Package Notice To Proceed	1	0	26-Feb-2	26-Feb-20	Civil Package Notice To Proceed																	
9	Civil Package Permit Received	1	0	12-Mar-2	12-Mar-20	Civil Package Permit Received																	
10	Construction Design	1	6	18-Feb-2	18-Feb-20	Construction Design																	
11	Construction Documents 100%	1	71	26-Feb-2	26-Feb-20	Construction Documents 100% Complete																	
12	Dried In	1	97	26-Jan-21	26-Jan-21	Dried In																	
13	Final Civil Package Design	1	0	17-Feb-2	17-Feb-20	Final Civil Package Design																	
14	GC Punch List	1	0	11-Jun-21	11-Jun-21	GC Pu																	
15	Owner Notice to Proceed	1	6	26-Feb-2	26-Feb-20	Owner Notice to Proceed																	
16	Temp. Power	1	163	04-Jun-20	04-Jun-20	Temp. Power																	
17	Turn Key	1	0	14-Jun-21	14-Jun-21	Turn																	
18	WBS: Division 1	99	235	19-Feb-2	06-Jul-20	06-Jul-20, WBS: Division 1																	
19	WBS: PreCon	99	235	19-Feb-2	06-Jul-20	06-Jul-20, WBS: PreCon																	
20	WBS: Pricing & Permitting	16	66	19-Feb-2	11-Mar-20	11-Mar-20, WBS: Pricing & Permitting																	
21	100% CD Pricing Approval	5	6	19-Feb-2	25-Feb-20	100% CD Pricing Approval																	
22	100% Civil Package Pricing Approval	5	0	19-Feb-2	25-Feb-20	100% Civil Package Pricing Approved																	
23	Permit Review of CD's	5	71	27-Feb-2	04-Mar-20	Permit Review of CD's																	
24	Permit Review of Civil Package	5	0	05-Mar-2	11-Mar-20	Permit Review of Civil Package																	
25	Submit CD for Building Permit	5	71	27-Feb-2	04-Mar-20	Submit CD for Building Permit																	
26	Submit Civil Package for Permits	5	0	27-Feb-2	04-Mar-20	Submit Civil Package for Permits																	
27	WBS: Procurement	93	235	27-Feb-2	06-Jul-20	06-Jul-20, WBS: Procurement																	
28	Architectural Precast Ordered	90	54	03-Mar-2	06-Jul-20	Architectural Precast Ordered																	
29	Curtainwall Ordered	60	106	03-Mar-2	25-May-20	Curtainwall Ordered																	
30	Electrical Equipment Ordered	30	218	27-Feb-2	08-Apr-20	Electrical Equipment Ordered																	
31	Elevator & Elevator Equipment	45	283	27-Feb-2	29-Apr-20	Elevator & Elevator Equipment Ordered																	
32	Fabricate and Deliver Materials	30	86	27-Feb-2	08-Apr-20	Fabricate and Deliver Materials																	
33	HVAC Equipment Ordered	30	220	27-Feb-2	08-Apr-20	HVAC Equipment Ordered																	
34	Prep And Submit Steel	6	109	27-Feb-2	05-Mar-20	Prep And Submit Steel																	
35	Review & Approve Submittals	3	54	27-Feb-2	02-Mar-20	Review & Approve Submittals																	
36	Steel Ordered	1	109	06-Mar-2	06-Mar-20	Steel Ordered																	
37	WBS: Division 2	76	0	27-Feb-2	11-Jun-20	11-Jun-20, WBS: Division 2																	
38	WBS: Surveys	7	6	27-Feb-2	06-Mar-20	06-Mar-20, WBS: Surveys																	
39	Ex. Building Survey	2	6	05-Mar-2	06-Mar-20	Ex. Building Survey																	
40	Site Survey	1	6	04-Mar-2	04-Mar-20	Site Survey																	
41	Soil Testing	4	6	27-Feb-2	03-Mar-20	Soil Testing																	
42	WBS: Demo	40	0	17-Mar-2	11-May-20	11-May-20, WBS: Demo																	
43	East Parking Lot	10	0	28-Apr-20	11-May-20	East Parking Lot																	
44	Ex. Brick Veneer	13	0	09-Apr-20	27-Apr-20	Ex. Brick Veneer																	
45	Ex. North Building	3	0	06-Apr-20	08-Apr-20	Ex. North Building																	
46	Ex. Sidewalks	9	1	28-Apr-20	08-May-20	Ex. Sidewalks																	
47	Ex. South Building	14	0	17-Mar-2	03-Apr-20	Ex. South Building																	
48	West Bleachers	15	8	09-Apr-20	29-Apr-20	West Bleachers																	
49	WBS: Site Containment	13	0	27-Feb-2	16-Mar-20	16-Mar-20, WBS: Site Containment																	
50	Erosion Control	2	11	27-Feb-2	28-Feb-20	Erosion Control																	
51	Install Perimeter Fence	3	6	04-Mar-2	06-Mar-20	Install Perimeter Fence																	
52	Silt Fence	2	0	13-Mar-2	16-Mar-20	Silt Fence																	
53	WBS: Site Prep	4	6	27-Feb-2	03-Mar-20	03-Mar-20, WBS: Site Prep																	
54	Job Trailer Setup	1	6	03-Mar-2	03-Mar-20	Job Trailer Setup																	
55	Temporary Road	3	6	27-Feb-2	02-Mar-20	Temporary Road																	
56	WBS: Grading	23	0	12-May-2	11-Jun-20	11-Jun-20, WBS: Grading																	
57	Add Backfill to Subgrade	3	0	04-Jun-20	08-Jun-20	Add Backfill to Subgrade																	
58	Compact Backfill	3	0	09-Jun-20	11-Jun-20	Compact Backfill																	
59	Excavate to Subgrade	9	0	20-May-2	01-Jun-20	Excavate to Subgrade																	

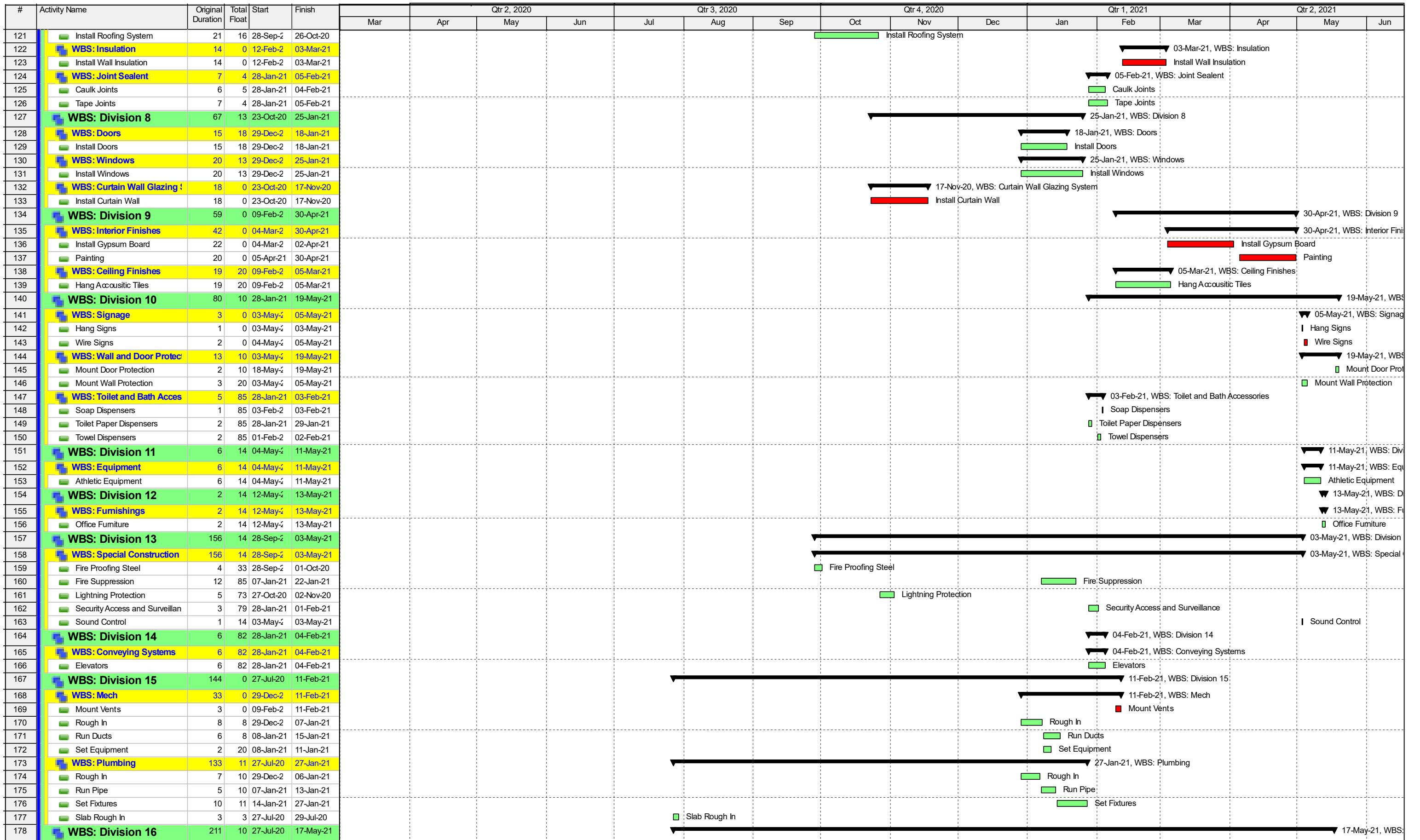
█ Actual Level of Effort
█ Remaining Work
█ Critical Remaining Work
█ Actual Work
█ Critical Remaining Work
◆ Milestone
▶ summary



#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021			
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
178	WBS: Division 16	212	15	20-Jul-20	11-May-21																	
179	WBS: Electrical	149	4	20-Jul-20	11-Feb-21																	
180	Rough In	12	0	04-Jan-21	19-Jan-21																	
181	Run Wire	10	0	20-Jan-21	02-Feb-21																	
182	Set Fixtures	7	4	03-Feb-2	11-Feb-21																	
183	Slab Rough In	3	3	20-Jul-20	22-Jul-20																	
184	WBS: Lighting	70	15	03-Feb-2	11-May-21																	
185	Hang Fixtures	11	15	27-Apr-21	11-May-21																	
186	Wire Fixtures	10	64	03-Feb-2	16-Feb-21																	



█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▬ summary



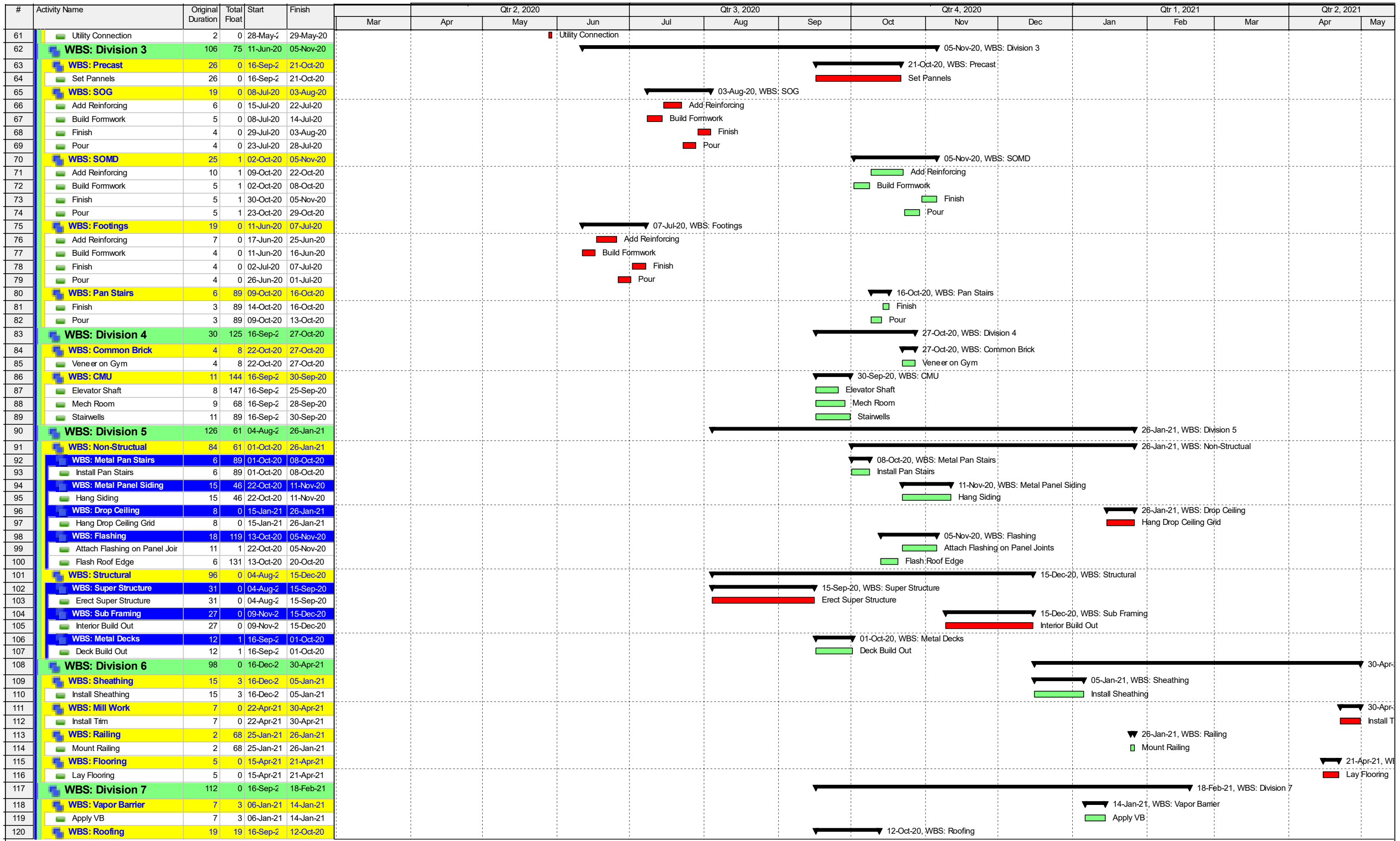
#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021			
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
179	WBS: Electrical	140	4	27-Jul-20	05-Feb-21																	
180	Rough In	12	0	29-Dec-2	13-Jan-21																	
181	Run Wire	10	0	14-Jan-21	27-Jan-21																	
182	Set Fixtures	7	4	28-Jan-21	05-Feb-21																	
183	Slab Rough In	3	3	27-Jul-20	29-Jul-20																	
184	WBS: Lighting	78	10	28-Jan-21	17-May-21																	
185	Hang Fixtures	11	10	03-May-2	17-May-21																	
186	Wire Fixtures	10	67	28-Jan-21	10-Feb-21																	



