McGRANAHAN architects
2111 Pacific. Suite 100 Tacoma. Washington 98402
253 383 3084 T
253 383 3097 F

CHANGE ORDER

Project: Woodland High School — Project No.: 1119.00-12

Architect: McGranahan Architects — Change Order No.: 5

Contractor: Skanska USA Building, Inc. — Date: April 14, 2014

Per the General Conditions of the Contract for Construction, this change order shall constitute full settlement for all known, estimated or foreseeable costs and time adjustments, including all delay and impact costs and direct and indirect damages, including consequential damages, regardless of cause, related to this change.

Plans and/or Specifications shall be changed as follows (refer to attachments for back-up information):

Reference		Amount
CCD 006R1	Service Yard Utilities (COR#43)	$19,237.00
CCD 010	Add Camber to Beams (COR#59)	$1,083.00
COP 009R1	Power Revisions to Stage Curtain and Operable Partition (COR#41)	$1,516.00
COP 010	Thickened Edge Slab at the Gym and Aux Gym (COR#37)	($1,170.00)
COP 013	Rack and Panel Move at the IDF Room (COR#44)	$15,077.00
COR 050	RFI#140 - Brace Frame Footing	$342.00
COR 053	RFI#136 CMU Reinforcement	$2,244.00
COR 054	RFI #125 Sanitary Sewer Mocifications	$1,480.00
COR 057	RFI#157 Fire Protection Line at Service Yard Door	$1,283.00
COR 058	RFI#135 Additional Joist Loading North and South Classrooms	$8,529.00

Total Change Order amount — **Add** $49,621.00

Original Contract Amount:	$43,538,000.00	Original Date of Substantial Completion:	July 6, 2015
Previously Authorized Change Orders:	$561,263.92	Prevoiusly Authorized Change Orders:	
Current Contract Amount:	$44,099,263.92	Current Date of Substantial Completion:	
		The Contract Time Will be :	
Contract Amount will be:		~~*Increased / Decreased*~~ / ***Unchanged***	by 0 Calendar Days.
Increased / ~~Decreased / Unchanged~~			
by this Change Order in the amount of:	$49,621.00		
		The date of Substantial Completion as a result	
The Revised Contract Amount as a result		of this Change Order, therefore, is:	July 6, 2015
of this Change Order therefor is:	**$44,148,884.92**		

APPROVALS:

Architect: McGranahan Architects — April 14, 2014 — Date

Woodland Public Schools — Date

Contractor: Skanska — 4/22/2014 — Date

CCD-006 R1

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 043 **Date: 3/10/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
CCD#006 - RFI#106 Service Yard Utilities		Notified

Reference	Required By	Days Req	Amt Req
	3/17/2014	0 $	19,237

Notes

This Change Order Request is for the lump sum costs to complete the additional work required by CCD#006. CCD#006 was issued as a T&M, however, through discussions Skanska is proposing as a lump sum costs. The pricing for the CCD#006 includes a credit for two of the sleeves added due to the reduction of the two sleeves per RFI#0125.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			Notes				
0083	3/6/2014		$	19,237	0	Owner	
CCD#006/RFI#106 - Service Yard Utilities							

Item No	Item Description		Amt Prop Reference
0001	Tapani shall provide all revisions in accordance with CCD#006. The costs for two casings added in CCD#006 have not been included, as they are credited from the revision associated with RFI#0125.	$	15,787
0002	Eagle Harbor shall provide all revisions at 5' into the building in accordance with CCD#006.	$	1,843
0003	General Liability Insurance	$	176
0004	GC P&P Bond	$	176
0005	Subcontractor Subguard Bond	$	176
0006	Skanska Fee	$	1,079

Submitted By:

Signature _____ 4-1-2014

Name Trevor Wyckoff **Date**

McGRANAHAN architects
2111 Pacific, Suite 100 Tacoma, Washington 98402
T 253 383 3084
F 253 383 3097

CONSTRUCTION CHANGE DIRECTIVE: 006

Woodland High School
Date: 3/7/2014
Revised:
To: Trevor Wyckoff, Skanska

CONTRACT MODIFICATION:
In order to expedite the Work and avoid delays, the Contractor is hereby directed to make the following change(s) in this Contract:

1. Revise utility lines and connections at the Service Yard per the response to RFI #106 issued on 3/7/14.
2. Provide steel sleeves where utilities run beneath canopy footings per CSK-033 and CSK-034.
3. Fill sleeves with sand and use pressure treated shims.

Reference: C6.07; RFI-106
Attachments: RFI-106; CSK-033, CSK-034 and CSK-035

PROPOSED CONTRACT ADJUSTMENTS:
The Contract Sum or Guaranteed Maximum Price will be adjusted on following basis:

- ☒ Lump Sum (increase) (decrease) of: $19,237.00
- ☐ As provided in Article 7 of the General Conditions or,
- ☒ As follows: Time and Materials.

The Contract Time will:

- ☒ Remain unchanged;
- ☐ (increase) (decrease) by days or;
- ☐ be adjusted as provided in Article 8 of the General Conditions.

When issued by the Architect and approved by the Owner, this document shall serve as authorization to proceed with the Work as described above. The Contractor shall proceed IMMEDIATELY. When the actual adjustments to the Contract Sum and/or Contract Time are agreed to by the Architect, Owner and Contractor, this Work shall be added to the Contract by Change Order.

Issued By: _____ Date: ~~3/5/2014~~ 3/7/14
McGranahan Architects

Approved By: _____ Date: 3.10.14
Woodland School District No. 404

Signature below indicates the Contractor's acknowledgement of the direction to proceed with the Work immediately. The Contractor ☐ (agrees) ☐ (disagrees) with the proposed method of adjustment in the Contract Sum and Contract Time.

Accepted By: _____ Date: 3.11.14
Contractor

SKANSKA

Request for Information 0106

Detailed, RFIs Grouped by RFI Number

Woodland High School | **Project # 4113074-000** | **Skanska USA Building Inc.**
Tel: Fax:

RFI #: 0106 **Date Created: 2/18/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	David Franke

Co-Respondent | **Author RFI Number**

Subject	Discipline	Category
Utility lines at the service yard	Civil	

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 2/25/2014**

Reference C6.07 and S2.15.

The water sewer lines appear to conflict with the canopy spread footings in the service yard area. Please provide a revised route to avoid the footing or revised elevation of the footing so the lines can pass under the footings.

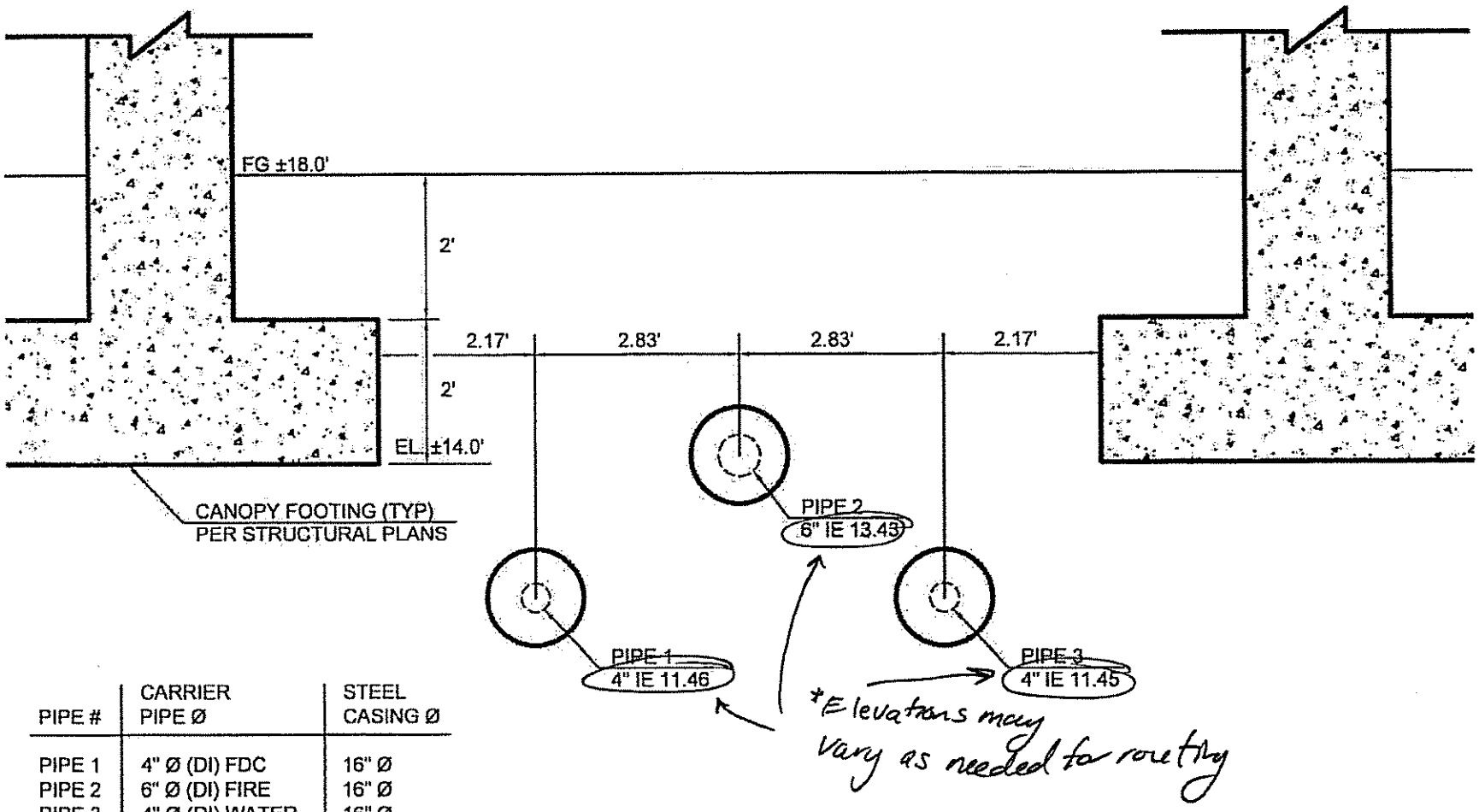
Please advise.

Suggestion

Answer **Date Answered:**

The utility lines to be revised per attached sketches CSK-033, CSK-034, AND CSK-035.

03/07/14
Elissa Peters
HDJ Design Group



PIPE #	CARRIER PIPE Ø	STEEL CASING Ø
PIPE 1	4" Ø (DI) FDC	16" Ø
PIPE 2	6" Ø (DI) FIRE	16" Ø
PIPE 3	4" Ø (DI) WATER	16" Ø

NOTES:
1. GEOGRID TO BE REPAIRED WHEN GEOGRID IS REQUIRED TO BE CUT TO PLACE PIPE.
2. STEEL CASING PER CITY OF WOODLAND STD DET W-16 SHEET C9.20

WATER LINES AT CANOPY FOOTINGS

ELEVATION VIEW NTS

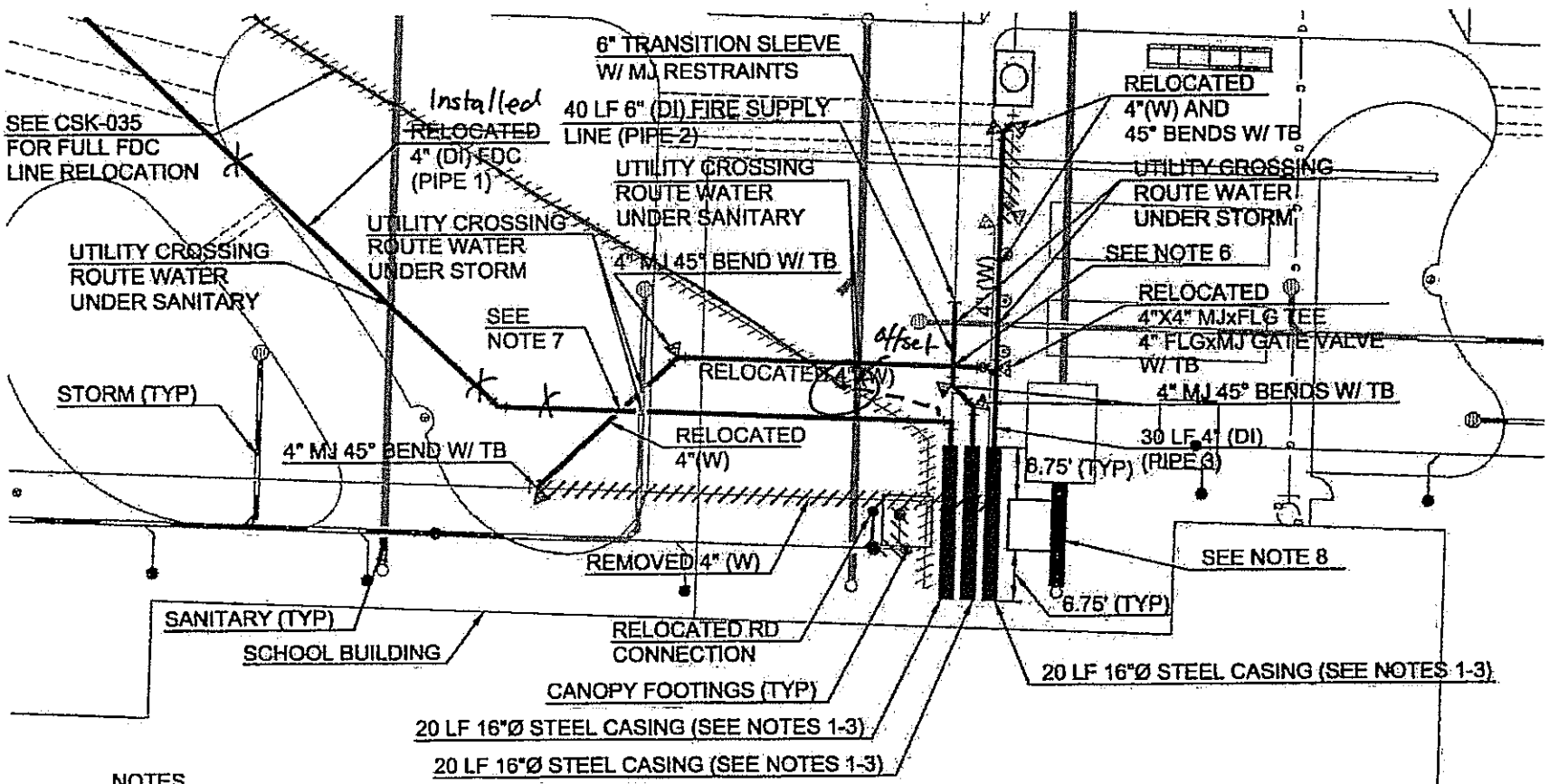
WOODLAND HIGH SCHOOL 1119.000 McGRANAHAN architects

TITLE:	WATER LINES AT CANOPY FOOTING - ELEVATION VIEW
REFERENCE:	C6.07
SCALE:	NTS
ISSUED FOR:	RFI #106
DATE:	MARCH 7, 2014

CSK-034

REVISED:	MPW
DRAWN BY:	EAP

F 253 383 3
T 253 383 3



NOTES

1. CENTER STEEL CASING ON FOOTING PER PLAN DIMENSIONS
2. STEEL CASING PER CITY OF WOODLAND STD DET W-16 SHEET C9.20
3. SEE CSK-034 FOR WATER LINES AT CANOPY FOOTING - ELEVATION VIEW
4. AT ALL WATER AND SANITARY CROSSINGS, MAINTAIN A MIN CLEARANCE PER CITY OF WOODLAND STD DET W-20 SHEET C9.20
5. WHERE WATER CROSSES UNDER SEWER PROVIDE CASING CENTERED ON CROSSING PER CITY OF WOODLAND STD DET W-16 SHEET C9.20
6. ROUTE WATER UNDER FIRE SUPPLY LINE. MAINTAIN MIN 18" CLEARANCE.
7. ROUTE WATER UNDER FDC LINE. MAINTAIN MIN 18" CLEARANCE.
8. PROVIDE STEEL CASING ON SANITARY PER CITY OF WOODLAND STD DET W-16 SHEET C9.20. SEE STRUCTURAL PLANS FOR FOOTING DETAIL.

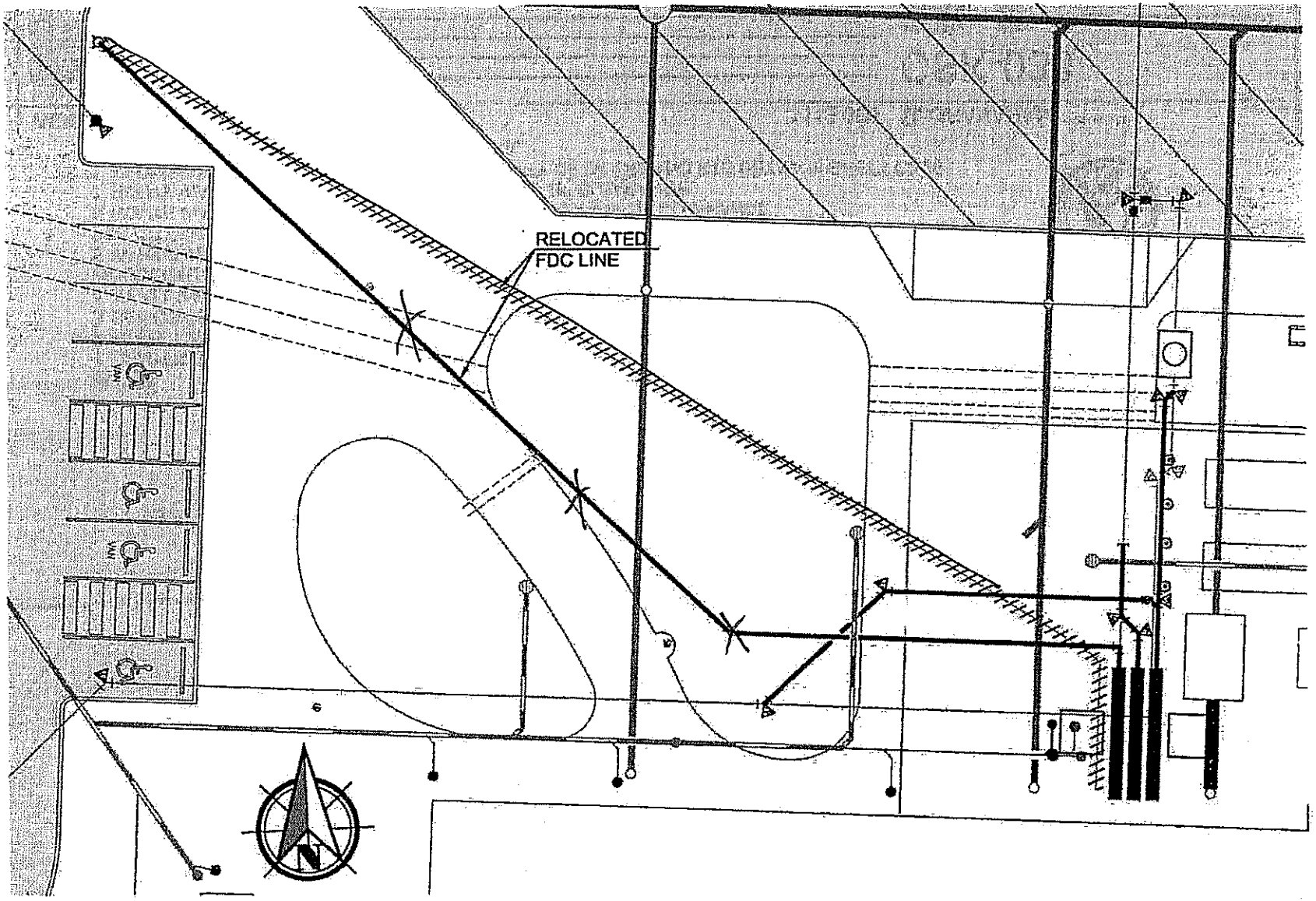
WOODLAND HIGH SCHOOL 1119.000 McGRANAHAN architects

TITLE:	SERVICE YARD WATER LINE REVISION
REFERENCE:	C6.07
SCALE:	1"=20'
ISSUED FOR:	RFI #106
DATE:	MARCH 7, 2014

CSK-033

REVISED:	MPW
DRAWN BY:	EAP

F 383 3
T 383 3



WOODLAND HIGH SCHOOL

1119.000 McGRANAHAN architects

TITLE:	FDC LINE RELOCATION
REFERENCE:	C6.07
SCALE:	1"=20'
ISSUED FOR:	RFI #106
DATE:	MARCH 7, 2014

CSK-035

REVISED:	MPW
DRAWN BY:	EAP

253
F 383 3
253
T 383 3

TAPANI INC.
PO Box 1900 • 1904 SE 6th Place • Battle Ground, WA 98604
(360) 687-1148 • (360) 687-7968 FAX

March 31, 2014

Serial Letter No. 006

Trevor Wyckoff
Skanska USA Building
222 SW Columbia Street Suite 300
Portland, OR 97201

RE: Revised Response to CCD#006
Woodland High School

Mr. Wyckoff,

Please see the attached breakdown of revised changes for the work added to the contract in CCD #006. As previously discussed, we have included the full amount of the credit for two casings that were eliminated as a result of our value engineering proposal in RFI #125. Please issue a change order in the amount of $15,787.43 for the additional work.

Please let me know if you have any questions or need any additional information.