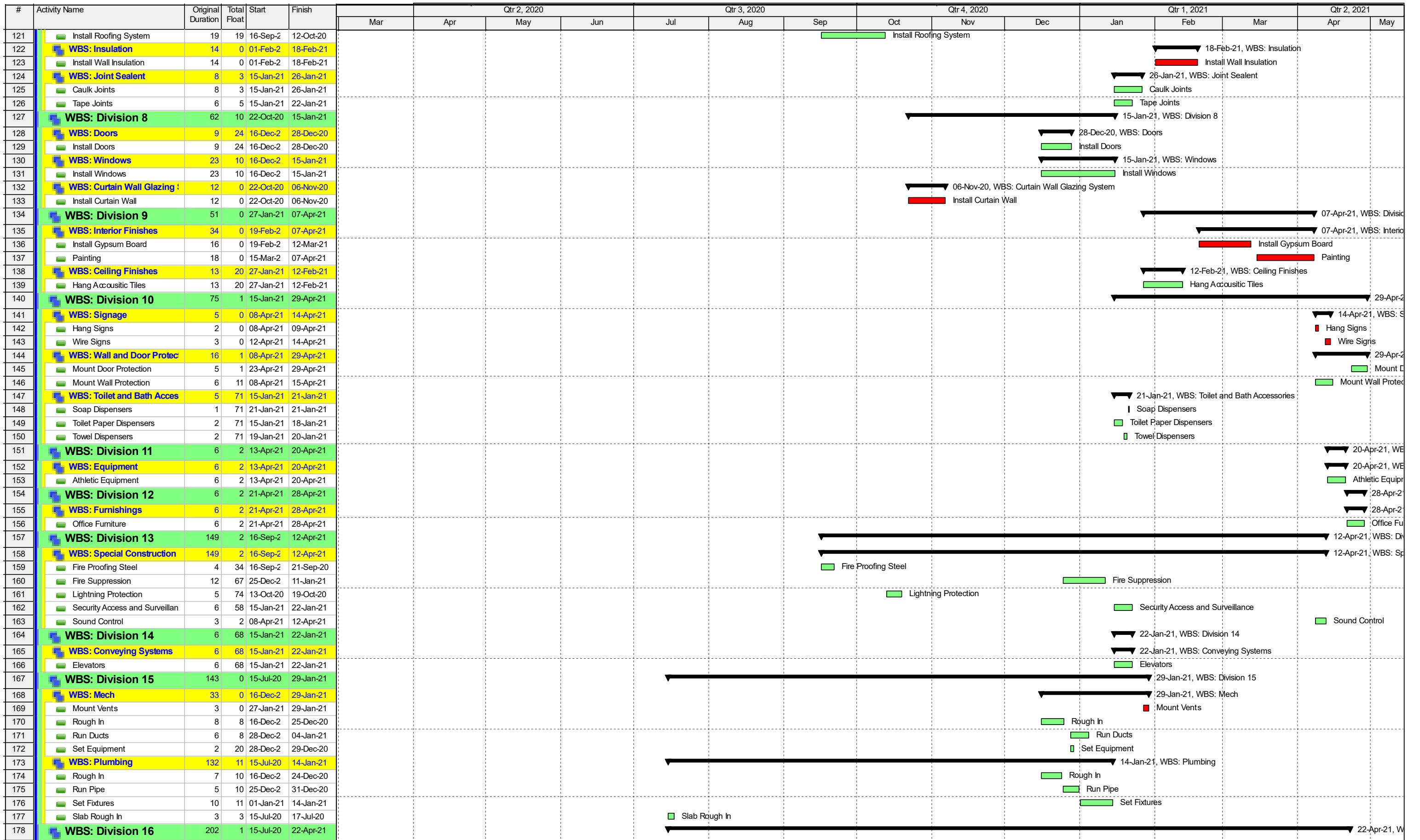
█ Actual Level of Effort █ Remaining Work █ Actual Work
█ Critical Remaining Work ◆ Milestone ▶ summary

#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
1	Project: McCarthy Lo	313	0	24-Feb-20	05-May-21																05-May-21
2	WBS: Milestones	313	0	24-Feb-20	05-May-21																05-May-21
3	Building Foundation Started	1	0	10-Jun-20	10-Jun-20																Building Foundation Started
4	Building Pad Ready	1	0	09-Jun-20	09-Jun-20																Building Pad Ready
5	Building Permit Received	1	63	12-Mar-20	12-Mar-20																Building Permit Received
6	Building Turn Over	1	0	05-May-21	05-May-21																Building Turn Over
7	Civil Package 100% Complete	1	0	25-Feb-20	25-Feb-20																Civil Package 100% Complete
8	Civil Package Notice To Proceed	1	0	04-Mar-20	04-Mar-20																Civil Package Notice To Proceed
9	Civil Package Permit Received	1	0	19-Mar-20	19-Mar-20																Civil Package Permit Received
10	Construction Design	1	6	25-Feb-20	25-Feb-20																Construction Design
11	Construction Documents 100%	1	63	04-Mar-20	04-Mar-20																Construction Documents 100% Complete
12	Dried In	1	74	18-Jan-21	18-Jan-21																Dried In
13	Final Civil Package Design	1	0	24-Feb-20	24-Feb-20																Final Civil Package Design
14	GC Punch List	1	0	03-May-21	03-May-21																GC Punch List
15	Owner Notice to Proceed	1	6	04-Mar-20	04-Mar-20																Owner Notice to Proceed
16	Temp. Power	1	153	01-Jun-20	01-Jun-20																Temp. Power
17	Turn Key	1	0	04-May-21	04-May-21																Turn Key
18	WBS: Division 1	99	201	26-Feb-20	13-Jul-20																13-Jul-20, WBS: Division 1
19	WBS: PreCon	99	201	26-Feb-20	13-Jul-20																13-Jul-20, WBS: PreCon
20	WBS: Pricing & Permitting	16	58	26-Feb-20	18-Mar-20																18-Mar-20, WBS: Pricing & Permitting
21	100% CD Pricing Approval	5	6	26-Feb-20	03-Mar-20																100% CD Pricing Approval
22	100% Civil Package Pricing Approved	5	0	26-Feb-20	03-Mar-20																100% Civil Package Pricing Approved
23	Permit Review of CD's	5	63	05-Mar-20	11-Mar-20																Permit Review of CD's
24	Permit Review of Civil Package	5	0	12-Mar-20	18-Mar-20																Permit Review of Civil Package
25	Submit CD for Building Permit	5	63	05-Mar-20	11-Mar-20																Submit CD for Building Permit
26	Submit Civil Package for Permits	5	0	05-Mar-20	11-Mar-20																Submit Civil Package for Permits
27	WBS: Procurement	93	201	05-Mar-20	13-Jul-20																13-Jul-20, WBS: Procurement
28	Architectural Precast Ordered	90	46	10-Mar-20	13-Jul-20																Architectural Precast Ordered
29	Curtainwall Ordered	60	102	10-Mar-20	01-Jun-20																Curtainwall Ordered
30	Electrical Equipment Ordered	30	200	05-Mar-20	15-Apr-20																Electrical Equipment Ordered
31	Elevator & Elevator Equipment Ordered	45	249	05-Mar-20	06-May-20																Elevator & Elevator Equipment Ordered
32	Fabricate and Deliver Materials	30	78	05-Mar-20	15-Apr-20																Fabricate and Deliver Materials
33	HVAC Equipment Ordered	30	202	05-Mar-20	15-Apr-20																HVAC Equipment Ordered
34	Prep And Submit Steel	6	101	05-Mar-20	12-Mar-20																Prep And Submit Steel
35	Review & Approve Submittals	3	46	05-Mar-20	09-Mar-20																Review & Approve Submittals
36	Steel Ordered	1	101	13-Mar-20	13-Mar-20																Steel Ordered
37	WBS: Division 2	68	0	05-Mar-20	08-Jun-20																08-Jun-20, WBS: Division 2
38	WBS: Surveys	7	6	05-Mar-20	13-Mar-20																13-Mar-20, WBS: Surveys
39	Ex. Building Survey	2	6	12-Mar-20	13-Mar-20																Ex. Building Survey
40	Site Survey	1	6	11-Mar-20	11-Mar-20																Site Survey
41	Soil Testing	4	6	05-Mar-20	10-Mar-20																Soil Testing
42	WBS: Demo	32	0	24-Mar-20	06-May-20																06-May-20, WBS: Demo
43	East Parking Lot	10	3	20-Apr-20	01-May-20																East Parking Lot
44	Ex. Brick Veneer	2	3	16-Apr-20	17-Apr-20																Ex. Brick Veneer
45	Ex. North Building	3	0	13-Apr-20	15-Apr-20																Ex. North Building
46	Ex. Sidewalks	9	4	20-Apr-20	30-Apr-20																Ex. Sidewalks
47	Ex. South Building	14	0	24-Mar-20	10-Apr-20																Ex. South Building
48	West Bleachers	15	0	16-Apr-20	06-May-20																West Bleachers
49	WBS: Site Containment	13	0	05-Mar-20	23-Mar-20																23-Mar-20, WBS: Site Containment
50	Erosion Control	2	11	05-Mar-20	06-Mar-20																Erosion Control
51	Install Perimeter Fence	3	6	11-Mar-20	13-Mar-20																Install Perimeter Fence
52	Silt Fence	2	0	20-Mar-20	23-Mar-20																Silt Fence
53	WBS: Site Prep	4	6	05-Mar-20	10-Mar-20																10-Mar-20, WBS: Site Prep
54	Job Trailer Setup	1	6	10-Mar-20	10-Mar-20																Job Trailer Setup
55	Temporary Road	3	6	05-Mar-20	09-Mar-20																Temporary Road
56	WBS: Grading	23	0	07-May-20	08-Jun-20																08-Jun-20, WBS: Grading
57	Add Backfill to Subgrade	3	0	01-Jun-20	03-Jun-20																Add Backfill to Subgrade
58	Compact Backfill	3	0	04-Jun-20	08-Jun-20																Compact Backfill
59	Excavate to Subgrade	9	0	15-May-20	27-May-20																Excavate to Subgrade
60	Grade Existing Site	6	0	07-May-20	14-May-20																Grade Existing Site

█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▶ summary



█ Actual Level of Effort
 █ Remaining Work
 █ Critical Remaining Work
 ◆ Milestone
 ── summary



█ Actual Level of Effort
 █ Remaining Work
 █ Critical Remaining Work
 ◆ Milestone
 ── summary

#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
179	WBS: Electrical	139	4	15-Jul-20	25-Jan-21																
180	Rough In	12	0	16-Dec-2	31-Dec-20																
181	Run Wire	10	0	01-Jan-21	14-Jan-21																
182	Set Fixtures	7	4	15-Jan-21	25-Jan-21																
183	Slab Rough In	3	3	15-Jul-20	17-Jul-20																
184	WBS: Lighting	70	1	15-Jan-21	22-Apr-21																
185	Hang Fixtures	11	1	08-Apr-21	22-Apr-21																
186	Wire Fixtures	10	50	15-Jan-21	28-Jan-21																

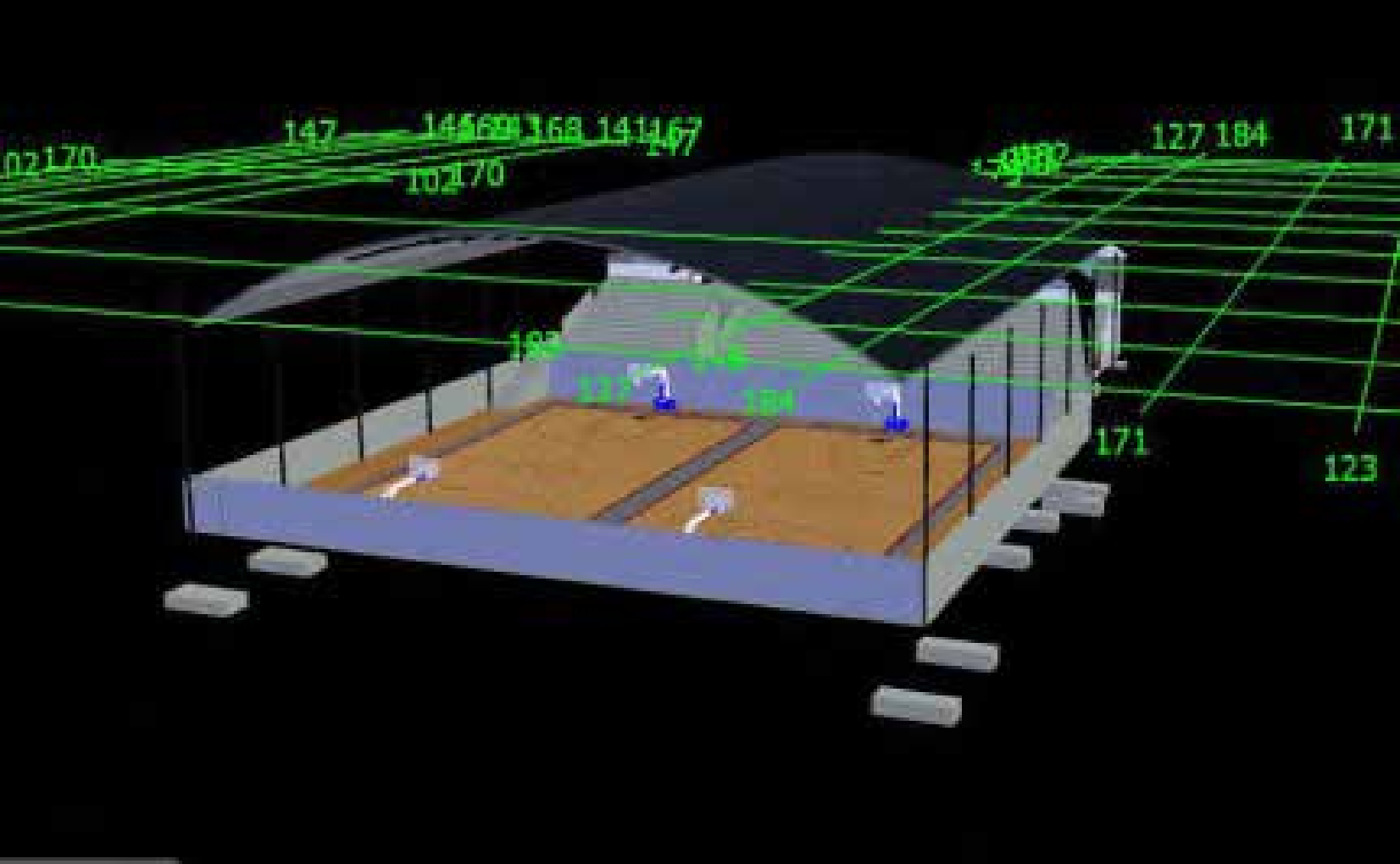


Actual Level of Effort
 Remaining Work
 Milestone
 Actual Work
 Critical Remaining Work
 summary

BCS 3126 Studio 4
Philip Herring

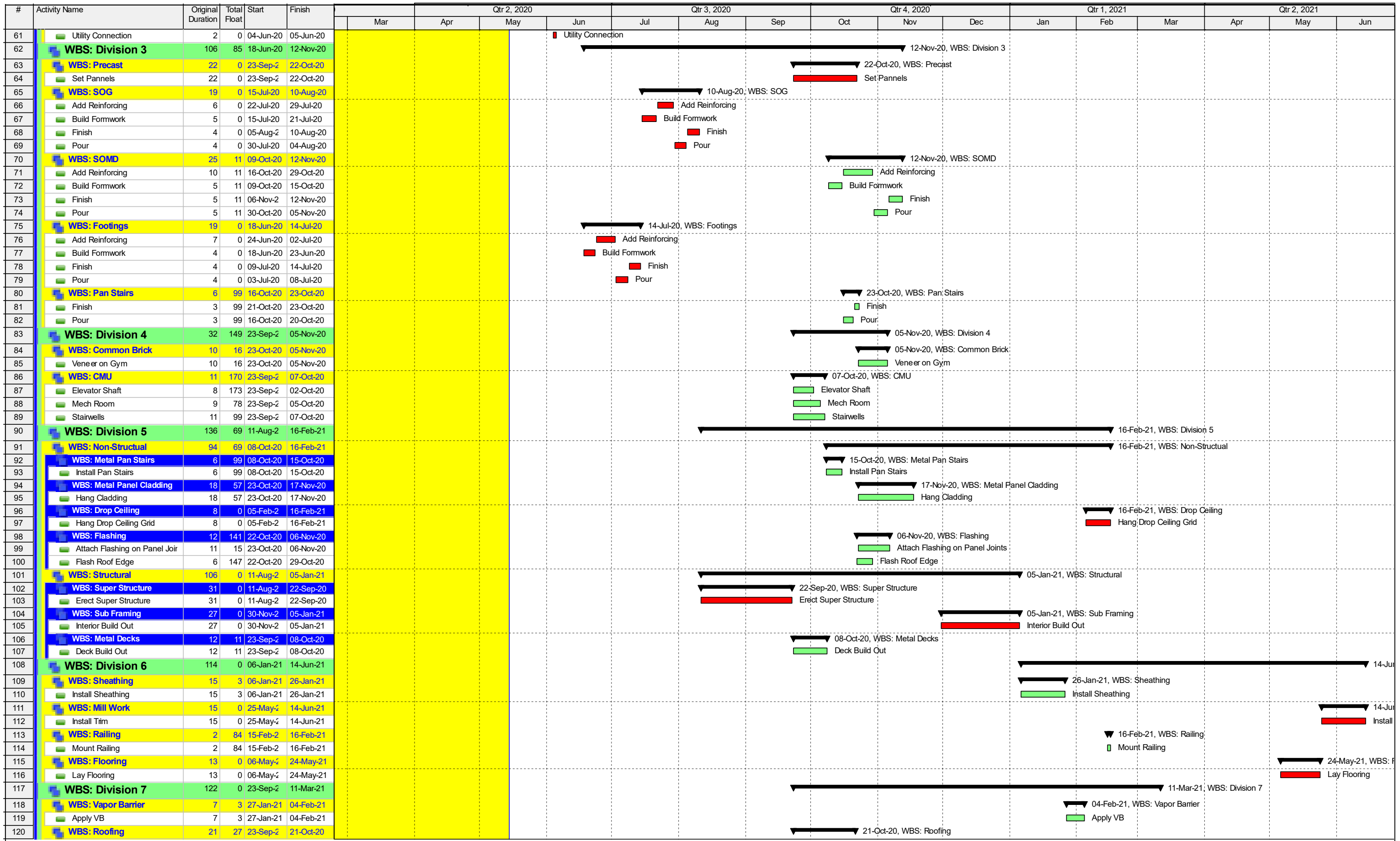
Group 8
4D Schedule Cost Sheet

Phase 1	\$813,946.55
Phase 2	\$1,563,966.76
Phase 3	\$8,151,046.76
Phase 4	\$27,039,906.95



#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021				
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
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2	WBS: Milestones	347	0	19-Feb-2	17-Jun-21																		
3	Building Foundation Started	1	0	17-Jun-20	17-Jun-20																		
4	Building Pad Ready	1	0	16-Jun-20	16-Jun-20																		
5	Building Permit Received	1	71	09-Mar-2	09-Mar-20																		
6	Building Turn Over	1	0	17-Jun-21	17-Jun-21																		
7	Civil Package 100% Complete	1	0	20-Feb-2	20-Feb-20																		
8	Civil Package Notice To Proceed	1	0	28-Feb-2	28-Feb-20																		
9	Civil Package Permit Received	1	0	16-Mar-2	16-Mar-20																		
10	Construction Design	1	6	20-Feb-2	20-Feb-20																		
11	Construction Documents 100%	1	71	28-Feb-2	28-Feb-20																		
12	Dried In	1	97	28-Jan-21	28-Jan-21																		
13	Final Civil Package Design	1	0	19-Feb-2	19-Feb-20																		
14	GC Punch List	1	0	15-Jun-21	15-Jun-21																		
15	Owner Notice to Proceed	1	6	28-Feb-2	28-Feb-20																		
16	Temp. Power	1	163	08-Jun-20	08-Jun-20																		
17	Turn Key	1	0	16-Jun-21	16-Jun-21																		
18	WBS: Division 1	99	235	21-Feb-2	08-Jul-20																		
19	WBS: PreCon	99	235	21-Feb-2	08-Jul-20																		
20	WBS: Pricing & Permitting	16	66	21-Feb-2	13-Mar-20																		
21	100% CD Pricing Approval	5	6	21-Feb-2	27-Feb-20																		
22	100% Civil Package Pricing Approved	5	0	21-Feb-2	27-Feb-20																		
23	Permit Review of CD's	5	71	02-Mar-2	06-Mar-20																		
24	Permit Review of Civil Package	5	0	09-Mar-2	13-Mar-20																		
25	Submit CD for Building Permit	5	71	02-Mar-2	06-Mar-20																		
26	Submit Civil Package for Permits	5	0	02-Mar-2	06-Mar-20																		
27	WBS: Procurement	93	235	02-Mar-2	08-Jul-20																		
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38	WBS: Surveys	7	6	02-Mar-2	10-Mar-20																		
39	Ex. Building Survey	2	6	09-Mar-2	10-Mar-20																		
40	Site Survey	1	6	06-Mar-2	06-Mar-20																		
41	Soil Testing	4	6	02-Mar-2	05-Mar-20																		
42	WBS: Demo	40	0	19-Mar-2	13-May-20																		
43	East Parking Lot	10	0	30-Apr-20	13-May-20																		
44	Ex. Brick Veneer	13	0	13-Apr-20	29-Apr-20																		
45	Ex. North Building	3	0	08-Apr-20	10-Apr-20																		
46	Ex. Sidewalks	9	1	30-Apr-20	12-May-20																		
47	Ex. South Building	14	0	19-Mar-2	07-Apr-20																		
48	West Bleachers	15	8	13-Apr-20	01-May-20																		
49	WBS: Site Containment	13	0	02-Mar-2	18-Mar-20																		
50	Erosion Control	2	11	02-Mar-2	03-Mar-20																		
51	Install Perimeter Fence	3	6	06-Mar-2	10-Mar-20																		
52	Silt Fence	2	0	17-Mar-2	18-Mar-20																		
53	WBS: Site Prep	4	6	02-Mar-2	05-Mar-20																		
54	Job Trailer Setup	1	6	05-Mar-2	05-Mar-20																		
55	Temporary Road	3	6	02-Mar-2	04-Mar-20																		
56	WBS: Grading	23	0	14-May-2	15-Jun-20																		
57	Add Backfill to Subgrade	3	0	08-Jun-20	10-Jun-20																		
58	Compact Backfill	3	0	11-Jun-20	15-Jun-20																		
59	Excavate to Subgrade	9	0	22-May-2	03-Jun-20																		
60	Grade Existing Site	6	0	14-May-2	21-May-20																		