Sincerely,

Chad Mahoney
Project Manager
Tapani, Inc

CCD 6 Revise Utility Lines

Item	Desc ription	Qty	Unit	Unit Price	Amount
001	Additional Layout	1	LS	$ 500.00	$ 500.00
002	16" Steel Casing for Sewer Line	20	LF	$ 225.00	$ 4,500.00
003	6" Sanitary Sewer Line	20	LF	$ 31.35	$ 627.00
004	Sanitary Cleanout	1	LS	$ 311.18	$ 311.18
005	16" Steel Casing for Water Main	20	LF	$ 225.00	$ 4,500.00
006	4" Ductile Iron Water Main	30	LF	$ 40.00	$ 1,200.00
007	4" C900 Water Main	70	LF	$ 21.65	$ 1,515.50
008	4" C900 Water Main	-100	LF	$ 21.65	$ (2,165.00)
009	4" 45 Degree Bends for Vertical Drops	4	EA	$ 275.00	$ 1,100.00
010	6" Transition Sleeve	1	EA	$ 550.00	$ 550.00
011	16" Steel Casing for Fire Supply	20	LF	$ 225.00	$ 4,500.00
012	6" Ductile Iron Fire Supply	40	LF	$ 56.43	$ 2,257.20
013	6" C900 Fire Supply	30	LF	$ 44.00	$ 1,320.00
014	6" C900 Fire Supply	-70	LF	$ 44.00	$ (3,080.00)
015	6" 45 Degree Bends with Thrust Blocks	2	EA	$ 350.00	$ 700.00
016	6" 45 Degree Bends for Vertical Drops	2	EA	$ 350.00	$ 700.00
017	16" Steel Casing for FDC Line	20	LF	$ 225.00	$ 4,500.00
018	4" 45 Degree Bends for Vertical Drops	2	EA	$ 275.00	$ 550.00
019	Additional 4" C900 for Water Line to Grandstands	7	LF	$ 21.65	$ 151.55
020	4" 45 Degree Bends with Thrust Blocks for Reroute	2	EA	$ 275.00	$ 550.00
021	4" DI FDC Line	-25	LF	$ 32.70	$ (817.50)
022	4" DI FDC Line	25	LF	$ 32.70	$ 817.50
023	Credit Casing Eliminated per RFI 125	-2	EA	$ 4,500.00	$ (9,000.00)
	Total				$ 15,787.43

Eagle Harbor Associates LLC

CHANGE ORDER PROPOSAL----------# EH-10 DATE ---- 03/17/14 REVISION #
CHANGE ORDER - RFI - ASI - EWO ----# CCD-006 PROJECT-- Woodland High School JOB #1304
DESCRIPTION---------- Service Yard Utilities modifications
LOCATION----------

LABOR -

	description	rate	hour	=	subtotal	TOTAL
a.	plumber/fitter, s.t.	$62.57	0	=	$0.00	
b.	plumber/fitter, s.t. Foreman	$66.76	4	=	$267.04	
c.	plumber/fitter, o.t.	$93.85	0	=	$0.00	
d.	plumber/fitter, o.t. Foreman	$100.14	0	=	$0.00	
e.	as-builts	$66.76	0.5	=	$33.38	
f.	cordination	$66.76	0.5	=	$33.38	
g.	Driver		0	=	$0.00	
	0 total hours		0			
			subtotal labor----------		$333.80	$333.80
	ALLOWANCE FOR LABOR BURDEN @----------		18.00%			$60.08
	(includes labor tax, Industrial insurance, employment insurance, payroll portion of general liability.)		SUB-TOTAL LABOR ----------			$393.88
	ALLOWANCE FOR SAFETY @----------		0.00%			$0.00
	ALLOWANCE FOR SMALL TOOLS @----------		0.00%			$0.00
			TOTAL LABOR----------			$393.88

MATERIAL - PAGE #2, MATERIAL BREAKDOWN BALANCE FORWARD

balance forward----------	=	$1,180.00		
subtotal material------		$1,180.00	$1,180.00	
ALLOWANCE FOR FRT. & HDLG. ON MAT. ----------	0.00%		$0.00	
TOTAL MATERIAL----------			$1,180.00	

EQUIPMENT -

	description	duration	rate	unit	=		
a.	0				=	$0.00	
b.					=	$0.00	
c.					=	$0.00	
				TOTAL EQUIPMENT ----		$0.00	$0.00

SUBTOTAL EAGLE HARBOR ASSOCIATES DIRECT COSTS -		$1,573.88
OVERHEAD ON EHA WORK @ ----------	15.00%	$236.08
TOTAL Eagle Harbor Associates LLC PORTION ----------		$1,809.97

SUBCONTRACTOR WORK --

a.			=		
b.			=	$0.00	
c.			=	$0.00	
	0	subtotal subcontractor --		$0.00	$0.00
EHA, OVERHEAD/PROFIT - SUBCONTRACT WORK -		12.00%			$0.00
		TOTAL SUBCONTRACTOR----------			$0.00

Insurance @ 0.8%	$14.48
Bond Premium @ 1%	$18.10

TIME EXTENSION IN CALENDAR DAY'S ---------- 0

REMARKS --

a. EXCLUSIONS PER SUBCONTRACT
b.
c.

TOTAL DUE THIS PROPOSAL---------- $1,842.55

CHANGE ORDER PROPOSAL----------# EH-10 0 DATE ---- 03/17/14 REVISION # 0

CHANGE ORDER - RFI - ASI - EWO ----# CCD-006 0 PROJECT-- Woodland High School JOB #1303

DESCRIPTION---------- Service Yard Utilities modifications

LOCATION----------

MATERIAL -

	description	quantity	cost / unit	unit	=	subtotal
a.	4" type K	20	$49.00	lf	=	$980.00
b.	4" copper 90	2	$100.00	ea	=	$200.00
c.				ea	=	$0.00
d.				ea	=	$0.00
e.				ea	=	$0.00
f.				ea	=	$0.00
g.				ea	=	$0.00
h.				ea	=	$0.00
i.				lf	=	$0.00
j.				lf	=	$0.00
k.				lf	=	$0.00
l.				ea	=	$0.00
m.				ea	=	$0.00
n.				ea	=	$0.00
o.				ea	=	$0.00
p.				ea	=	$0.00
q.				ea	=	$0.00
r.				ea	=	$0.00
s.				ea	=	$0.00
t.				ea	=	$0.00
u.				0	=	$0.00
v.	0		$0.00	0	=	$0.00
w.	0		$0.00	0	=	$0.00
x.	0		$0.00	0	=	$0.00
y.	0		$0.00	0	=	$0.00
z.	0		$0.00	0	=	$0.00
aa.	0		$0.00	0	=	$0.00
bb.	0		$0.00	0	=	$0.00
cc.	0		$0.00	0	=	$0.00
dd.	0		$0.00	0	=	$0.00
ee.	0		$0.00	0	=	$0.00
ff.	0		$0.00	0	=	$0.00
gg.	0		$0.00	0	=	$0.00
hh.	0		$0.00	0	=	$0.00
ii.	0		$0.00	0	=	$0.00
jj.	0		$0.00	0	=	$0.00
kk.	0		$0.00	0	=	$0.00
ll.	0		$0.00	0	=	$0.00
mm.	0		$0.00	0	=	$0.00
nn.	0		$0.00	0	=	$0.00
oo	0		$0.00	0	=	$0.00
pp.	0		$0.00	0	=	$0.00
qq.	0		$0.00	0	=	$0.00
rr.	0		$0.00	0	=	$0.00
ss.	0		$0.00	0	=	$0.00
tt.	0		$0.00	0	=	$0.00
uu.	0		$0.00	0	=	$0.00
vv.	0		$0.00	0	=	$0.00
ww.	0		$0.00	0	=	$0.00
xx.	0		$0.00	0	=	$0.00
yy.	0		$0.00	0	=	$0.00
zz.	0		$0.00	0	=	$0.00

SUBTOTAL MATERIAL - (balance carried forward to page #1)---------- $1,180.00

REMARKS -

a.

b.

c.

SKANSKA

Request for Information 0179

Detailed, RFIs Grouped by RFI Number

Woodland High School | **Project # 4113074-000** | **Skanska USA Building Inc.**
Tel: Fax:

RFI #: 0179 **Date Created: 4/2/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	David Franke

Co-Respondent

Author RFI Number
NCC

Subject	Discipline	Category
Chiller System Min. and Max flow rates	Mechanical	

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 4/9/2014**

Reference: M6.06 and key notes 17&31.

Please provide valve sizing requirements for minimum flow rates and maximum flow valve: i.e. max flow thru each valve and pressure drop.

Additionally, are the valves fail safe? If so, is the fail safe open or closed?

Suggestion

Answer **Date Answered:**

McGRANAHAN architects
2111 Pacific, Suite 100 Tacoma, Washington 98402
T 253 383 3084
F 253 383 3097

CONSTRUCTION CHANGE DIRECTIVE: 010

Woodland High School
Date: 4/3/2014
To: Trevor Wyckoff, Skanska

CONTRACT MODIFICATION:
In order to expedite the Work and avoid delays, the Contractor is hereby directed to make the following change(s) in this Contract:

1. Add camber to three beams.
2. Provide additional headed studs at beams.

Reference: S2.32
Attachments: SSK-089

PROPOSED CONTRACT ADJUSTMENTS:
The Contract Sum or Guaranteed Maximum Price will be adjusted on following basis:

- ☒ Lump Sum (increase) (decrease) of: $ 1,083
- ☐ As provided in Article 7 of the General Conditions or,
- ☐ As follows: Time and Materials.

The Contract Time will:

- ☒ Remain unchanged;
- ☐ (increase) (decrease) by days or;
- ☐ be adjusted as provided in Article 8 of the General Conditions.

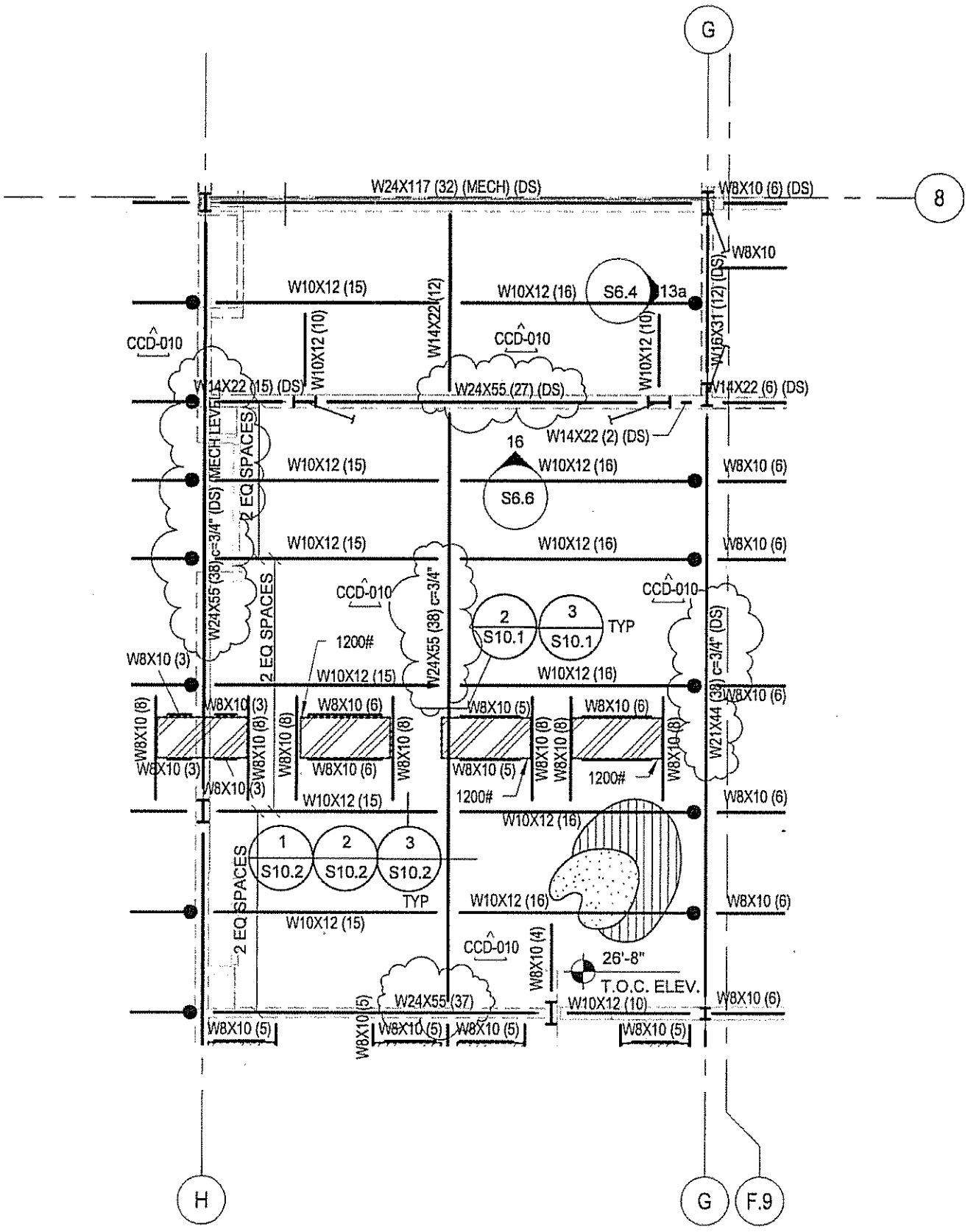
When issued by the Architect and approved by the Owner, this document shall serve as authorization to proceed with the Work as described above. The Contractor shall proceed IMMEDIATELY. When the actual adjustments to the Contract Sum and/or Contract Time are agreed to by the Architect, Owner and Contractor, this Work shall be added to the Contract by Change Order.

Issued By: _____ Date: 4.3.14
McGranahan Architects

Approved By: _____ Date: _____
Woodland School District No. 404

Signature below indicates the Contractor's acknowledgement of the direction to proceed with the Work immediately.
The Contractor ☒ ***(agrees)*** ☐ ***(disagrees)*** *with the proposed method of adjustment in the Contract Sum and Contract Time.*

Accepted By: _____ Date: 4/3/2014
Contractor



WOODLAND HIGH SCHOOL	1119.000	McGRANAHAN architects	
TITLE:	PARTIAL MECH FLOOR FRAMING PLAN - COMMONS	SSK-089	
REFERENCE:	S2.32		
SCALE:	1/8" = 1'-0"		
ISSUED FOR:	CCD-010	REVISED:	RRM
DATE:	04.03.14	DRAWN BY:	CCC

253 383 3097
253 383 3084

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 059 **Date: 4/3/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
CCD#010 - Add Camber and Studs to Beams		Submitted

Reference	Required By	Days Req	Amt Req
	4/10/2014	0	$ 1,083

Notes

This Change Order Request is for the lump sum costs to provide structural steel framing revisions in accordance with CCD#010.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			**Notes**				
0104	4/3/2014		$	1,083	0	Owner	Owner Directive
CCD#010 - Added camber to beams and added headed studs							

Item No	Item Description		Amt Prop Reference
0001	Yakima steel shall provide beam revisions in accordance with CCD#010.	$	973
0002	Corona Steel shall install additional shear studs in accordance with CCD#010.	$	20
0003	General Liability Insurance	$	10
0004	GC P&P Bond	$	10
0005	Subcontractor Subguard Bond	$	10
0006	Skanska Fee	$	60

Approved By:

Signature _____ 4/3/14

Name Trevor Wyckoff **Date**

YAKIMASTEEL
6 E. Washington Ave
Yakima, WA 98903
Phone: 509.575.1570
Fax: 509.453.3697

Change Order Authorization

Date: 4/3/2014

To: Skanska
Attn: David
Job Name: WHS

Job #: 34609
Change Order #: 10
Attatchments: None

Description:

Per CCD 010 add camber and studs to beams

Materials		$	-	
Drawings		$	170.00	2 hrs @ 85.00 per hr
Shop Labor		$	-	
Field Labor		$	-	
Delivery		$	-	
Other	Camber	$	675.00	225 per beam
Sub-Total		$	845.00	
Overhead (10%)		$	85.00	
Profit (5%)		$	43.00	
Total		$	973.00	

Written authorization is required prior to Yakima Steel's performance of the changes specified herin. The price for the changes specified is based on Yakima Steel's immediate receipt of a signed Change Order Authorization, so that the changes may be incoprorated in the work currently in process. Delays in receiving such authorization may increase the price of the specified changes and/or delay deliveries at no cost or penalty to Yakima Steel. This authorization is not intended to replace your written Change Order. If, however, your Change Order has not been received by the periodic billing date subsequent to our performance of changes authorized, Yakima Steel is herewith authorized to invoice for amounts specified herein and such amounts shall be due and payable to Yakima Steel.

Accepted: The above prices and terms of this Changes Order Authorization are satisfactory and are hereby accepted. All work specified herein to be performed under the same terms and conditions as specified in original contract unless otherwise specified.

Approval Signature: _____

Date of Acceptance: _____

Print Name & Title: _____

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 041 **Date: 3/28/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
COP#009R1 - Power Revisions to Stage Curtain and Operable Partition		Submitted

Reference	Required By	Days Req	Amt Req
	3/10/2014	0 $	1,516

Notes:

This Change Order Request is for the additional costs associated with the power revisions included within COP#009R1. Skanska is uncertain if motors are available as single phase. Any potential cost for motor revisions and/or phase revisions are not included within this Change Order Request, and if incurred those costs will be submitted through a separate Change Order Request.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			Notes				
0077	2/24/2014		$	1,516	0	Owner	Architect/Consultant Directive

COP#009 - Power Revisions to Stage Curtain/Operable Partition

Item No	Item Description		Amt Prop Reference
0001	Provide power revisions in accordance with COP#009R1 dated March 13, 2014.	$	1,390
0002	General Liability Insurance	$	14
0003	GC P&P Bond	$	14
0004	Subcontractor Subguard Bond	$	14
0005	Skanska Fee	$	84

Submitted By:

Signature _____ 3-24-14

Name Trevor Wyckoff **Date**

McGRANAHAN architects
253 383 3084 T
253 383 3097 F
2111 Pacific, Suite 100 Tacoma, Washington 98402

CHANGE ORDER PROPOSAL: 009R1

Woodland High School
Date: February 20, 2014
Revised: 3/13/14
To: Trevor Wyckoff, Skanska

PROPOSED CONTRACT MODIFICATION:

Please submit an itemized proposal for changes in the Contract Time and Contract Sum for the following proposed modifications to the Contract Documents (This document is not a Change Order, Field Authorization or direction to proceed with the work described herein) (Reference ESK-41):

1.) Revise Construction Note 6 as shown.
2.) Add Construction Note 7 for additional connection to Side Stage Curtains.
3.) Add Construction Note 8 to clarify connection to projection screen. There are no modifications to the projection screen scope of work.
4.) Revise the 3P-20A circuit breaker at 1P05-34,36,38 to be (3) 1P-20A circuit breakers.
5.) Revise the circuit connection and provide (2) motor rated disconnect switches for (2) Side Stage Curtain motors, rated 1/3HP at 120V.

Reference: E3.12

Attachments: ESK-041

PROPOSED CONTRACT ADJUSTMENTS:

The proposed change to the Contract Sum or Guaranteed Maximum Price for all work described above is:

☒ (increase) (decrease) of : $ 1,516.20 (Washington State Sales Tax not included) or,

☐ The Contract Sum shall remain unchanged.

The proposed change to the Contract Time for all work described above is:

☐ (increase) (decrease) of _____ days or;

☒ The Contract Time will remain unchanged.

The foregoing amount includes all direct and indirect costs for material, labor and supplies related to this change and to the effect of this change on the remainder of the Project. All other provisions of the Contract remain in full force and effect. The Contractor agrees to be bound by this proposal for ninety (90) days after this date.

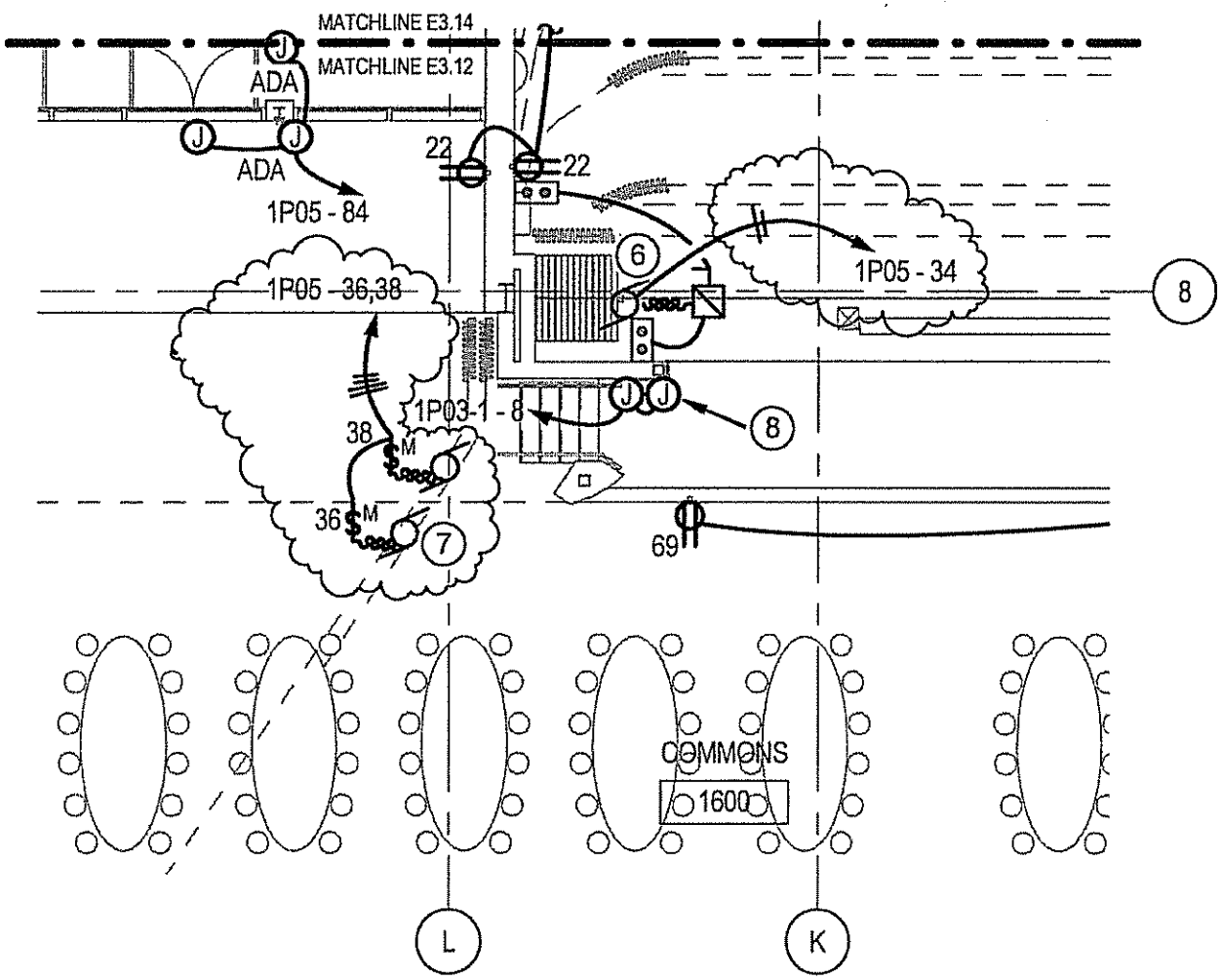
Submitted by: _____ Date: 3-24-14
General Contractor

We have examined the foregoing proposal, negotiated with the Contractor where necessary, and find it to be reasonable.

Approved By: _____ Date: _____
McGranahan Architects

The Owner hereby accepts the foregoing proposal. This document when fully signed constitutes the conditions upon which a Change Order will be issued.

Accepted By: _____ Date: _____
Woodland School District No. 404



(6) PROVIDE CONNECTION TO THE FOLDING PARTITION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH GC AND INSTALLER PRIOR TO ROUGH-IN.

(7) PROVIDE CONNECTION TO SIDE STAGE CURTAIN. COORDINATE EXACT REQUIREMENTS AND CONTROL LOCATIONS WITH GC AND ARCHITECT PRIOR TO ROUGH-IN.

(8) PROVIDE CONNECTION TO MOTORIZED PROJECTION SCREEN AND ROUGH-IN FOR SCREEN CONTROLS. COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS WITH GC AND ARCHITECT PRIOR TO ROUGH-IN.

PARTIAL POWER PLAN - COMMONS

1/8" = 1'-0"

PROJECT NORTH

WOODLAND HIGH SCHOOL		1119.000	McGRANAHAN architects	F 253 383 3097
TITLE:	PARTIAL POWER PLAN -COMMONS			T 253 383 3084
REFERENCE:	E3.12		ESK - 41	
SCALE:	1/8" = 1'-0"			
ISSUED FOR:	COP-009		REVISED: BMM	
DATE:	02/07/14		DRAWN BY: OC	

Advanced Electrical Technologies
A Division of PNE Corp.

CHANGE ORDER PROPOSAL REQUEST

TO: Skanska

DATE: 3.20.14

OWNER: Woodland School District

OWNER'S CONTRACT #: COP#009R1

AET JOB #: 1413352.3

ATTN: Trevor Wyckoff

COP REQUEST #: COP 7R1

SCOPE OF CHANGE

Per change order proposal: 009R1

1. Change ckts 34, 36, and 38 in panel 1P05 to be 3 single pole breakers.
2. Extend conduit from original stage curtain location to two separate locations for 2 side curtain motors.
3. Provide flex, and boxes for approriate rough in of disconnect switches for side curtain motors.
4. Pull wire, and terminate.

CHANGE IMPACTS:

[X] INCREASE [ ] DECREASE THE COST OF THE PROJECT BY: $ 1,390.28 WITH DETAILED ESTIMATE [X] ATTACHED

[ ] INCREASE [ ] DECREASE THE COMPLETION TIME OF THE PROJECT BY _____ WORKING DAYS AFTER RECEIPT OF FINAL APPROVAL

WE RESERVE THE RIGHT TO CLAIM IMPACTS ON COST AND/OR SCHEDULE AT A LATER DATE.