█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▶ summary



█ Actual Level of Effort
 █ Remaining Work
 █ Actual Work
 █ Critical Remaining Work
 ◆ Milestone
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#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
121	Install Roofing System	21	27	23-Sep-20	21-Oct-20								Install Roofing System								
122	WBS: Insulation	14	0	22-Feb-21	11-Mar-21																11-Mar-21, WBS: Insulation
123	Install Wall Insulation	14	0	22-Feb-21	11-Mar-21																Install Wall Insulation
124	WBS: Joint Sealant	8	3	05-Feb-21	16-Feb-21																16-Feb-21, WBS: Joint Sealant
125	Caulk Joints	8	3	05-Feb-21	16-Feb-21																Caulk Joints
126	Tape Joints	6	5	05-Feb-21	12-Feb-21																Tape Joints
127	WBS: Division 8	69	17	23-Oct-20	27-Jan-21																27-Jan-21, WBS: Division 8
128	WBS: Doors	12	21	06-Jan-21	21-Jan-21																21-Jan-21, WBS: Doors
129	Install Doors	12	21	06-Jan-21	21-Jan-21																Install Doors
130	WBS: Windows	16	17	06-Jan-21	27-Jan-21																27-Jan-21, WBS: Windows
131	Install Windows	16	17	06-Jan-21	27-Jan-21																Install Windows
132	WBS: Curtain Wall Glazing	26	0	23-Oct-20	27-Nov-20																27-Nov-20, WBS: Curtain Wall Glazing System
133	Install Curtain Wall	26	0	23-Oct-20	27-Nov-20																Install Curtain Wall
134	WBS: Division 9	51	0	17-Feb-21	28-Apr-21																28-Apr-21, WBS: Division 9
135	WBS: Interior Finishes	34	0	12-Mar-21	28-Apr-21																28-Apr-21, WBS: Interior Finishes
136	Install Gypsum Board	16	0	12-Mar-21	02-Apr-21																Install Gypsum Board
137	Painting	18	0	05-Apr-21	28-Apr-21																Painting
138	WBS: Ceiling Finishes	25	8	17-Feb-21	23-Mar-21																23-Mar-21, WBS: Ceiling Finishes
139	Hang Acoustic Tiles	25	8	17-Feb-21	23-Mar-21																Hang Acoustic Tiles
140	WBS: Division 10	77	15	05-Feb-21	24-May-21																24-May-21, WBS: Division 10
141	WBS: Signage	5	0	29-Apr-21	05-May-21																05-May-21, WBS: Signage
142	Hang Signs	2	0	29-Apr-21	30-Apr-21																Hang Signs
143	Wire Signs	3	0	03-May-21	05-May-21																Wire Signs
144	WBS: Wall and Door Protec	18	15	29-Apr-21	24-May-21																24-May-21, WBS: Wall and Door Protec
145	Mount Door Protection	7	15	14-May-21	24-May-21																Mount Door Protection
146	Mount Wall Protection	9	24	29-Apr-21	11-May-21																Mount Wall Protection
147	WBS: Toilet and Bath Acces	5	87	05-Feb-21	11-Feb-21																11-Feb-21, WBS: Toilet and Bath Accessories
148	Soap Dispensers	1	87	11-Feb-21	11-Feb-21																Soap Dispensers
149	Toilet Paper Dispensers	2	87	05-Feb-21	08-Feb-21																Toilet Paper Dispensers
150	Towel Dispensers	2	87	09-Feb-21	10-Feb-21																Towel Dispensers
151	WBS: Division 11	10	13	04-May-21	17-May-21																17-May-21, WBS: Division 11
152	WBS: Equipment	10	13	04-May-21	17-May-21																17-May-21, WBS: Equipment
153	Athletic Equipment	10	13	04-May-21	17-May-21																Athletic Equipment
154	WBS: Division 12	7	13	18-May-21	26-May-21																26-May-21, WBS: Division 12
155	WBS: Furnishings	7	13	18-May-21	26-May-21																26-May-21, WBS: Furnishings
156	Office Furniture	7	13	18-May-21	26-May-21																Office Furniture
157	WBS: Division 13	159	13	23-Sep-20	03-May-21																03-May-21, WBS: Division 13
158	WBS: Special Construction	159	13	23-Sep-20	03-May-21																03-May-21, WBS: Special Construction
159	Fire Proofing Steel	4	44	23-Sep-20	28-Sep-20																Fire Proofing Steel
160	Fire Suppression	12	78	15-Jan-21	01-Feb-21																Fire Suppression
161	Lightning Protection	5	82	22-Oct-20	28-Oct-20																Lightning Protection
162	Security Access and Surveillance	6	69	05-Feb-21	12-Feb-21																Security Access and Surveillance
163	Sound Control	3	13	29-Apr-21	03-May-21																Sound Control
164	WBS: Division 14	6	84	05-Feb-21	12-Feb-21																12-Feb-21, WBS: Division 14
165	WBS: Conveying Systems	6	84	05-Feb-21	12-Feb-21																12-Feb-21, WBS: Conveying Systems
166	Elevators	6	84	05-Feb-21	12-Feb-21																Elevators
167	WBS: Division 15	153	0	22-Jul-20	19-Feb-21																19-Feb-21, WBS: Division 15
168	WBS: Mech	33	0	06-Jan-21	19-Feb-21																19-Feb-21, WBS: Mech
169	Mount Vents	3	0	17-Feb-21	19-Feb-21																Mount Vents
170	Rough In	8	8	06-Jan-21	15-Jan-21																Rough In
171	Run Ducts	6	8	18-Jan-21	25-Jan-21																Run Ducts
172	Set Equipment	2	20	18-Jan-21	19-Jan-21																Set Equipment
173	WBS: Plumbing	142	11	22-Jul-20	04-Feb-21																04-Feb-21, WBS: Plumbing
174	Rough In	7	10	06-Jan-21	14-Jan-21																Rough In
175	Run Pipe	5	10	15-Jan-21	21-Jan-21																Run Pipe
176	Set Fixtures	10	11	22-Jan-21	04-Feb-21																Set Fixtures
177	Slab Rough In	3	3	22-Jul-20	24-Jul-20																Slab Rough In
178	WBS: Division 16	212	15	22-Jul-20	13-May-21																13-May-21, WBS: Division 16

█ Actual Level of Effort
█ Remaining Work
█ Critical Remaining Work
█ Actual Work
█ Critical Remaining Work
◆ Milestone
▶ summary

#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
179	WBS: Electrical	149	4	22-Jul-20	15-Feb-21																
180	Rough In	12	0	06-Jan-21	21-Jan-21																
181	Run Wire	10	0	22-Jan-21	04-Feb-21																
182	Set Fixtures	7	4	05-Feb-2	15-Feb-21																
183	Slab Rough In	3	3	22-Jul-20	24-Jul-20																
184	WBS: Lighting	70	15	05-Feb-2	13-May-21																
185	Hang Fixtures	11	15	29-Apr-21	13-May-21																
186	Wire Fixtures	10	64	05-Feb-2	18-Feb-21																



█ Actual Level of Effort
 █ Remaining Work
 ◆ ◆ Milestone
█ Actual Work
 █ Critical Remaining Work
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#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021				
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
1	Project: McCarthy	347	0	19-Feb-20	17-Jun-21																		
2	WBS: Milestones	347	0	19-Feb-20	17-Jun-21																		
3	Building Foundation Started	1	0	17-Jun-20	17-Jun-20	Building Foundation Started																	
4	Building Pad Ready	1	0	16-Jun-20	16-Jun-20	Building Pad Ready																	
5	Building Permit Received	1	71	09-Mar-20	09-Mar-20	Building Permit Received																	
6	Building Turn Over	1	0	17-Jun-21	17-Jun-21	Building Turn Over																	
7	Civil Package 100% Complete	1	0	20-Feb-20	20-Feb-20	Civil Package 100% Complete																	
8	Civil Package Notice To Proceed	1	0	28-Feb-20	28-Feb-20	Civil Package Notice To Proceed																	
9	Civil Package Permit Received	1	0	16-Mar-20	16-Mar-20	Civil Package Permit Received																	
10	Construction Design	1	6	20-Feb-20	20-Feb-20	Construction Design																	
11	Construction Documents 100%	1	71	28-Feb-20	28-Feb-20	Construction Documents 100% Complete																	
12	Dried In	1	97	28-Jan-21	28-Jan-21	Dried In																	
13	Final Civil Package Design	1	0	19-Feb-20	19-Feb-20	Final Civil Package Design																	
14	GC Punch List	1	0	15-Jun-21	15-Jun-21	GC Punch List																	
15	Owner Notice to Proceed	1	6	28-Feb-20	28-Feb-20	Owner Notice to Proceed																	
16	Temp. Power	1	163	08-Jun-20	08-Jun-20	Temp. Power																	
17	Turn Key	1	0	16-Jun-21	16-Jun-21	Turn Key																	
18	WBS: Division 1	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: Division 1																	
19	WBS: PreCon	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: PreCon																	
20	WBS: Pricing & Permitting	16	66	21-Feb-20	13-Mar-20	13-Mar-20, WBS: Pricing & Permitting																	
21	100% CD Pricing Approval	5	6	21-Feb-20	27-Feb-20	100% CD Pricing Approval																	
22	100% Civil Package Pricing Approved	5	0	21-Feb-20	27-Feb-20	100% Civil Package Pricing Approved																	
23	Permit Review of CD's	5	71	02-Mar-20	06-Mar-20	Permit Review of CD's																	
24	Permit Review of Civil Package	5	0	09-Mar-20	13-Mar-20	Permit Review of Civil Package																	
25	Submit CD for Building Permit	5	71	02-Mar-20	06-Mar-20	Submit CD for Building Permit																	
26	Submit Civil Package for Permits	5	0	02-Mar-20	06-Mar-20	Submit Civil Package for Permits																	
27	WBS: Procurement	93	235	02-Mar-20	08-Jul-20	08-Jul-20, WBS: Procurement																	
28	Architectural Precast Ordered	90	54	05-Mar-20	08-Jul-20	Architectural Precast Ordered																	
29	Curtainwall Ordered	60	106	05-Mar-20	27-May-20	Curtainwall Ordered																	
30	Electrical Equipment Ordered	30	218	02-Mar-20	10-Apr-20	Electrical Equipment Ordered																	
31	Elevator & Elevator Equipment Ordered	45	283	02-Mar-20	01-May-20	Elevator & Elevator Equipment Ordered																	
32	Fabricate and Deliver Materials	30	86	02-Mar-20	10-Apr-20	Fabricate and Deliver Materials																	
33	HVAC Equipment Ordered	30	220	02-Mar-20	10-Apr-20	HVAC Equipment Ordered																	
34	Prep And Submit Steel	6	109	02-Mar-20	09-Mar-20	Prep And Submit Steel																	
35	Review & Approve Submittals	3	54	02-Mar-20	04-Mar-20	Review & Approve Submittals																	
36	Steel Ordered	1	109	10-Mar-20	10-Mar-20	Steel Ordered																	
37	WBS: Division 2	76	0	02-Mar-20	15-Jun-20	15-Jun-20, WBS: Division 2																	
38	WBS: Surveys	7	6	02-Mar-20	10-Mar-20	10-Mar-20, WBS: Surveys																	
39	Ex. Building Survey	2	6	09-Mar-20	10-Mar-20	Ex. Building Survey																	
40	Site Survey	1	6	06-Mar-20	06-Mar-20	Site Survey																	
41	Soil Testing	4	6	02-Mar-20	05-Mar-20	Soil Testing																	
42	WBS: Demo	40	0	19-Mar-20	13-May-20	13-May-20, WBS: Demo																	
43	East Parking Lot	10	0	30-Apr-20	13-May-20	East Parking Lot																	
44	Ex. Brick Veneer	13	0	13-Apr-20	29-Apr-20	Ex. Brick Veneer																	
45	Ex. North Building	3	0	08-Apr-20	10-Apr-20	Ex. North Building																	
46	Ex. Sidewalks	9	1	30-Apr-20	12-May-20	Ex. Sidewalks																	
47	Ex. South Building	14	0	19-Mar-20	07-Apr-20	Ex. South Building																	
48	West Bleachers	15	8	13-Apr-20	01-May-20	West Bleachers																	
49	WBS: Site Containment	13	0	02-Mar-20	18-Mar-20	18-Mar-20, WBS: Site Containment																	
50	Erosion Control	2	11	02-Mar-20	03-Mar-20	Erosion Control																	
51	Install Perimeter Fence	3	6	06-Mar-20	10-Mar-20	Install Perimeter Fence																	
52	Silt Fence	2	0	17-Mar-20	18-Mar-20	Silt Fence																	
53	WBS: Site Prep	4	6	02-Mar-20	05-Mar-20	05-Mar-20, WBS: Site Prep																	
54	Job Trailer Setup	1	6	05-Mar-20	05-Mar-20	Job Trailer Setup																	
55	Temporary Road	3	6	02-Mar-20	04-Mar-20	Temporary Road																	
56	WBS: Grading	23	0	14-May-20	15-Jun-20	15-Jun-20, WBS: Grading																	
57	Add Backfill to Subgrade	3	0	08-Jun-20	10-Jun-20	Add Backfill to Subgrade																	
58	Compact Backfill	3	0	11-Jun-20	15-Jun-20	Compact Backfill																	
59	Excavate to Subgrade	9	0	22-May-20	03-Jun-20	Excavate to Subgrade																	
60	Grade Existing Site	6	0	14-May-20	21-May-20	Grade Existing Site																	

█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▶ summary

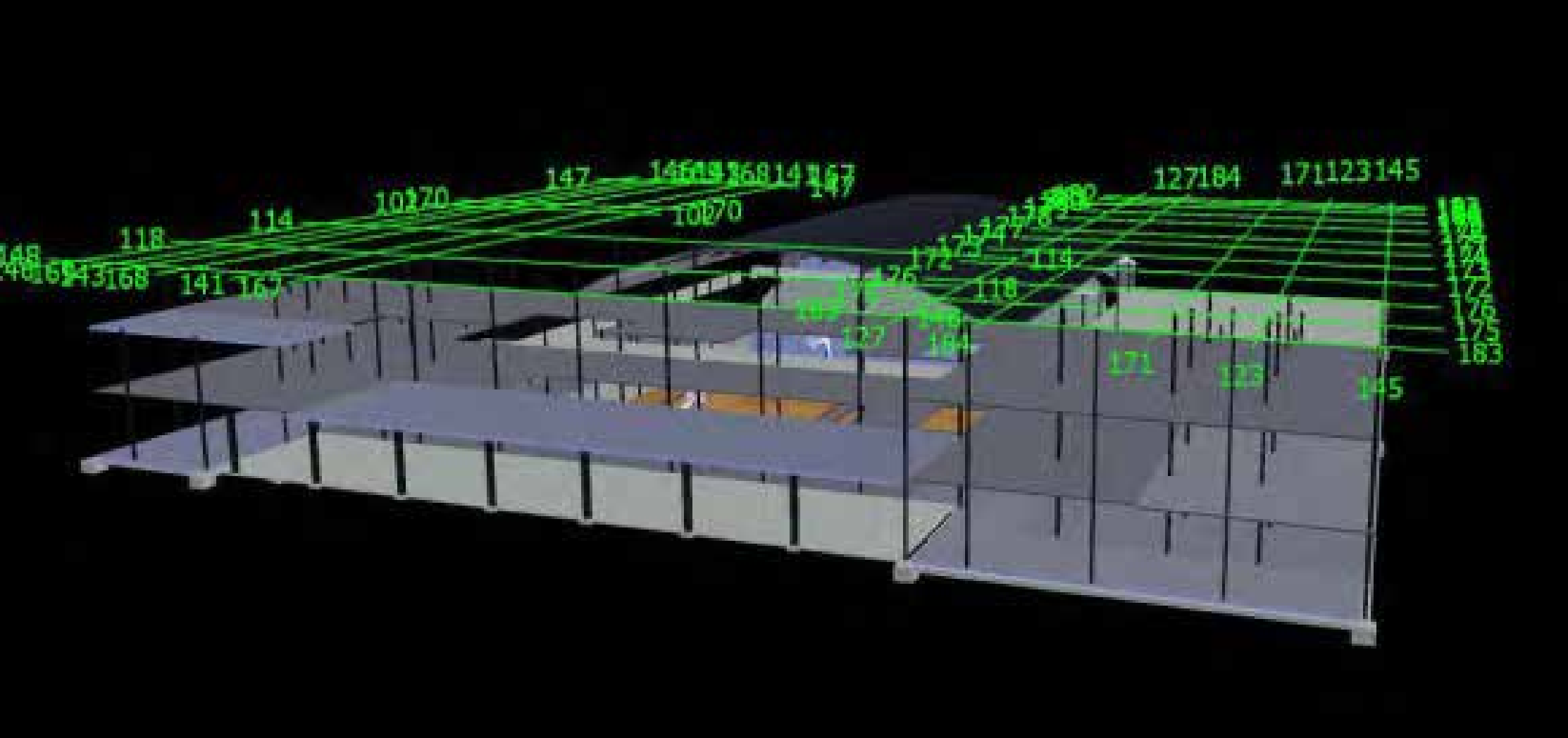
#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
121	Install Roofing System	21	27	23-Sep-20	21-Oct-20																
122	WBS: Insulation	14	0	22-Feb-21	11-Mar-21																
123	Install Wall Insulation	14	0	22-Feb-21	11-Mar-21																
124	WBS: Joint Sealant	8	3	05-Feb-21	16-Feb-21																
125	Caulk Joints	8	3	05-Feb-21	16-Feb-21																
126	Tape Joints	6	5	05-Feb-21	12-Feb-21																
127	WBS: Division 8	69	17	23-Oct-20	27-Jan-21																
128	WBS: Doors	12	21	06-Jan-21	21-Jan-21																
129	Install Doors	12	21	06-Jan-21	21-Jan-21																
130	WBS: Windows	16	17	06-Jan-21	27-Jan-21																
131	Install Windows	16	17	06-Jan-21	27-Jan-21																
132	WBS: Curtain Wall Glazing	26	0	23-Oct-20	27-Nov-20																
133	Install Curtain Wall	26	0	23-Oct-20	27-Nov-20																
134	WBS: Division 9	51	0	17-Feb-21	28-Apr-21																
135	WBS: Interior Finishes	34	0	12-Mar-21	28-Apr-21																
136	Install Gypsum Board	16	0	12-Mar-21	02-Apr-21																
137	Painting	18	0	05-Apr-21	28-Apr-21																
138	WBS: Ceiling Finishes	25	8	17-Feb-21	23-Mar-21																
139	Hang Acoustic Tiles	25	8	17-Feb-21	23-Mar-21																
140	WBS: Division 10	77	15	05-Feb-21	24-May-21																
141	WBS: Signage	5	0	29-Apr-21	05-May-21																
142	Hang Signs	2	0	29-Apr-21	30-Apr-21																
143	Wire Signs	3	0	03-May-21	05-May-21																
144	WBS: Wall and Door Protec	18	15	29-Apr-21	24-May-21																
145	Mount Door Protection	7	15	14-May-21	24-May-21																
146	Mount Wall Protection	9	24	29-Apr-21	11-May-21																
147	WBS: Toilet and Bath Acces	5	87	05-Feb-21	11-Feb-21																
148	Soap Dispensers	1	87	11-Feb-21	11-Feb-21																
149	Toilet Paper Dispensers	2	87	05-Feb-21	08-Feb-21																
150	Towel Dispensers	2	87	09-Feb-21	10-Feb-21																
151	WBS: Division 11	10	13	04-May-21	17-May-21																
152	WBS: Equipment	10	13	04-May-21	17-May-21																
153	Athletic Equipment	10	13	04-May-21	17-May-21																
154	WBS: Division 12	7	13	18-May-21	26-May-21																
155	WBS: Furnishings	7	13	18-May-21	26-May-21																
156	Office Furniture	7	13	18-May-21	26-May-21																
157	WBS: Division 13	159	13	23-Sep-20	03-May-21																
158	WBS: Special Construction	159	13	23-Sep-20	03-May-21																
159	Fire Proofing Steel	4	44	23-Sep-20	28-Sep-20																
160	Fire Suppression	12	78	15-Jan-21	01-Feb-21																
161	Lightning Protection	5	82	22-Oct-20	28-Oct-20																
162	Security Access and Surveillan	6	69	05-Feb-21	12-Feb-21																
163	Sound Control	3	13	29-Apr-21	03-May-21																
164	WBS: Division 14	6	84	05-Feb-21	12-Feb-21																
165	WBS: Conveying Systems	6	84	05-Feb-21	12-Feb-21																
166	Elevators	6	84	05-Feb-21	12-Feb-21																
167	WBS: Division 15	153	0	22-Jul-20	19-Feb-21																
168	WBS: Mech	33	0	06-Jan-21	19-Feb-21																
169	Mount Vents	3	0	17-Feb-21	19-Feb-21																
170	Rough In	8	8	06-Jan-21	15-Jan-21																
171	Run Ducts	6	8	18-Jan-21	25-Jan-21																
172	Set Equipment	2	20	18-Jan-21	19-Jan-21																
173	WBS: Plumbing	142	11	22-Jul-20	04-Feb-21																
174	Rough In	7	10	06-Jan-21	14-Jan-21																
175	Run Pipe	5	10	15-Jan-21	21-Jan-21																
176	Set Fixtures	10	11	22-Jan-21	04-Feb-21																
177	Slab Rough In	3	3	22-Jul-20	24-Jul-20																
178	WBS: Division 16	212	15	22-Jul-20	13-May-21																

█ Actual Level of Effort
█ Remaining Work
█ Critical Remaining Work
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◆ Milestone
▶ summary

#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020			Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
179	WBS: Electrical	149	4	22-Jul-20	15-Feb-21															
180	Rough In	12	0	06-Jan-21	21-Jan-21															
181	Run Wire	10	0	22-Jan-21	04-Feb-21															
182	Set Fixtures	7	4	05-Feb-2	15-Feb-21															
183	Slab Rough In	3	3	22-Jul-20	24-Jul-20															
184	WBS: Lighting	70	15	05-Feb-2	13-May-21															
185	Hang Fixtures	11	15	29-Apr-21	13-May-21															
186	Wire Fixtures	10	64	05-Feb-2	18-Feb-21															

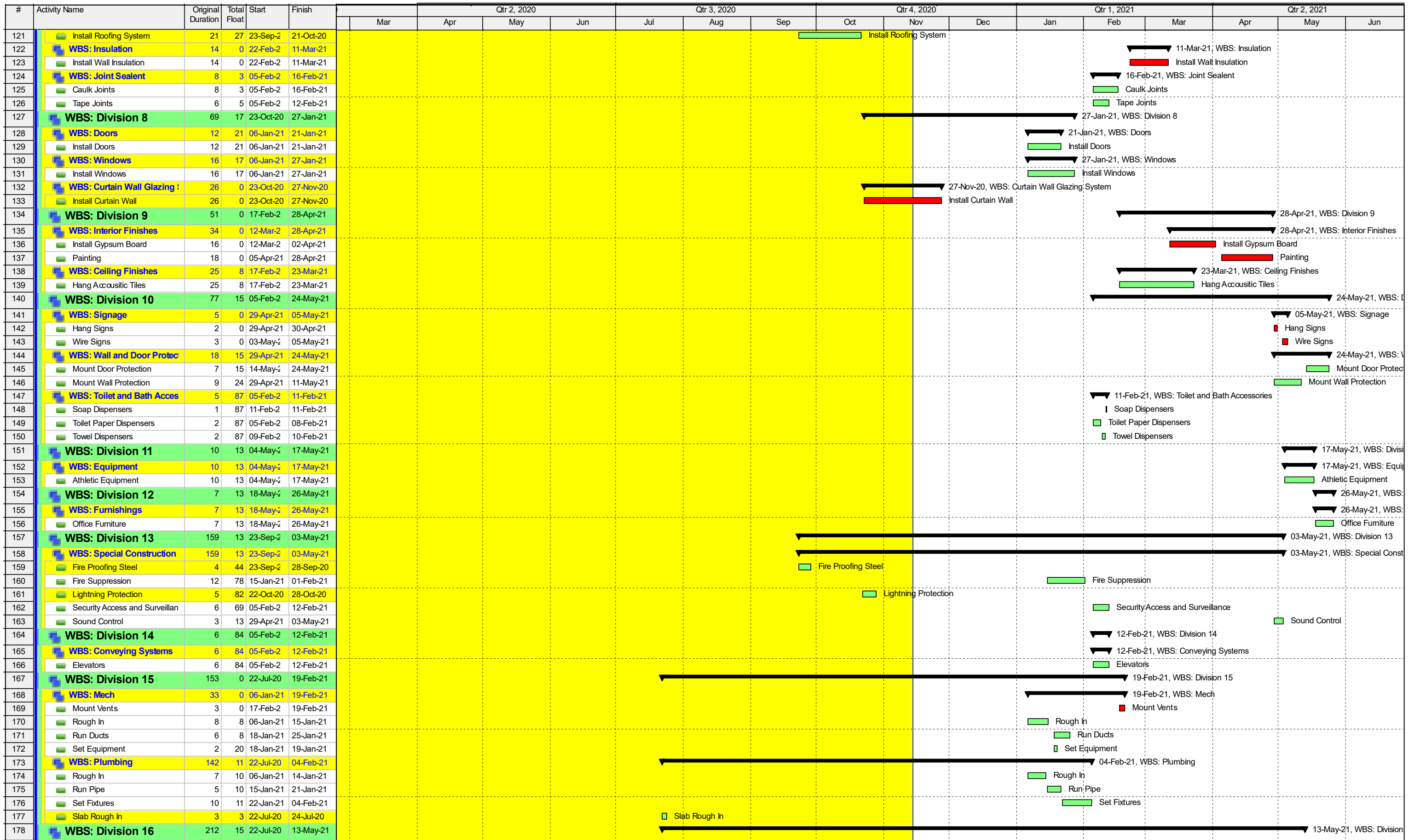


Actual Level of Effort
 Remaining Work
 Milestone
 Actual Work
 Critical Remaining Work
 summary