APPROVAL:

PREPARED BY: Robert A. Breien (AET PROJECT MANAGER) DATE: 3.20.14

APPROVED BY: _____ (CLIENT REPRESENTATIVE) DATE: _____

Advanced Electrical Technologies
A Division of PNE Corp.

CHANGE ORDER PROPOSAL REQUEST

TO: Skanska

ATTN: Trevor Wyckoff

DATE: 3.20.14
OWNER: Woodland School District
OWNER'S CONTRACT #: COP#009R1
AET JOB #: 1413352.3
COP REQUEST #: AET COP 7R1

DETAILED ESTIMATE:

LABOR:

CRAFT	HOURS	RATE	TOTAL
Project Management/Estimating	2.00	$ 78.00	$ 156.00
Electrician	8.79	$ 78.00	$ 685.62
			$ -
			$ -
			$ -

LABOR SUBTOTAL: $ 841.62

MATERIAL

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
See attached sheets	1.00	$ 198.32	$ 198.32

MATERIAL SUBTOTAL: $ 198.32

Mobilization and Equipment

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
Truck	1.00	$ 75.00	$ 75.00
Fuel	1.00	$ 16.00	$ 16.00
tool trailer with small tools		$ 50.00	$ -
Generator	-	$ 35.00	$ -
job trailer and office furniture		$ 18.10	$ -
drive time	1.00	$ 78.00	$ 78.00

EQUIPMENT SUBTOTAL: $ 169.00

SUBCONTRACTORS:

WORK DESCRIPTION	TOTAL

SUBCONTRACTOR SUBTOTAL: $ -

OVERHEAD AND PROFIT 15% **OF TOTAL** $ 181.34

TOTAL ESTIMATED ADJUSTMENT TO CONTRACT: $ 1,390.28

APPROVAL:

PREPARED BY: Robert A. Breien DATE: 3.20.14
(AET PROJECT MANAGER)

APPROVED BY: _____ DATE:
(CLIENT REPRESENTATIVE)

Material for AET COP 7R1/ Skanska COP009R1

#10 thhn	300	0.24000	72.00
3/4 lt	10	1.610	16.10
3/4 lt conn	4	5.130	20.52
3/4 emt C106	4	2.231	8.92
3/4 emt	60	0.420	25.20
3/4 emt stl ss conn.	6	1.340	8.04
3/4 emtstl ss coup	6	1.340	8.04
4s bx 1 1/2 regular combo ko raco 189	4	2.030	8.12
4s flat blank cvr raco752/app8465	4	1.000	4.00
4s 1/2 raised cover	2	4.440	8.88
hub1221i IV 20a sp tgl sw	2	9.25	18.50

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 037 **Date: 2/23/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
COP#010 Thickened Edge Slab		Notified

Reference	Required By	Days Req	Amt Req
	3/2/2014	0	($ 1,170)

Notes

This Change Order Request is for the credit to pour a thickened slab edge similar to the detail shown on COP#010, at the main gym and auxiliary gym perimeters only along gridlines 7, 8, P and R at the main gym and 7, 8, T and U at the auxiliary gym. All other locations will be poured as a stem wall per the details issued prior to COP#010.

CE No	Date	Reference	Amt Prop	Days Req	Category	Reason
Description		Notes				
0074	2/20/2014		($ 1,170)	0		
COP#010 Thickened Edge Slab						

Item No	Item Description	Amt Prop	Reference
0001	Pour thickened slab in lieu of cast in place walls at gym.	($ 1,137)	
0002	General Liability Insurance	($ 11)	
0003	GC P&P Bond	($ 11)	
0004	Subcontractor Subguard	($ 11)	

Submitted By:

Signature _____ 3/17/14

Name Trevor Wyckoff **Date**

CE #074

McGRANAHAN architects
2111 Pacific, Suite 100 Tacoma, Washington 98402
T 253 383 3084
F 253 383 3097

CHANGE ORDER PROPOSAL: 010

Woodland High School
Date: February 19, 2014
To: Trevor Wyckoff, Skanska

PROPOSED CONTRACT MODIFICATION:
Please submit an itemized proposal for changes in the Contract Time and Contract Sum for the following proposed modifications to the Contract Documents (This document is not a Change Order, Field Authorization or direction to proceed with the work described herein):

1. Provide a thickened edge slab in lieu of the foundation walls shown.
2. SSK-080 shows a typical condition. Special conditions occur where curbs for curtain walls are shown and where depressed slabs exist.
3. Quantify extent of thickened edge slab proposed. Do not price thickened edge slabs for locations where no cost savings can be realized.

Reference: A5.11; S9.2 and S9.3 → reference the attached (A), (B), (C) for locations and details used,
Attachments: SSK-080

PROPOSED CONTRACT ADJUSTMENTS:
The proposed change to the Contract Sum or Guaranteed Maximum Price for all work described above is:

- [x] (increase) (decrease) of : $ (1,170) (Washington State Sales Tax not included) or,
- [ ] The Contract Sum shall remain unchanged.

The proposed change to the Contract Time for all work described above is:

- [ ] (increase) (decrease) of _____ days or;
- [x] The Contract Time will remain unchanged.

The foregoing amount includes all direct and indirect costs for material, labor and supplies related to this change and to the effect of this change on the remainder of the Project. All other provisions of the Contract remain in full force and effect. The Contractor agrees to be bound by this proposal for ninety (90) days after this date.

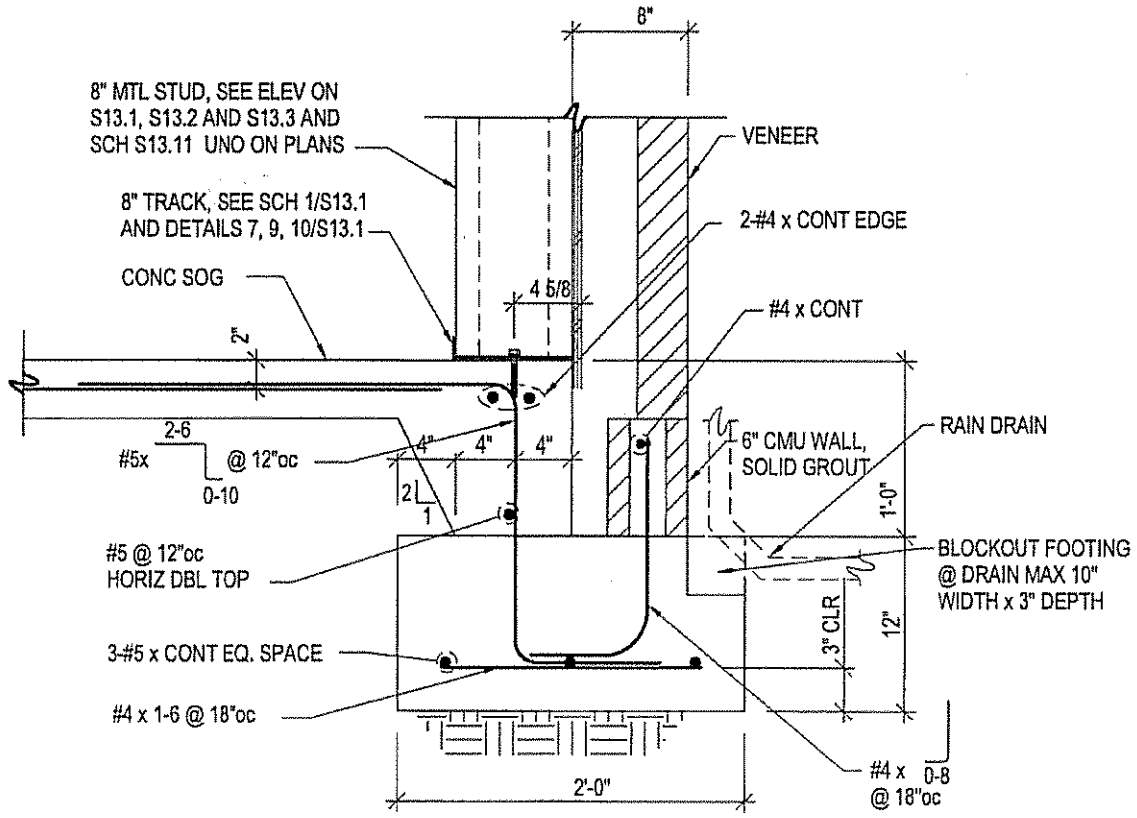
Submitted by: _____ Date: 3/17/2014
General Contractor

We have examined the foregoing proposal, negotiated with the Contractor where necessary, and find it to be reasonable.

Approved By: _____ Date: _____
McGranahan Architects

The Owner hereby accepts the foregoing proposal. This document when fully signed constitutes the conditions upon which a Change Order will be issued.

Accepted By: _____ Date: _____
Woodland School District No. 404



* similar @ details

3, 4, 5 / S9.3

WOODLAND HIGH SCHOOL		1119.000	McGRANAHAN architects	F 253 383 3097
TITLE:	SECTION			T 253 383 3084
REFERENCE:	1 / S9.2-SIM		SSK-080	
SCALE:	1" = 1'-0"			
ISSUED FOR:	COP-010		REVISED: CCC	
DATE:	02.19.14		DRAWN BY: CCC	

SKANSKA

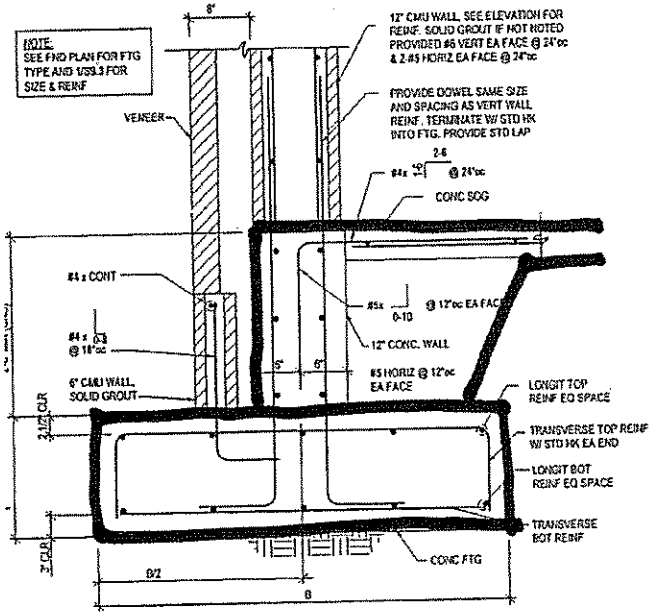
CHANGE ORDER REQUEST

COR#037- COP#010 Thickened Edge

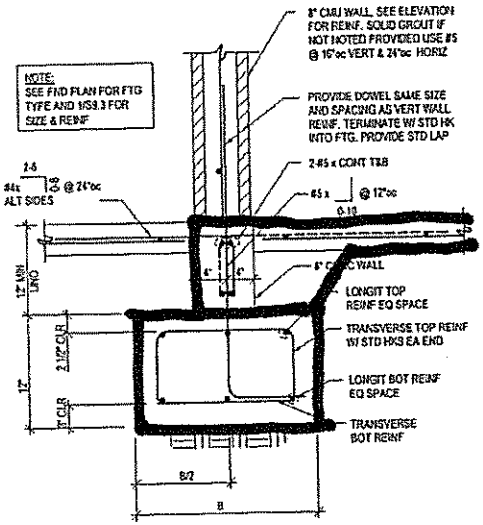
Description	Rate ($)		Labor (hrs)		Labor ($)	Material ($)	Equip ($)	Total ($)
	Regular Rate	Overtime Rate	Regular Rate	Overtime Rate				
Labor								
Set/Strip								
Foreman (Working Carp)	$ 77.00	$107.80	-2	0	$ (154)			$ (154)
Layout Foreman	$ 82.00	$114.80	0	0	$ -			$ -
Journeyman Carpenter	$ 68.00	$ 95.20	-8	0	$ (544)			$ (544)
Foreman (Working Laborer)	$ 63.00	$ 88.20	-6	0	$ (378)			$ (378)
Laborer	$ 53.00	$ 74.20	-16	0	$ (848)			$ (848)
Pour/Place Concrete								
Foreman (Working Carp)	$ 77.00	$107.80	1	0	$ 77			$ 77
Layout Foreman	$ 82.00	$114.80	0	0	$ -			$ -
Journeyman Carpenter	$ 68.00	$ 95.20	3	0	$ 204			$ 204
Foreman (Working Laborer)	$ 63.00	$ 88.20	2	0	$ 126			$ 126
Laborer	$ 53.00	$ 74.20	6	0	$ 318			$ 318

	Rate	Quantity	Labor ($)	Material ($)	Equip ($)	Total ($)
Material						$ -
Misc. Forming Material				$ (240)		$ (240)
Additional Concrete	$ 95.00 CY	11.6		$ 1,102		$ 1,102
Concrete Pumping (Add CY/Deduct Mob)				$ -	$ (300)	$ (300)
Other						
Intangible				$ -		$ (500)
				$ -		$ -
subtotals		0	$ (1,199)	$ 862	$ (300)	$ (1,137)

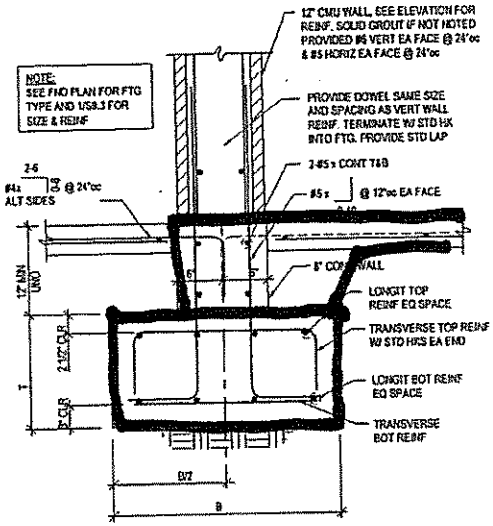
Totals **$ (1,137)**



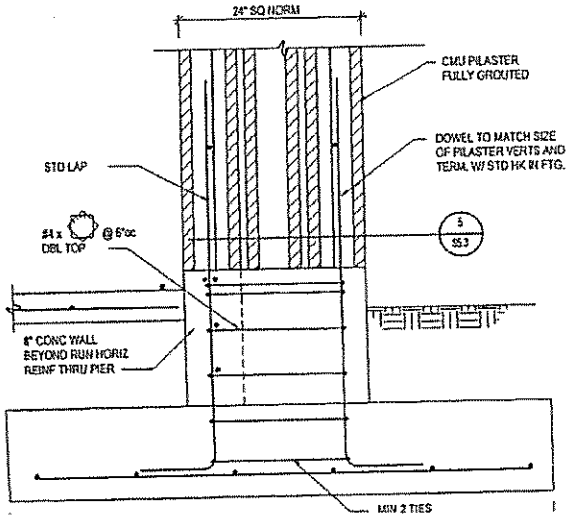
SECTION 3
Scale: 1" = 1'-0"

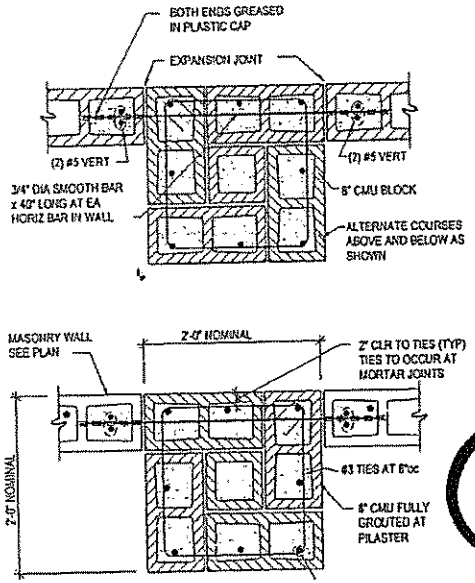


SECTION 4
Scale: 1" = 1'-0"

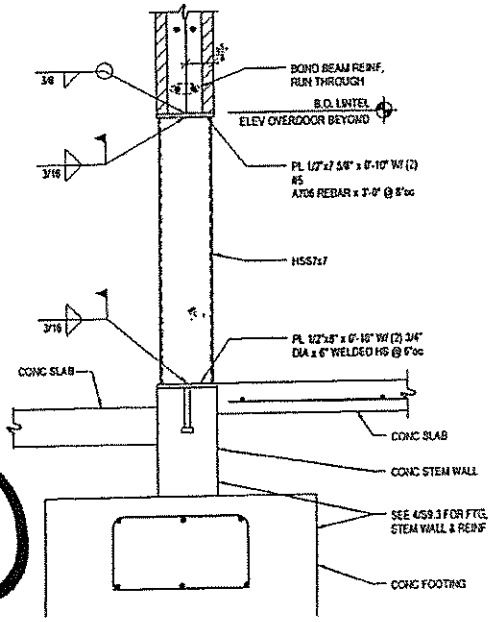


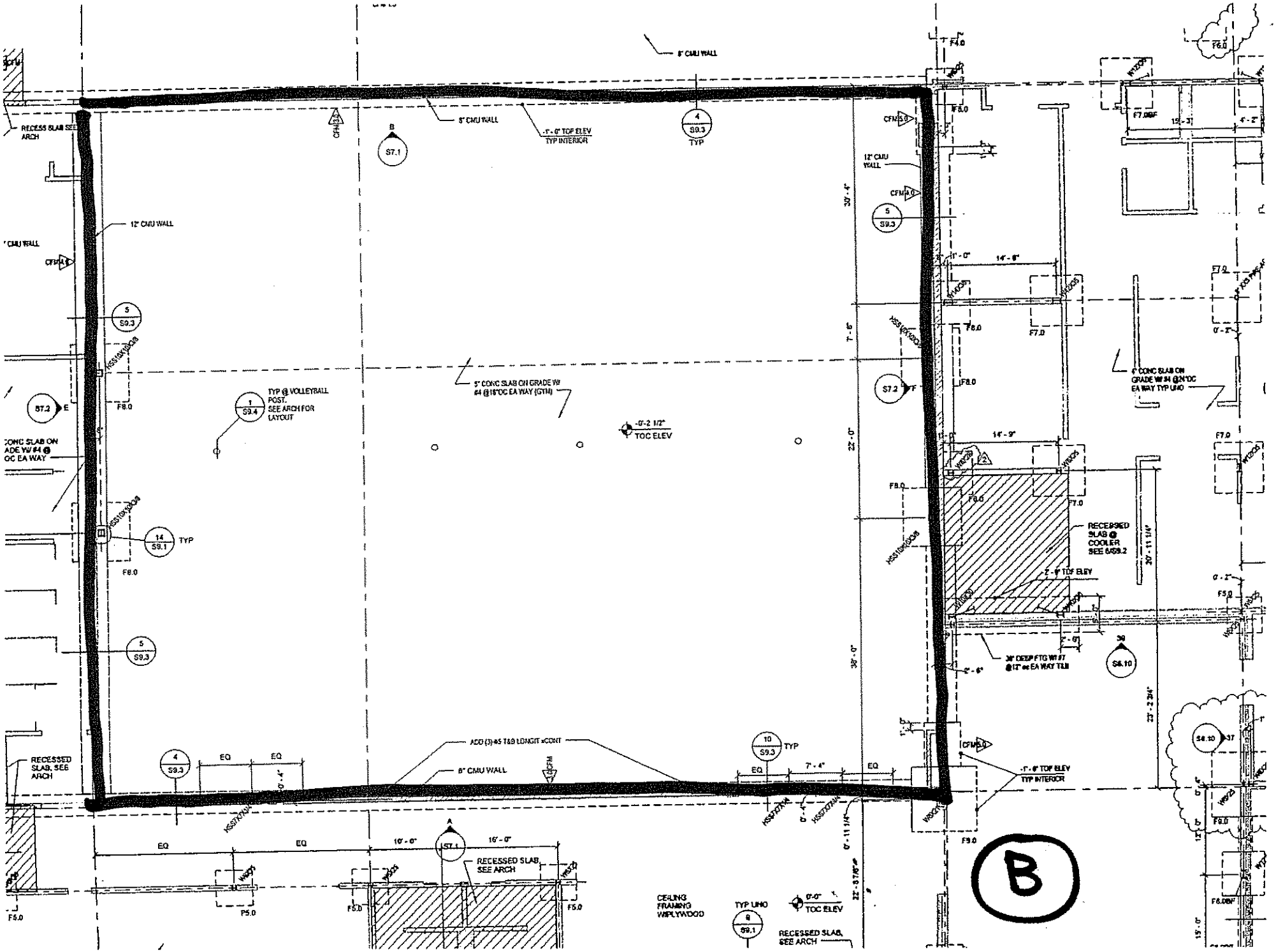
SECTION
Scale: 1" = 1'-0"

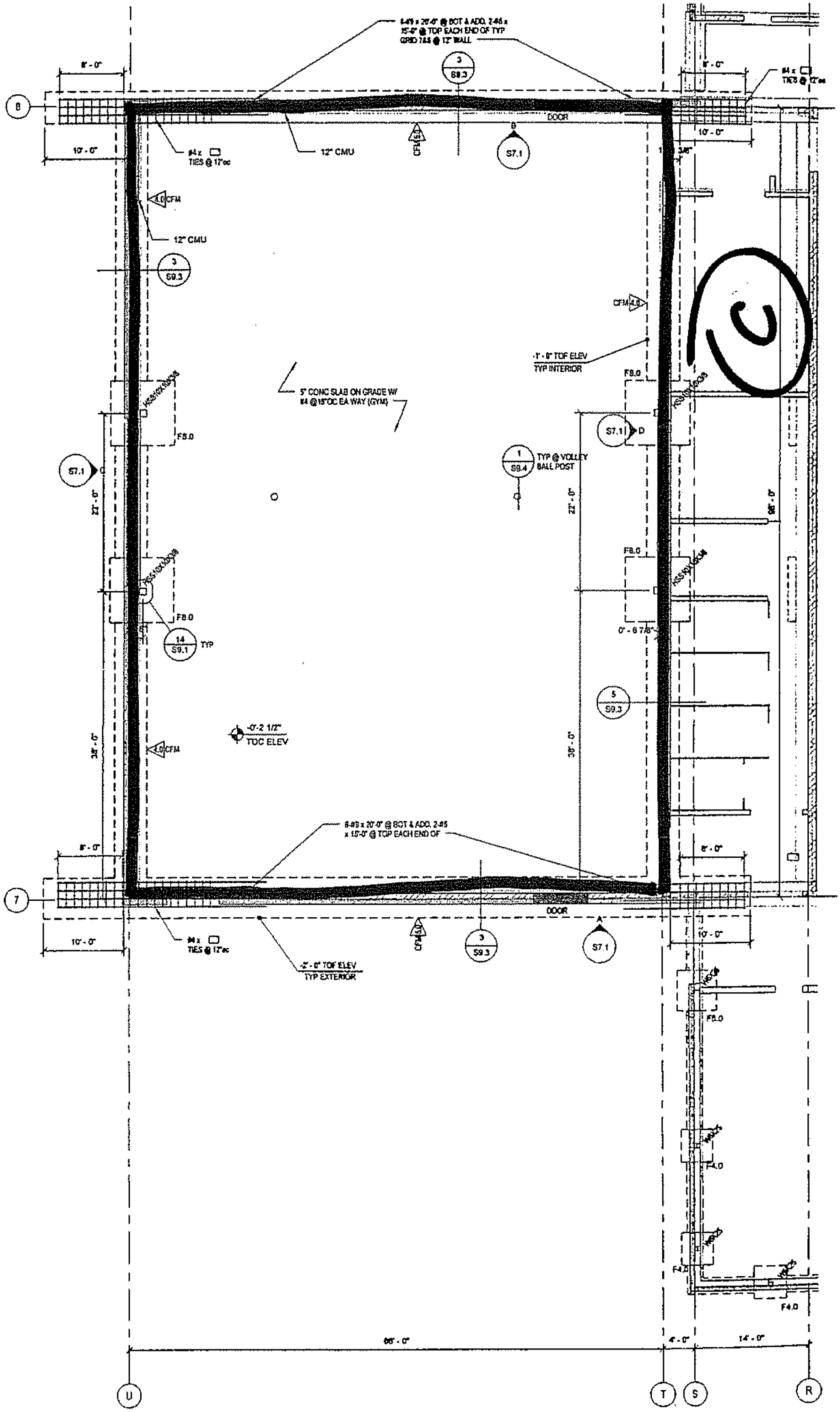




A




8" CMU WALL
12" CMU WALL
5" CONC SLAB ON GRADE W/ #4 @18"OC EA WAY (GYM)
-0'-2 1/2" TOC ELEV
TYP @ VOLLEYBALL POST. SEE ARCH FOR LAYOUT
RECESSED SLAB @ COOLER SEE S/S9.2
-1'-6" TOF ELEV TYP INTERIOR
RECESSED SLAB, SEE ARCH
ADD (3)-#5 T&B LONGIT. x CONT
CEILING FRAMING W/PLYWOOD
TYP U/NO
TOC ELEV
B