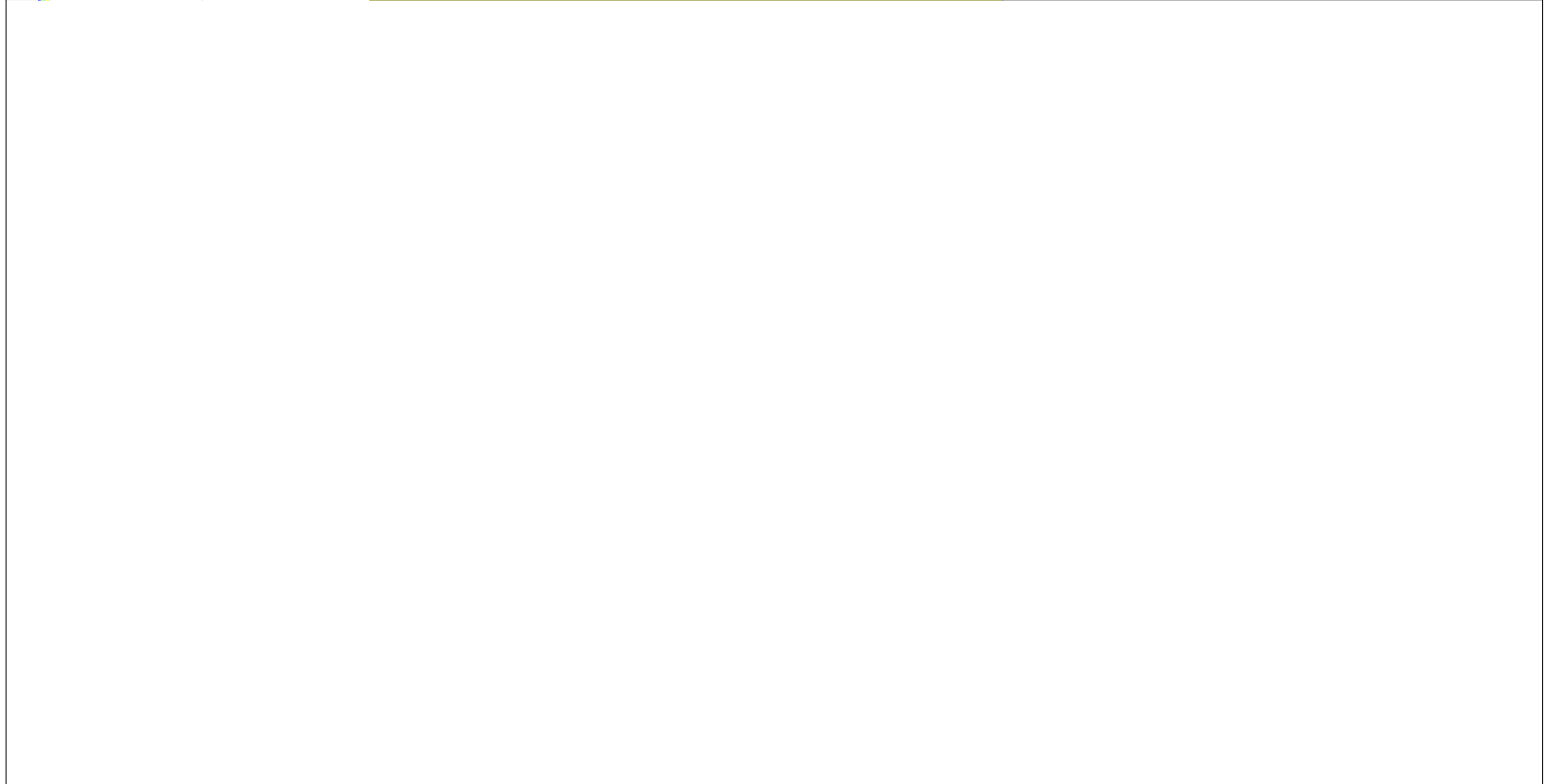
#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021				
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
1	Project: McCarthy	347	0	19-Feb-20	17-Jun-21																		
2	WBS: Milestones	347	0	19-Feb-20	17-Jun-21																		
3	Building Foundation Started	1	0	17-Jun-20	17-Jun-20	Building Foundation Started																	
4	Building Pad Ready	1	0	16-Jun-20	16-Jun-20	Building Pad Ready																	
5	Building Permit Received	1	71	09-Mar-20	09-Mar-20	Building Permit Received																	
6	Building Turn Over	1	0	17-Jun-21	17-Jun-21	Building Turn Over																	
7	Civil Package 100% Complete	1	0	20-Feb-20	20-Feb-20	Civil Package 100% Complete																	
8	Civil Package Notice To Proceed	1	0	28-Feb-20	28-Feb-20	Civil Package Notice To Proceed																	
9	Civil Package Permit Received	1	0	16-Mar-20	16-Mar-20	Civil Package Permit Received																	
10	Construction Design	1	6	20-Feb-20	20-Feb-20	Construction Design																	
11	Construction Documents 100%	1	71	28-Feb-20	28-Feb-20	Construction Documents 100% Complete																	
12	Dried In	1	97	28-Jan-21	28-Jan-21	Dried In																	
13	Final Civil Package Design	1	0	19-Feb-20	19-Feb-20	Final Civil Package Design																	
14	GC Punch List	1	0	15-Jun-21	15-Jun-21	GC Punch List																	
15	Owner Notice to Proceed	1	6	28-Feb-20	28-Feb-20	Owner Notice to Proceed																	
16	Temp. Power	1	163	08-Jun-20	08-Jun-20	Temp. Power																	
17	Turn Key	1	0	16-Jun-21	16-Jun-21	Turn Key																	
18	WBS: Division 1	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: Division 1																	
19	WBS: PreCon	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: PreCon																	
20	WBS: Pricing & Permitting	16	66	21-Feb-20	13-Mar-20	13-Mar-20, WBS: Pricing & Permitting																	
21	100% CD Pricing Approval	5	6	21-Feb-20	27-Feb-20	100% CD Pricing Approval																	
22	100% Civil Package Pricing Approved	5	0	21-Feb-20	27-Feb-20	100% Civil Package Pricing Approved																	
23	Permit Review of CD's	5	71	02-Mar-20	06-Mar-20	Permit Review of CD's																	
24	Permit Review of Civil Package	5	0	09-Mar-20	13-Mar-20	Permit Review of Civil Package																	
25	Submit CD for Building Permit	5	71	02-Mar-20	06-Mar-20	Submit CD for Building Permit																	
26	Submit Civil Package for Permits	5	0	02-Mar-20	06-Mar-20	Submit Civil Package for Permits																	
27	WBS: Procurement	93	235	02-Mar-20	08-Jul-20	08-Jul-20, WBS: Procurement																	
28	Architectural Precast Ordered	90	54	05-Mar-20	08-Jul-20	Architectural Precast Ordered																	
29	Curtainwall Ordered	60	106	05-Mar-20	27-May-20	Curtainwall Ordered																	
30	Electrical Equipment Ordered	30	218	02-Mar-20	10-Apr-20	Electrical Equipment Ordered																	
31	Elevator & Elevator Equipment Ordered	45	283	02-Mar-20	01-May-20	Elevator & Elevator Equipment Ordered																	
32	Fabricate and Deliver Materials	30	86	02-Mar-20	10-Apr-20	Fabricate and Deliver Materials																	
33	HVAC Equipment Ordered	30	220	02-Mar-20	10-Apr-20	HVAC Equipment Ordered																	
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35	Review & Approve Submittals	3	54	02-Mar-20	04-Mar-20	Review & Approve Submittals																	
36	Steel Ordered	1	109	10-Mar-20	10-Mar-20	Steel Ordered																	
37	WBS: Division 2	76	0	02-Mar-20	15-Jun-20	15-Jun-20, WBS: Division 2																	
38	WBS: Surveys	7	6	02-Mar-20	10-Mar-20	10-Mar-20, WBS: Surveys																	
39	Ex. Building Survey	2	6	09-Mar-20	10-Mar-20	Ex. Building Survey																	
40	Site Survey	1	6	06-Mar-20	06-Mar-20	Site Survey																	
41	Soil Testing	4	6	02-Mar-20	05-Mar-20	Soil Testing																	
42	WBS: Demo	40	0	19-Mar-20	13-May-20	13-May-20, WBS: Demo																	
43	East Parking Lot	10	0	30-Apr-20	13-May-20	East Parking Lot																	
44	Ex. Brick Veneer	13	0	13-Apr-20	29-Apr-20	Ex. Brick Veneer																	
45	Ex. North Building	3	0	08-Apr-20	10-Apr-20	Ex. North Building																	
46	Ex. Sidewalks	9	1	30-Apr-20	12-May-20	Ex. Sidewalks																	
47	Ex. South Building	14	0	19-Mar-20	07-Apr-20	Ex. South Building																	
48	West Bleachers	15	8	13-Apr-20	01-May-20	West Bleachers																	
49	WBS: Site Containment	13	0	02-Mar-20	18-Mar-20	18-Mar-20, WBS: Site Containment																	
50	Erosion Control	2	11	02-Mar-20	03-Mar-20	Erosion Control																	
51	Install Perimeter Fence	3	6	06-Mar-20	10-Mar-20	Install Perimeter Fence																	
52	Silt Fence	2	0	17-Mar-20	18-Mar-20	Silt Fence																	
53	WBS: Site Prep	4	6	02-Mar-20	05-Mar-20	05-Mar-20, WBS: Site Prep																	
54	Job Trailer Setup	1	6	05-Mar-20	05-Mar-20	Job Trailer Setup																	
55	Temporary Road	3	6	02-Mar-20	04-Mar-20	Temporary Road																	
56	WBS: Grading	23	0	14-May-20	15-Jun-20	15-Jun-20, WBS: Grading																	
57	Add Backfill to Subgrade	3	0	08-Jun-20	10-Jun-20	Add Backfill to Subgrade																	
58	Compact Backfill	3	0	11-Jun-20	15-Jun-20	Compact Backfill																	
59	Excavate to Subgrade	9	0	22-May-20	03-Jun-20	Excavate to Subgrade																	
60	Grade Existing Site	6	0	14-May-20	21-May-20	Grade Existing Site																	

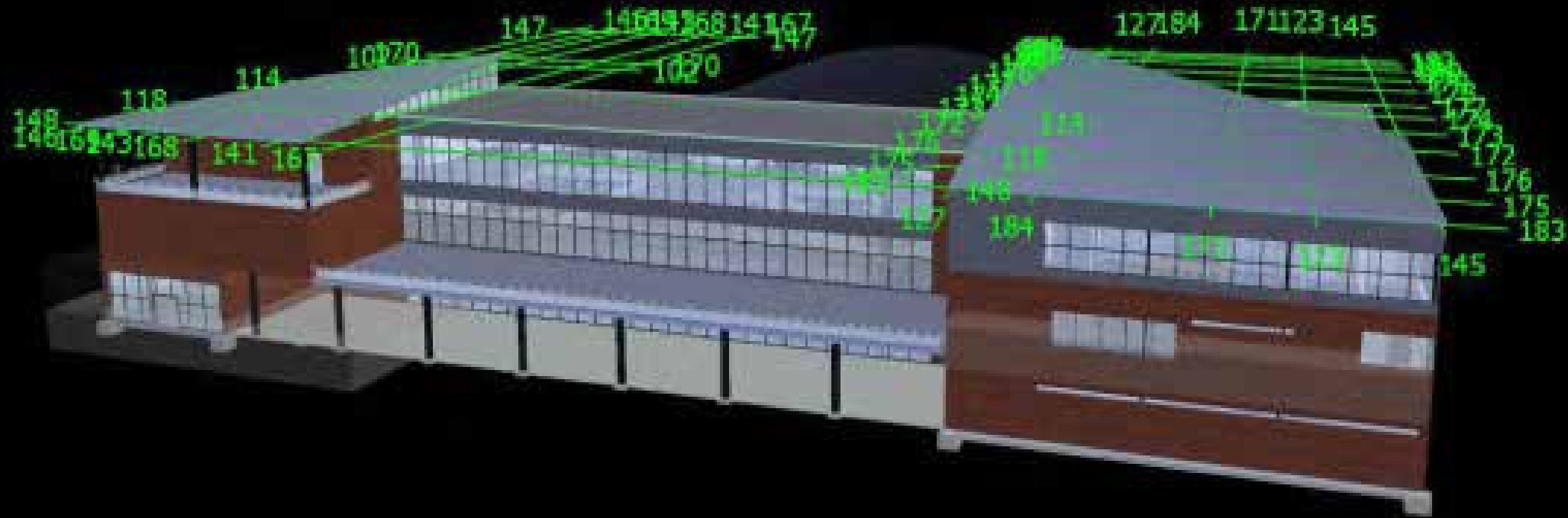
█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▬ summary



█ Actual Level of Effort █ Remaining Work ◆ Milestone
█ Actual Work █ Critical Remaining Work ▶ summary

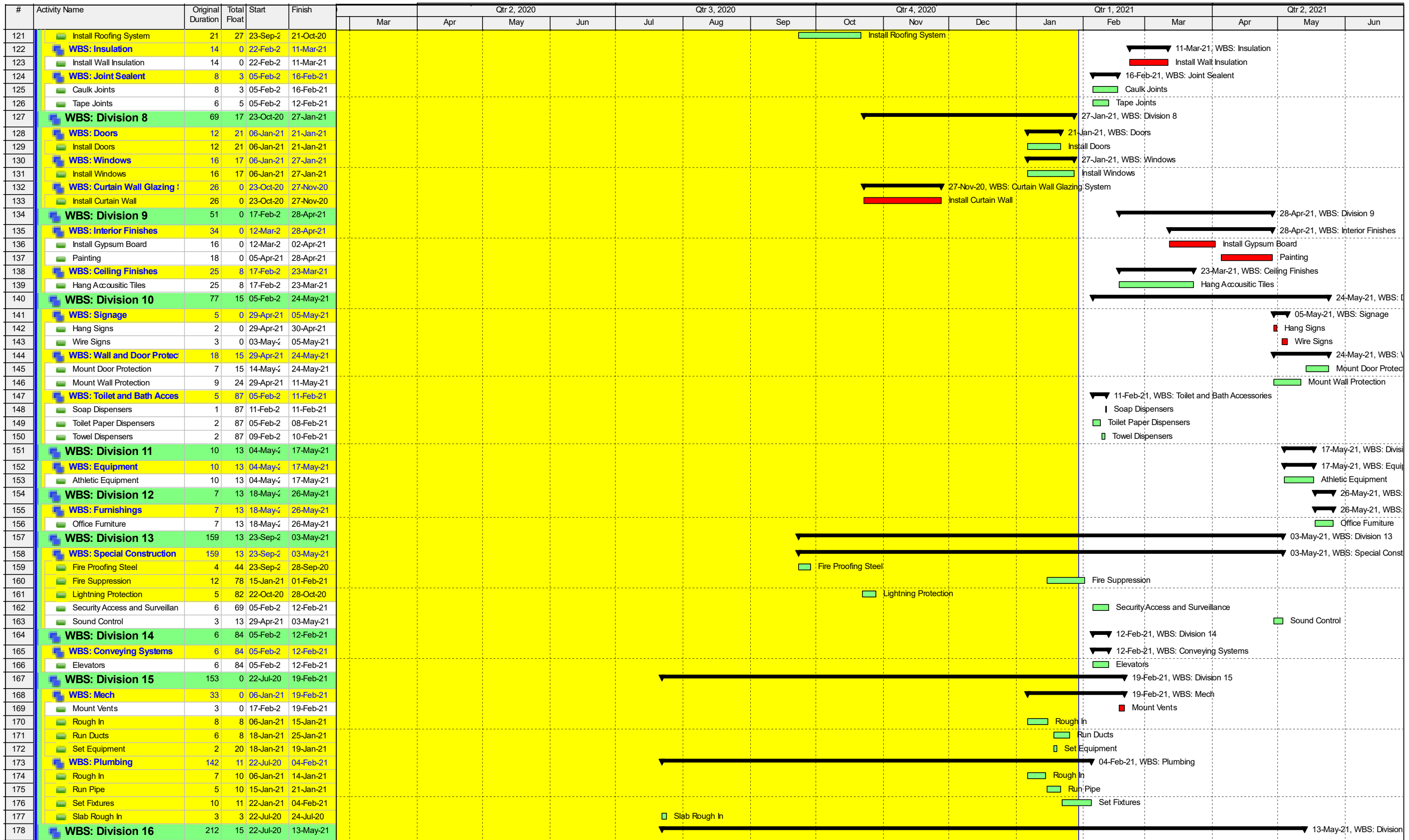
#	Activity Name	Original Duration	Total Float	Start	Finish	Qtr 2, 2020				Qtr 3, 2020			Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021			
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
179	WBS: Electrical	149	4	22-Jul-20	15-Feb-21																	
180	Rough In	12	0	06-Jan-21	21-Jan-21																	
181	Run Wire	10	0	22-Jan-21	04-Feb-21																	
182	Set Fixtures	7	4	05-Feb-2	15-Feb-21																	
183	Slab Rough In	3	3	22-Jul-20	24-Jul-20																	
184	WBS: Lighting	70	15	05-Feb-2	13-May-21																	
185	Hang Fixtures	11	15	29-Apr-21	13-May-21																	
186	Wire Fixtures	10	64	05-Feb-2	18-Feb-21																	





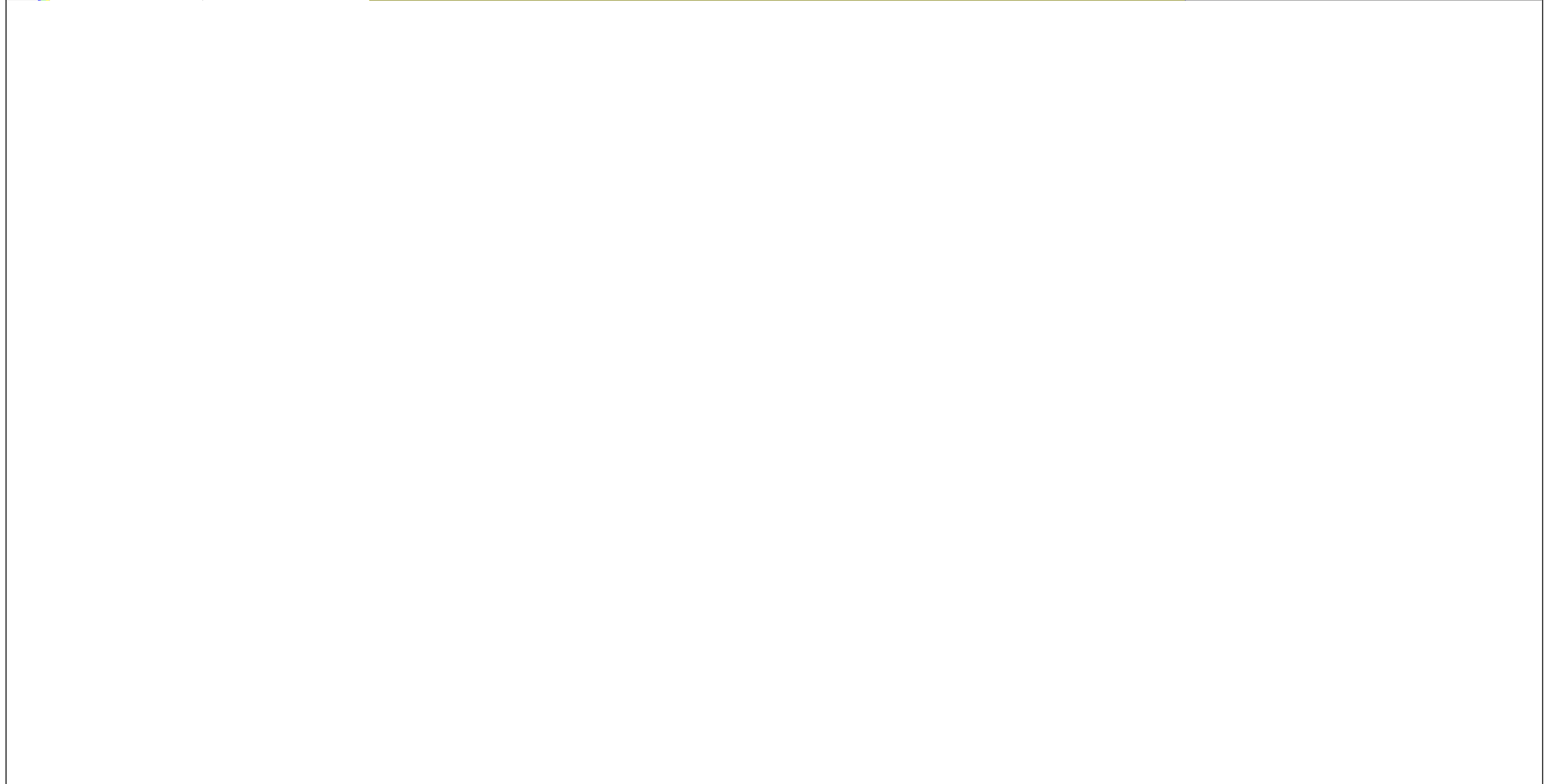
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						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
1	Project: McCarthy	347	0	19-Feb-20	17-Jun-21																		
2	WBS: Milestones	347	0	19-Feb-20	17-Jun-21																		
3	Building Foundation Started	1	0	17-Jun-20	17-Jun-20	Building Foundation Started																	
4	Building Pad Ready	1	0	16-Jun-20	16-Jun-20	Building Pad Ready																	
5	Building Permit Received	1	71	09-Mar-20	09-Mar-20	Building Permit Received																	
6	Building Turn Over	1	0	17-Jun-21	17-Jun-21	Building Turn Over																	
7	Civil Package 100% Complete	1	0	20-Feb-20	20-Feb-20	Civil Package 100% Complete																	
8	Civil Package Notice To Proceed	1	0	28-Feb-20	28-Feb-20	Civil Package Notice To Proceed																	
9	Civil Package Permit Received	1	0	16-Mar-20	16-Mar-20	Civil Package Permit Received																	
10	Construction Design	1	6	20-Feb-20	20-Feb-20	Construction Design																	
11	Construction Documents 100%	1	71	28-Feb-20	28-Feb-20	Construction Documents 100% Complete																	
12	Dried In	1	97	28-Jan-21	28-Jan-21	Dried In																	
13	Final Civil Package Design	1	0	19-Feb-20	19-Feb-20	Final Civil Package Design																	
14	GC Punch List	1	0	15-Jun-21	15-Jun-21	GC Punch List																	
15	Owner Notice to Proceed	1	6	28-Feb-20	28-Feb-20	Owner Notice to Proceed																	
16	Temp. Power	1	163	08-Jun-20	08-Jun-20	Temp. Power																	
17	Turn Key	1	0	16-Jun-21	16-Jun-21	Turn Key																	
18	WBS: Division 1	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: Division 1																	
19	WBS: PreCon	99	235	21-Feb-20	08-Jul-20	08-Jul-20, WBS: PreCon																	
20	WBS: Pricing & Permitting	16	66	21-Feb-20	13-Mar-20	13-Mar-20, WBS: Pricing & Permitting																	
21	100% CD Pricing Approval	5	6	21-Feb-20	27-Feb-20	100% CD Pricing Approval																	
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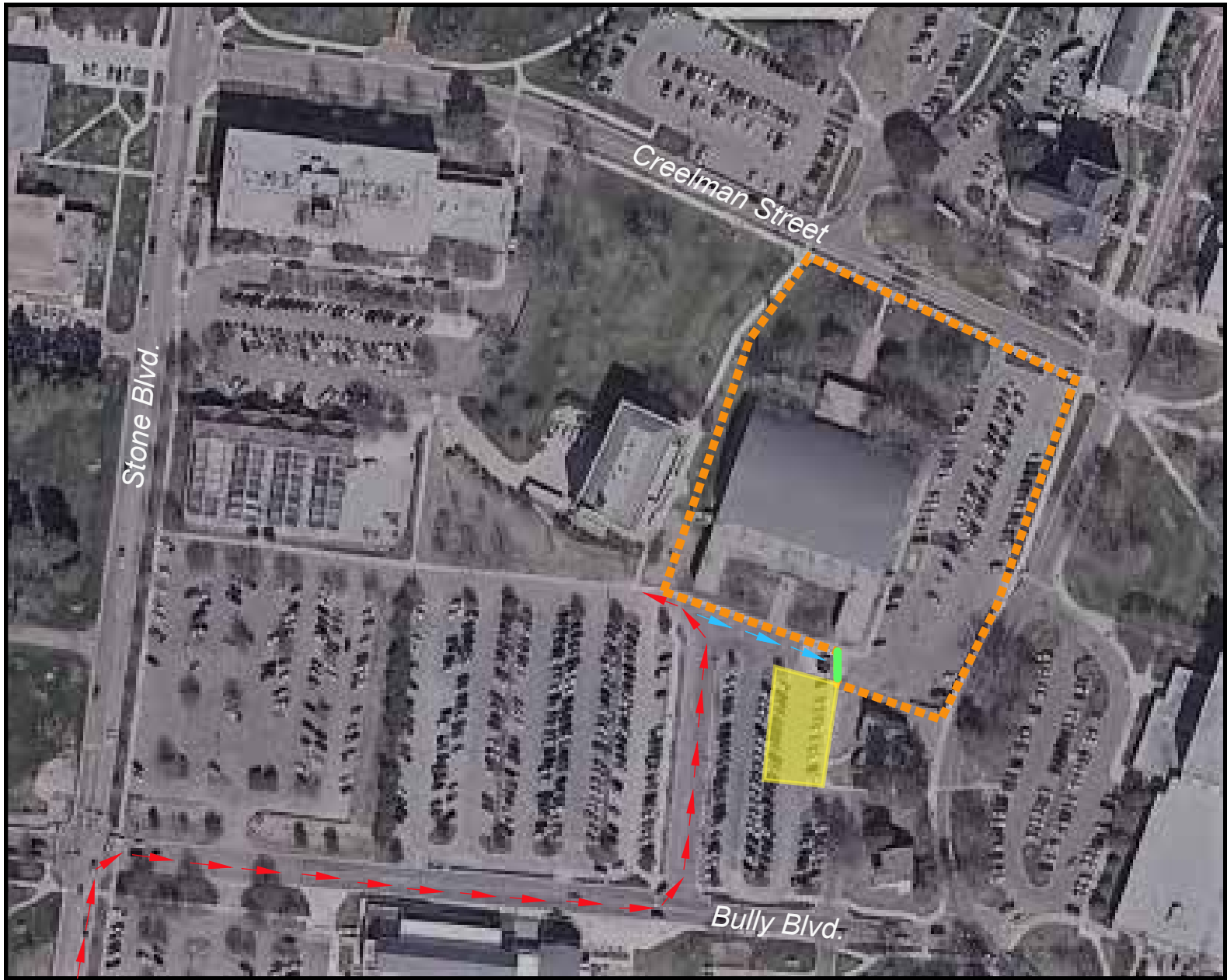