12" CMU
DOOR
5" CONC SLAB ON GRADE W/ #4 @ 18"OC EA WAY (GYM)
TYP @ VOLLEY BALL POST
-1' - 0" TOF ELEV
TYP INTERIOR
-0'-2 1/2"
TOC ELEV
-2' - 0" TOF ELEV
TYP EXTERIOR
F8.0
F4.0
S7.1
S9.3
S9.1
S9.4
TYP
8' - 0"
10' - 0"
22' - 0"
38' - 0"
86' - 0"
4' - 0"
14' - 0"
7
8
U
T
S
R

approved

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 044 **Date: 3/11/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
COP#013 - Rack and Panel Move at IDF Room		Submitted

Reference	Required By	Days Req	Amt Req
	3/18/2014	0 $	15,077

Notes

This Change Order Request is for the additional costs to complete the work in accordance with Change Order Proposal #013 dated March 5, 2014. COP#013 requires re-work of some underground conduits already in place. Since a lot of this work involves underground conduit, this COR and COP should be authorized and directed no later than 3/25/14.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			**Notes**				
0082	3/6/2014		$	15,077	0	Owner	
COP#013 - Rack and panel move at IDF room							

Item No	Item Description		Amt Prop	Reference
0001	Provide electrical revisions as required by COP#013. (Reference AET proposal for detail)	$	13,833	
0002	General Liability Insurance	$	138	
0003	GC Bond	$	138	
0004	Subcontractor Subguard Bond	$	138	
0005	Skanska Fee	$	830	

Submitted By:

Signature _____ 3-11-2014

Name Trevor Wyckoff **Date**

McGRANAHAN architects
2111 Pacific, Suite 100 Tacoma, Washington 98402
253 383 3084 T
253 383 3097 F

CHANGE ORDER PROPOSAL: 013

Woodland High School
Date: March 5, 2014
To: Trevor Wyckoff, Skanska

PROPOSED CONTRACT MODIFICATION:
Please submit an itemized proposal for changes in the Contract Time and Contract Sum for the following proposed modifications to the Contract Documents (This document is not a Change Order, Field Authorization or direction to proceed with the work described herein):

Reference Sheet E3.16
1. Delete connection to UH-3 in PE Storage 1709
2. Delete connection to UH-4 in Athletic Storage 1710
3. Delete connection to UH-5 in Athletic Storage 1710

Reference Attached Sketch ESK-42
1. Intercept and extend the receptacle circuit on the East wall of Mechanical 2700 to a new fourplex receptacle for the relocated IDF rack location.

Reference Attached Sketch ESK-43
1. Add Detail 9 to sheet E4.51 to show the relocation of the IDF #4 rack and TGB from PE Storage 1709 to Mechanical 2700.

Reference Attached Sketch ESK-44
1. Provide floor to structure vertical unistrut on the East face of the chain link fence, South of the gate.
2. Relocate Panel 1P01, the SPD and fourplex receptacle to the communications backboard secured to the unistrut supports.
3. Revise the duplex receptacle on the North wall of PE Storage 1709 to be a fourplex and relocate as shown for the Aux. Gym Sound System Rack.

Reference Sketch ESK-45
1. Revise the Detail 5 on E4.51 as shown on attached sketch ESK-45.
    a. Relocate the Systems plywood backboard, power supplies and smoke detector from behind chainlink fence to new Systems Backboard location.
    b. Relocate the Aux. Gym Sound System Rack

Reference: E3.16, E3.26, E4.51
Attachments: ESK-42, ESK-43, ESK-44, ESK-45

McGRANAHAN architects
2111 Pacific, Suite 100 Tacoma, Washington 98402
253 383 3084 T
253 383 3097 F

Woodland High School
Date: January 08, 2014

PROPOSED CONTRACT ADJUSTMENTS:

The proposed change to the Contract Sum or Guaranteed Maximum Price for all work described above is:

- ☒ (increase) (decrease) of : $ 15,077.00 (Washington State Sales Tax not included) or,
- ☐ The Contract Sum shall remain unchanged.

The proposed change to the Contract Time for all work described above is:

- ☐ (increase) (decrease) of _____ days or;
- ☒ The Contract Time will remain unchanged.

The foregoing amount includes all direct and indirect costs for material, labor and supplies related to this change and to the effect of this change on the remainder of the Project. All other provisions of the Contract remain in full force and effect. The Contractor agrees to be bound by this proposal for ~~ninety (90) days~~ fourteen 14 days after this date.

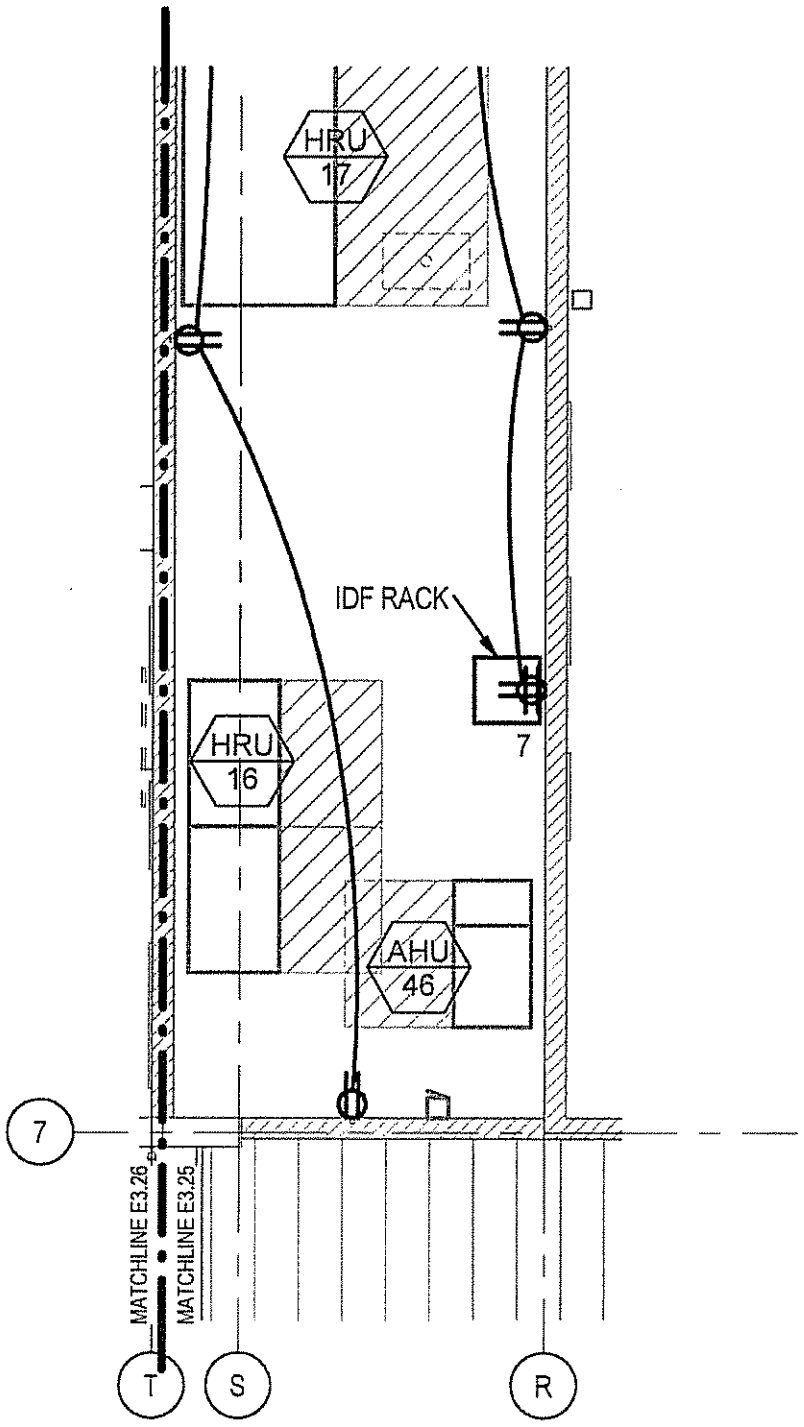
Submitted by: _____ Date: 3-11-2014
General Contractor

We have examined the foregoing proposal, negotiated with the Contractor where necessary, and find it to be reasonable.

Approved By: _____ Date: _____
McGranahan Architects

The Owner hereby accepts the foregoing proposal. This document when fully signed constitutes the conditions upon which a Change Order will be issued.

Accepted By: _____ Date: _____
Woodland School District No. 404



PARTIAL POWER PLAN - MECHANICAL 2700

1/8" = 1'-0"

PROJECT NORTH

WOODLAND HIGH SCHOOL 1119.000

McGRANAHAN architects

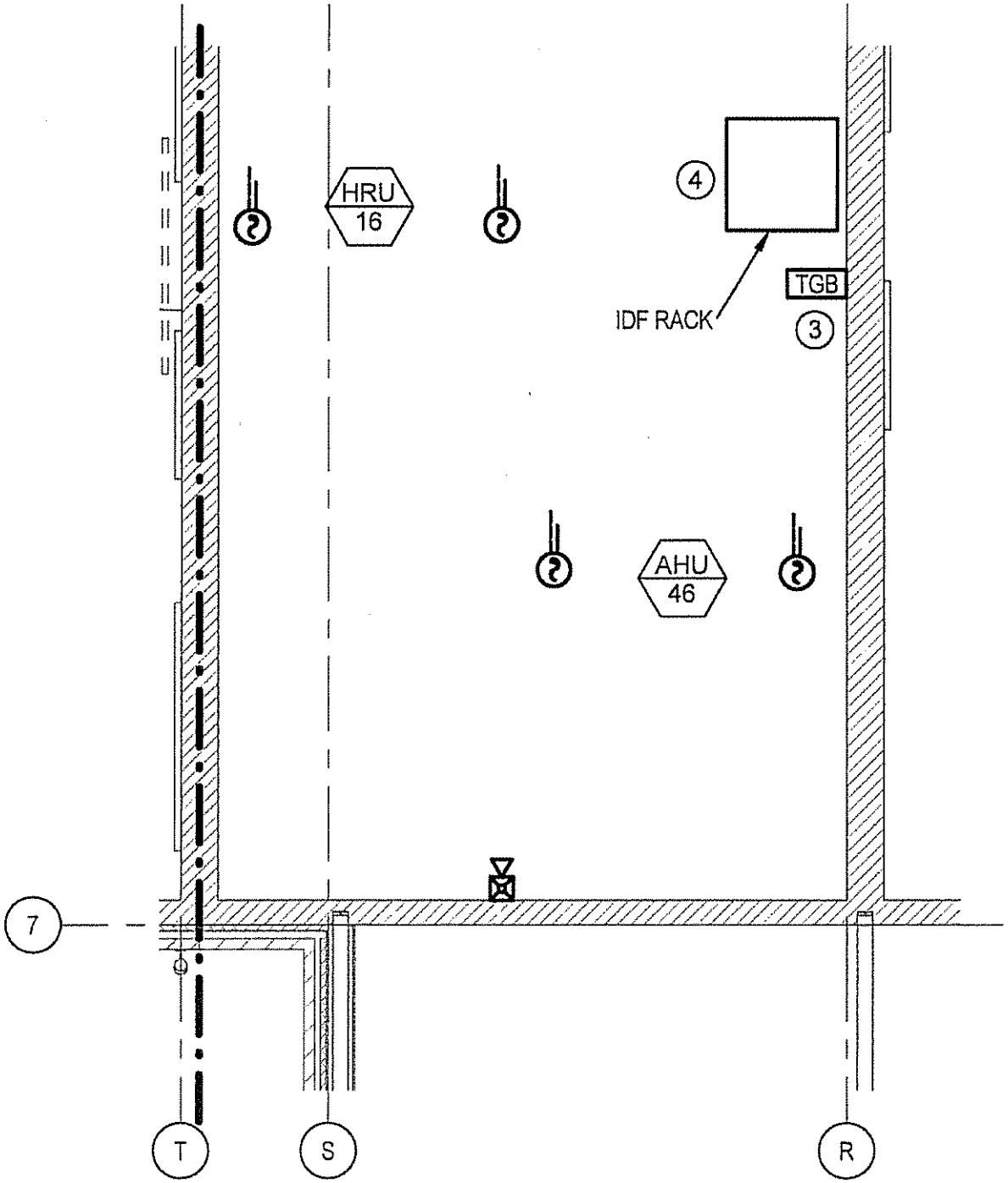
253 383 3097 F

253 383 3084 T

TITLE:	PARTIAL POWER PLAN - MECHANICAL 2700
REFERENCE:	E3.26
SCALE:	1/8" = 1'-0"
ISSUED FOR:	CCD-007
DATE:	02/27/14

ESK - 42

REVISED:	BMM
DRAWN BY:	OC

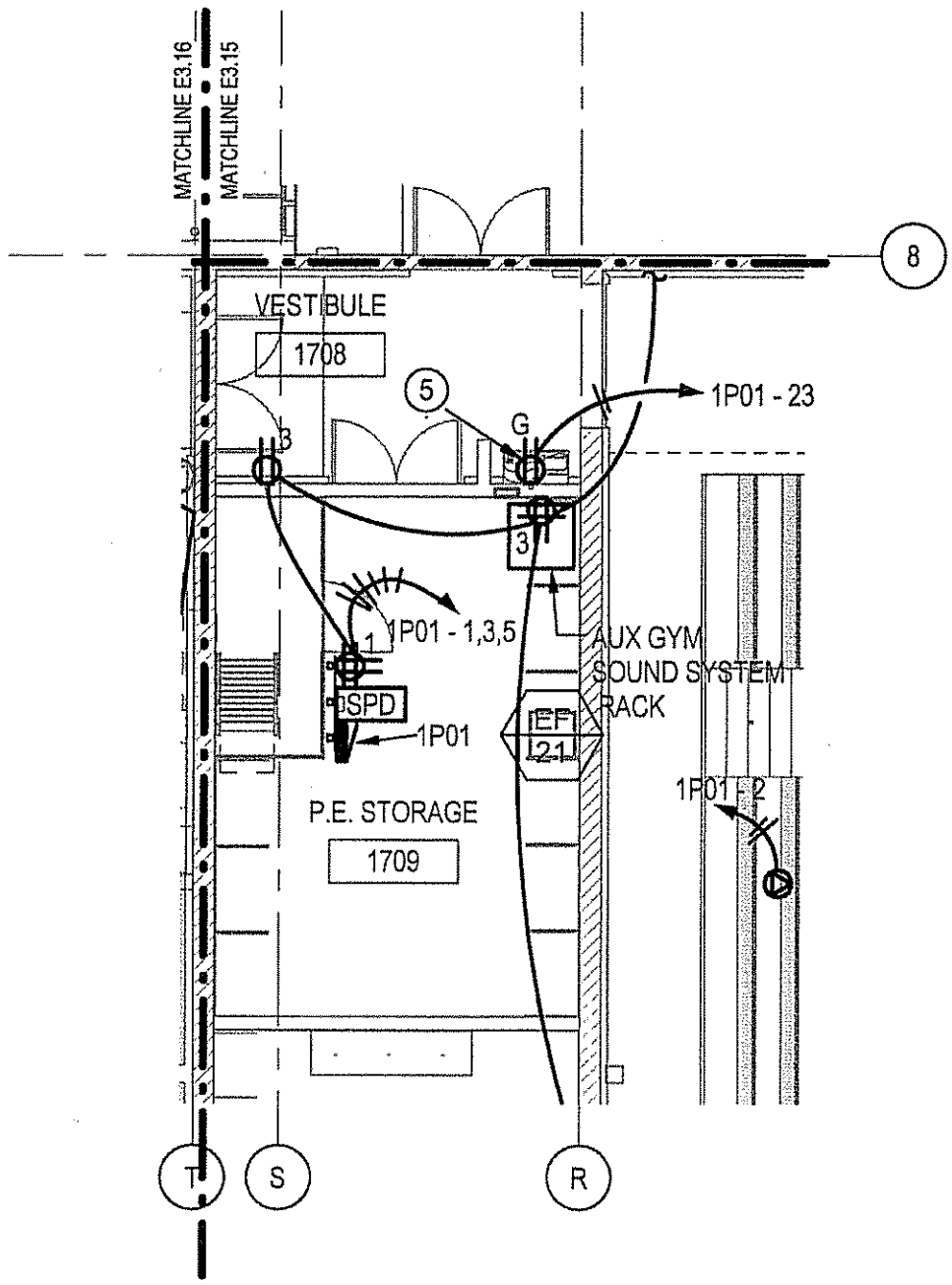


SYSTEMS PLAN - ENLARGED IDF 2700 - IDF #4

9

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

WOODLAND HIGH SCHOOL	1119.000	McGRANAHAN architects	253 383 3097 F
TITLE:	SYSTEMS PLAN - ENLARGED IDF 2700 - IDF #4		253 383 3084 T
REFERENCE:	4.51	ESK - 43	
SCALE:	1/4" = 1'-0"		
ISSUED FOR:	CCD-007	REVISED:	BMM
DATE:	02/27/14	DRAWN BY:	OC

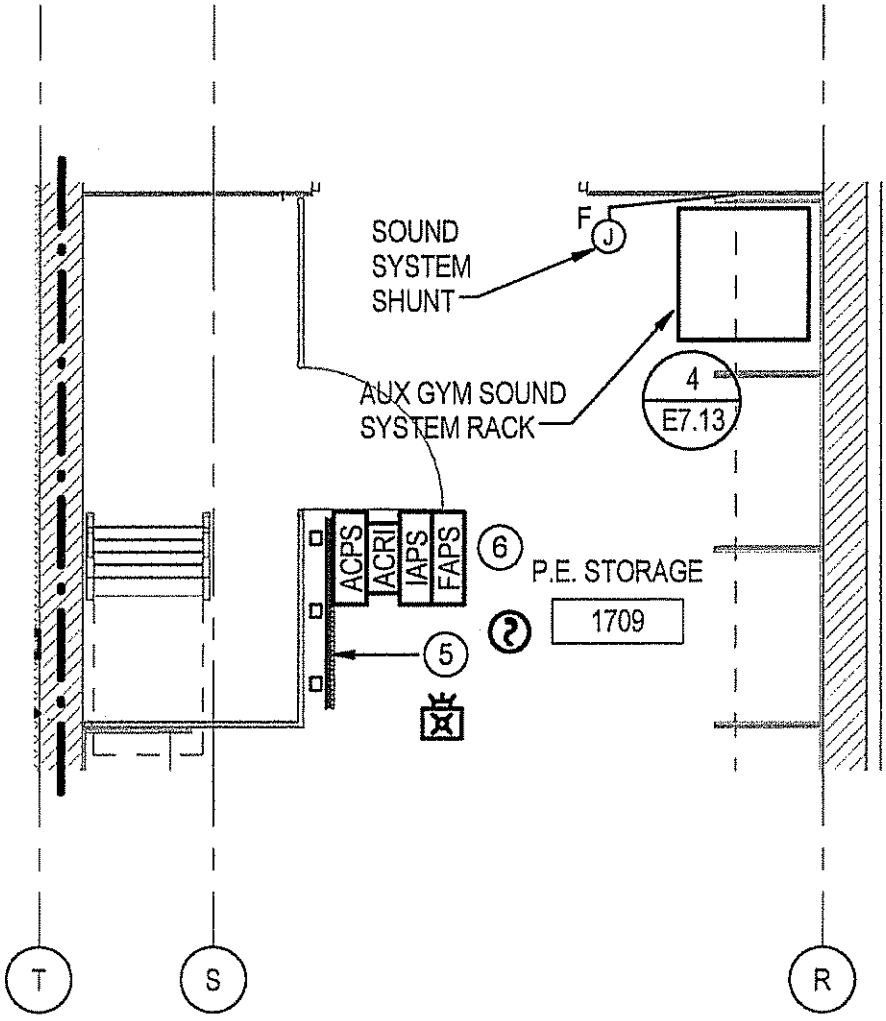


PARTIAL POWER PLAN - GYMNASIUM - SOUTH

1/8" = 1'-0"

PROJECT NORTH

WOODLAND HIGH SCHOOL	1119.000	McGRANAHAN architects	F 253 383 3097
TITLE:	PARTIAL POWER PLAN - GYMNASIUM - SOUTH		T 253 383 3084
REFERENCE:	E3.16	ESK - 44	
SCALE:	1/8" = 1'-0"		
ISSUED FOR:	CCD-007	REVISED: BMM	
DATE:	02/27/14	DRAWN BY: OC	



SYSTEMS PLAN - P.E. STORAGE 1709

1/4" = 1'-0"

PROJECT NORTH

WOODLAND HIGH SCHOOL		1119.000	McGRANAHAN architects	F 253 383 3097
TITLE:	SYSTEMS PLAN - P.E. STORAGE 1709			T 253 383 3084
REFERENCE:	E4.51		ESK - 45	
SCALE:	1/4" = 1'-0"			
ISSUED FOR:	CCD-007		REVISED: BMM	
DATE:	02/27/14		DRAWN BY: OC	

Advanced Electrical Technologies
A Division of PNE Corp.

CHANGE ORDER PROPOSAL REQUEST

TO: Skanska

DATE: 3.10.14

OWNER: Woodland School District

OWNER'S CONTRACT #: COP#013

AET JOB #: 1413352.3

ATTN: Trevor Wyckoff

COP REQUEST #: AET COP#08

SCOPE OF CHANGE

Per change order proposal: 013 and attached AET sketch.

1. Provide credit for wiring of UH-3, 4, and 5.
   DEDUCT $350.00 FOR WIRING OF UNIT HEATERS. DEDUCT IS REFLECTED IN TOTAL PRICE
2. Intercept and extend the receptacle circuit on the East wall of Mech. 2700 to a new fourplex receptacle for the relocated IDF rack location. (AET must extent circuit and add receptacle)
3. Add detail 9 to sheet E4.51 to show the relocation of the IDF#4 rack and TGB from PE Storage 1709 to Mech. 2700.
   (Conduits must re-exposed and rerouted to come up surface mount to J-box in storage room. Surface conduit must be extended to rack 24" below ceiling and extend to new IDF location. Total 2-4" and 3-2" conduits are rerouted.)
   Note* Interior wall is only location AET can bring conduits up, due to footings and diameter of conduit elbows)
4. Provide floor to structure vertical unistrut on the East face of the chain link fence, South of the gate.
   Relocate Panel 1P01, the SPD and fourplex receptacle to the communications backboard secured to the supports.
   Revise the recept on the N. wall of PE storage 1709 to be a fourplex and relocate as shown for Aux. Gym sound rack.
   (Reroute and relocated feeder conduit, build new rack from floor to structure off of chain link fence)
5. Relocate Aux Gym AV rack per ESK-45. (Relocate 3 conduits from Aux. Gym)

CHANGE IMPACTS:

[X] INCREASE [ ] DECREASE THE COST OF THE PROJECT BY: $ 13,832.97 WITH DETAILED ESTIMATE [X] ATTACHED

NOTE* PRICING IS GOOD FOR 5 DAYS AFTER SUBMITTED COP

[ ] INCREASE [ ] DECREASE THE COMPLETION TIME OF THE PROJECT BY _____ WORKING DAYS AFTER RECEIPT OF FINAL APPROVAL

WE RESERVE THE RIGHT TO CLAIM IMPACTS ON COST AND/OR SCHEDULE AT A LATER DATE.

APPROVAL:

PREPARED BY: Robert A. Breien (AET PROJECT MANAGER) DATE: 3.10.14

APPROVED BY: _____ (CLIENT REPRESENTATIVE) DATE: _____

Advanced Electrical Technologies
A Division of PNE Corp.

CHANGE ORDER PROPOSAL REQUEST

TO: Skanska

ATTN: Trevor Wyckoff

DATE: 3.10.14
OWNER: Woodland School District
OWNER'S CONTRACT #: COP#013
AET JOB #: 1413352.3
COP REQUEST #: AET COP 8

DETAILED ESTIMATE:

LABOR:

CRAFT	HOURS	RATE	TOTAL
Project Management/Estimating	8.00	$ 78.00	$ 624.00
Electrician	74.72	$ 78.00	$ 5,828.16
			$ -
			$ -
			$ -

LABOR SUBTOTAL: $ 6,452.16

MATERIAL

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
See attached sheets	1.00	$ 4,145.86	$ 4,145.86

MATERIAL SUBTOTAL: $ 4,145.86

Mobilization and Equipment

DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL
Truck	5.00	$ 75.00	$ 375.00
Fuel	5.00	$ 16.00	$ 80.00
tool trailer with small tools		$ 50.00	$ -
Generator	-	$ 35.00	$ -
job trailer and office furniture		$ 18.10	$ -
drive time	10.00	$ 78.00	$ 780.00

EQUIPMENT SUBTOTAL: $ 1,235.00

SUBCONTRACTORS:

WORK DESCRIPTION	TOTAL
Tapani	$ 500.00
dig up conduits already installed under footing and reroute	

SUBCONTRACTOR SUBTOTAL: $ 500.00

OVERHEAD AND PROFIT 15% **OF TOTAL** $ 1,849.95

TOTAL ESTIMATED ADJUSTMENT TO CONTRACT: $ 14,182.97

APPROVAL:

PREPARED BY: Robert A. Breien DATE: 3.10.14
(AET PROJECT MANAGER)

APPROVED BY: _____ DATE:
(CLIENT REPRESENTATIVE)

3/4 emt	16	0.490	7.84	MATERIAL NEEDED FOR ADDED RECEPTACLE
3/4 emt stl conn.	2	1.340	2.68	FOR IDF RACK. PER ESK-42
3/4 emtstl coup	2	1.340	2.68	
4s raised recp cover	1	5.150	5.15	
#12 thhn	50	0.15000	7.50	
lev 5252l	1	5.62	5.62	
4s 2 1/8 "DEEP"	1	2.030	2.03	

30x30x8 nema 1 j-box	1	336.980	336.98	MATERIAL NEEDED TO REROUTE AND SURFACE
4 EMT	60	5.910	354.60	MOUNT 2 -4" AND 3 - 2" CONDUITS THROUGH
4 EMT SS Conn.	4	40.120	160.48	THROUGH ATHLETIC STORAGE AND UP THROUGH
4 EMT SS Coup.	12	49.290	591.48	2ND FLOOR TO NEW LOCATION OF IDF#4. ALSO
4 EMT C-106	8	8.200	65.60	RELOCATE MGB. PER ESK-43
4 EMT Factory 90	6	71.280	427.68	
4 grc 45	1	180.080	180.08	
4 pvc fa	4	4.770	19.08	
2 pvc fa	6	1.260	7.56	
2 emt	90	2.150	193.50	
2 emt conn	6	6.460	38.76	
2 emt coup	18	11.920	214.56	
2 emt 90 elbow	9	13.170	118.53	
2 C106	12	5.230	62.76	
2 grc 45d elbow	3	127.340	382.02	
3/8 pltd thread rod	30	0.970	29.10	
deep strut	10	2.830	28.30	
1" pvc	40	0.820	32.80	
1" pvc 90	3	1.980	5.94	
3/0 thhn cu	40	5.23000	209.20	
misc. hardware	1	20	20.00	

deep strut	60	2.351	141.08	MATERIAL NEEDED TO RELOCATE FEEDER
feet for strut	6	40.22	241.32	CONDUIT, AND CONSTRUCT NEW RACK FOR
4x4x3/4plywood"	1	35.00	35.00	SERVICE. PER ESK-44
misc hardware	1	50.000	50.00	
3 grc 45	1	100.400	100.40	
3 pvc fa	2	0.250	0.50	
lev 5252l	1	5.62	5.62	
unistrut coupling	3	19.810	59.43	

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 050 **Date: 3/25/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
RFI#0140 Brace Frame Footing		Submitted

Reference	Required By	Days Req	Amt Req
	4/1/2014	0 $	342

Notes:

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			**Notes**				
0093	3/25/2014		$	342	0		
RFI#0140 Brace Frame Footing							

Item No	Item Description		Amt Prop	Reference
0001	Cast-in-Place Concrete - Self Perform	$	333	
0002	General Liability Insurance	$	3	
0003	GC P&P Bond	$	3	
0004	Subcontractor Subguard Bond	$	3	

Submitted By:

Signature _____ 3-28-14

Name Trevor Wyckoff **Date**

SKANSKA

Request for Information 0140

Detailed, RFIs Grouped by RFI Number

Woodland High School | **Project # 4113074-000** Tel: Fax: | **Skanska USA Building Inc.**

RFI #: 0140 **Date Created: 3/19/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	David Franke

Co-Respondent

Author RFI Number
Skanska

Subject	Discipline	Category
Brace frame footing and brace frame embed length	Structural	

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 3/26/2014**

Reference: S2.16

The two brace frame footings, F6.0BF at grid lines N/4-7, the embed for the brace frame extends beyond the footing approx. 5". Please advise

Suggestion

Increase the footing size to 6'-6" X 6'-0" to accommodate the embed for the brace frame.

Answer **Date Answered:**

Increase the footing size to 6'-6" X 6'-0" to accommodate the braced frame embed as suggested above.

No additional reinforcement is required. Use the reinforcement for the F6.0BF already on site.

Stagger the position of the longitudinal bottom bars so half of the rebar has 3" end clearance from the north face of the footing and the other half of the rebar is 3" clear from the south face of the footing.

KRAMER GEHLEN ASSOCIATES KGA

Response by:
Ryan R. Musgrove, P.E.
03/20/2014

SKANSKA

CHANGE ORDER REQUEST

COR#050 - RFI#0140 Brace Frame Footing Revisions

Description	Rate ($)		Labor (hrs)		Labor ($)	Material ($)	Equip ($)	Total ($)
	Regular Rate	Overtime Rate	Regular Rate	Overtime Rate				
Labor								
Foreman (Working Carp)	$ 77.00	$107.80	0.5	0	$ 39			$ 39
Layout Foreman	$ 82.00	$114.80	0.5	0	$ 41			$ 41
Carpenter	$ 57.00	$ 79.80	1	0	$ 57			$ 57
Foreman (Working Laborer)	$ 61.00	$ 85.40	1	0	$ 61			$ 61
Laborer	$ 46.00	$ 64.40	0.5	0	$ 23			$ 23
	Rate		Quantity		Labor ($)	Material ($)	Equip ($)	Total ($)
Material								$ -
Misc. Forming Material						$ -		$ -
Concrete	$ 95.00		0.67	CY		$ 64		$ 64
Concrete Pumping						$ 5		$ 5
Other								
subtotals			0		$ 221	$ 69	$ -	$ 289
						Mark Up @ 15%		$ 43
						Totals		**$ 333**

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 053 **Date: 3/25/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
RFI#0136 CMU Reinforcement		Submitted

Reference	Required By	Days Req	Amt Req
	4/1/2014	0 $	2,244

Notes

This Change Order Request is for the additional costs to supply rebar at the gym CMU wall openings as required by RFI#0136 and the returned submittal 033000.012.0. The returned submittal 033000.012.0 indicates several openings in the CMU wall which were previously not indicated. These additional openings require rebar as noted in the submittal.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			Notes				
0096	3/25/2014		$	2,244	0		
RFI#0136 CMU Reinforcement							

Item No	Item Description		Amt Prop	Reference
0001	R2M2 supply reinforcing steel for CMU walls in accordance with RFI#0136.	$	2,058	
0002	General Liability Insurance	$	21	
0003	GC P&P Bond	$	21	
0004	Subcontractor Subguard Bond	$	21	
0005	Skanska Fee	$	123	

Submitted By:

Signature _____ 4/3/2014

Name Trevor Wyckoff **Date**

SKANSKA

Request for Information 0136

Detailed, RFIs Grouped by RFI Number

Woodland High School	Project # 4113074-000 Tel: Fax:	Skanska USA Building Inc.

RFI #: 0136 **Date Created: 3/17/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	Trevor Wyckoff

Co-Respondent **Author RFI Number**

Subject **Discipline** **Category**

CMU Reinforcement Submittal 033000.012.0

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 3/24/2014**

Reference sheets S7.1 and S7.2 and returned submittal 033000.012.0.
1. Please confirm per the attached returned submittal 033000.012.0 that the jamb rebar as indicated shall be revised per KGA's notes to only extend to the mezzanine level and to be reduced per each specific location note.
2. Please confirm that the vertical and horizontal rebar as noted at the wall openings are required as indicated per the KGA notes on the returned submittal 033000.012.0.

Suggestion

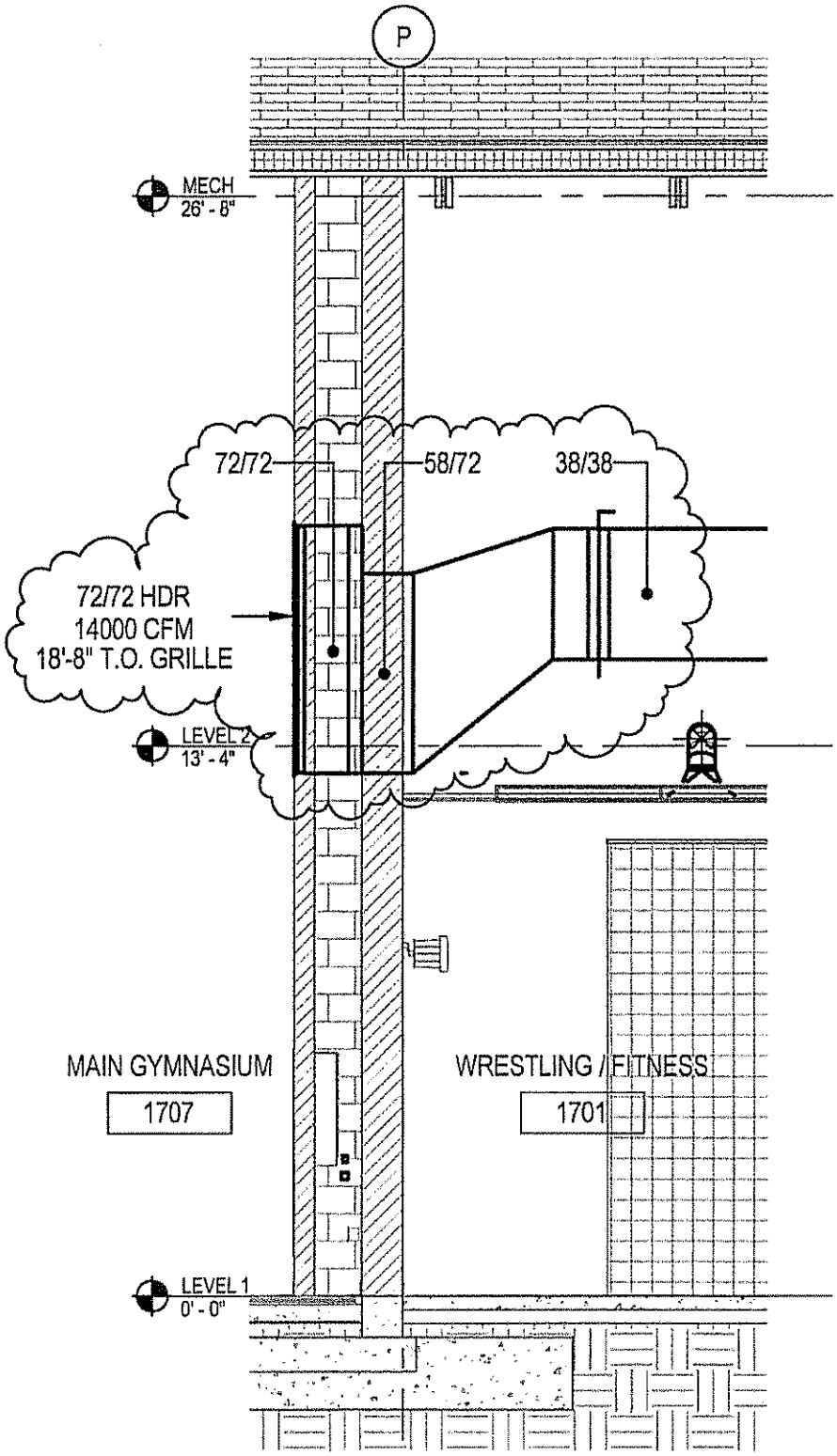
Answer **Date Answered:**

1). Acceptable to reduce jamb reinforcement to stop at mezzanine level only where shown on submittal 033000-012-0.

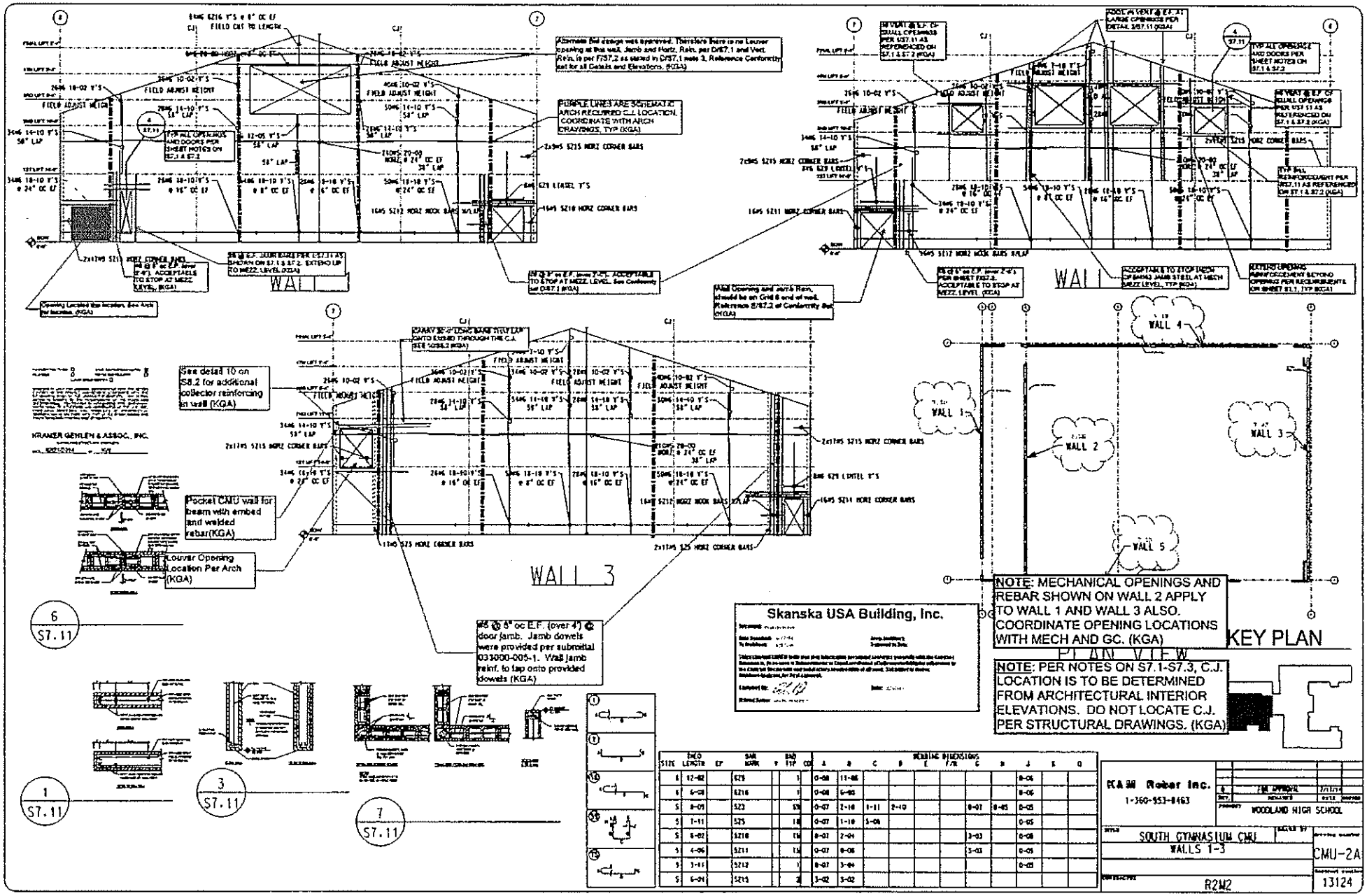
2). Horizontal and vertical reinforcement shown on submittal 033000-012-0 is required as indicated.

KRAMER GEHLEN ASSOCIATES KGA

Response by:
Ryan R. Musgrove, P.E.
03/26/2014

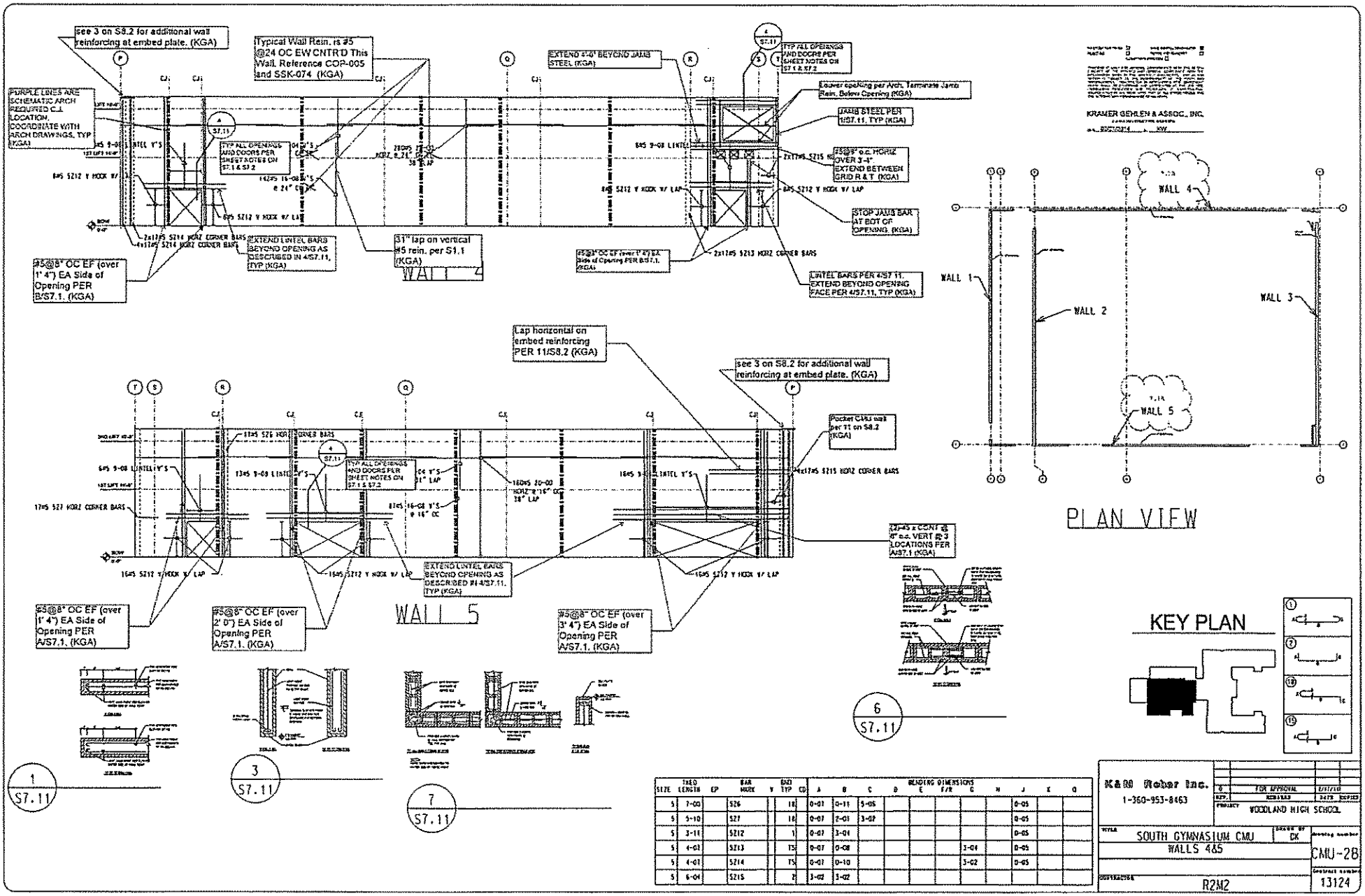


WOODLAND HIGH SCHOOL		1119.000	McGRANAHAN architects	F 253 383 3097
TITLE:	HVAC SECTION - GYMNASIUM 107 DUCT REVISION			T 253 383 3084
REFERENCE:			MSK - 086	
SCALE:	1/4" = 1'-0"			
ISSUED FOR:			REVISED:	
DATE:	03/10/14		DRAWN BY: PD	



SIZE	END LENGTH	EF	BAR MARK	#	BAR TYP	CD	A	B	C	D	BENDING DIMENSIONS E	F/H	G	H	J	K	O
5	12-02		S25				0-08	11-06							8-06		
5	6-08		S216				0-08	5-00							8-06		
5	8-05		S23				0-07	2-10	1-11	2-10				8-07	8-05	8-05	
5	7-11		S25				0-07	1-10	5-06							0-05	
5	6-02		S210				0-07	2-04						3-03		0-08	
5	4-06		S211				0-07	0-08						3-03		0-05	
5	3-11		S212				0-07	3-04								0-05	
5	6-04		S215				3-02	3-02									

K & M Reber Inc.
1-360-953-8463
WOODLAND HIGH SCHOOL
SOUTH GYMNASIUM CMU WALLS 1-3
CMU-2A
R2M2
13124



SIZE	LENGTH	EP	BAR MARK	V	BND TYP	CD	A	B	C	D	E	F/R	G	H	J	K	Q
5	7'-00		S26		18		0'-01	0'-11	5'-05						0'-05		
5	5'-10		S27		18		0'-07	2'-01	3'-07						0'-05		
5	3'-11		S212		1		0'-07	3'-01							0'-05		
5	4'-01		S213		T5		0'-07	0'-08					3'-01		0'-05		
5	4'-01		S214		T5		0'-07	0'-10					3'-02		0'-05		
5	6'-04		S215		2		3'-02	3'-02									

K&M Reber Inc.
1-360-953-8463

NO.	REVISIONS	DATE	DRAWN
0	FOR APPROVAL	5/17/13	

PROJECT: WOODLAND HIGH SCHOOL

TITLE: SOUTH GYMNASIUM CMU WALLS 4&5

DRAWN BY: CK

DRAWING NUMBER: CMU-28

CONTRACT: R2M2

CONTRACT NUMBER: 13124

Woodland High School

Wall 1 Slab opening trim steel

4 #6 @ 14'	85	
4 #6 @ 8'	48	× 1 ≈ 193 lb.
4 #6 @ 10'	60	

Wall 2 * Per note mech. openings on wall 2 apply to wall 1 & 3 as well.