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█ Actual Level of Effort █ Remaining Work █ Actual Work
█ Critical Remaining Work ◆ Milestone ▬ summary



- 19 Parking Place, 8450 Sq Ft Contractor Parking Zone
- Double Swing Security Access Gate
- 1488 Linear Feet of Perimeter Fencing

- Forward Route for Deliveries
- Reversing Route to back Trailers into Site

DRAWN BY Group 8 DESCRIPTION Traffic Control Plan	PROJECT NO. 245.170 PROJECT McCarthy Gym	ISSUE 2.17.2020 RE-ISSUE TBD	CLIENT Mississippi State University 216 McCarthy Gym Starkville, MS 39759
01			



 **Building Demolition 9,690 Square feet**

 **Paving Demolition 48,593 Square Feet**

 **Perimeter Fencing**

 **Selective Demolition 7,674 Square Feet**

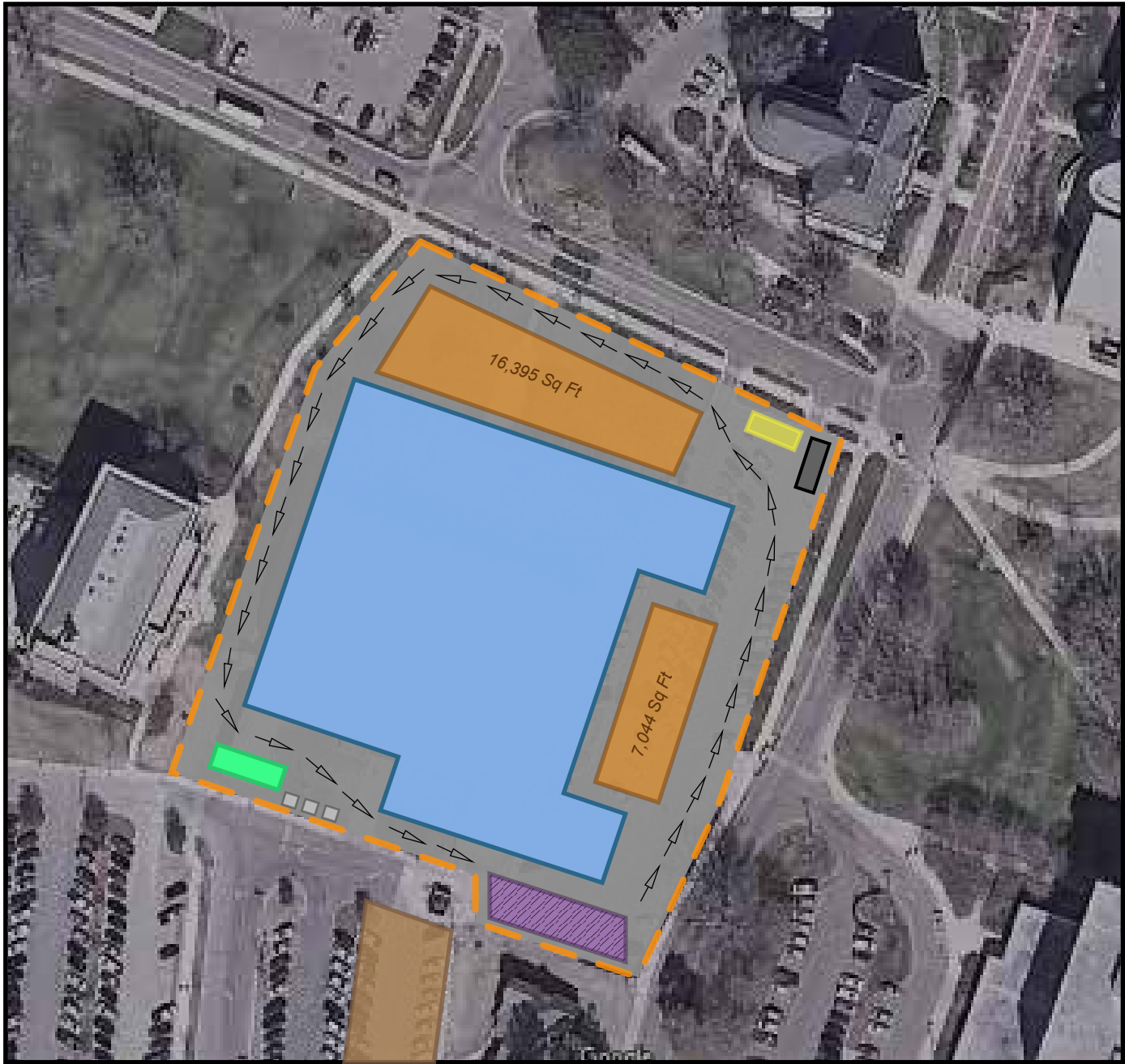
 **Retaining Wall Demolition 400 Linear Feet**

CLIENT
Mississippi State University
216 McCarthy Gym
Starkville, MS
39759

ISSUE
2.17.2020
RE-ISSUE
TBD

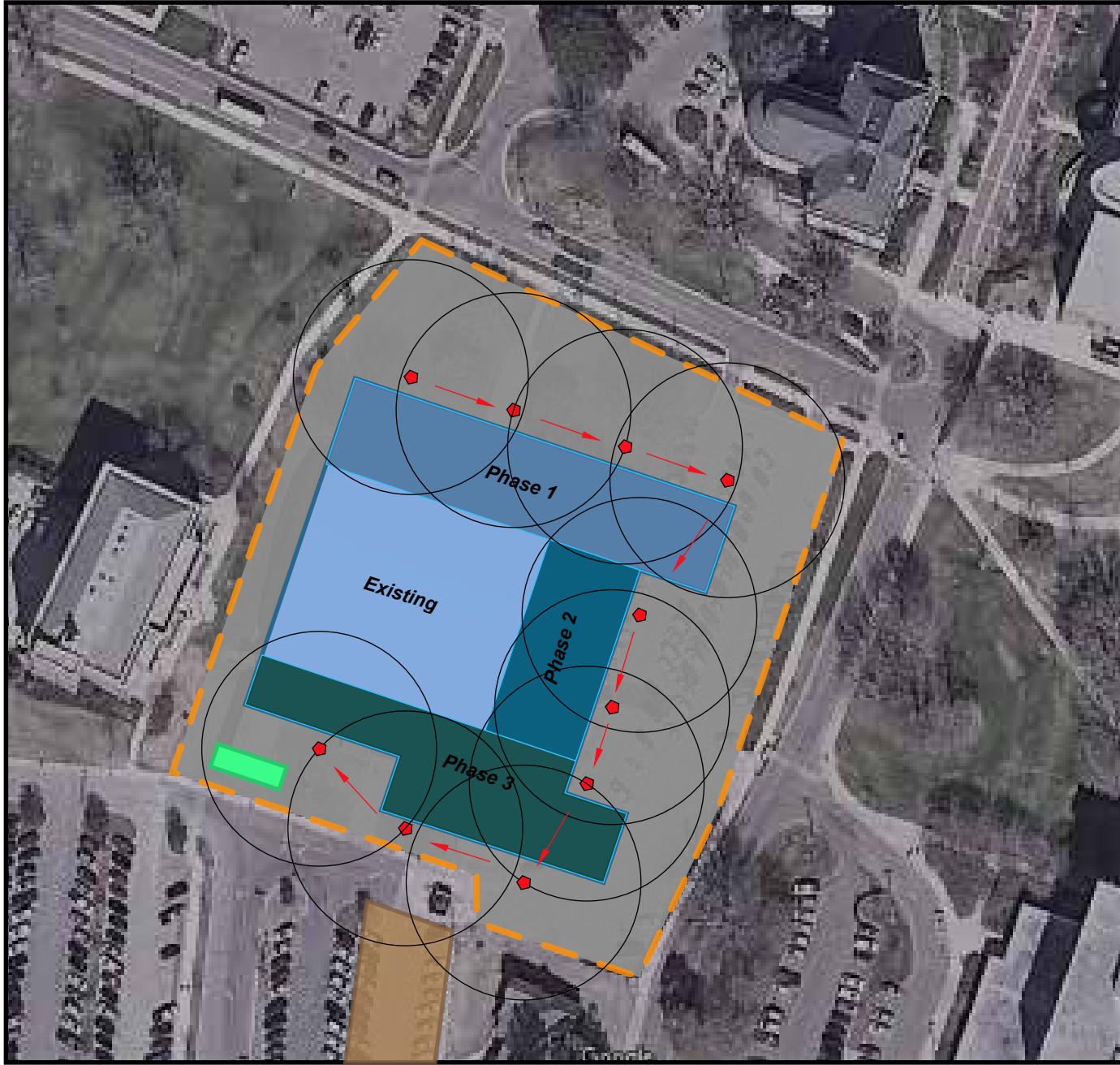
PROJECT NO.
245.170
PROJECT
McCarthy Gym

DRAWN BY
Group 8
DESCRIPTION
Demolition Plan



- 23,438 Square Feet of Laydown Space
- 2,286 Square Feet of Unloading Space
- Building Footprint
- Dumpster
- Job Trailer
- Conex
- Site Route
- Restrooms
- Contractor Parking

<p>DRAWN BY Group 8</p> <p>DESCRIPTION Site Plan</p>	<p>PROJECT NO. 245.170</p> <p>PROJECT McCarthy Gym</p>	<p>ISSUE 2.17.2020</p> <p>RE-ISSUE TBD</p>	<p>CLIENT Mississippi State University 216 McCarthy Gym Starkville, MS 39759</p>
03			



Existing

Phase 1

Phase 2

Phase 3

Job Trailer

Existing

Crane Locations

DRAWN BY
Group 8

PROJECT NO.
245.170
PROJECT
McCarthy Gym

ISSUE
2.17.2020
RE-ISSUE
TBD

CLIENT
Mississippi State University
216 McCarthy Gym
Starkville, MS
39759