4 #6 @ 18'	108	
4 #6 @ 10'	60	
4 #6 @ 24'	145	
8 #6 @ 27'	325	× 3 ≈ 2868 lb.
4 #6 @ 24'	145	
4 #6 @ 20'-8"	125	
4 #6 @ 8"	48	

Wall 3

4 #6 @ 20'	120	× 1 ≈ 165 lb.
2 #6 @ 15'	45	

Wall 4

3 #6 @ 12'	145	
1 #6 @ 8'	48	× 1 ≈ 217 lb.
#5 @ 8'	24	

3443

R2M2 REBAR AND STRESSING

COP Subcontractor Breakdown Summary

PROJECT NAME: Woodland High School

R2M2 C/O No. 7

Project No. 13-118

Date: 3/25/2014

GENERAL CONTRACTOR: Skanska

EMAILED / FAXED TO: Franke, David (David.Franke@skanska.com)

SUBCONTRACTOR: R2M2 Rebar & Stressing, Inc.

SUBMITTED BY: [redacted] Dylan [redacted]

	Cost
1. CRAFT LABOR COSTS	
a. craft labor costs from breakdown *Carried over from Breakdown	$0.00
DIRECT LABOR SUBTOTAL	$0.00
b. travel (if applicable, itemize)	$0.00
1. CRAFT LABOR COSTS	$0.00
2. MATERIALS COSTS	
a. material costs	$1,789.30
b. freight costs (itemize)	$0.00
c. placing accessories, small tools and safety items	$0.00
2. MATERIAL COSTS	$1,789.30
3. EQUIPMENT COSTS	
a. owned equipment (per spec approved source)	$0.00
b. rental equipment (per invoices attached)	$0.00
3. EQUIPMENT COSTS	$0.00
SUBTOTAL 1,2 & 3	$1,789.30
4. OVERHEAD & PROFIT	
a. NTE 15% portion of 1,2,3, & 4	
4. OVERHEAD & PROFIT	$268.39
TOTAL COST 1 THRU 4	$2,058.00

COP Cost Breakdown

Division	Description	Quantity	Unit	Ironworker		Material		Equipment	
				Unit	Cost	Unit	Costs	Unit	Costs
3200	Ironworker		m/h	$83.91	$0.00				
	Ironworker (OT)		m/h	$113.25	$0.00				
	Ironworkers (DT)		m/h	$142.49	$0.00				
	Ironworker OT Premium		m/h	$29.34	$0.00				
	Material:								
	Detailing/Cost Assesment		hr			$65.00	$0.00		
	Rebar	3443	lbs			$0.52	$1,789.30		
	Placing Accessories, Sma	0	hr			$11.04	$0.00		
	Freight					$0.00	$0.00		
						$0.00	$0.00		
	Equipment:								
								$0.00	$0.00
								$0.00	$0.00
Total Cost of Work					$0.00		$1,789.30		$0.00

Description of work

Added trim reinforcing per red lined mark ups on CMU-2A/2B.

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 054 **Date: 3/31/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
RFI#0125 Sanitary Sewer Modification		Submitted

Reference	Required By	Days Req	Amt Req
	4/7/2014	0 $	1,480

Notes

This Change Order Request is for the additional costs associated with RFI#0125R1 dated 3/10/2014. Tapani suggested a cost savings to route the water and sanitary piping different than what was shown on the Contract Documents to save the cost of the two crossings. The credit for the elimination of the two crossings is reflected in the lump sum pricing for CCD#006. Tapani has agreed to complete the RFI#0125R1 work as a lump sum add per this proposal as long sas their costs for the CCD#006 costs are also accepted as lump sum per their pricing submitted on 3/31/2014.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			Notes				
0099	3/31/2014		$	1,480	0		

RFI#0125 Sanitary Sewer Modification

Item No	Item Description		Amt Prop Reference
0001	Tapani shall provide all revisions in accordance with RFI#0125. Deduct for the sleeves which were elimminated within RFI#0125 were credited to CCD#006 as agreed with McGranahan and Woodland SD.	$	1,357
0002	General Liability Insurance	$	14
0003	GC P&P Bond	$	14
0004	Subcontractor Subguard Bond	$	14
0005	Skanska Fee	$	81

Submitted By:

Signature _____ 3-31-14

Name Trevor Wyckoff **Date**

SKANSKA

Request for Information 0125

Detailed, RFIs Grouped by RFI Number

Woodland High School | **Project # 4113074-000** | **Skanska USA Building Inc.**
Tel: Fax:

RFI #: 0125 **Date Created: 3/10/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	Brandon Jensen

Co-Respondent | **Author RFI Number**

Subject	Discipline	Category
Sanitary Sewer Modification	Architectural	

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 3/17/2014**

Reference C6.04 and attached sketches:

1. Per conversations with HDJ (Maureen White) please confirm that the sanitary sewer line at the visitor parking area should be relocated per the attached sketch to avoid (2) utility crossings.

2. It is our understanding that the 4" water line to the grandstands is a private line. Can the sewer/water utility crossings for this line be concrete encased per the attached detail in lieu of the steel casings (see attached sketch identifying 3 utility crossing locations at this line).

Suggestion

Answer **Date Answered:**

1. Yes, the sanitary sewer at the visitor parking can be relocated. HDJ will follow up with a sketch showing the new locations for the manholes and inverts.

2. The water line to the grandstands is private; it will be easier for the school to repair/maintain the lines if they are encased in the steel casings. For the two crossings north of the building and near the utility yard, please encase the water line in steel casings as shown in the contract documents. I will consider encasing the line in concrete at the crossing near the gym, please provide information about the credit the school will receive if the line is encased in concrete

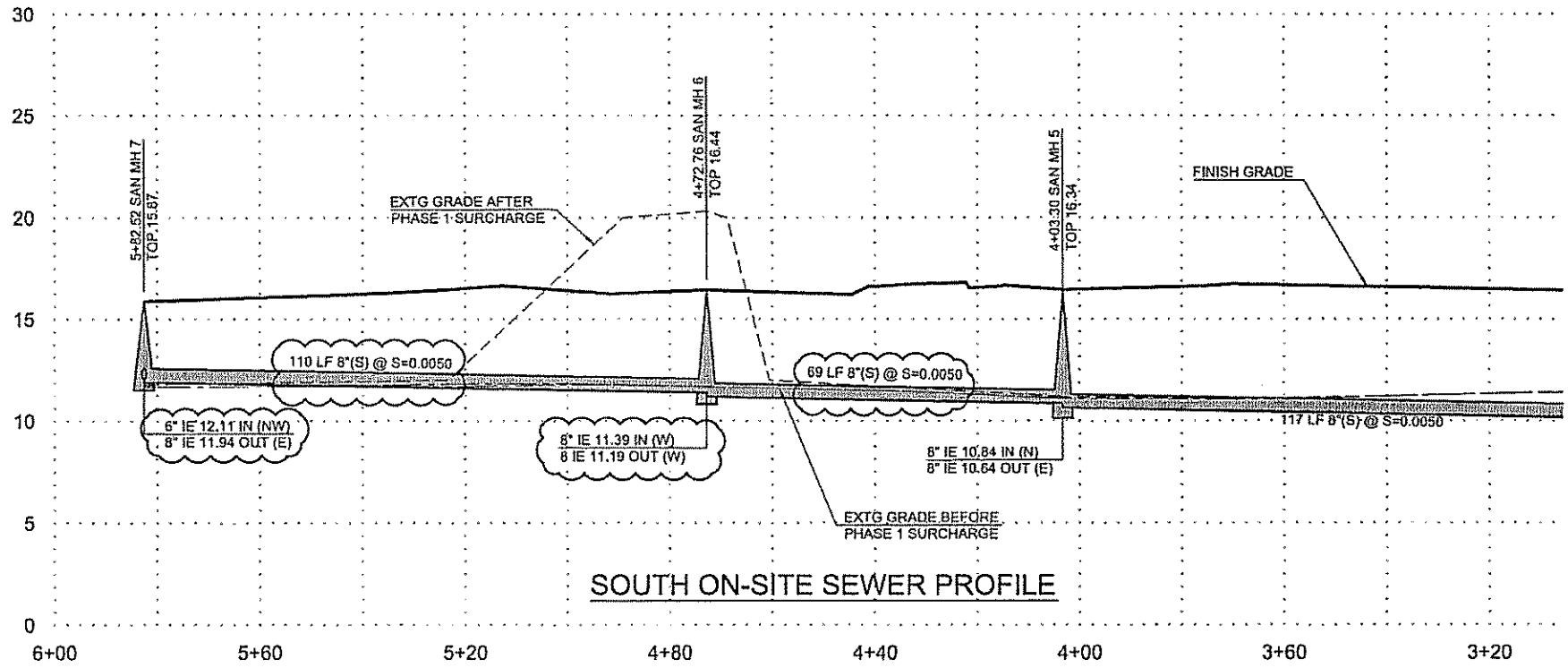
3/13/14

Maureen White, P.E.

See attached sketches CSK-036, CSK-037 and CSK-038. CSK-039 was also added on 3/17/14.

Steve Broback 3/17/14

WOODLAND HIGH SCHOOL		1119.000 McGRANAHAN architects	
TITLE:	SANITARY AND WATER REVISIONS	CSK-036	
REFERENCE:	C5.04		
SCALE:	1"=20'	REVISED: MPW	
ISSUED FOR:	RFI #125	DRAWN BY: JBA	
DATE:	MARCH 15, 2014		



SOUTH ON-SITE SEWER PROFILE

Scale V: 1" = 5'

0 2.5 5 10

0 10 20 40

Scale H: 1" = 20'

1119.000

McGRANAHAN architects

CSK-037

WOODLAND HIGH SCHOOL

TITLE: SANIARY PROFILE REVISIONS

REFERENCE: C6.05

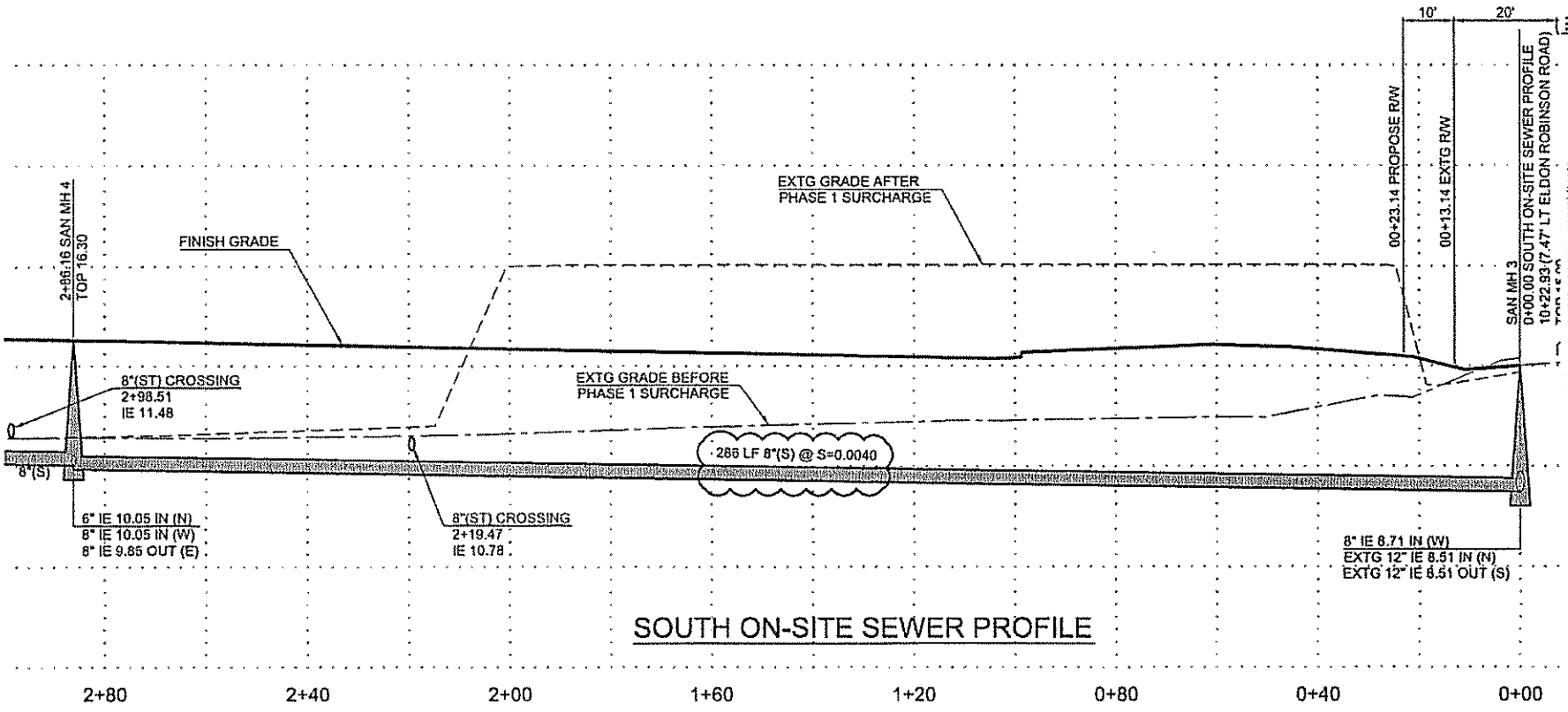
SCALE: 1"=20'

ISSUED FOR: RFI #125

DATE: MARCH 15, 2014

REVISED: MPW

DRAWN BY: JBA

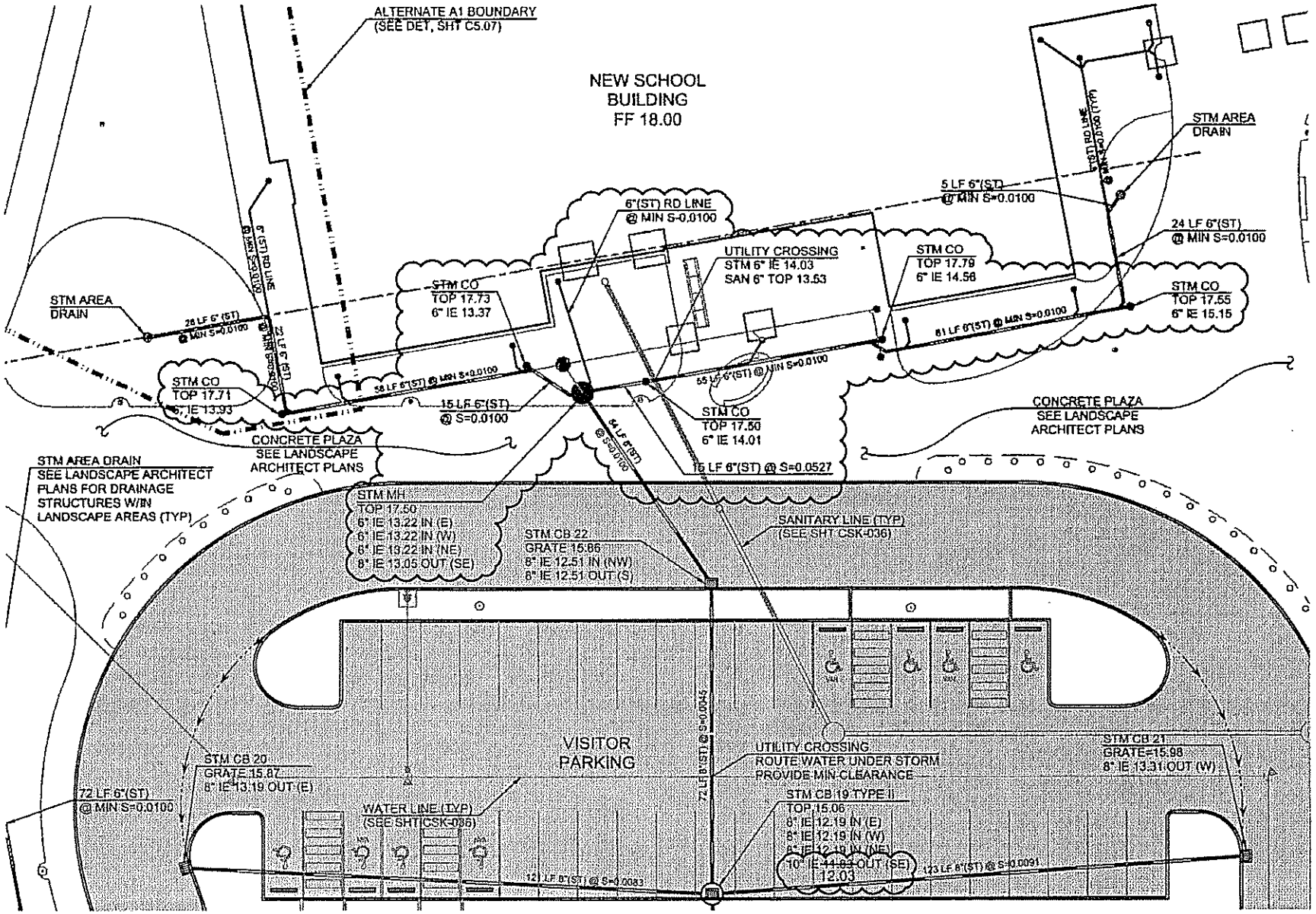


SOUTH ON-SITE SEWER PROFILE

Scale V: 1" = 5'
0 2.5 5 10
Scale H: 1" = 20'
0 10 20 40

WOODLAND HIGH SCHOOL
1119.000 McGRANAHAN architects
CSK-038

TITLE:	SANIARY PROFILE REVISIONS
REFERENCE:	CS.05
SCALE:	1"=20'
ISSUED FOR:	RFI #125
DATE:	MARCH 17, 2014
REVISED:	MPW
DRAWN BY:	JBA



WOODLAND HIGH SCHOOL
1119.000 McGRANAHAN
CSK-039
STORM REVISIONS
TITLE:
REFERENCE: C4.05
SCALE: 1"=20'
ISSUED FOR: RFI #125
REVISED: MPW

TAPANI INC.
PO Box 1900 • 1904 SE 6th Place • Battle Ground, WA 98604
(360) 687-1148 • (360) 687-7968 FAX

Monday, March 31, 2014 Serial Letter No. 007

Trevor Wyckoff
Skanska USA Building
222 SW Columbia Street Suite 300
Portland, OR 97201

RE: Response to RFI #125
Woodland High School

Mr. Wyckoff,

We have reviewed the revised sketches included with RFI #125. Based on the revised piping configuration we would like to propose the pricing below. Note, we have already credited the two eliminated casing pipes in our proposal for CCD #006.

Description	Qty	Unit	Unit Price	Total
6" Sanitary Sewer	-30	LF	$31.35	$ (940.50)
8" Sanitary Sewer	51	LF	$33.99	$ 1,733.49
6" Water Main	10	LF	$56.43	$ 564.30
Total				$ 1,357.29

Sincerely,

Chad Mahoney
Project Manager
Tapani, Inc

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 057 **Date: 4/1/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
RFI#0157 CCD#006 - Fire Protection Line and Door Conflict		Notified

Reference	Required By	Days Req	Amt Req
	4/8/2014	0 $	1,283

Notes

This Change Order Request is for the costs to offset the fire water line in accordance with RFI#0157. With the direction provided in CCD#006, the fire water line was offset from where it was required to run into the riser room.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			**Notes**				
0102	4/1/2014		$	1,283	0	Owner	Architect/Consultant Directive

RFI#0157 CCD#006 - Fire Protection Line and Door Conflict

Item No	Item Description		Amt Prop Reference
0002	Hydro Tech shall provide offsets to the 6" underground fire water supply in accordance with RFI#0157.	$	1,176
0003	General Liability Insurance	$	12
0004	GC P&P Bond	$	12
0005	Subcontractor Subguard Bond	$	12
0006	Skanska Fee	$	71

Submitted By:

Signature _____ 4.2.2014

Name Trevor Wyckoff **Date**

SKANSKA

Request for Information 0157

Detailed, RFIs Grouped by RFI Number

Woodland High School | **Project # 4113074-000** | **Skanska USA Building Inc.**
Tel: Fax:

RFI #: 0157 **Date Created: 3/26/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	David Franke

Co-Respondent

Author RFI Number
Hydro Tech

Subject	Discipline	Category
CCD#006 - Fire protection line and door conflict	Civil	

Cc: Company Name	Contact Name	Copies	Notes

Question **Date Required: 4/2/2014**

The fire protection routing provided in CCD#006 places the fire riser into door 1606B approx. 12". A Proposed solution is to install an 11 degree elbow and off-set the fire line so the riser can be installed per M5.11. Please advise.

Suggestion

Answer **Date Answered:**

Due to the fire protection underground piping misalignment from CCD #6, the dedicated fire protection supply will require (2) 45° elbows or (2) 90° elbows to be installed prior to the underground supply piping being installed under the building. This will allow the fire protection supply flange and fire protection riser assembly to be installed in the location indicated on the mechanical contract documents with modifications. The only fitting allowed under a building is the 90° elbow that transitions the piping from a horizontal installation to a vertical installation.

The proposed solution will not allow the flange above floor (rodded to the elbow making the transition from a horizontal installation to a vertical installation) to be 2-holed to the exterior wall allowing the backflow preventer to be installed parallel to the exterior wall. The fittings for 6" underground piping uses an 8- Bolt pattern allowing the rotation of the supply flange to be in 45° increments without changing the alignment to the exterior wall.
If the 11¼° elbow approach is installed, the Fire Protection Sprinkler System Contractor would need to raise the backflow preventer and riser manifold approximately 1'-0", provide an additional grooved flexible coupling, provide (2) 0'-6" (Grooved x flanged) filler pieces of a pipe type considered potable such as stainless steel, copper, or cement lined Class 52 ductile iron piping (black and galvanized steel piping is not allowed), and shorten each system riser approximately 1'-0". The grooved coupling would allow the filler piece to rotate independently and allow the flanges to mate up properly.

Fred Blanchard, BCE Engineers, 03/30/2014

CE 102

HYDRO TECH
FIRE PROTECTION, INC.
DESIGN & INSTALLATION
QUALITY SERVICE SINCE 1977

15218 NE Caples Rd., PO BOX 40
Brush Prairie, WA 98606
P 360.256.2816
F 360.256.2817

Date: April 1, 2014

Skanska USA Building
222 SW Columbia Street, Suite 300
Portland, OR 97201
P 503.382.0900
D 503.382.0916
Trevor.wyckoff@skanska.com

Attention: Trevor Wyckoff

Reference: **Change order – RFI 157**
Woodland High School
Woodland, WA

The following is our change order cost to provide design, material, & labor as required to off-set the 6" Underground supply per RFI 157

Design:	**$85.00**
Material:	**$371.60**
Installation labor (4hr) (2) Men:	**$508.08**
Truck & tool:	**$85.00**
Sub Total:	**$1,049.68**
Mark-up (12%):	**$125.96**
Total:	**$1,176.00**

All work to be in accordance with National Fire Protection Association pamphlet #13/#24 and the approval of the local Fire Marshal.

If you have any questions regarding this proposal, please contact me.
Thank you for the opportunity to make this proposal.

Sincerely,
Hydro Tech Fire Protection, Inc.

Reed Hamann

SKANSKA

Change Order Request Form

Skanska With CE Breakdown

Change Order Request: 058 **Date: 4/2/2014**

To:	Steve Broback McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	**From:**	Trevor Wyckoff Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201

Description	Category	Status
Additional Joist Loading Requirements North and South Classroom Wings - RFI#0135		Submitted

Reference	Required By	Days Req	Amt Req
	4/9/2014	0 $	8,529

Notes

This Change Order Request is for the additional costs for the joists due to the multiple loads added to the joists at the North and South Classroom wings through the submittal process, and also as noted in RFI#0135. Point loads are required to be shown on the Contract Documents, in accordance with SJI requirements (reference SJI COSP 2010). The joists at the north and south classroom wing were fabricated per the submittal comments with the additional loads. This caused an increase in the tonnage of steel required to construct these specific joists by 3.4 tons. Please review the description and clarifications as provided by Northstar and Canam. Also, this change includes the costs for other joist revisions also as noted in the submittal response.

This Change Order Request does not include the additional costs for loading revisions at the commons and gymnasium areas. Those costs will be priced and submitted separately. Also, please note that the manufacturer of the joists is not charging for the additional engineering time to revise the calculations and shop drawings. They are asking, however, to be reimbursed for the additional tonnage added to the joists to comply with the loading requirements.

CE No	Date	Reference		Amt Prop	Days Req	Category	Reason
Description			Notes				
0103	4/2/2014		$	8,529	0		
Additional Joist Loading Requirements North and South Classroom Wings - RFI#0135							

Item No	Item Description		Amt Prop Reference
0001	Northstar shall provide joist loading revisions in accordance with the approved shop drawings for the north and south classroom wing.	$	7,825
0002	General Liability Insurance	$	78
0003	GC P&P Bond	$	78
0004	Subcontractor Subguard Bond	$	78
0005	Skanska Fee	$	470

Submitted By:

Signature _____ 4-2-2014

Name Trevor Wyckoff **Date**

SKANSKA

Request for Information 0135

Detailed, RFIs Grouped by RFI Number

Woodland High School	Project # 4113074-000 Tel: Fax:	Skanska USA Building Inc.

RFI #: 0135 — **Date Created: 3/17/2014**

Answer Company	Answered By	Author Company	Authored By
McGranahan Architects 2111 Pacific Avenue, Suite 100 Tacoma, WA 98402	Steve Broback	Skanska USA Building Inc. 222 SW Columbia Street, Suite 300 Portland, OR 97201	Trevor Wyckoff

Co-Respondent | **Author RFI Number**

Subject | **Discipline** | **Category**

Joist Point Loading Requirements

Cc: Company Name	Contact Name	Copies	Notes

Question — **Date Required: 3/24/2014**

Reference S4.11 - S4.17 and the attached submittals 052100.0001.0; 052100.0002.0; and 052100.0002.1

1. Please confirm that the point loads identified by KGA in the returned roof joist shop drawings are required.
2. Please confirm that the joist designation revisions identified by KGA in the returned roof joist shop drawings are required.

Suggestion

Answer — **Date Answered:**

1. The point loads indicated in the shop drawings were provided in the shop drawing response to aid in the design of the joists based on the request of this information by the joist supplier. Based on our meeting on site with the GC and numerous email discussions, it appears that the application of these point loads has created confusion.

The points loads indicated on the shop drawing mark-ups are a result of wind and seismic forces being applied on the joist. The design of the joist should consider the application of these point loads in combination with the uniform dead and snow loads indicated on the drawings. For seismic load being applied, the resulting load combination is dead load + seismic load; for wind loads being applied the resulting load combination is dead load + 0.75 snow load + 0.75 wind load. So in the case of seismic loads, no snow load is applied while in the case of wind load only 75% of the snow load and 75% of the wind point loads are applied. In general, this typically results in the dead load + snow load being the controlling load combination because of the large demand the minimum roof snow load of 25 psf has the joist design.

Based on our review of the north and south classroom calculations provided, it can be shown that the joist supplier added the point loads indicated in the shop drawing mark up to the uniform loads indicated and did not consider load combinations as described above. In retrospect, they should have asked what was the nature of the point load...wind, seismic, etc.

The method of combination that they choose is not incorrect, but it will result in more demand than what is required by code.

So, to answer the question, the point loads should be considered. In fact, typical detail 1 on S11.1 indicated that the joist supplier needs to seek out these loads for equipments or other items being supported by the roof joists.

2. During our review of the shop drawings, there were a couple of conditions clouded by the joist supplier that questioned if the uniform loads were correct. The reason why these couple of conditions caught their attention was the spacing between the joist exceeded our standard 6'-6" spacing. For these conditions, we updated the uniform loads in order to match the actual joist spacing. The amount that these couple of conditions exceed this spacing was around 5%. So, to answer the question, the updated uniform loads are correct on the shop drawing mark ups.

KRAMER GEHLEN ASSOCIATES KGA

Response by:
Ryan R. Musgrove, P.E.
03/24/2014

Wyckoff, Trevor

From: Wyckoff, Trevor
Sent: Friday, March 21, 2014 7:42 AM
To: Steve Broback
Cc: Kelley Wilson (kelley.wilson@esd112.org) (kelley.wilson@esd112.org); Franke, David; Jensen, Brandon; Jones, Steve
Subject: FW: Woodland - Added joist cost
Attachments: NSI Change Order #1 Comparrsion Calc.pdf

Steve,
As discussed, attached and below is additional information regarding the costs associated with the joist point loads. If you could review with KGA and let us know if this satisfies, that would be great.

Let us know if you have any additional questions.

Thanks,

Trevor Wyckoff
Sr. Project Manager
Skanska USA Building Operations
www.skanska.com
222 SW Columbia Street, Suite 300
Portland, OR 97201, United States
Direct +1 503 382 0916
Main +1 503 382 0900
Mobile +1 503 320 4633

From: Scott Carty [mailto:scott.carty@northstardeck.com]
Sent: Thursday, March 20, 2014 6:42 PM
To: Franke, David
Cc: Wyckoff, Trevor; Stuart Holgate
Subject: Woodland - Added joist cost

David,

Please see the attached comparison calculation for mark #J62. This mark is a typical mark for the joist with the added 750 point load 4' from grid line.

You will see in the attached calculation that the top chord angle size of the joist is increased when the point load is added.

The joist with point load weighs 43 pounds more than the joist without the point load. This would be typical for 128 joist or 5,504 pounds (2.75 tons).
This one line item is 81% of the 3.4 tons total that was added in our change order #1.

Hopefully this is proof enough that all of the point loads that were added on the returned north and south wind joist approval drawings do add weight to the joist.
That these loads are no insignificant and do matter.

Please issue the change order as requested.

Just as a reminder there will be another cost impact for the added loads that where indicated on the returned joist drawings for the gym and commons.

Scott
North Star
503-665-5300

CANAM
Customized Solutions and Service

J62 with added point loads

Mark : J62

Project: P09596

(P09596) 14/03/20 16:12:33

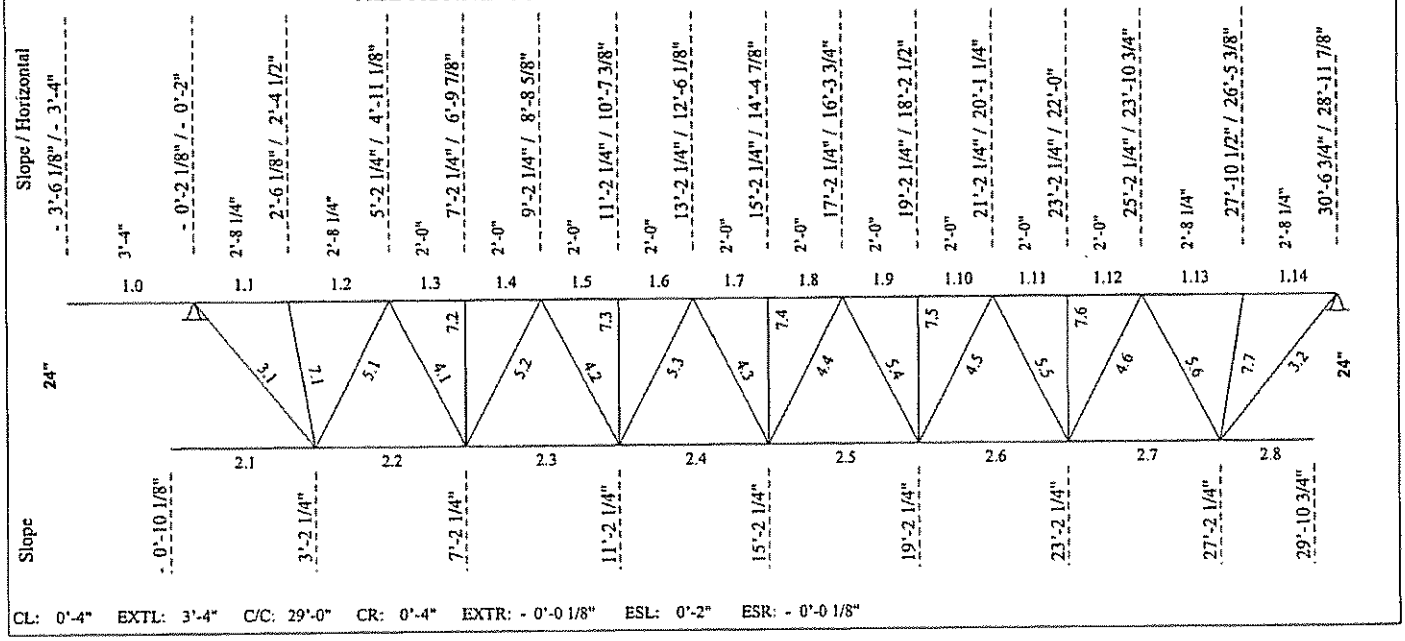
Project: P09596

JOIST CALCULATION ACCORDING TO SJI CODE , ASD

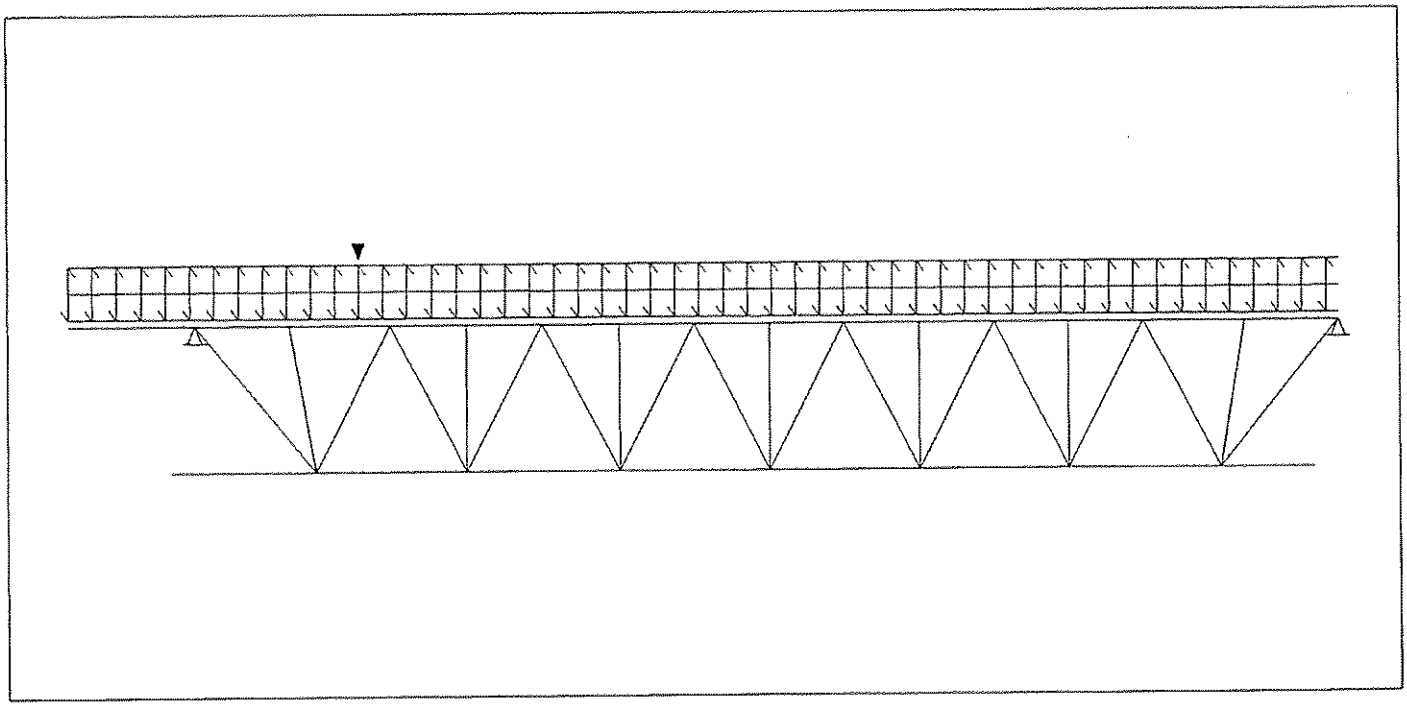
Mark : J62 (Mid-Span, Symmetrical, Parallel, Free ends)

Δ = 116 5/8 / 12 4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



CL: 0'-4" EXTL: 3'-4" C/C: 29'-0" CR: 0'-4" EXTR: - 0'-0 1/8" ESL: 0'-2" ESR: - 0'-0 1/8"



Mark : J62

CANAM
Customized Solutions and Service

Project: P09596

(P09596) 14/03/20 16:12:33

---------- LOADING CONDITIONS ----------
(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD..: 312.00 lb/ft 24LHSP312/163 LIVE LOAD...: 163.00 lb/ft

---------- EXTENSION ----------

Tcx-L 3'-2" Type N[S] Shoe = 6.00 Mf = -1.649 ft-kip (0.450)
TL = 312 LL = 163 ntQL = 68 Req.D. LL = L/ 180 = 0.21 TL = L/ 90 = 0.42
I = 6.08 in^4 Cal.D. LL = L/ 750 = 0.05 TL = L/ -469 = -0.08
Top splice at left : LL 4 x 4 x 1/4 (44W) x 75.15 in

---------- CONCENTRATED LOADS (From Axis) ----------

No	Sp Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1 Both	No	0.75	0.75	0.00	4'-0"	4'-0"	1	1	90	0

---------- UPLIFT ----------

Net uplift uniform load : 68.00 lb/ft

---------- DEFLECTION ----------

Allowed deflection under live load..... = 1.01 in (L/ 360)
Calculated deflection under service live load..... = 0.45 in (L/ 777)
Allowed deflection under total load..... = 1.44 in (L/ 240)
Calculated deflection under service total load..... = 0.81 in (L/ 426)
Joist inertia..... = 249.47 in^4
Required camber..... = 0.39 in

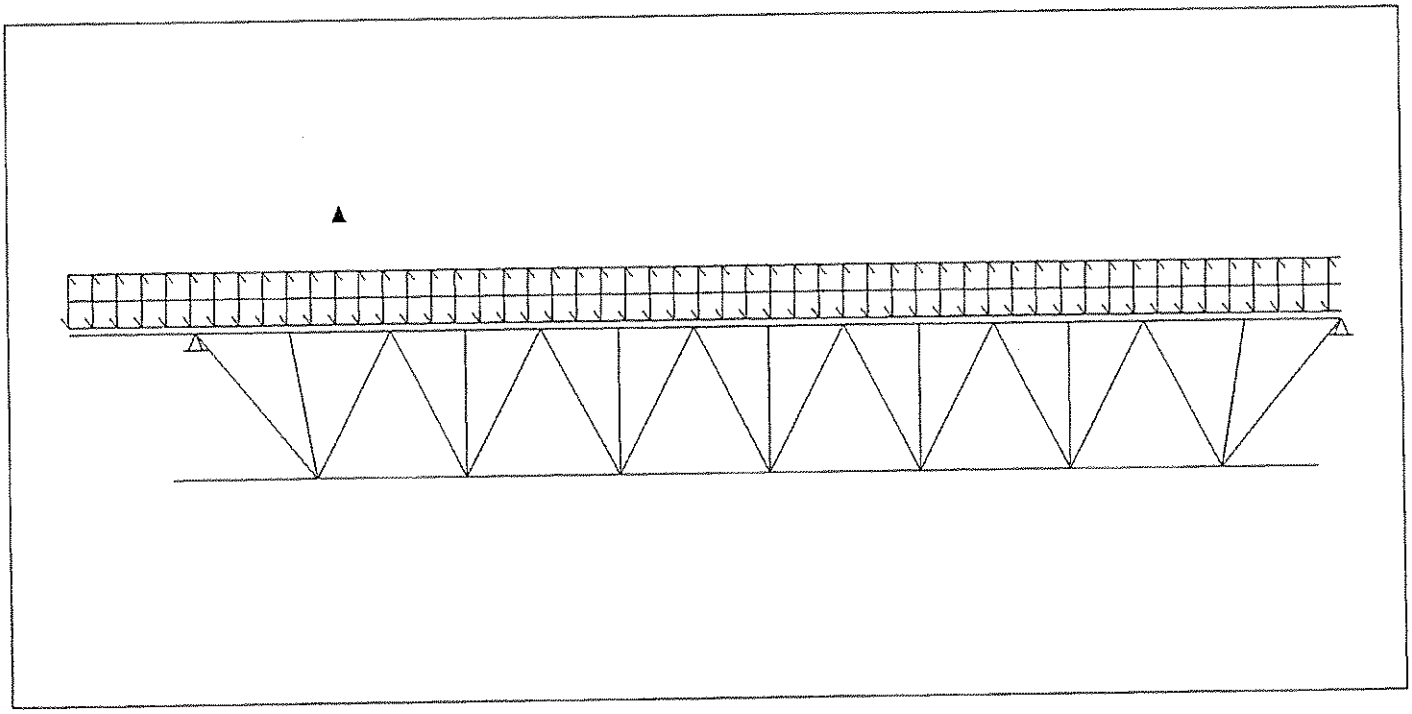
Mark : J62

CANAM
Customized Solutions and Service

Project: P09596

(P09596) 14/03/20 16:12:33

========== LOAD NO 2 (J62#A01) ==========



Mark : J62

CANAM
Customized Solutions and Service

Project: P09596

(P09596) 14/03/20 16:12:33

---------- LOADING CONDITIONS ----------
(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD..: 312.00 lb/ft 24LHSP312/163 LIVE LOAD...: 163.00 lb/ft

---------- EXTENSION ----------

Tcx-L 3'-2" Type N[S] Shoe = 6.00 Mf = -1.649 ft-kip 0.000
TL = 312 LL = 163 ntQL = 68 Req.D. LL = L/ 180 = 0.21 TL = L/ 90 = 0.42

---------- CONCENTRATED LOADS (From Axis)----------

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-0.75	-0.75	0.00	4'-0"*	4'-0"	1	1	90	0

---------- UPLIFT ----------

Net uplift uniform load : 68.00 lb/ft

---------- DEFLECTION ----------

Allowed deflection under live load..... = 1.01 in (L/ 360)
Calculated deflection under service live load..... = 0.40 in (L/ 861)
Allowed deflection under total load..... = 1.44 in (L/ 240)
Calculated deflection under service total load.... = 0.77 in (L/ 450)

========== End of multiple loads ==========

---------- F O R C E S I N M E M B E R S [kips] ----------

(THE SHOWN FORCES ARE UN-FACTORED)
Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 22.98 in)

Left Reaction = 6.18/ -1.21 kips Right Reaction = 4.60/ -0.98 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
	Top Chord							
1.0	0.16	-0.03	LL 4 x 4 x 1/4 (44W)	z 50	0.45	3'-6 1/8"		
1.1	2.04	-9.33	LL 4 x 4 x 1/4 (44W)	z 38	0.45	2'-8 1/8"		
1.2	1.93	-8.42	LL 1 7/8 x 1 7/8 x.197 CF	z 90	0.88	2'-8 1/4"		
1.3	3.38	-14.27	do	z 67	0.88	2'-0"		
1.4	3.38	-14.07	do	z 67	0.57	do		
1.5	4.24	-17.19	do	z 67	0.57	do		
1.6	4.24	-16.99	do	z 67	0.55	do		
1.7	4.53	-17.77	do	z 67	0.55	do		
1.8	4.53	-17.57	do	z 67	0.55	do		
1.9	4.24	-16.00	do	z 67	0.55	do		
1.10	4.24	-15.80	do	z 67	0.51	do		
1.11	3.40	-11.88	do	z 67	0.51	do		
1.12	3.40	-11.68	do	z 67	0.45	2'-0"		
1.13	1.95	-5.28	do	z 90	0.45	2'-8 1/4"		
1.14	2.02	-5.29	LL 1 7/8 x 1 7/8 x.197 CF	z 84	0.38	2'-8 1/4"		
	Bottom Chord							
2.1	0.00	0.00	LL 1 5/8 x 1 5/8 x .118	z 146	0.44	4'-0 3/8"		
2.2	10.89	-2.31	do	z 151	0.61	4'-0"		
2.3	15.37	-3.44	do	z 151	0.72	do		
2.4	17.51	-4.01	do	z 151	0.84	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
2.5	17.31	-4.02	do	z 151	0.84	do		
2.6	14.75	-3.45	do	z 151	0.72	do		
2.7	9.85	-2.32	do	z 151	0.58	4'-0"		
2.8	0.00	0.00	LL 1 5/8 x 1 5/8 x .118	z 95	0.39	2'-8 3/8"		
	End Diagonal							
3.1	8.52	-1.75	BR 15/16 (50W)	z 193	0.63	3'-9 1/4"	.223 - 0 7/8"	
3.2	7.55	-1.78	BR 15/16 (50W)	z 193	0.64	3'-9 1/4"	.223 - 0 7/8"	
	Diagonal Towards End							
4.1	3.71	-0.86	U 1 x 0.85 x 0.09	z 130	0.58	2'-10"	.091 - 1 1/2"	
4.2	2.19	-0.50	do	z 130	0.34	do	do	
4.3	2.19	-0.11	do	z 130	0.34	do	do	
4.4	2.19	-0.09	do	z 130	0.34	do	do	
4.5	2.19	-0.48	do	z 130	0.34	do	do	
4.6	3.71	-0.86	U 1 x 0.85 x 0.09	z 130	0.58	2'-10"	.091 - 1 1/2"	
	Diagonal Towards Center							
5.1	1.18	-5.36 d	U 1 3/8 x .136	z 79	0.62	2'-10"	.136 - 1 1/2"	
5.2	0.70	-3.02	U 1 x 1.1 x 0.118	z 99	0.72	do	.118 - 1 1/2"	
5.3	0.31	-2.19	U 1 x 0.85 x 0.09	z 130	0.77	do	.091 - 1 1/2"	
5.4	0.29	-2.19	U 1 x 0.85 x 0.09	z 130	0.77	do	.091 - 1 1/2"	
5.5	0.67	-2.92	U 1 x 1.1 x 0.118	z 99	0.70	do	.118 - 1 1/2"	
5.6	1.09	-4.64 d	U 1 3/8 x .136	z 79	0.54	2'-10"	.136 - 1 1/2"	
	Secondary Web Member							
7.1	0.67	-1.09	U 1 x 0.85 x 0.09	z 97	0.28	2'-1 3/8"	.091 - 1"	
7.2	0.13	-0.64	do	z 92	0.16	2'-0"	do	
7.3	0.14	-0.65	do	z 92	0.16	do	do	
7.4	0.14	-0.66	do	z 92	0.16	do	do	
7.5	0.14	-0.65	do	z 92	0.16	do	do	
7.6	0.14	-0.62	do	z 92	0.16	2'-0"	do	
7.7	0.19	-0.80	U 1 x 0.85 x 0.09	z 97	0.21	2'-1 3/8"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	15'-9 5/8" ==>	1 Row(s) Minimum	Lateral Supports Deck (36")
@ Bottom Chord:	21'-5 3/8" ==>	3 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	15'-2 3/8" (14'-5")	3'-2 3/8" (3'-0 3/8")
		15'-2 3/8" (14'-5")
		27'-2 5/8" (25'-9 7/8")

v1.18.0

Uplift according to slope
Fabrication code unless noted
-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads
Definition of the categories (Cat.):
1 = within a panel with no reinforcement
Chord: 1 = Top, 2 = Bottom
Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Mark : J62

CANAM
Customized Solutions and Service

Project: P09596
(P09596) 14/03/20 16:12:33

Project no.: P09596 Designer: Ellen Hong Zang Shop: Canam Group Calgary [Production]
346 / 361 Area to Paint : 108.36 ft2 Material Sort : Weight

This mark has been edited

Weight of joist with point load

Weight of joist after point load	346 pounds
Weight of joist before point load	303 pounds
Total difference	43 pounds
affected joist	x 128
Total weight increase	5,504 pounds
or	2.752 tons

This one line item is 81% of the total 3.4 ton increase in weight of NSI Change Order #1

See the next pages for the same mark number ran with out the added point load.

CANAM
Customized Solutions and Service

J62 without added point loads

Mark : J62PP

Project: P09596

(P09596) 14/03/20 16:12:33

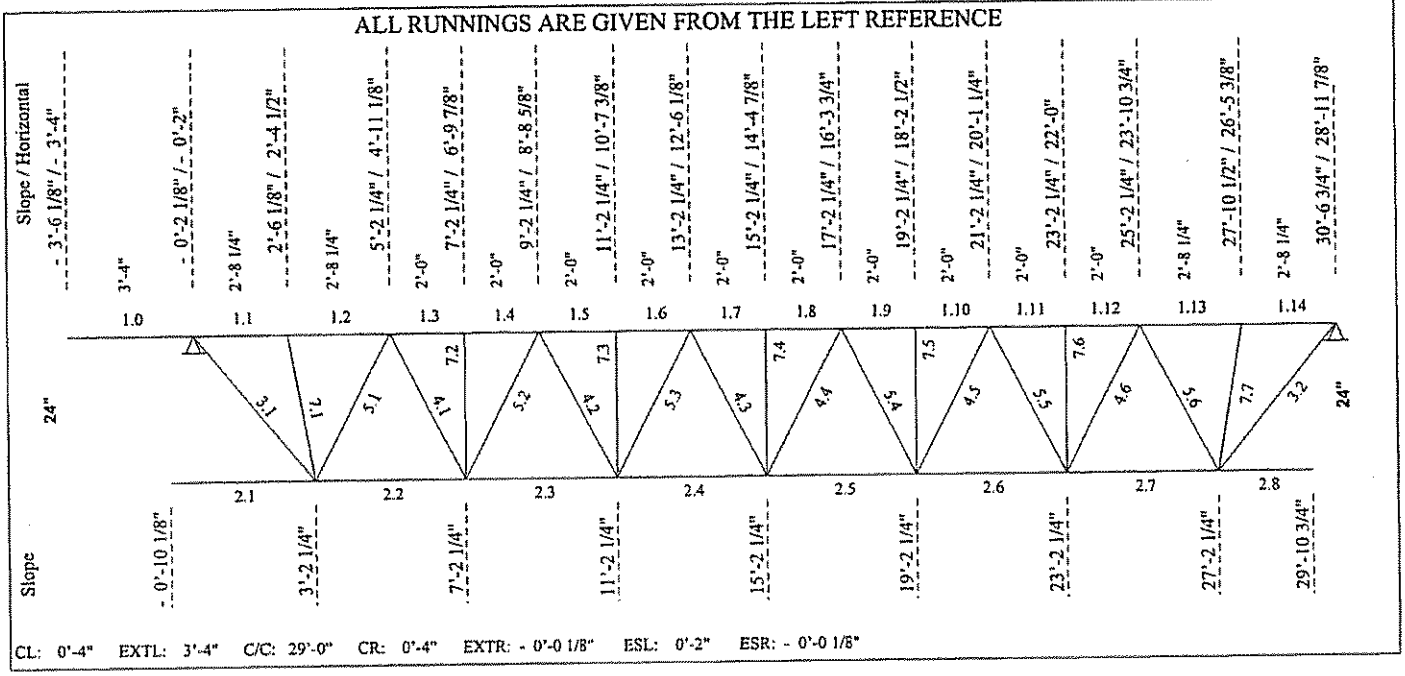
Project: P09596

JOIST CALCULATION ACCORDING TO SJI CODE , ASD

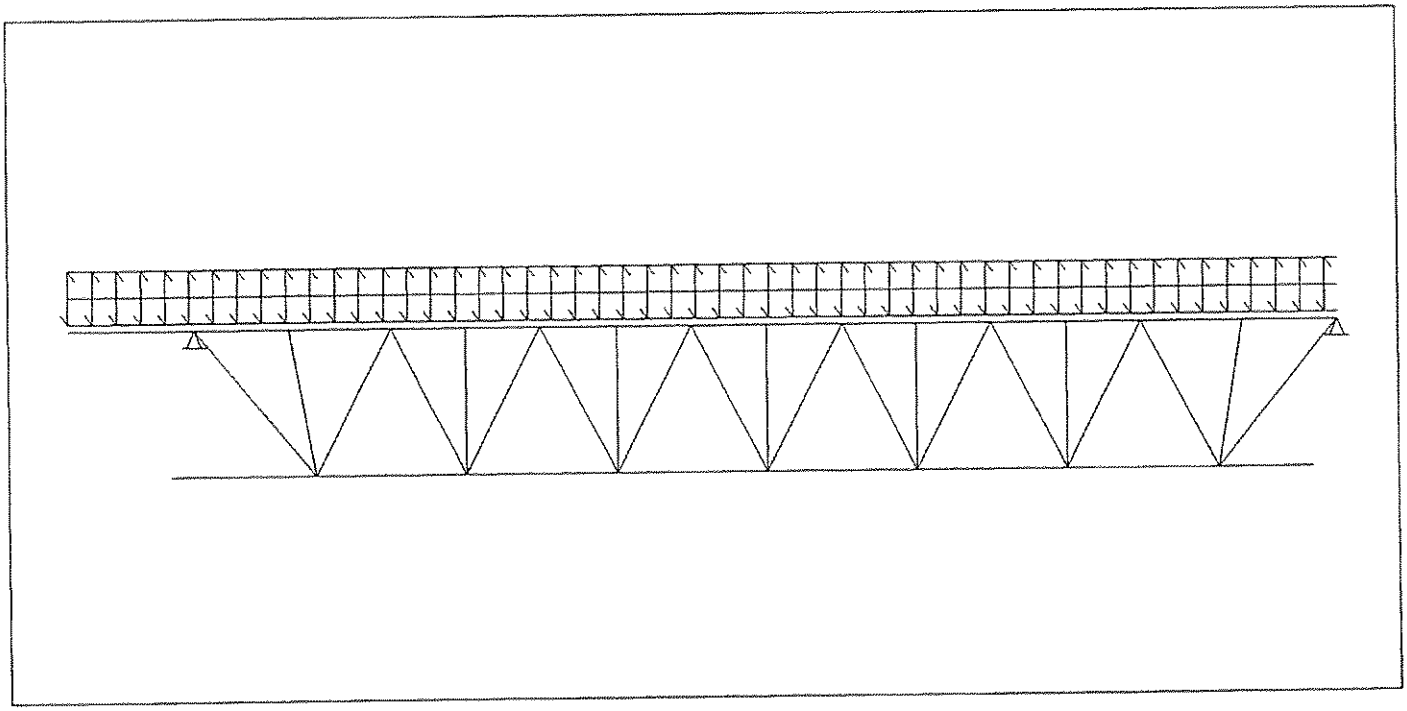
Mark : J62PP (Mid-Span, Symmetrical, Parallel, Free ends)

Δ = 116 5/8 / 12 4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



CL: 0'-4" EXTL: 3'-4" C/C: 29'-0" CR: 0'-4" EXTR: - 0'-0 1/8" ESL: 0'-2" ESR: - 0'-0 1/8"



Mark : J62PP

CANAM
Customized Solutions and Service

Project: P09596
(P09596) 14/03/20 16:12:33

---------- LOADING CONDITIONS ----------
(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD..: 312.00 lb/ft 24LHSP312/163 LIVE LOAD...: 163.00 lb/ft

---------- EXTENSION ----------

Tcx-L 3'-2" Type N[S] Shoe = 6.00 Mf = -1.649 ft-kip (0.437)
TL = 312 LL = 163 ntQL = 68 Req.D. LL = L/ 180 = 0.21 TL = L/ 90 = 0.42
I = 6.08 in^4 Cal.D. LL = L/ 1230 = 0.03 TL = L/ -430 = -0.09
Top splice at left : LL 4 x 4 x 1/4 (44W) x 75.15 in

---------- UPLIFT ----------

Net uplift uniform load : 68.00 lb/ft

---------- DEFLECTION ----------

Allowed deflection under live load.....	=	1.01 in (L/ 360)
Calculated deflection under service live load.....	=	0.46 in (L/ 753)
Allowed deflection under total load.....	=	1.44 in (L/ 240)
Calculated deflection under service total load....	=	0.88 in (L/ 393)
Joist inertia.....	=	218.23 in^4
Required camber.....	=	0.39 in

---------- F O R C E S I N M E M B E R S [kips] ----------

(THE SHOWN FORCES ARE UN-FACTORED)
Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 23.06 in)

Left Reaction = 5.54/ -1.21 kips Right Reaction = 4.50/ -0.98 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			Top Chord					
1.0	0.16	-0.03	LL 4 x 4 x 1/4 (44W)	z 50	0.44	3'-6 1/8"		
1.1	2.04	-8.07	LL 4 x 4 x 1/4 (44W)	z 38	0.44	2'-8 1/8"		
1.2	1.93	-7.34	LL 1 5/8 x 1 5/8 x .157	z 103	0.97	2'-8 1/4"		
1.3	3.37	-13.06	do	z 77	0.97	2'-0"		
1.4	3.37	-12.87	do	z 77	0.78	do		
1.5	4.22	-16.18	do	z 77	0.78	do		
1.6	4.22	-15.98	do	z 77	0.79	do		
1.7	4.51	-16.96	do	z 77	0.80	do		
1.8	4.51	-16.76	do	z 77	0.79	do		
1.9	4.23	-15.40	do	z 77	0.78	do		
1.10	4.23	-15.20	do	z 77	0.73	do		
1.11	3.38	-11.50	do	z 77	0.73	do		
1.12	3.38	-11.31	do	z 77	0.66	2'-0"		
1.13	1.95	-5.13	do	z 103	0.66	2'-8 1/4"		
1.14	2.01	-5.14	LL 1 5/8 x 1 5/8 x .157	z 96	0.60	2'-8 1/4"		
			Bottom Chord					
2.1	0.00	0.00	LL 1 5/8 x 1 5/8 x .118	z 146	0.39	4'-0 3/8"		
2.2	9.55	-2.30	do	z 151	0.56	4'-0"		
2.3	14.23	-3.43	do	z 151	0.72	do		
2.4	16.57	-4.00	do	z 151	0.84	do		
2.5	16.57	-4.00	do	z 151	0.84	do		
2.6	14.23	-3.44	do	z 151	0.72	do		
2.7	9.55	-2.31	do	z 151	0.56	4'-0"		
2.8	0.00	0.00	LL 1 5/8 x 1 5/8 x .118	z 95	0.38	2'-8 3/8"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
			End Diagonal					
3.1	7.37	-1.75	BR 15/16 (50W)	z 193	0.63	3'-9 1/4"	.223 - 0 7/8"	
3.2	7.37	-1.78	BR 15/16 (50W)	z 193	0.64	3'-9 1/4"	.223 - 0 7/8"	
			Diagonal Towards End					
4.1	3.57	-0.86	U 1 x 0.85 x 0.09	z 130	0.56	2'-10"	.091 - 1 1/2"	
4.2	2.05	-0.50	do	z 130	0.32	do	do	
4.3	1.96	-0.11	do	z 130	0.31	do	do	
4.4	1.96	-0.09	do	z 130	0.31	do	do	
4.5	1.99	-0.48	do	z 130	0.31	do	do	
4.6	3.57	-0.86	U 1 x 0.85 x 0.09	z 130	0.56	2'-10"	.091 - 1 1/2"	
			Diagonal Towards Center					
5.1	1.18	-4.86	U 1 x 1.2 x 0.136	z 91	0.96	2'-10"	.136 - 1 1/2"	
5.2	0.70	-2.88	U 1 x 0.85 x 0.09	z 130	1.01	do	.091 - 1 1/2"	
5.3	0.31	-1.96	do	z 130	0.69	do	do	
5.4	0.29	-1.96	do	z 130	0.69	do	do	
5.5	0.67	-2.78	U 1 x 0.85 x 0.09	z 130	0.98	do	.091 - 1 1/2"	
5.6	1.09	-4.50	U 1 x 1.2 x 0.136	z 91	0.89	2'-10"	.136 - 1 1/2"	
			Secondary Web Member					
7.1	0.67	-0.81	U 1 x 0.85 x 0.09	z 97	0.21	2'-1 3/8"	.091 - 1"	
7.2	0.13	-0.63	do	z 92	0.16	2'-0"	do	
7.3	0.14	-0.65	do	z 92	0.16	do	do	
7.4	0.14	-0.65	do	z 92	0.16	do	do	
7.5	0.14	-0.64	do	z 92	0.16	do	do	
7.6	0.14	-0.62	do	z 92	0.16	2'-0"	do	
7.7	0.19	-0.80	U 1 x 0.85 x 0.09	z 97	0.21	2'-1 3/8"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging

			Lateral Supports
@ Top Chord:	14'-4 1/4" ==>	2 Row(s) Minimum	Deck (36")
@ Bottom Chord:	21'-5 3/8" ==>	4 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	10'-0 7/8" (9'-6 3/4")	3'-2 3/8" (3'-0 3/8")
	20'-3 7/8" (19'-3 3/8")	10'-0 7/8" (9'-6 3/4")
		20'-3 7/8" (19'-3 3/8")
		27'-2 5/8" (25'-9 7/8")

v1.18.0

Uplift according to slope
Fabrication code unless noted
-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.: P09596 Designer: Ellen Hong Zang Shop: Canam Group Calgary [Production]
303 / 317 Area to Paint : 102.79 ft2 Material Sort : Weight

This mark has been edited

Joist weight with no point load

2.3 SPECIFYING DESIGN LOADS

Neither the Steel Joist Institute nor the joist manufacturer establishes the loading requirements for which structures are designed.

The specifying professional shall provide the nominal loads and load combinations as stipulated by the applicable code under which the structure is designed and shall provide the design basis (ASD or LRFD).

The specifying professional shall calculate and provide the magnitude and location of ALL JOIST and JOIST GIRDER LOADS. This includes all special loads (drift loads, mechanical units, net uplift, axial loads, moments, structural bracing loads, or other applied loads) which are to be incorporated into the joist or Joist Girder design. For Joist Girders, reactions from supported members shall be clearly denoted as point loads on the Joist Girder. When necessary to clearly convey the information, a Load Diagram or Load Schedule shall be provided.

The specifying professional shall give due consideration to the following loads and load effects:

1. Ponded rain water.
2. Accumulation of snow in the vicinity of obstructions such as penthouses, signs, parapets, adjacent buildings, etc.
3. Wind.
4. Type and magnitude of end moments and/or axial forces at the joist and Joist Girder end supports shall be shown on the structural drawings. For moment resisting joists or Joist Girders framing at or near the top of a column, due consideration shall be given to extend the column length to allow a plate type connection between the top of the joist or Joist Girder top chord and the column.

   Avoid transferring joist or Joist Girder end moments and axial forces through the bearing seat connection.

   A note shall be provided on the structural drawings stating that all moment resisting joists shall have all dead loads applied to the joist before the bottom chord struts are welded to the supporting connection whenever the moments provided do not include dead load.

   The top and bottom chord moment connection details shall be designed by the specifying professional. The joist designer shall furnish the specifying professional with the joist detail information if requested.

The nominal loads, as determined by the specifying professional, shall not be less than that specified in the applicable building codes.

Where concentrated loads occur, the magnitude and location of these concentrated loads shall be shown on the structural drawings when, in the opinion of the specifying professional, they shall require consideration by the joist manufacturer. For nominal concentrated loads, which have been accounted for in the specified uniform design loads, a "strut" to transfer the load to a panel point on the opposite chord shall not be required provided that the sum of the concentrated loads within a chord panel does not exceed 100 pounds and the attachments are concentric to the chord.

(a) Specifying Joist Design Loads

The Steel Joist Institute Load Tables are based on uniform loading conditions and are valid for use in selecting joist sizes for gravity loads that can be expressed in terms of "pounds per linear foot" (kiloNewtons per meter) of joist.

The specifying professional shall use one of the five options described below that allows:

- The estimator to price the joists.
- The joist manufacturer to design the joists properly.
- The owner to obtain the most economical joists.

Option 1: Select a joist designation from the Standard Load Table (or specify a joist type using a uniform load in the designation) which has been determined to be adequate for all design loads. The shear and moment envelope resulting from the selected uniform load shall meet the actual shear and moment requirements. Thus, this option alone may not be adequate if large concentrated loads need to be designed for.

Option 2: Select a joist designation from the Standard Load Table (or specify a joist type using a uniform load in the designation) and also provide the load and location of any additional loads on the structural plan with a note "Joist manufacturer shall design joists for additional loads at locations shown." This option works well for a few added loads per joist with known magnitude and locations.

Option 3: For additional point loads with exact locations not known along the joist or for incidental loads, any one, or both, of the following can be specified on the structural plan in addition to option 1 or 2 above:

a) "**Design for a (__) lb. concentrated load located at any one panel point along the joist**". This is referred to as an "Add-Load".

b) "**Design for additional bending stresses resulting from a (__) lb. concentrated load located at any location along (____) chord**". This is referred to as a "Bend-Check" and can be specified on **top** chord, **bottom** chord, or **both top and bottom** chords. This can be used when the concentrated load is already accounted for in the joist designation, uniform load, or specified Add-Load yet this specified amount of load shall be permitted to also be located at any location between panel points. The additional bending stresses as a result of this load are then designed for. A Bend-Check load shall not exceed (Add-Load + 400 lbs.) A Bend-Check load can be specified by itself without an Add-Load.

c) Both (a) and (b) above can be specified with equal concentrated loads for each; or simply denote **"Design joist for a (__) lb. concentrated load at any location along the (___) chord."**

Example uses:

- Specifying professional selects a standard joist capable of carrying a 500 lb. RTU. However, the location and exact frame size is not yet known but the frame load shall result in two- 250 lbs. point loads at least 5'-0" apart. **Specify a 250 lb. Bend-Check**
- Standard joist specified but not selected for 500 lb. RTU load, location not known. **Specify a 500 lb. Add-Load and 250 lb. Bend-check.**
- Standard SJI joist selected to carry collateral load of 3 psf. Specifying professional wants bending from 150 lb. incidental loads to also be designed for. **Specify a 150 lb. Bend-Check.**

Option 4: Select a KCS joist using moment and end reaction without specifying added loads or diagrams. This option works well for concentrated loads for which exact locations are not known or for multiple loading.

a) Determine the maximum moment.

b) Determine the maximum end reaction (shear).

c) Select the required KCS joist that provides the required moment and end reaction (shear). Note that the top chord end panel is designed for axial load based on the force in the first tension web, which is based on the specified end reaction. A uniform load of 825 plf (12030 N/m) LRFD or 550 plf (8020 N/m) ASD is used to check end panel bending. If the end panel loading exceeds this, reduce the joist spacing or go to Option 5.

d) Specify on the structural drawings that an extra web shall be field applied at all concentrated loads not occurring at panel points.

Wyckoff, Trevor

From: Scott Carty <scott.carty@northstardeck.com>
Sent: Monday, March 10, 2014 9:43 AM
To: Wyckoff, Trevor
Cc: Franke, David; Stuart Holgate
Subject: Woodland High School; NSI Cost Imapct #1
Attachments: P09596 CO 002-2.pdf

Importance: High

Trevor,

North Star has a cost impact for the multiple added loads to the joist noted on the joist approved drawings for the north and south classroom wings.
These added loads affected almost every joist at the perimeter of the building.
All of the loads that were added were not provided on the bid drawings and more so the structural drawings as required by the IBC and SJI specifications.

Please see the attached description of all of the added loads. Refer also to the approved joist drawings for the North and South classroom wings.

Add 3.5 tons	$ 6,805.00
15%	$ 1,020.00
Total NSI Cost impact #1	$ 7,825.00

Please issue a change order for the above amount as soon as possible.

Call with questions.

Scott
North Star
503-665-5300

CANAM
BUILD DIFFERENTLY

323 - 53rd Avenue S.E.
CALGARY
AB,CANADA,T2H 0N2
Tel: (866) 203-2001
Fax: (403) 252-8824
Email: Cassandra.Coutts@canamgroupinc.com

Change order

Date	02/28/2014	Change Order No	002-1
Company	NORTH STAR INDUSTRIES, INC	Issued by	Cassandra Coutts
Attention	SCOTT CARTY	Project	WOODLAND HIGH SCHOOL WOODLANI
Fax	(503) 665-6666	Project Code	P09596
Email	scott.carty@northstardeck.com		

The sales contract mentioned above is revised as follows:

Description of revisions	Additions	Deductions
Extra due to: Comments provided upon return of approvals 1. 300# vertical kicker loads added (affects 1 joist @ 2 locations) @ grid 5 btwn grids H/G. 2. 1000# vertical load affecting 5 joist, 1 location due to L6x4 kicker. 3. Gable joist - loading changed to 330/170 from 312/163 - 1 joist. 4. Gable joist - loading changed to 350/185 from 312/163 - 1 joist. 5. loading increased to 330/170 from 312/163 - 3 joists 6. loading increased to 350/185 from 312/163 - 1 joist 7. Detail 6/E15 applied , 0.5K+/- vertical load at 5'-0 interval - 4 joists. 8. 1 Load from 6 locations due to 4" pipe brace - 4 joists 9. 750# vertical load from section 1 on JE-15 applies - 128 joists 10. 500# vertical load from section 6 on JE-15 applied - 4 joists 11. 0.5K Vertical loads from sections 6 applied - 4 joists 12. 780# vertical load from section 13 - 1 joist. 13. 1.5K Vertical load from section 10/E-15 - 5 joists		
3.4T	$6,805.00	
Please sign and return, Thank you		

323 - 53rd Avenue S.E.
CALGARY
AB,CANADA,T2H 0N2
Tel: (866) 203-2001
Fax: (403) 252-8824
Email: Cassandra.Coutts@canamgroupinc.com

Change order

Date	02/28/2014	Change Order No	002-1
Company	NORTH STAR INDUSTRIES, INC	Issued by	Cassandra Coutts
Attention	SCOTT CARTY	Project	WOODLAND HIGH SCHOOL WOODLANI
Fax	(503) 665-6666	Project Code	P09596
Email	scott.carty@northstardeck.com		

Total modifications (USD)	**$6,805.00**	**$0.00**
Previous total	----------	----------
Change Order Total (USD)	**$6,805.00**	
	TAXES EXTRA TAXES EXTRA	TAXES EXTRA TAXES EXTRA

Accepted by Canam	**Accepted by client**
Authorized Canam representative	Authorized client representative
Cassandra Coutts	